

### Overview

#### HPE ProLiant DL380 Gen10 Carrier Grade Server

NEBS Level 3 and ETSI Certified

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.

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

**IMPORTANT:** To yield a carrier grade server that is compliant with all the required technical criteria, the product content is limited to what is listed in this document. In addition, the following kits must be installed:

1. HP DL380 Gen10 High Performance Fan Kit - 867810-B21
2. All installed PCI risers must be NEBS certified versions:
  - HPE DL380 Gen10 x8/16/8 NEBS Riser Kit - 873209-B21
  - HPE DL380 Gen10 x8/16/8 M.2 NEBS Riser Kit - 826701-B21
  - HPE DL380 Gen10 x16 Tertiary NEBS Riser Kit - 826702-B21

**NOTE:** M.2 Riser is only supported in the primary PCI riser location.

Please refer to the HPE DL380 Gen10 Carrier Grade Conversion documentation on the HPE web site:

<http://www.hpe.com/services/hpsc>

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## Configuration Information - Factory Integrated Models

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

|                              |                                                                                                                          |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>CTO Server</b>            | HPE ProLiant DL380 Gen10 8 SFF CTO Server                                                                                |
| <b>SKU Number</b>            | 868703-B21                                                                                                               |
| <b>TAA SKU</b>               | 875782-B21                                                                                                               |
| <b>Processor</b>             | Not included as standard                                                                                                 |
| <b>DIMM Slots</b>            | 24-DIMM slots                                                                                                            |
| <b>Storage Controller</b>    | Embedded SW RAID with 14 SATA ports (12-ports accessible), choice of HPE modular Smart Array and PCIe plug-in controller |
| <b>PCIe</b>                  | Three standard in primary riser (with dual M.2 support)                                                                  |
| <b>Drive Cage - included</b> | 8 SFF                                                                                                                    |
| <b>Network Controller</b>    | HPE 1Gb Ethernet 4-Port 331i Adapter plus optional HPE FlexibleLOM or stand up card                                      |
| <b>Fans</b>                  | 4-Standard                                                                                                               |
| <b>Management</b>            | HPE iLO with Intelligent Provisioning (standard), iLO Advances and OneView (optional)                                    |
| <b>USB</b>                   | 1x 3.0 standard plus iLo front service port                                                                              |

**NOTE:** HPE offers multiple Trade Agreement Act (TAA) compliant configurations to meet the needs of US Federal Government customers. These products are either manufactured or substantially transformed in a designated country. TAA compliance is only provided when HPE options are included as part of factory integrated orders (CTO).

**NOTE:** TAA chassis are only orderable in North America and Canada.

**NOTE:** All CTO servers are Energy Star 2.1 compliant.

### Step 2a: Choose Required Options - Processors (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 874752-L21 then for second processor, select 874752-B21.

**NOTE:** 8SFF CTO 1P models ship with 4 standard fans. The second processor option kit contains 2 additional fans.

**NOTE:** Maximum memory capacity per processor is dependent on processor models. All processors support up to 768 GB max memory per processor except “M” model processors will support up to 1.5 TB max memory per processor.

**NOTE:** Mixing of 2 different processor models are NOT allowed.

**NOTE:** DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

#### Processor Option Kits

#### Required Processor

HPE DL380 Gen10 Intel Xeon-Gold 6152 (2.1GHz/22-core/140W) FIO Processor Kit

826886-L21

**NOTE:** Ships with Performance Heatsink.

**NOTE:** Supports “Core boosting” Learn more <http://www.hpe.com/info/ist>.

**NOTE:** To enable this feature an iLO Advanced, or iLO Advanced Premium Security edition License are required.

HPE DL380 Gen10 Intel Xeon-Gold 6140 (2.3GHz/18-core/150W) FIO Processor Kit

826878-L21

**NOTE:** Ships with Performance Heatsink.

HPE DL380 Gen10 Intel Xeon-Gold 6138 (2.0GHz/20-core/125W)FIO Processor Kit

826876-L21

**NOTE:** High frequency bin targeting FSI workloads. Configuration restrictions will apply, support on 8SFF only.HPE DL38X Gen10 High Performance Temperature Fan Kit (867810-B21) to be selected.

**NOTE:** For additional details on this processor please visit:

[https://support.hpe.com/hpsc/doc/public/display?docId=emr\\_na-a00019685en\\_us&docLocale=en\\_US#N10B79](https://support.hpe.com/hpsc/doc/public/display?docId=emr_na-a00019685en_us&docLocale=en_US#N10B79)

## Configuration Information - Factory Integrated Models

|                                                                               |            |
|-------------------------------------------------------------------------------|------------|
| HPE DL380 Gen10 Intel Xeon-Gold 6130 (2.1GHz/16-core/120W) FIO Processor Kit  | 826866-L21 |
| HPE DL380 Gen10 Intel Xeon-Gold 5120 (2.2GHz/14-core/105W) FIO Processor Kit  | 826856-L21 |
| HPE DL380 Gen10 Intel Xeon-Gold 5118 (2.3GHz/12-core/105W) FIO Processor Kit  | 826854-L21 |
| HPE DL380 Gen10 Intel Xeon-Silver 4116 (2.1GHz/12-core/85W) FIO Processor Kit | 826852-L21 |
| HPE DL380 Gen10 Intel Xeon-Silver 4114 (2.2GHz/10-core/85W) FIO Processor Kit | 826850-L21 |
| HPE DL380 Gen10 Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) FIO Processor Kit  | 826846-L21 |
| HPE DL380 Gen10 Intel Xeon-Silver 4108 (1.8GHz/8-core/85W) FIO Processor Kit  | 826848-L21 |
| HPE DL380 Gen10 Intel Xeon-Bronze 3104 (1.7GHz/6-core/85W) FIO Processor Kit  | 873641-L21 |

**NOTE:** Processors above 130W use a High Performance Heatsink

### 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>

**NOTE:** Memory DIMM availability with a server platform is dependent upon completion of certification testing.

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

|                                                                                     |            |
|-------------------------------------------------------------------------------------|------------|
| HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit   | 815097-B21 |
| HPE 8GB (1x8GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit     | 876181-B21 |
| HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit | 815098-B21 |
| HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit   | 835955-B21 |
| HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit   | 815100-B21 |

**NOTE:** Scalable Persistent Memory requires dedicated flash backup. The 1.6TB NVME MU SFF (877994-B21) drive is required, with respective drive cages and associated options (Enablement kit, riser and Fan kit) and must be installed in Box 3. A Qty of 2 are required for the 256GB and 4 required for the 512GB installation.

**NOTE:** Scalable Persistent Memory requires Back up power and the 800W PSU/400w BBU (827608-B21) needs to be selected.

### Step 2c: Choose Power Supplies

Select one or two power supplies from below.

**NOTE:** Mixing of 2 different power supplies is NOT allowed.

|                                                                   |            |
|-------------------------------------------------------------------|------------|
| 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 |

### Step 3: Choose Additional Factory Integratable Options

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

Configuration Information - Factory Integrated Models

HPE Security Options

HPE Trusted Platform Module 2.0 Gen10 Option

864279-B21

**NOTE:** HPE Trusted Platform Module 2.0 option works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants.

**NOTE:** HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.

HPE Gen10 TPM 1.2 FIO Setting

872108-B21

**NOTE:** TPM 2.0 is set as default, for 1.2 TPM setting instead, please select this option.

HPE Unique Options

HPE DL380 Gen10 x8/x16/x8 M.2 NEBS Riser Kit

826701-B21

**NOTE:** Primary Riser Slot 1.

**NOTE:** Supports Full Height and Full length cards.

**NOTE:** Bus width x16, x16, Connector Width x16, x16.

HPE DL38X Gen10 x8/x16/x8 PCIe NEBS Riser Kit

873209-B21

**NOTE:** Secondary Riser, Connector in slot 2 & 3 for GPU support.

**NOTE:** Supports Full Height and Full length cards.

**NOTE:** Bus width x16, x16, Connector Width x16, x16.

HPE DL380 Gen10 x16 Tertiary NEBS Riser

826702-B21

**NOTE:** Supports 1x 16 slot in the Tertiary location.

**NOTE:** Supports Full Height and full-length card.

**NOTE:** Bus width x16 Connector Width x16.

HPE 2U Bezel Air Filter NEBS-compliant Kit

P05420-B21

HPE 48VDC 2.85m Power Cable

Q0H80A

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



## Core Options

**NOTE:** 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. Note the <http://www.hpe.com/info/CablingMatrixGen10> can help to explain the cable routing for each option:

### HPE Unique Options

HPE DL38X Gen10 Universal Media Bay Kit 826708-B21

**NOTE:** The HPE DL380 Gen10 Universal Media bay provides front Display Port and 2xUSB 2.0; can only be located in Box1 in either an 8 SFF model.

**NOTE:** This is a SFF model option only.

HPE DL380 Gen10 High Performance Heat Sink Kit 826706-B21

**NOTE:** This kit contains 2 High Performance Heatsinks.

HPE DL38X Gen10 High Performance Temperature Fan Kit 867810-B21

**NOTE:** This kit is required for specific **Ambient temperature environments**, coming in 2H2017.

**NOTE:** This kit provides maximum cooling for your Server.

HPE DL380 Gen10 SFF Systems Insight Display Kit 826703-B21

**NOTE:** Systems Insight Display no longer ships as standard but is available as a Factory Integrated or field upgrade option.

HPE DL3XX Gen10 Rear Serial Cable and Enablement Kit 873770-B21

### HPE Processors

#### Processor Option Kits

HPE DL380 Gen10 Intel Xeon-Gold 6152 (2.1GHz/22-core/140W) Processor Kit 826886-B21

**NOTE:** Ships with Performance Heatsink.

HPE DL380 Gen10 Intel Xeon-Gold 6140 (2.3GHz/18-core/150W) Processor Kit 826878-B21

**NOTE:** Ships with Performance Heatsink.

HPE DL380 Gen10 Intel Xeon-Gold 6138 (2.0GHz/20-core/125W) Processor Kit 826876-B21

HPE DL380 Gen10 Intel Xeon-Gold 6130 (2.1GHz/16-core/120W) Processor Kit 826866-B21

HPE DL380 Gen10 Intel Xeon-Gold 5120 (2.2GHz/14-core/105W) Processor Kit 826856-B21

HPE DL380 Gen10 Intel Xeon-Gold 5118 (2.3GHz/12-core/105W) Processor Kit 826854-B21

HPE DL380 Gen10 Intel Xeon-Silver 4116 (2.1GHz/12-core/85W) Processor Kit 826852-B21

HPE DL380 Gen10 Intel Xeon-Silver 4114 (2.2GHz/10-core/85W) Processor Kit 826850-B21

HPE DL380 Gen10 Intel Xeon-Silver 4110 (2.1GHz/8-core/85W) Processor Kit 826846-B21

HPE DL380 Gen10 Intel Xeon-Silver 4108 (1.8GHz/8-core/85W) Processor Kit 826848-B21

HPE DL380 Gen10 Intel Xeon-Bronze 3104 (1.7GHz/6-core/85W) Processor Kit 873641-B21

**NOTE:** Up to two processors supported.

**NOTE:** HT indicates that the processor model supports Intel® Hyper-Threading Technology.

**NOTE:** Turbo2: Intel® Turbo Boost Technology 2.0 provides more computing power when you need it with performance that adapts to spikes in your workload and delivers more performance upside than then previous generation turbo technology.

**NOTE:** DDR4 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

**NOTE:** The xxxxxx-L21 is the first processor shipped, the xxxxxx-B21 is the 2nd processor and ships with 2 additional fans for factory of field installation.

**NOTE:** Maximum memory per socket depends on the processor selected.

## Core Options

### Memory Selection

To streamline the configuration process for HPE ProLiant Gen10 servers and to provide the best product availability, HPE recommends memory from the list located here: <http://www.hpe.com/products/recommend>. Best product availability is limited to US, Canada, and Latin America at this time.

#### HPE DDR4 Memory

##### Registered DIMMs (RDIMMs)

|                                                                                     |            |
|-------------------------------------------------------------------------------------|------------|
| HPE 8GB (1x8GB) Single Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit   | 815097-B21 |
| HPE 16GB (1x16GB) Single Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit | 815098-B21 |
| HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit   | 835955-B21 |
| HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit   | 815100-B21 |

#### HPE Optical Drives

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

**NOTE:** The Universal Media Bay (826708-B21) is required for this option on a SFF model. No support in 12 LFF or 24 SFF models.

#### HPE Drives

##### Enterprise - 12G SAS - SFF Drives

|                                                                                            |            |
|--------------------------------------------------------------------------------------------|------------|
| HPE 300GB SAS 12G Enterprise 15K SFF (2.5in) SC 3yr Wty Digitally Signed Firmware HDD      | 870753-B21 |
| HPE 1.8TB SAS 12G Enterprise 10K SFF (2.5in) SC 3yr Wty 512e Digitally Signed Firmware HDD | 872481-B21 |

##### Midline - 12G SAS - SFF Drives

|                                                              |            |
|--------------------------------------------------------------|------------|
| HPE 2TB SAS 12G Midline 7.2K SFF (2.5in) SC 1yr Wty 512e HDD | 765466-B21 |
|--------------------------------------------------------------|------------|

### SSD Selection

To streamline the configuration process for HPE ProLiant Gen10 servers and to provide the best product availability, HPE recommends SSDs from the list located here: <http://www.hpe.com/products/recommend>.

#### Mixed Use - 6G SATA - SFF - Solid State Drives

|                                                                                  |            |
|----------------------------------------------------------------------------------|------------|
| HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD | 872344-B21 |
|----------------------------------------------------------------------------------|------------|

#### Read Intensive - 6G SATA - SFF - Solid State Drives

|                                                                                       |            |
|---------------------------------------------------------------------------------------|------------|
| HPE 240GB SATA 6G Read Intensive SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD | 868814-B21 |
|---------------------------------------------------------------------------------------|------------|

#### Mixed Use - 6G SATA - SFF - Solid State Drives

|                                                                                  |            |
|----------------------------------------------------------------------------------|------------|
| HPE 480GB SATA 6G Mixed Use SFF (2.5in) SC 3yr Wty Digitally Signed Firmware SSD | 872344-B21 |
|----------------------------------------------------------------------------------|------------|

#### Hard Drive Blank Kits

|                                         |            |
|-----------------------------------------|------------|
| HPE Universal SATA HHHL 3yr Wty M.2 Kit | 878783-B21 |
|-----------------------------------------|------------|

**NOTE:** This is a M.2 enablement standup card.

|                                            |            |
|--------------------------------------------|------------|
| HPE Small Form Factor Hard Drive Blank Kit | 666987-B21 |
|--------------------------------------------|------------|

#### Hard Drive Kits

|                                               |            |
|-----------------------------------------------|------------|
| HPE DL38X Gen10 SFF Box1/2 Cage/Backplane Kit | 826691-B21 |
|-----------------------------------------------|------------|

**NOTE:** Supports 8 SAS/ SATA SFF drives in Box 1 or 2

## Core Options

### Media Bay Kits

HPE DL38X Gen10 Universal Media Bay Kit

826708-B21

**NOTE:** The HPE DL380 Gen10 Universal Media bay provides front Display Port and 2xUSB 2.0; plus support for 2x SFF front drives or 2 NVME front drives (826687-B21, riser required) and ODD support (Not included); and can only be located in Box1 in either an 8 SFF or 8+8 SFF model.

**NOTE:** This is a SFF model option only.

### HPE Networking

#### 1 Gigabit Ethernet adapters

HPE Ethernet 1Gb 4-port 331T Adapter

647594-B21

HPE Ethernet 1Gb 2-port 332T Adapter

615732-B21

HPE Ethernet 1Gb 2-port 361T Adapter

652497-B21

HPE Ethernet 1Gb 4-port 366T Adapter

811546-B21

#### 10 Gigabit Ethernet adapters

HPE Ethernet 10Gb 2-port 521T Adapter

867707-B21

HPE Ethernet 10Gb 2-port 530T Adapter

656596-B21

HPE Ethernet 10Gb 2-port 530SFP Adapter

652503-B21

HPE Ethernet 10Gb 2-port 535T Adapter

813661-B21

HPE Ethernet 10Gb 2-port 562SFP+ Adapter

727055-B21

HPE Ethernet 10Gb 2-port 562T Adapter

817738-B21

#### 25 Gigabit Ethernet adapters

HPE Ethernet 10/25Gb 2-port 631SFP28 Adapter

817718-B21

**NOTE:** The DL380 Gen10 ships with 4x 1 Gb Embedded.

**NOTE:** A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.

#### FlexibleLOM adapters

HPE Ethernet 1Gb 4-port 331FLR Adapter

629135-B22

HPE Ethernet 1Gb 4-port 366FLR Adapter

665240-B21

**NOTE:** Delayed availability.

HPE FlexFabric 10Gb 2-port 533FLR-T Adapter

700759-B21

HPE FlexFabric 10Gb 2-port 534FLR-SFP+ Adapter

700751-B21

HPE Ethernet 10Gb 2-port 562FLR-SFP+ Adapter

727054-B21

HPE Ethernet 10/25Gb 2-port 631FLR-SFP28 Adapter

817709-B21

HPE Ethernet 10/25Gb 2-port 640FLR-SFP28 Adapter

817749-B21

**NOTE:** The DL380 Gen10 chassis ships with 4x 1 Gb embedded.

### HPE InfiniBand

HPE InfiniBand FDR/Ethernet 10Gb/40Gb 2-port 544+QSFP Adapter

764284-B21

HPE InfiniBand EDR/Ethernet 100Gb 2-port 840QSFP28 Adapter

825111-B21

HPE InfiniBand EDR/Ethernet 100Gb 2-port 841QSFP28 Adapter

872726-B21

## Core Options

### HPE I/O Expansion Options

**NOTE:** The Primary Riser shipping default in the chassis is a x8 FH, FL, x16 FH, FL and x8 FH, HL with m.2 support.

**NOTE:** For a Secondary/Tertiary riser the second processor is required.

**NOTE:** Primary Riser Slot 1.

**NOTE:** Supports Full Height and Full length cards.

**NOTE:** Bus width x8 x16, x8, Connector Width x16, x16, x8.

**NOTE:** M.2 support on this riser.

**NOTE:** Supports Full Height, Half- length cards; Full Height, Full-length cards and Full Height, Half- length cards.

**NOTE:** Bus width x8, x16, x8, Connector Width x8, x16, x8.

HPE DL38X Gen10 x8/x16/x8 PCIe NEBS Riser Kit

873209-B21

**NOTE:** Secondary Riser.

**NOTE:** Supports Full Height and Full length cards.

**NOTE:** Bus width x8, x16, x8.

HPE DL380 Gen10 x16 Tertiary NEBS Riser

826702-B21

**NOTE:** Supports 1x 16 slot in the Tertiary location.

**NOTE:** Full Height and full-length card.

**NOTE:** Bus width x16 Connector Width x16.

| Riser Information                |                                               |                           |                |           |          |                        |                |                |
|----------------------------------|-----------------------------------------------|---------------------------|----------------|-----------|----------|------------------------|----------------|----------------|
| NEBS<br>Compliant<br>Part number | Description                                   | Commercial<br>Part number | Riser position |           |          | Bus width (Gen3 lanes) |                |                |
|                                  |                                               |                           | Primary        | Secondary | Tertiary | Top<br>slot            | Middle<br>Slot | Bottom<br>slot |
| 826701-B21                       | HPE DL380 Gen10 x8<br>x16 x8 M.2 NEBS Riser   | 826694-B21                | O              | N         | N        | X16                    | X16            | X8             |
| 873209-B21                       | HPE DL38X Gen10 x8<br>x16 x8 NEBS Riser       | 870548-B21                | O              | O         | N        | X8                     | X16            | X8             |
| 826702-B21                       | HPE DL380 Gen10<br>x16 Tertiary NEBS<br>Riser | 826700-B21                | N              | N         | O        | X16                    | O              | O              |

### HPE Power Supplies

HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit

865414-B21

**NOTE:** Flex Slot Platinum power supplies support power efficiency of up to 94% and include a standard C-14 power inlet connector.

HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit

865434-B21

**NOTE:** Flex Slot -48VDC power supplies support power efficiency of up to 94%.

HPE 48VDC 2.85m Power Cable

Q0H80A

### HPE Cooling Options

HPE DL38X Gen10 High Performance Temperature Fan Kit

867810-B21

**NOTE:** This kit is required for specific **Ambient temperature environments**, coming in 2H2017.

**NOTE:** High Performance fan kit consists of 6 fans, these will need to replace all the standard fans in the unit, and fill all 6 fan cages.

**NOTE:** For elevated ambient temperature support please see: <http://www.hpe.com/servers/ashrae>.

Additional Options

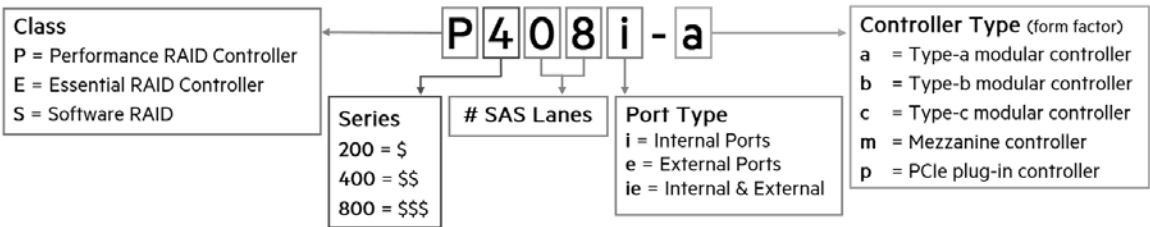
HPE Security

|                                                                                                                                                                                                  |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| HPE 2U Bezel Air Filter NEBs                                                                                                                                                                     | P05420-B1  |
| HPE Gen10 2U Bezel Kit                                                                                                                                                                           | 867809-B21 |
| HPE Trusted Platform Module 2.0 Gen10 Option                                                                                                                                                     | 864279-B21 |
| <b>NOTE:</b> HPE Trusted Platform Module 2.0 option works with Gen10 servers with UEFI Mode not Legacy Mode. It is not compatible with HPE ProLiant Gen8 servers or earlier generation variants. |            |
| <b>NOTE:</b> HPE server systems can have a TPM module (of any type) installed only once. It cannot be replaced with any other TPM module.                                                        |            |
| HPE Gen10 TPM 1.2 FIO Setting                                                                                                                                                                    | 872108-B21 |

**NOTE:** This is a FIO setting to allows the TPM 2.0 module to operate in a TPM 1.2 mode.

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](#).



HPE Flexible Smart Array Controllers

**NOTE:** All performance RAID controllers are supported by the HPE Smart Storage Battery (P01366-B21), which supports multiple devices and is sold separately.

**NOTE:** Flexible Smart Array controllers do not consume a PCIe slot.

|                                                                                                      |            |
|------------------------------------------------------------------------------------------------------|------------|
| HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller | 804338-B21 |
| <b>NOTE:</b> Does not occupy a PCIe expansion slot and includes SmartCache license.                  |            |
| HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller             | 804331-B21 |

**Performance RAID Controllers****NOTE:** All performance RAID controllers are supported by the HPE Smart Storage Battery (P01366-B21), which supports multiple devices and is sold separately.

Essential RAID Controllers

|                                                                                              |            |
|----------------------------------------------------------------------------------------------|------------|
| 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 |

Optional Upgrades

|                                                                                                                                              |            |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------|
| HPE 96W Smart Storage Battery (up to 20 Devices) with 145mm Cable Kit                                                                        | P01366-B21 |
| <b>NOTE:</b> Provides backup power for multiple HPE Smart Array controllers or other devices. Is required with performance RAID controllers. |            |

HPE Storage Options

QLogic Fibre Channel HBAs

|                                                                       |        |
|-----------------------------------------------------------------------|--------|
| HPE StoreFabric SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter | P9D94A |
|-----------------------------------------------------------------------|--------|

Storage

Converged Network Adapters

|                                                             |        |
|-------------------------------------------------------------|--------|
| HPE StoreFabric CN1100R Dual Port Converged Network Adapter | QW990A |
|-------------------------------------------------------------|--------|

HPE Rack Options

Rail Kits

**NOTE:** Ball bearing rail kits contain telescoping rails which allow for in-rack serviceability.  
**CAUTION:** Hewlett Packard Enterprise recommends that a minimum of two people are required for all Rack Server installations. Please refer to your installation instructions for proper tools and number of people to use for any installation.

|                                                |            |
|------------------------------------------------|------------|
| HPE 2U Small Form Factor Ball Bearing Rail Kit | 720863-B21 |
|------------------------------------------------|------------|

**NOTE:** Does not include CMA (720865-B21).

|                                                       |            |
|-------------------------------------------------------|------------|
| HPE 2U Cable Management Arm for Ball Bearing Rail Kit | 720865-B21 |
|-------------------------------------------------------|------------|

## Technical Specifications

### System Unit

|                                                  |                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dimensions</b>                                | 8.73 x 44.54 x 67.94 cm<br>3.44 x 17.54 x 26.75 in             | SFF Drives:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Weight (approximate)</b>                      | Maximum: 19.5 kg<br>43.00 lbs<br>Minimum: 14.9 kg<br>32.75 lbs | Minimum: 8 SFF chassis with 1x SFF 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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Input Requirements</b><br>(per power supply)  | Rated Line Voltage                                             | 100 to 120 VAC<br>200 to 240 VAC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>BTU Rating</b>                                | Maximum                                                        | For 800W Power Supply: 3207 BTU/hr (at 100 VAC), 3071 BTU/hr (at 200 VAC), 3112 BTU/hr (at 240 VAC) for China Only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Power Supply Output</b><br>(per power supply) | Rated Steady-State Power                                       | For 800W Power Supply: 800W (at 100 VAC), 800W (at 240 VAC), 800W (at 240 VDC) input for China only<br><br>For 800W DC Power Supply: 800W (at -40 VDC), 800W (at -48 VDC), 800W (at -72 VDC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>System Inlet Temperature</b>                  | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                  | Extended Ambient Operating Temperature                         | System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).<br>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:<br><a href="http://www.hpe.com/servers/ashrae">http://www.hpe.com/servers/ashrae</a><br><br>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:<br><a href="http://www.hpe.com/servers/ashrae">http://www.hpe.com/servers/ashrae</a><br><br>GR-63-CORE, Section 4.1.2: Shelf Level Operating Temperature and Humidity<br>ETSI EN 300 019-2-3: Stationary Use at Weather Protected Locations, Class 3.1E<br><br>System performance may be reduced if operating in the extended ambient operating range or with a fan fault. |
|                                                  | Non-operating                                                  | GR-63-CORE, Section 4.1.1, Transportation and Storage Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Technical Specifications

ETSI EN 300 019-2-1: Storage, Class 1.2  
ETSI EN 300 019-2-2: Transportation, Class 2.3

|                                                                |                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                             |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Relative Humidity</b>                                       | Operating                                                                                                                                                                                                                                                                                                                                                                      | GR-63-CORE, Section 4.1.2: Shelf Level Operating Temperature and Humidity<br>ETSI EN 300 019-2-3: Stationary Use at Weather Protected Locations, Class 3.1E |
|                                                                | (non-condensing)                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                             |
|                                                                | Non-operating                                                                                                                                                                                                                                                                                                                                                                  | GR-63-CORE, Section 4.1.1: Transportation and Storage Environment<br>ETSI EN 300 019-2-1: Storage, Class 1.2                                                |
| <b>Altitude</b>                                                | Operating                                                                                                                                                                                                                                                                                                                                                                      | GR-63-CORE, Section 4.1.3: Shelf Level Altitude                                                                                                             |
|                                                                | Non-operating                                                                                                                                                                                                                                                                                                                                                                  | 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).                                                                      |
| <b>Emissions Classification (EMC) – Regulatory Information</b> | Class A                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                             |
| <b>FCC Rating</b>                                              | GR-1089-CORE, Section 3: Electromagnetic Interference<br>ETSI EN 300 386: Electromagnetic Compatibility                                                                                                                                                                                                                                                                        |                                                                                                                                                             |
| <b>Telecom</b>                                                 | CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; GB9254; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1                                                                                                                                                                                                                                        |                                                                                                                                                             |
| <b>Normative Standards</b>                                     | 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:<br><b><a href="http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts">http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts</a></b> |                                                                                                                                                             |

## Summary of Changes

| Date        | Version History | Action  | Description of Change                                                                                 |
|-------------|-----------------|---------|-------------------------------------------------------------------------------------------------------|
| 04-Feb-2019 | Version 3       | Changed | Core Options and Storage sections were updated.                                                       |
| 15-Oct-2018 | Version 2       | Changed | Configuration Information - Factory Integrated Models, Core Options, Additional Options were updated. |
| 14-May-2018 | Version 1       | New     | Content created.                                                                                      |



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For hard drives, 1GB = 1 billion bytes. Actual formatted capacity is less

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