

Overview

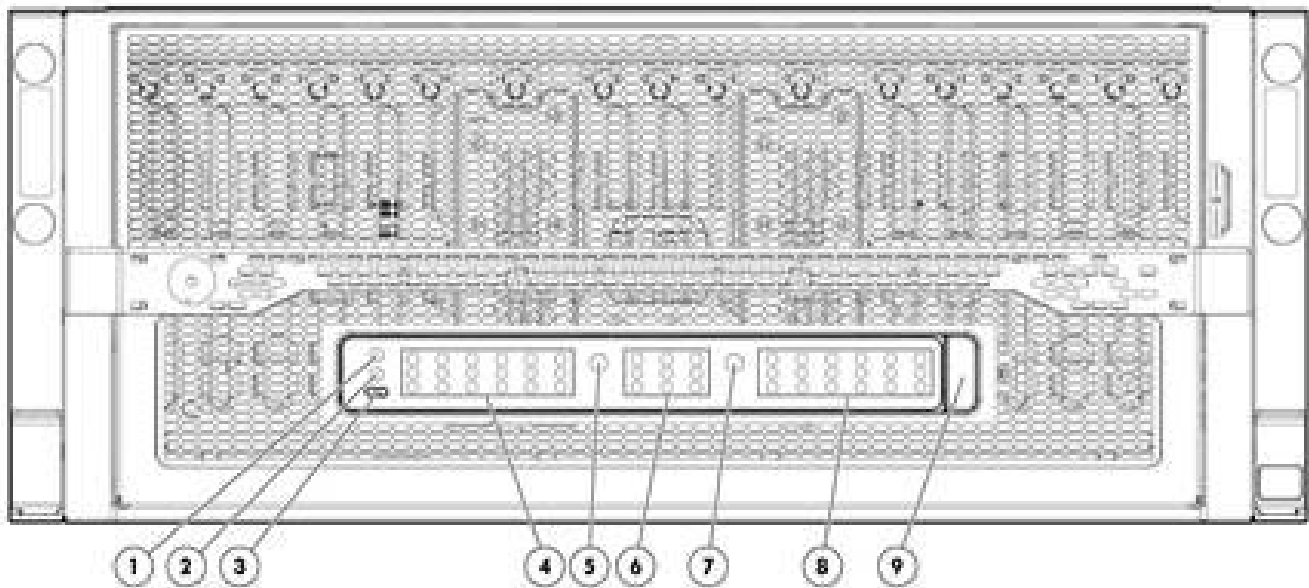
HPE Moonshot 1500 Chassis

The HPE Moonshot System uses an innovative architecture that results from one simple design tenet: to align purpose-built servers with the right workload to provide optimal results for your environment. Traditional servers rely on dedicated components, including management, networking, storage, power cords and cooling fans in a single chassis. In contrast, the Moonshot system shares these chassis components and is capable of supporting up to 45 workload-optimized ProLiant Server Blades (each offering up to 16 Intel® Xeon® cores, 128GB RAM and 16TB NVMe SSD storage) in a compact 4.3U chassis. This gives you the ability to generate greater revenue from a smaller footprint while driving down your operational costs.

The HPE Moonshot System with its portfolio of ProLiant Server Blades and modular Switches excels in a variety of uses:

- Performance intensive Trader Workstations at top financial firms worldwide
- Mission critical Engineering Workstations for Computer Aided Design (CAD) and Digital Content Creation (DCC)
- Extreme density Hosted Desktop Infrastructure (HDI) and Application Delivery, but with excellent user experience
- Efficient Video Transcoding and Content Delivery Network (CDN) caching for major multimedia providers
- High Performance Computing (HPC CFD) farm helping to build better racing cars and many more.

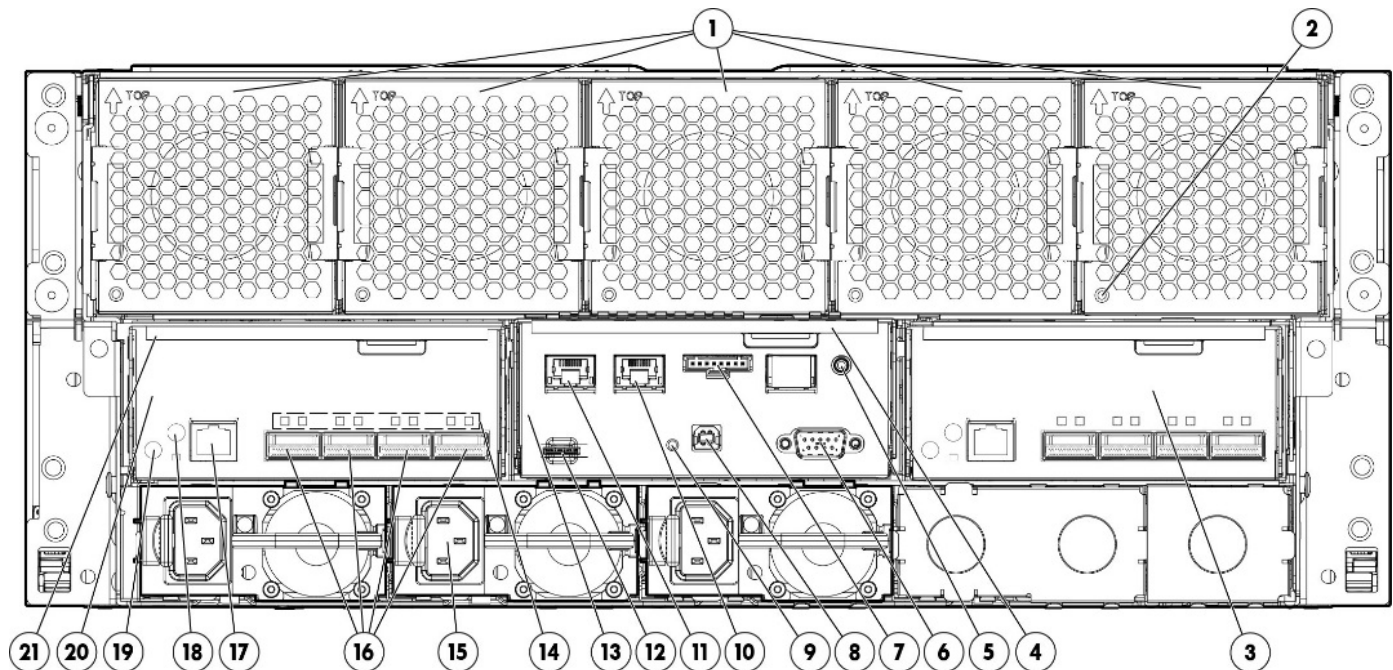
Notes: New for 2020, is the HPE Moonshot 1500 Chassis 2.0. This new chassis model includes the new HPE Moonshot Chassis Manager 2.0 (CM2.0) which is required to support operation of HPE ProLiant m750 Server Blades.



Front View (HPE Moonshot 1500 Chassis)

- | | |
|--|---|
| 1. Chassis Power LED | 6. Front Panel Display LED, ProLiant server 19-27 |
| 2. System Health LED | 7. Switch module B health LED |
| 3. Chassis UID/LED/button | 8. Front Panel Display LED, ProLiant server 28-45 |
| 4. Front Panel Display LED, ProLiant server 1-18 | 9. Front Panel Display release |
| 5. Switch Module A Health LED | |

Overview

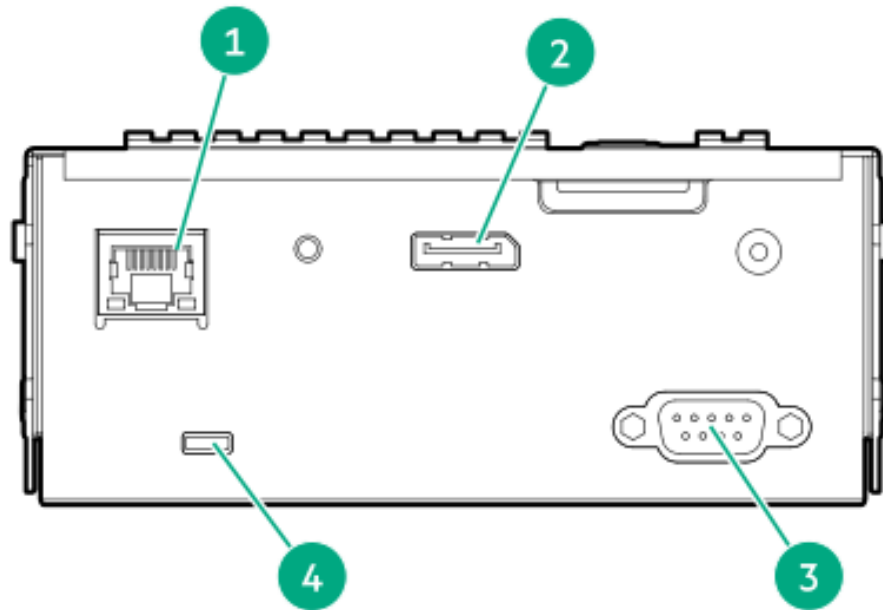


Back View (with Chassis Manager 1.0 Module shown)

- | | |
|---|--|
| 1. Fans | 12. HPE Moonshot 1500 CM Module MicroSD slot |
| 2. Fan LED | 13. HPE Moonshot 1500 Chassis Management (CM) Module |
| 3. Uplink Module A | 14. Switch Module uplink/downlink activity LEDs |
| 4. HPE Moonshot 1500 CM Module release lever | 15. Power supply connector |
| 5. HPE Moonshot 1500 CM Module UID/LED button | 16. Four (4) 40GbE QSFP+ connectors |
| 6. HPE Moonshot 1500 CM Module serial port | 17. Serial connector |
| 7. HPE Moonshot 1500 CM Module SL-APM port | 18. Uplink Module UID/LED button |
| 8. HPE Moonshot 1500 CM Module USB connector | 19. Uplink Module health LED |
| 9. HPE Moonshot 1500 CM Module LED | 20. Uplink Module B |
| 10. iLO CM link port (disabled by default) | 21. Uplink Module release lever |
| 11. iLO CM RJ45 Management port | |

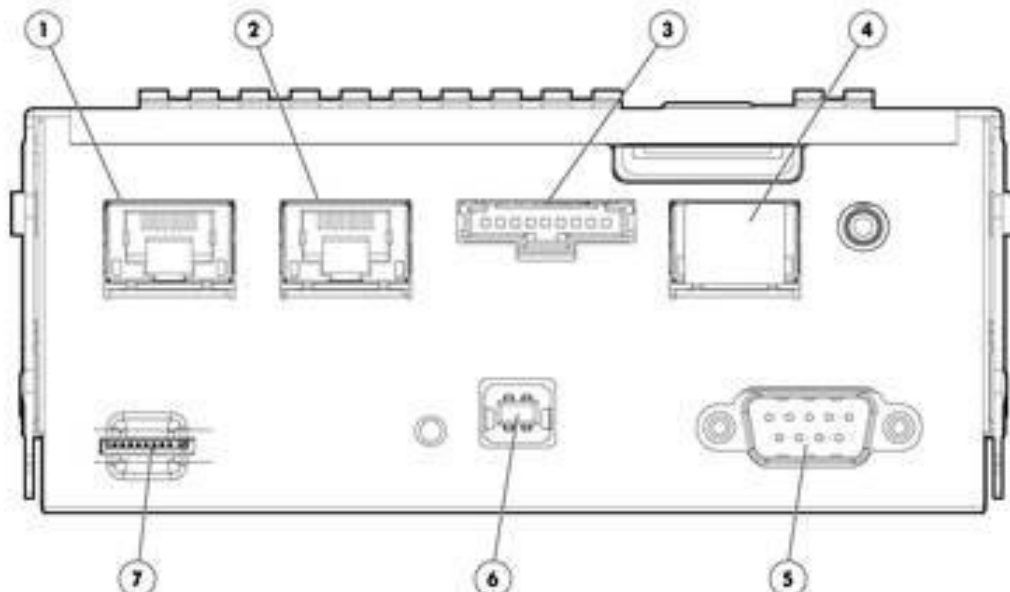


Overview



NEW HPE Moonshot 1500 Chassis Management 2.0 Module

- | | |
|--|-------------------------------------|
| 1. HPE Moonshot CM 2.0 iLO Management port | 3. HPE Moonshot CM 2.0 Serial port |
| 2. HPE Moonshot CM 2.0 APM Port | 4. HPE Moonshot CM 2.0 USB OTG Port |



HPE Moonshot 1500 Chassis Management 1.0 Module

- | | |
|--|--|
| 1. iLO CM 1.0 RJ45 Management port | 5. HPE Moonshot 1500 CM 1.0 Module serial port |
| 2. iLO CM 1.0 link port (disabled by default) | 6. HPE Moonshot 1500 CM 1.0 Module USB connector |
| 3. HPE Moonshot 1500 CM 1.0 Module HPE APM port | 7. HPE Moonshot 1500 CM 1.0 Module MicroSD slot |
| 4. HPE Moonshot 1500 CM 1.0 Module diagnostic port | |



Standard Features

Chassis Management

Included in HPE Moonshot, the HPE Moonshot 1500 Chassis Management module manages the health of the chassis and servers via a command-line interface accessible via SSH as well as a web-based Graphical User Interface (GUI). Customers can configure the chassis, set server settings, and flash firmware in the HPE Moonshot 1500 System. The HPE Moonshot 1500 Chassis Management module also supports **Intelligent Platform Management Interface (IPMI)**.

The HPE Moonshot 1500 Chassis Management module supports the HPE RESTful Interface Tool, this tool provides mass scripting configuration for rapid deployment of multiple HPE Moonshot Systems.

HPE Moonshot 1500 Chassis Management Module 2.0 is a next generation Moonshot management offering and is required to support the HPE ProLiant m750 Server Blade (P17342-B21). The HPE Moonshot 1500 CM 2.0 module is a standard feature of the HPE Moonshot 1500 Chassis 2.0 (P18680-B21). In addition, the HPE Moonshot 1500 CM 2.0 module can be purchased as an option kit (P17347-B21) to upgrade an existing HPE Moonshot 1500 Chassis to CM2.0.

For more information on the HPE Moonshot 1500 Chassis Management Module, please contact your sales representative or go to: <http://www.hpe.com/info/moonshot>

HPE Moonshot Component Pack

The HPE Moonshot Component Pack, is the delivery mechanism for firmware updates on the HPE Moonshot System. To download the HPE Moonshot Component Pack, please reference: <http://www.hpe.com/info/moonshot>

HPE ProLiant Server Blades

Based on Intel® Xeon®

- HPE ProLiant m750 Server Blade
<https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=a00073555enw>
- HPE ProLiant m510 Server Blade
<https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=c05069171>
- HPE ProLiant m710x Server Blade
<https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=c05069173>

Network Switch

Comware

- HPE Moonshot-45XGc Switch Module
<https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=c04384058>

Network Uplink

- HPE Moonshot-16SFP+ Uplink Module
<https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=c04499458>
- HPE Moonshot-4QSFP+ Uplink Module
<https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=c04111341>

Enclosure

The HPE Moonshot 1500 System is 4.3U high and holds up to forty-five (45) ProLiant Server Blades. Switches, uplinks, power supplies, fans, and a chassis management module are all designed to fit into the HPE Moonshot 1500 System.

Notes: Can be racked as either a 5U tall chassis or as three chassis in 13U.



Standard Features

HPE Common Slot Power Supply

HPE Moonshot 1500 System can accommodate up to four (4) HPE Common slot power supplies listed in Step 4 of the Configure to Order section of this QuickSpecs.

The HPE Common Slot (CS) power supplies allow for commonality of power supplies across a wide range of ProLiant and Integrity servers, as well as HPE Storage solutions, and are designed to provide the highest power supply efficiency without degrading system performance. HPE CS power supplies are tested by the Electric Power Research Institute (EPRI) and certified through the ECOS 80 Plus power supply program. HPE CS power supply options provide efficiency ratings of up to 94% and are available in a 1500W configuration for this platform. All HPE Common Slot power sources are UL, CE Mark Compliant, hot-plug and support redundant configurations. HPE Power Advisor can be accessed at: <https://paonline56.itcs.hpe.com/?Page=Index>

Notes: Redundant Power: Optional redundant power supplies will vary based on configurations. Please refer to specific HPE ProLiant server cartridge for details.

Warranty

This product is covered by a global limited warranty and supported by Hewlett Packard Enterprise Services and a worldwide network of Hewlett Packard Enterprise Authorized Partner Ready 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 the warranty services are available through HPE 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: Chassis Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support. Additional information regarding worldwide limited warranty and technical support is available at: <http://h20564.www2.hpe.com/hpsc/wc/public/home>

HPE Moonshot 1500 Chassis

The HPE Moonshot 1500 Chassis holds up to 45 ProLiant Server Blades plus redundant network switches. It includes a shared base-plane with three multi-terabit high-speed fabrics: to connect Server Blades to the network, to connect Server Blades to neighboring Server Blades. Power is delivered through a pooled-power back-plane that ensures the full capacity of the hot-plug power supplies is available to all Server Blades.

Each HPE Moonshot 1500 Chassis is built with the following functions:

- Up to 45 ProLiant Server Blades per chassis.
- Up to 2 independently paired network and uplink modules supported simultaneously within the chassis.
- Five dual-rotor, hot-plug, redundant fans as standard.
- Optionally redundant hot-plug power supplies
- Optionally redundant interconnect modules
- The HPE Moonshot 1500 Chassis Management (CM) module manages the health of the Chassis and Server Blades. HPE Moonshot 1500 Chassis 2.0 includes the next generation CM 2.0 as a standard feature which provides exclusive support for the HPE ProLiant m750 Server Blade

An HPE Moonshot System provides the following benefits:

- Optimum performance and utilization by using servers tailored to specific workloads
- Lowest cost of ownership.
- With local and remote hardware management integrated across the solution, one full enclosure can be managed as easily as one server.
- Investment protection: Accommodates multiple server and network designs in one enclosure.
- Lower costs per server, in comparison to rack-mounted servers
- Lower power consumption, in comparison to rack-mounted servers.



Standard Features

Factory Express Portfolio for Servers and Storage

HPE Factory Express offers configuration, customization, integration and deployment services for Hewlett Packard Enterprise servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as asset tagging, and custom packaging.

For more information on Factory Express services for your specific server model please contact your sales representative or go to: <https://www.hpe.com/us/en/services/factory-express.html>



Service and Support

HPE Pointnext - Service and Support

Get the most from your HPE Products. Get the expertise you need at every step of your IT journey with **HPE Pointnext Services**. We help you lower your risks and overall costs using automation and methodologies that have been tested and refined by HPE experts through thousands of deployments globally. HPE Pointnext **Advisory Services** focus on your business outcomes and goals, partnering with you to design your transformation and build a roadmap tuned to your unique challenges. Our **Professional** and **Operational Services** can be leveraged to speed up time-to-production, boost performance and accelerate your business. HPE Pointnext specializes in flawless and on-time implementation, on-budget execution, and creative configurations that get the most out of software and hardware alike.

Consume IT on your terms

HPE GreenLake 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 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

Managed services to run your IT operations

HPE GreenLake Management Services provides 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.

Recommended Services

HPE Pointnext Tech Care.

HPE Pointnext Tech Care is the new operational service experience for HPE products. Tech Care 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 Pointnext Tech Care has been reimagined from the ground up to support a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Pointnext Tech Care 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 Pointnext Complete Care

HPE Pointnext Complete Care is a modular, edge-to-cloud IT environment service that provides a holistic approach to optimizing your entire IT environment and achieving agreed upon IT outcomes and business goals through a personalized and customer-centric experience. All delivered by an assigned team of HPE Pointnext Services experts. HPE Pointnext Complete Care 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/completecure>



Service and Support

Other related services from HPE Pointnext

Defective Media Retention

Is an option available with HPE Complete Care, HPE Tech Care, Tech Care Advanced, and HPE Tech Care and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

HPE Installation and Startup Service

For the HPE Moonshot System infrastructure provides for the installation of one HPE Moonshot 1500 Chassis and its associated Moonshot servers and network switches, as well as operating system deployment and basic configuration of OS network parameters to establish network connectivity. <https://h20195.www2.hpe.com/V2/GetPDF.aspx/4aa4-5260enw.pdf>

HPE Service Credits

Offers flexible services and technical skills to meet your IT demands as your business evolves. With a menu of services, you can access additional resources and specialist skills to help you maintain peak performance of your IT. HPE Service Credits help you proactively respond to your dynamic IT and business needs.

HPE Education Services

Provides comprehensive training designed to expand the skills of your IT staff and keep them up to speed with the latest technologies.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and support options

For more information

To learn more on HPE Moonshot System, please contact your Hewlett Packard Enterprise sales representative.

Parts and Materials

Hewlett Packard Enterprise 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.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.



Configuration Information

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 a Hewlett Packard Enterprise approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

Factory Integrated Models must start with an HPE Moonshot 1500 Chassis. The recommended minimum functional configuration for a HPE Moonshot System is as follows:

- One (1) ProLiant Server Blade
- Three (3) Power Supplies
- One (1) Switch
- One (1) Uplink

Notes:

- A second Switch and Uplink Module Kit may be ordered to give a redundant network configuration or to enable two separate networks utilizing different ProLiant server cartridges.
- Some options may not be integrated at the factory.

Step 1: Base Configuration (Choose chassis)

HPE Moonshot 1500 Chassis

HPE Moonshot 1500 Chassis OS Option	755372-B21
HPE Moonshot 1500 Configure-to-order 2.0 Chassis	P18680-B21

Notes:

- The HPE Moonshot 1500 Chassis (755372-B21) supports the HPE ProLiant m710x, m710x-L, and m510 Server Blades. It does not support the new HPE ProLiant m750 Server Blade.
- Only HPE ProLiant m750 Server Blades are supported in the Moonshot 1500 Chassis 2.0 (P18680-B21),
- Mixed Server Blade configurations are supported (excluding the m750) in HPE Moonshot 1500 Chassis 1.– See Network section in step 3 for restrictions

Step 2: Configure ProLiant Server Blades

HPE ProLiant Server Blades (Min:1, Max: 45)

Notes:

- Mixed Server Blade configuration is supported in the Moonshot 1500 Chassis 1.0 – See Network section in step 3 and the special populations rules section for restrictions
- See Server Blade Quick Specs for Blade configurations

HPE ProLiant m510-16c Server Blade

<https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=c05069171>

Notes:

- The HPE ProLiant m510 Server Blades are ONLY supported in the original Moonshot Chassis (755372-B21)
- Due to thermal constraints, a maximum of 30 m510-16c servers can be configured in a chassis. Mixed configurations may allow more servers to be installed in a chassis. Please refer to the special population rules section of this document for details.

HPE ProLiant m510 Xeon D-1587 1.7GHz 16-core Configure-to-order Server Cartridge	858545-B21
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HPE ProLiant m750 Server Blade

<https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=a00073555enw>

Notes: The HPE ProLiant m750 Server Blade is only supported in New Moonshot Chassis 2.0 (P18680-B21)

HPE ProLiant m750 E-2286M 5.0GHz 8-core 45W Configure-to-order Blade Server	P17342-B21
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Configuration Information

HPE ProLiant m710x Server Blade

<https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=c05069173>

Notes: The HPE ProLiant m710x Server Blade is ONLY supported in the original Moonshot Chassis (755372-B21)

Step 3: Choose Required Networking Options

Networking

Notes:

- Recommended to order a minimum of One (1) Switch Kit and One (1) Uplink Kit per chassis.
- Maximum of Two (2) Switch Kits and Two Uplink Kits (2) per chassis to allow configurations with redundant or dual networks.

Moonshot-45XGc Switch Module (10G Switch – 45 port)

- Moonshot 16SFP+ Uplink Module
- Moonshot 4QSFP+ Uplink Module

Step 3A: Switches (Min:1, Max: 2)

Comware Switch

HPE Moonshot-45XGc Switch Module Kit 704654-B21

Step 3B: Uplinks (Min:1, Max: 2)

HPE Moonshot-16SFP+ Uplink Module Kit 783263-B21

HPE Moonshot-4QSFP+ Uplink Module Kit 704652-B21

Step 4: Choose Required Power options

Power Supplies (Min:3, Max: 4)

HPE Common Slot Platinum Plus Power Supply Kits

Notes:

- Minimum of Three (3) power supplies must be installed for a functional configuration. The chassis can accommodate a maximum of Four (4) power supplies.
- N+N power redundancy is supported, as long as total max power is below the total power of the remaining 2 power supplies.
- Intel based X86 cartridges use power capping to reduce the amount of power used during this degraded state.

HPE 1500W Common Slot Platinum Plus Power Supply Kit 684532-B21

HPE 1500W Common Slot 48VDC Hot Plug Power Supply Kit 746708-B21

Step 5: Choose Additional Chassis Factory Integration Options

HPE Rail Kits (Chassis Specific)

HPE 4.3U Server Rail Kit 681254-B21

HPE 0.66U Spacer Blank Kit 681260-B21

Notes:

- For data center airflow management purposes, it is recommended that either the .66U Spacer Blank or the 13U FIO Rack Adapter Kit can be ordered.
- The HPE 4.3U Rail Kit is required to be ordered for every chassis to properly install the chassis into a rack.
- The .66U Spacer Blank kit may be ordered and will give an even 5U (4.3U+0.66U) spacing in a rack. This would enable installing up to 8 chassis in a 42U rack. It is also possible to stack up to 9 chassis in a 42U rack using the 13U FIO Rack Adapter Kit.

HPE Rack Adapter



Configuration Information

Notes:

- Group the HPE Moonshot 1500 Chassis units into a 13U space. Order one per three chassis.
- HPE 4.3U Server Rail Kit (PN 681254-B21) is still required
- The 0.66U spacer is not used when selecting this option.

Step 6: Choose Additional Chassis Options

HPE Moonshot 1500 Chassis Management 2.0 Module (CM 2.0)

The HPE Moonshot 1500 Chassis Management 2.0 Module (CM2.0) is an optional solution intended for upgrading existing HPE Moonshot 1500 Chassis 1.0 to support new HPE ProLiant m750 Server Blades.

HPE Moonshot 1500 2.0 Chassis Manager Module

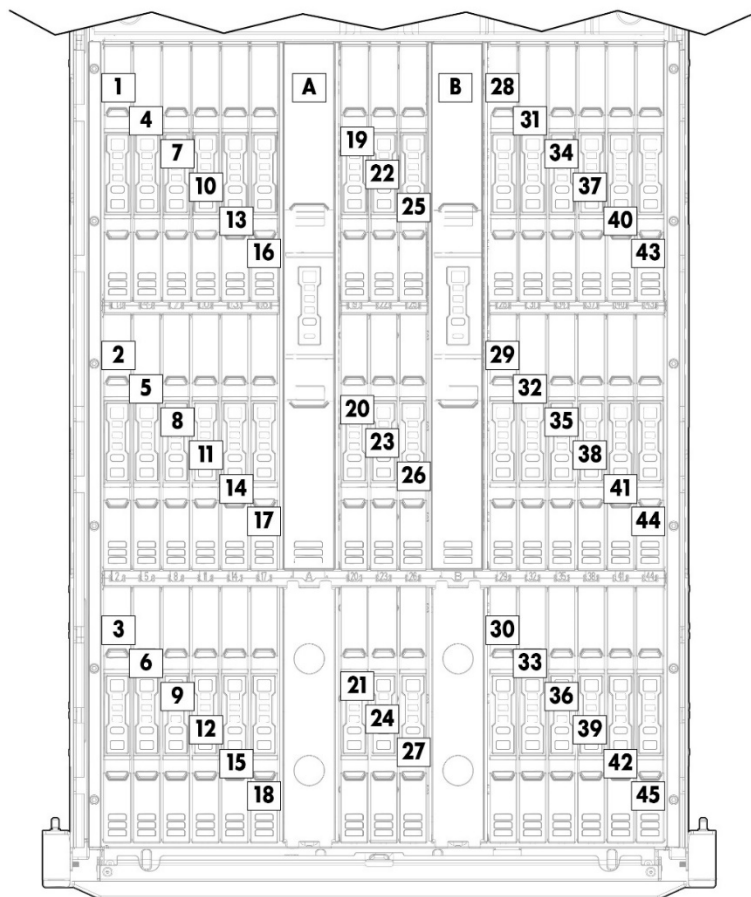
P17347-B21

Notes: The CM2.0 option is a standard feature in the HPE Moonshot 1500 Chassis 2.0

Specific Chassis Population Rules for the HPE ProLiant m510 Server Blade

Server blade slot and switch module bay identification

The chassis provides 45 server blade slots (1-45) and two switch module bays (A-B).



Notes:

- Factory Integrated Models must start with a HPE Moonshot 1500 Chassis.
- The following configuration rules must be followed when installing the HPE ProLiant m510 Server Blade in a Moonshot 1500 System, in order to maintain an optimum thermal environment.



Configuration Information

If your configuration has m510 (8-core model) Grey in diagrams

- No restriction in number of servers per chassis (i.e. 1 up to maximum of 45)
- Mixing with other ProLiant server blades is allowed, provided loading rules specified by other server blades (if any) are also fulfilled.

If your configuration has m510-16c (16-core model) Blue in diagrams

- Install m510-16c before any other servers. Start from slot 1 and move down the column to slot 2, then slot 4, 5 etc.
- Any column that has a m510-16c must leave two slots blank in Row 3 (one slot in its own column and another slot in the adjacent right column).
- Mixing with other ProLiant server blades is allowed, provided loading rules specified by other server blades (if any) are also fulfilled.

Notes: Pictures 3.1-3.4 show some example scenarios. Blue represents a m510-16c server, Grey is any other server (including m510 8-core) and Purple is an Empty slot.

FANS, I/O, Power Supplies

Row 1	1	4	7	10	13	16		19	22	25		28	31	34	37	40	43
Row 2	2	5	8	11	14	17	A	20	23	26	B	29	32	35	38	41	44
Row 3	3	6	9	12	15	18		21	24	27		30	33	36	39	42	45

Front Panel Display PIC 3.1

Row 1	1	4	7	10	13	16		19	22	25		28	31	34	37	40	43
Row 2	2	5	8	11	14	17	A	20	23	26	B	29	32	35	38	41	44
Row 3	3	6	9	12	15	18		21	24	27		30	33	36	39	42	45

Front Panel Display PIC 3.2



Configuration Information

FANS, I/O, Power Supplies

ROW 1	1	4	7	10	13	16		19	22	25		28	31	34	37	40	43
ROW 2	2	5	8	11	14	17	A	20	23	26	B	29	32	35	38	41	44
ROW 3	3	6	9	12	15	18		21	24	27		30	33	36	39	42	45
Front Panel Display PIC 3.3																	

ROW 1	1	4	7	10	13	16		19	22	25		28	31	34	37	40	43
ROW 2	2	5	8	11	14	17	A	20	23	26	B	29	32	35	38	41	44
ROW 3	3	6	9	12	15	18		21	24	27		30	33	36	39	42	45
Front Panel Display PIC 3.4																	



Additional Options

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

Additional options are not configurable for server upgrade kits.

Support Services

3 year Care

HPE 3 year Foundation Care Next business day Moonshot 1500 Opt OS Service	U8K89E
HPE 3 year Foundation Care Next business day with DMR Moonshot 1500 Opt OS Service	U8K90E
HPE 3 year Foundation Care Next business day with CDMR Moonshot 1500 Opt OS Service	U8K91E
HPE 3 year Foundation Care 24x7 Moonshot 1500 Opt OS Service	U8K92E
HPE 3 year Foundation Care 24x7 wDMR Moonshot 1500 Opt OS Service	U8K93E
HPE 3 year Foundation Care 24x7 wCDMR Moonshot 1500 Opt OS Service	U8K94E
HPE 3 year Foundation Care Call to Repair Moonshot 1500 Opt OS Service	U8K95E
HPE 3 year Foundation Care Call to Repair wDMR Moonshot 1500 Opt OS Service	U8K96E
HPE 3 year Foundation Care Call to Repair wCDMR Moonshot 1500 Opt OS Service	U8K97E

4 year Care

HPE 4 year Foundation Care Next business day Moonshot 1500 Opt OS Service	U8AT3E
HPE 4 year Foundation Care Next business day with DMR Moonshot 1500 Opt OS Service	U8AT4E
HPE 4 year Foundation Care Next business day with CDMR Moonshot 1500 Opt OS Service	U8AT5E
HPE 4 year Foundation Care 24x7 Moonshot 1500 Opt OS Service	U8AT6E
HPE 4 year Foundation Care 24x7 wDMR Moonshot 1500 Opt OS Service	U8AT7E
HPE 4 year Foundation Care 24x7 wCDMR Moonshot 1500 Opt OS Service	U8AT8E
HPE 4 year Foundation Care Call to Repair Moonshot 1500 Opt OS Service	U8AT9E
HPE 4 year Foundation Care Call to Repair wDMR Moonshot 1500 Opt OS Service	U8AU0E
HPE 4 year Foundation Care Call to Repair wCDMR Moonshot 1500 Opt OS Service	U8AU1E

5 year Care

HPE 5 year Foundation Care Next business day Moonshot 1500 Opt OS Service	U8AU2E
HPE 5 year Foundation Care Next business day with DMR Moonshot 1500 Opt OS Service	U8AU3E
HPE 5 year Foundation Care Next business day with CDMR Moonshot 1500 Opt OS Service	U8AU4E
HPE 5 year Foundation Care 24x7 Moonshot 1500 Opt OS Service	U8AU5E
HPE 5 year Foundation Care 24x7 wDMR Moonshot 1500 Opt OS Service	U8AU6E
HPE 5 year Foundation Care 24x7 wCDMR Moonshot 1500 Opt OS Service	U8AU7E
HPE 5 year Foundation Care Call to Repair Moonshot 1500 Opt OS Service	U8AU8E
HPE 5 year Foundation Care Call to Repair wDMR Moonshot 1500 Opt OS Service	U8AU9E
HPE 5 year Foundation Care Call to Repair wCDMR Moonshot 1500 Opt OS Service	U8AV0E

Notes: See HPE Support Services Central for additional services at <http://ssc.hpe.com>



Additional Options

HPE Power Cords

HPE C13 - C14 WW 250V 10Amp Flint Gray 2.0m Jumper Cord	AF573A
HPE C13 - C14 WW 250V 10Amp 2.0m Jumper Cord	A0K02A
HPE C13-C14 IN 250V 10Amp 2m Black Jumper Cord	R1C65A
HPE C13 - Nema 5-15P US/CA 110V 10Amp 1.83m Power Cord	AF556A
HPE C13 - GB-1002 CN 250V 10Amp 1.83m Power Cord	AF557A
HPE C13 - IRAM -2073 AR 250V 10A 2.5m Power Cord	AF558A
HPE C13 - Nema 5-15P TH/PH 250V 10Amp 1.83m Power Cord	AF559A
HPE C13 - CNS-690 TW 110V 13Amp 1.83m Power Cord	AF561A
HPE C13 - IS-1293 IN 240V 6Amp LV 2.0m Power Cord	AF562A
HPE C13 - KSC- 8305 KR 250V 10Amp 1.83m Power Cord	AF560A
HPE C13 - SI-32 IL 250V 10Amp 1.83m Power Cord	AF564A
HPE C13 - SEV 1011 CH 250V 10Amp 1.83m Power Cord	AF565A
HPE C13 - DK-2.5A DK 250V 10Amp 1.83m Power Cord	AF566A
HPE C13 - SABS-164 ZA 250V 10Amp 2.5m Power Cord	AF567A
HPE C13 - CEE-VII EU 250V 10Amp 1.83m Power Cord	AF568A
HPE C13 - AS3112-3 AU 250V 10Amp 2.5m Power Cord	AF569A
HPE C13 - BS-1363A UK/HK/SG 250V 10Amp 1.83m Power Cord	AF570A
HPE C13 - JIS C8303 JP 100V 12Amp 2.0m Power Cord	AF572A
HPE C13 - IS-1293 IN 250V 10Amp HV 2.5m Power Cord	SG579A
HPE C13 - NBR-14136 BR 250V 10Amp 1.83m Power Cord	AF591A
HPE C13 - C14 WW 250V 10A Gray 0.7m Jumper Cord	A0K03A
HPE C13-NEMA 6-15P 10A/250V 3.6m Black Power Cord	A0N33A

HPE Advanced Power Manager

The HPE Advanced Power Manager is an optional rack level solution for the HPE Moonshot System which enables server-level DC (or hardware) power on and off and server-level monitoring. In addition, the HPE APM will automatically discover hardware components, dynamic rack power capping, provides efficient Rack management, manages shared infrastructure, and participates in federation with other HPE APM units.

The HPE APM does not replace rack PDUs, but is designed to enable the utilization of basic, low cost, rack PDUs while providing the functionality of 'switched' PDUs (which provide hardware power on/off of individual servers by turning off the AC power to the power supplies of a given server).

Because the HPE Moonshot System shares power supplies to optimize power efficiency, using 'switched' PDUs to turn off all the power supplies in the chassis will result in the loss of all server nodes in that chassis. The HPE APM solves this by allowing server node-level hardware power on/off of the DC power to the individual server node motherboards.

HPE Apollo Platform Manager Kit 741192-B21

Notes: Each HPE APM can connect to 2 HPE SL Advanced Power Manager Distribution (SL APMD) modules

HPE Apollo Platform Manager Distribution Module Kit 620002-B21

Notes:

- Each SL APMD can connect up to 10 chassis
- HPE Advanced Power Manager support for HPE CM 2.0 will be available in a future release



Additional Options

HPE Networking Options

SFP Options

HPE BladeSystem c-Class Virtual Connect 1G SFP SX Transceiver	453151-B21
HPE BladeSystem CClass Virtual Connect 1G SFP RJ45 Transceiver	453154-B21

Transceivers

HPE BladeSystem c-Class 10Gb SFP+ SR Transceiver	455883-B21
HPE BladeSystem c-Class 40Gb QSFP+ MPO SR4 100m Transceiver	720187-B21
HPE 10GBase-T SFP+ Transceiver	813874-B21

Notes: These SKUs are orderable as a BTO option only. These options are not restricted by blade model.

Direct Attach Cables

HPE FlexNetwork X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
HPE B-series SFP+ to SFP+ Active Copper 5.0m Direct Attach Cable	AP820A
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 3m Direct Attach Copper Cable	487655-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 5m Direct Attach Copper Cable	537963-B21

QSFP+ Options

Transceivers

HPE X140 40G QSFP+ MPO SR4 Transceiver	JG325B
HPE X140 40G QSFP+ LC BiDi 100m MM Transceiver	JL251A

Direct Attach Cables

HPE FlexNetwork X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
HPE FlexNetwork X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable	JG329A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	JG330A
HPE FlexNetwork X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A

Optical cables

HPE BladeSystem c-Class QSFP+ to 4x10G SFP+ 15m Active Optical Cable	721076-B21
HPE BladeSystem c-Class 40G QSFP+ to QSFP+ 15m Active Optical Cable	720211-B21

Notes: The Optical cables must be ordered as a standalone parts

Adaptors

HPE QSFP/SFP+ Adapter Kit	655874-B21
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Power Supply Specifications

To review typical system power ratings use the HPE Power Advisor which is available via the online tool located at URL:

HPE Power Advisor

Notes: Power Specification and Technical Content for supported power supplies can be found at:

<https://h20195.www2.hp.com/v2/GetDocument.aspx?docname=4aa6-2925enw>



Additional Options

HPE Basic Power Distribution Units

HPE 277 Volt options for H3X07A and H3X08A

HPE 800VA - 277V Input / 230V Output NA Rack Mount Transformer	H3X09A
HPE 1200W Common Slot Platinum Plus Hot Plug Power Supply Kit	656364-B21
HPE 1500W Common Slot Platinum Plus Power Supply Kit	684532-B21
HPE 1500W Common Slot 48VDC Hot Plug Power Supply Kit	746708-B21

Notes: Please see the QuickSpecs for Technical Specifications and additional information:

<https://h20195.www2.hpe.com/v2/GetDocument.aspx?docname=c04111392>



Technical Specifications

HPE Moonshot System	
The HPE Moonshot System used for these calculations contains forty-five (45) server blades - each with one (1) 512GB HDD and one (1) 32GB Memory DIMM - Two (2) Power Supplies, One (1) Switch Module Kit and One (1) Uplink Module Kit.	
HPE Moonshot 1500 Chassis Dimensions (H x W x D)	7.47 x 17.45 x 35.34in (18.96 x 44.33 x 89.97cm) Notes: Rack chosen is required to have 1200mm to provide space for cable management arm at the rear of the chassis and host PDU in the rear of the rack.
Weight (approximate)	Maximum 180 lbs. Notes: All server cartridges, power supplies, one switch and one uplink installed
Input Requirements (per power supply)	Rated Line Voltage
Power Specifications	Rated Input Current 180 to 264 VAC
	Rated Input Frequency 8.4A at 200VAC 7.0A at 240VAC
	Rated Input Power 47 to 63 Hz
	Notes: To review typical system power ratings use the HPE Power Advisor which is available via the online tool located at URL: HPE Power Advisor
Power Supply Output (per power supply)	Rated Steady-State Power 1661W at 200VAC 1649W at 240VAC
	Maximum Peak Power 1500W (Max) @ 200VAC 1500W (Max) @ 240VAC
System Inlet Temperature	Operating 50° to 95° F (10° to 35° C) at sea level with an altitude derating of 1.8°F per every 1000 ft (1.0°C per every 304.8 m) above sea level to a maximum of 10,000 ft (3048 m), no direct sustained sunlight. Maximum rate of change is 18°F/hr (10°C/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 86°F (30°C).
	Non-operating -22° to 140° F (-30° to 60° C) Maximum rate of change is 36°F/hr (20°C/hr).
Relative Humidity (non-condensing)	Operating 10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
	Non-operating 5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
Altitude	Operating 10,000 ft (3048 m). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 1500 ft/min (457 m/min).
	Non-operating 30,000 ft (9144 m). Maximum allowable altitude change rate is 1500 ft/min (457 m/min).
Emissions Classification (EMC)	FCC Rating Class A
	Normative Standards CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; K22;K24; EN 61000-3-2; EN 61000-3-3; EN 60950-1; IEC 60950-1; IEC 62368
	Notes: 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.

Technical Specifications

HPE 1200W Common Slot Platinum Plus Hot Plug Power Supply Kit

Input Voltage Range (Vrms)	100 – 240						
Frequency Range (Nominal) (Hz)	50 – 60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage	800	900	1200	1200	1200	1200	1200
Nominal Input Current (A rms)	9.1	8.4	6.7	6.4	6.1	5.8	5.5
Maximum Rated Input Wattage Rating (Watts)	897	999	1321	1319	1317	1315	1314
Maximum Rated VA (Volt-Amp)	909	1012	1338	1337	1334	1332	1331
Efficiency (%) at Max. Rated Output Wattage	89.2	90.1	90.9	91.0	91.1	91.2	91.3
Power Factor	0.998						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum Inrush Current (A peak)	30						
Maximum Inrush Current duration (mS)	20						
Maximum British Thermal Unit Rating (BTU-Hr)	3061	3408	4506	4501	4493	4487	4483

Notes:

- Due to restricted airflow at 110VAC max power is 600W per power supply
- Due to restricted airflow at 220VAC max power is 850W per power supply

HPE 1500W Common Slot Platinum Plus Power Supply Kit

Input Voltage Range (Vrms)	200 - 240				
Frequency Range (Nominal) (Hz)	50 - 60				
Nominal Input Voltage (Vrms)	200	208	220	230	240
Maximum Rated Output Wattage	1500	1500	1500	1500	1500
Nominal Input Current (A rms)	8.4	8.1	7.6	7.3	7.0
Maximum Rated Input Wattage Rating (Watts)	1661	1659	1655	1652	1649
Maximum Rated VA (Volt-Amp)	1681	1679	1675	1672	1669
Efficiency (%) at Max. Rated Output Wattage	90.3	90.4	90.6	90.8	91.0
Power Factor	0.999	0.999	0.999	0.999	0.999
Leakage Current (mA)	0.50	0.75	0.79	0.83	1.00
Maximum Inrush Current (A peak)	40				
Maximum Inrush Current duration (mS)	0.2				
Maximum British Thermal Unit Rating (BTU-Hr)	5667	5661	5648	5637	5627

Technical Specifications

HPE 1500W Common Slot 48VDC Hot Plug Power Supply Kit

Input Voltage Range (VDC)	-40 to -72		
Frequency Range (Nominal) (Hz)	DC		
Nominal Input Voltage (VDC)	-40	-48	-72
Maximum Rated Output Wattage	1500	1500	1500
Nominal Input Current (ADC)	40.5	33.5	22.2
Maximum Rated Input Wattage Rating (Watts)	1621	1607	1598
Maximum Rated VA (Volt-Amp)	1621	1607	1598
Efficiency (%) at Max. Rated Output Wattage	92.6	93.3	93.9
Power Factor	N/A		
Leakage Current (mA)	N/A		
Maximum Inrush Current (A peak)	63		
Maximum Inrush Current duration (mS)	10		
Maximum British Thermal Unit Rating (BTU-Hr)	5530	5484	5451

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 (2012/19/EU) 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.



Summary of Changes

Date	Version History	Action	Description of Change
15-Nov-2021	Version 21	Changed	Service and Support section was updated Obsolete SKUs were removed
20-Sep-2021	Version 20	Changed	Technical Specifications section was updated. Obsolete SKUs were removed
10-May-2021	Version 19	Changed	Additional Options section was updated. Obsolete SKUs were removed
05-Oct-2020	Version 18	Changed	Service and Support and Additional Options sections were updated
06-Jul-2020	Version 17	Changed	Technical Specifications section was updated
06-Apr-2020	Version 16	Changed	Overview, Standards Features, Optional Features, Configuration Information, Additional Options and Technical Specifications sections were updated
16-Mar-2020	Version 15	Changed	Obsolete SKU was removed
17-Feb-2020	Version 14	Changed	Overview, Standard Features, Service and Support, Configuration Information and Additional Options Features were updated.
03-Feb-2020	Version 13	Changed	Overview, Standards Features, Optional Features , Configuration Information and Additional Options sections were updated.
03-Dec-2018	Version 12	Changed	Standard Features, Configuration Information and Additional Options sections were updated. SKU was added in Configuration Information section
01-Oct-2018	Version 11	Changed	Configuration Information and Additional Options were updated.
06-Aug-2018	Version 10	Changed	SKUs and descriptions were updated on Configuration Information and Additional Options Sections
05-Feb-2018	Version 9	Changed	Additional Options Section was updated
18-Dec-2017	Version 8	Changed	Standard Features Section was updated
16-Dec-2016	Version 7	Changed	Added information on new servers and switches
08-Jul-2016	Version 6	Changed	The whole QuickSpecs , formatting and SKUs were updated
09-Oct-2015	Version 5	Changed	Unarchive version and update with the latest info and specs of the HPE Moonshot 1500 Chassis
10-Jun-2014	Version 4	Changed	HPE Hard Drives, Direct Attach Cables SKUs updated.
18-Feb-2014	Version 3	Changed	Added the What's New and the Pre-Configured Models sections. Changes made in the Configuration Information section.
14-Dec-2013	Version 2	Changed	Corrected a part number in the Configuration Information section.
09-Dec-2013	Version 1	New	New QuickSpecs



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