

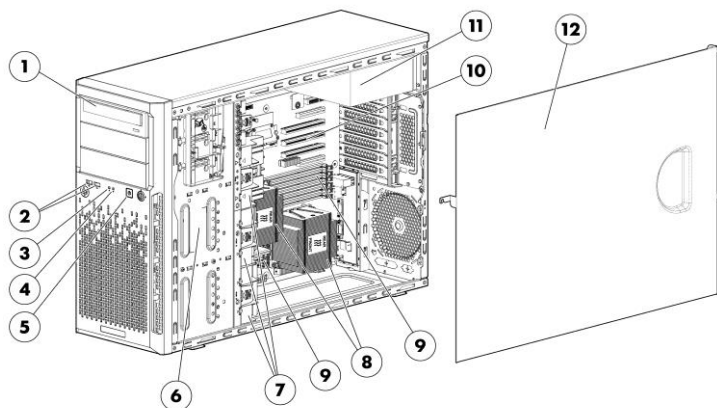
QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Overview

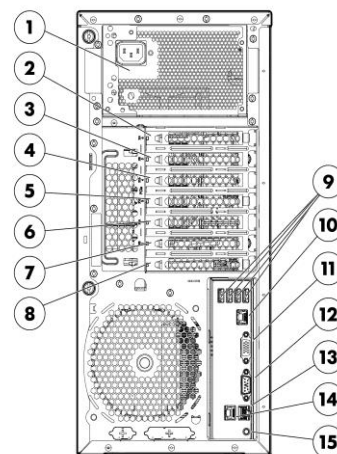
HP ProLiant ML350e Generation 8 (Gen8) v2

The HP ProLiant ML350e Gen8 v2 is a dual processor tower platform, which is built on the latest Intel® Xeon® E5-2400 v2 processors to create a unique system architecture. This unique architecture, as well as flexible deployment options, allows businesses to scale as needed so they can optimize their IT spending dollars. The HP ProLiant ML350e Gen8 v2 delivers the industry's most powerful embedded management technology, HP integrated Lights-Out 4 (iLO4), enabling businesses to manage the servers anytime and from anywhere.



Front View:

1. Optical Drive
2. USB2.0 Connectors (2)
3. Health LED
4. NIC Status LED
5. Power On/Standby Button and System Power LED
6. Drive Bays
7. Fans
8. Heat Sink
9. DIMM Slots
10. PCIe Slots
11. Non-hot-plug Power Supply
12. Access Panel



Rear View:

1. Non-hot-plug Power Supply
2. PCIe Slot 6 (for processor 1)
3. PCIe Slot 5 (for processor 1)
4. PCIe Slot 4 (for processor 2)
5. PCIe Slot 3 (for processor 2)
6. PCIe Slot 2 (for processor 1)
7. PCIe Slot 1 (for processor 1)
8. Slot Cover
9. USB 2.0 Connectors (4)
10. iLO Connector
11. Video Connector
12. Serial Connector
13. NIC Connector 1
14. NIC Connector 2
15. UID/LED button

What's New

- New HDD offering

Standard Features

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

Processor

One of the following depending on model

E5-2400 v2 Series Processors**Ten-Core Processors**

NOTE: All support up to 1600MHz DDR3 memory speeds.

Intel® Xeon® E5-2470 v2 (2.4GHz/10-core/95W/25MB) Processor

Eight-Core Processors

NOTE: All support up to 1600MHz DDR3 memory speeds.

Intel® Xeon® E5-2450 v2 (2.5GHz/8-core/95W/20MB) Processor

Intel® Xeon® E5-2440 v2 (1.9GHz/8-core/95W/20MB) Processor

Six-Core Processors

NOTE: All support up to 1600MHz DDR3 memory speeds.

Intel® Xeon® E5-2430 v2 (2.5GHz/6-core/80W/15MB) Processor

Intel® Xeon® E5-2420 v2 (2.2GHz/6-core/80W/15MB) Processor

Quad-Core Processors

NOTE: All support up to 1333MHz DDR3 memory speeds.

Intel® Xeon® E5-2407 v2 (2.4GHz/4-core/80W/10MB) Processor

Intel® Xeon® E5-2403 v2 (1.8GHz/4-core/80W/10MB) Processor

NOTE: DDR3 speed is the maximum memory speed of the processor. Actual memory speed may depend on the quantity and type of DIMMs installed.

NOTE: Up to 2 processors supported. Mixing different processor models is not supported.

NOTE: For the Intel® C600 Chipset E5-2400 Series, the letter preceding the model number indicates the Product Line (E3, E5, E7); 2400x v#, 2 = number of CPUs in a Node, 4 is socket/segment designation, 00 = Processor SKU, x = L for low power SKUs and v# (not yet designated) = version number.

Cache Memory

One of the following depending on model

25MB (1 x 25MB) Level 3

NOTE: For Ten-core processors.

20MB (1 x 20MB) Level 3

NOTE: For Eight-core processors.

15MB (1 x 15MB) Level 3

NOTE: For Six-core processors.

10MB (1 x 10MB) Level 3

NOTE: For Quad-core processors.

Chipset

Intel® C600 Chipset

Intel® E5-2400 v2 Processor Family

NOTE: For more information regarding Intel® chipsets, please see the following URL:

<http://www.intel.com/products/server/chipsets/>.

Upgradeability

Upgradeable to two processors

NOTE: Total 8, 12, 16 or 20 cores

NOTE: Processor upgrade available from Intel® Xeon® Processors E5-2400 to E5-2400 v2. Please contact HP Technology Sales (<http://www.hp.com/support>), your local HP Re-seller, or reference the following Customer Advisory: [ProLiant Servers-Instructions for Upgrading an HP ProLiant Gen8 Server from an Intel Xeon Processor E5-2400 to an Intel Xeon Processor E5-2400v2](#), regarding critical details before upgrading. An explanation of requirements and limitations are provided.

Customer Advisory: [ProLiant Servers-Instructions for Upgrading an HP ProLiant Gen8 Server from an Intel Xeon Processor E5-2400 to an Intel Xeon Processor E5-2400 v2](#).

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Standard Features

Up to 12 DIMM slots available for higher memory capacity
 Up to 16 SFF hard drives or 8 LFF hard drives for expanded storage
 4 PCIe 3.0 and 2 PCIe 2.0 I/O slots for additional communications and storage expansion
 Redundant Power Supplies (92% and 94% efficiency)
 Tower to rack conversion
 Optical drive bays (up to 2)

On System Management Chipset HP iLO (Firmware: HP iLO4)
NOTE: For more information, visit: <http://www.hp.com/go/ilo>

Memory Protection Advanced ECC
 Online Spare
 Lock-step mode

Memory Type HP SmartMemory
 One of the following depending on model DDR3 Registered (RDIMM) or Unbuffered (UDIMM)

DIMM Slots Available 12 DIMM slots (6 DIMM slots per CPU)
 Maximum (RDIMM) 192 GB (12 x 16 GB) RDIMM
 Maximum (UDIMM) 96 GB (12 x 8 GB) UDIMM

NOTE: HP memory from previous generation servers are not fully compatible with the HP ProLiant ML350e Gen8 v2 Server.
NOTE: To realize the performance memory capabilities listed in this document, HP SmartMemory is required. For additional information, please see the HP SmartMemory QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html
NOTE: If one processor is installed, only 6 DIMM slots are available. When populating with two processors 12 DIMM slots are available.
NOTE: Depending on the memory configuration and processor model, the memory speed may run up to 1600MHz or at 1333MHz. Please see Memory Population Table or the Online Memory Configuration Tool at: <http://www.hp.com/go/ddr3memory-configurator>.
NOTE: Redundant PSU Kit (PN 738661-B21) is required for RDIMMs.

Network Controller HP Ethernet 1Gb 2-port 361i Adapter

Expansion Slots

| Expansion Slot # | Technology | Bus Width | Connector Width | Bus Number | Form Factor | Notes |
|------------------|------------|-----------|-----------------|------------|-------------------------|---|
| 6 | PCIe 2.0 | x1 | X4 | 0 | Half Length/Full Height | Activated when installed with Processor 1 |
| 5 | PCIe 2.0 | x4 | x8 | 0 | Full-length/Full Height | Activated when installed with Processor 1 |
| 4 | PCIe 3.0 | X8 | X16 | 32 | Full Length/Full Height | Activated when installed with Processor 2 |
| 3 | PCIe 3.0 | x16 | x16 | 32 | Full Length/Full | Activated when |

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Standard Features

| | | | | | | |
|---|----------|-----|-----|---|-------------------------|---|
| 2 | PCIe 3.0 | X16 | X16 | 0 | Height | installed with Processor 2 |
| | | | | | Full Length/Full Height | Activated when installed with Processor 1 |
| 1 | PCIe 3.0 | X4 | X8 | 0 | Height | Activated when installed with Processor 1 |
| | | | | | Full Length/Full Height | |

NOTE: Bus number - Default bus assignment (in decimal). Inserting cards with PCI bridges may alter the actual bus assignment number.

HP Server ROM

HP ROM (Read Only Memory) is now digitally signed using HP's Corporate Signing Service. This signature is verified before the flash process starts, reducing accidental programming and preventing malicious efforts to corrupt system ROM.

HP ROM provides for essential initialization and validation of hardware components before control is passed to the customer-installed operating system. The ROM also provides the capability of booting from various fixed media (HDD, CD-ROM) and removable media (USB), to continue operation to the operating system.

HP ROM performs very early configuration of the video controller, to allow monitoring of initialization progress via an attached monitor. If configuration or hardware errors are discovered during this early phase of hardware initialization, suitable messages are now displayed on the connected monitor. Additionally, these configuration or hardware errors are logged to the Integrated Management Log (IML) to assist in diagnosis.

HP's ProLiant ROM is used to configure the following:

- Processor and chipset status registers
- System memory, memory map, and memory initialization
- System hardware configuration (Integrated PCI devices and optional PCIe cards).
- Customer-specific BIOS configuration (using the HP ROM-Based Setup Utility (RBSU)).

NOTE: For further information, please refer to HP's RBSU (ROM based setup utility) user guide: <http://www.hp.com/support/rbsu>.

Storage Controller

One of the following depending on model

HP Dynamic Smart Array B120i/512MB FBWC SATA Controller (RAID 0, 1, 1+0, Optional RAID 5)

Internal Storage Devices

Optical Drives

HP Half-Height SATA DVD-ROM/RW Optical Drive

NOTE: DVD ROM is standard in base tower models.

Hard Drives

None ship standard

Hard Drive Bays

One of the following depending on model

(4) Non-hot plug LFF SATA HDD bays

(4) Hot plug LFF SAS/SATA HDD bays; upgradable to (8)

(8) Hot plug SFF SAS/SATA HDD bays; upgradable to (16)

NOTE: All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either P/N 666987-B21: HP SFF Gen8 Hard Drive Blank Kit or P/N 666986-B21: HP LFF Gen8 Hard Drive Blank Kit. These part

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Standard Features

numbers for single HDD blanks below are also provided should the customer require replacement HDD blanks for their server.

| | | | |
|--|-----------------------|--------|------------|
| Maximum Internal Storage One of the following depending on model | Hot Plug LFF SAS | 32TB | 8 x 4TB |
| | Hot Plug LFF SATA | 32TB | 8 x 4TB |
| | Hot Plug SFF SAS | 19.2TB | 16 x 1.2TB |
| | Hot Plug SFF SATA | 16TB | 16 x 1TB |
| | Non-Hot Plug LFF SATA | 16TB | 4 x 4TB |
| | Hot Plug SFF SAS SSD | 1.6TB | 16 x 100GB |
| | Hot Plug LFF SATA SSD | 1TB | 8 x 100GB |

| | | |
|-------------------|---------------------------------------|---|
| Interfaces | Serial | 1 |
| | Video | 1 (rear) |
| | Network RJ-45 (Ethernet) | 3 (1 dedicated for HP Integrated Lights-Out) |
| | HP iLO Remote Management Network Port | 1 Gb Dedicated |
| | SD slot | 1 (internal) NOTE: The SD slot is not a hot-pluggable device. Customers should not attempt to plug an SD card into the SD slot while the server is powered. |
| | USB 2.0 | 8 (2 front, 4 rear, 2 internal) |

| | |
|-------------------------------------|---|
| Industry Standard Compliance | ACPI 2.0b Compliant |
| | PCIe 3.0 Compliant |
| | PXE Support |
| | WOL Support |
| | Novell Certified |
| | IPMI 2.0, SMASH CLP, DCMI 1.0 compliant |
| | Microsoft® Logo certifications |
| | USB 2.0 Support |
| SMBIOS 2.7.1 | |

| | |
|---------------------------|---|
| Server Power Cords | ProLiant ML servers in a rack-mount configuration no longer ship standard with NEMA power cords that allow connection to 110V US wall outlets in a home or office. These servers are primarily connected to PDU's in data center racks so they now ship standard with only a PDU power cord (416151-B21). If a user wishes to power a ProLiant ML rack-mount server using a 110V receptacle (NEMA-15), the NEMA power cord must be ordered separately. The 12' cord (AF556A) or 6' cord (187335-001) can be purchased online at HP.COM. In a tower configuration, the servers ship standard with a 6' country specific NEMA power cord. If customers require a local power cord, they can check the power cord matrix for the appropriate country specific sku. Please see the following power cord matrix: http://www.hp.com/go/powercordmatrix . |
|---------------------------|---|

| | |
|-----------------------------|---|
| Power Specifications | To review typical system power ratings use the HP Power Advisor which is available via the online tool located at URL: http://www.hp.com/go/proliant-energy-efficient or http://www.hp.com/go/hppoweradvisor . |
|-----------------------------|---|

NOTE: Power Specification and Technical Content for supported power supplies can be found at: http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html

| | |
|--------------------------|--|
| Common Slot Power | NOTE: The ML350e Gen8 v2 supports 460W and 750W Power Supplies. |
|--------------------------|--|



QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Standard Features

Supplies

NOTE: Mixing of power supplies in the same server is not supported. All power supplies inside a server must be exactly the same model. Mixing Gold, Platinum, and Platinum Plus certified power supplies is not supported.

HP's Common Slot (CS) power supplies allow for commonality of power supplies across a wide range of ProLiant and Integrity servers, as well as HP Storage solutions, and are designed to provide the highest power supply efficiency without degrading system performance. HP CS power supplies are tested by the Electric Power Research Institute (EPRI) and certified through the ECOS 80 Plus power supply program. HP CS power supply options provide efficiency ratings of up to 94% (80 Plus Platinum) and are available in power output options - 460W, 750W - allowing the customer to "right-size" a power supply for their specific server configuration. All HP Common Slot power sources are UL, CE Mark Compliant, hot-plug and support redundant configurations.

NOTE: Mixing of power supplies in the same server is not supported. All power supplies must be of the same output and efficiency rating. If non-matched power supplies are inserted you will get errors and operation will fail.

HP CS Platinum power supplies are required when enabling HP's Intelligent Power Discovery (IPD) solution. IPD is the first technology to create an automated, energy-aware network between IT systems and facilities. This allows your company to reclaim millions of dollars in wasted power capacity and downtime costs across data centers. For more information on HP's IPD solution, go to <http://www.hp.com/go/ipd>.

It is highly recommended that you use the HP Power Advisor in defining the "Right-Size" power supply for your needs. HP Power Advisor can be accessed at: <http://www.hp.com/go/hppoweradvisor>.

NOTE: The 80 PLUS program is a unique forum that unites electric utilities, the computer industry, and consumers in an effort to bring energy efficient technology solutions to the marketplace. 80 Plus independently tests power supply efficiency and publicly posts the results on 80Plus.org.

Redundant Power: Optional (1 + 1 redundant) power supplies can be purchased through power supply option kits (see Power Supplies for part numbers).

NOTE: Power Specification and Technical Content for supported power supplies can be found at: http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html

System Fans

Two (2) Non-hot plug, non-redundant fans ship standard (support up to 3 fans).

NOTE: Third fan is shipped with 2nd CPU Kit. Third fan is only required in 2P configurations.

Operating Systems and Virtualization Software Support for ProLiant Servers

[Microsoft Windows Server](#)

[Red Hat Enterprise Linux \(RHEL\)](#)

[SUSE Linux Enterprise Server \(SLES\)](#)

[Canonical Ubuntu](#)

[VMware](#)

NOTE: For more information on HP's Certified and Supported ProLiant Servers for OS and Virtualization Software and latest listing of software drivers available for your server, please visit our Support Matrix at: <http://www.hp.com/go/ossupport> and our driver download page <http://www.hp.com/support/ML350eGen8v2>

Graphics

Integrated Matrox G200 video standard

- 1280 x 1024 (32 bpp)
- 1920 x 1200 (16 bpp)

Standard Features

HP iLO 4 On System Management Memory

- 16 MB Flash
- 256 MB DDR 3 with ECC (112 MB after ECC and video)

Form Factor

Tower 5U
Rackable with the purchase of tower to rack conversion tray kit

On System Management

HP iLO Management Engine

HP iLO Management Engine is a comprehensive set of embedded management features supporting the complete lifecycle of the server, from initial deployment, through ongoing management, to service alerting and remote support. HP iLO Management Engine comes standard on all HP ProLiant Gen8 servers. The HP iLO Management Engine portfolio includes:

- **HP iLO:** The HP iLO (Integrated Lights-Out) management processor is the core foundation for the HP iLO Management Engine
- **HP Agentless Management:** Provides built in server health monitoring and alerting capability without OS agents, that starts working the moment a power cord and an Ethernet cable are connected.
- **HP Active Health System:** Always on, continuous monitoring for increased stability and shorter downtimes; 100% configuration history; Health and service alerts and easy export and upload to Service and Support.
- **HP Intelligent Provisioning:** Lets customers provision and configure a single server without any separate media. No more SmartStart CDs or Smart Update Firmware DVD are needed.
 - To start Intelligent Provisioning:
 - Press the F10 key during the ProLiant Gen8 server boot process (also known as power on self-test or POST).
 - Please go to the Intelligent Provisioning website at <http://www.hp.com/go/intelligentprovisioning> for additional information and to view usage videos.
 - Use the Service Pack for ProLiant (SPP) at: <http://www.hp.com/go/spp> to get firmware and software updates.
- **HP iLO Mobile App:** Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: <http://www.hp.com/go/ilo/mobileapp>

NOTE: For more information, visit: <http://www.hp.com/go/ilo> or **HP iLO Management Engine technologies whitepaper**

HP Insight Management

HP Service Pack for ProLiant

HP Service Pack for ProLiant (SPP) and HP Smart Update Manager (HP SUM) provide a comprehensive approach to firmware and system software maintenance. Together they provide better operating stability and ensure maximum uptime. The SPP will be updated at a predictable cadence, typically coinciding with new HP server hardware launches. By enabling firmware to be updated online and integrating firmware and system software updates in one operation, HP SUM and the SPP offer faster updates of individual servers and dramatically faster updates of entire BladeSystem enclosures. Further improving system uptime and stability is

Standard Features

the fact that HP provides 12 months of support for each Service Pack for ProLiant release.

The user experience around HP SUM and the SPP has been improved in several ways, starting with the web download. A single web page provides access to a single download containing both the latest version of HP SUM and the latest SPP. Optional smaller subsets with only specific types of servers or specific operating systems are offered to save on download time. The HP SUM application provides a straightforward, intuitive user interface that guides the user through the steps of discovery, analyses and update, providing comprehensive information on available updates, criticality and interdependencies. This information is also available in reports. By providing the option of multiple local or shared repositories which can be easily updated from hp.com, HP SUM provides the tools to optimize stability and consistency throughout the company. While HP SUM and the SPP recommend the combinations of firmware and system software that HP has found to be the best practice, the application gives customers the flexibility to set their own specific baseline.

The Service Pack for ProLiant has been rigorously tested with specific attention for interaction between firmware, drivers and agents both within the server as well as in interaction with the BladeSystem enclosure components (Onboard Administrator and Virtual Connect). This testing ensures the highest quality as well as providing the input for HP SUM to deploy updates taking into account all interdependencies, when determining the correct updates and order of update deployment.

NOTE: The Service Pack for ProLiant (which includes HP SUM) can be downloaded from <http://www.hp.com/go/spp/download>. More information can be found: <http://www.hp.com/go/SmartUpdate>, <http://www.hp.com/go/spp> and <http://www.hp.com/go/hpsum>

Security

Power-on password
Setup password
Serial interface control
Power switch security
Administrator's password

Warranty

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HP Care Pack 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.

NOTE: Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have HP replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

Optional Features

| | | |
|------------------------------|---------------------------------|--|
| HP Insight Management | HP Insight Control | <p>HP Insight Control, a product option, delivers essential infrastructure management that can help save time and money by making it easy to deploy, migrate, monitor, remote control, and optimize your IT infrastructure through a single, simple management console. HP Insight Control also supports Location and Power Discovery Services to automate many configuration, asset tracking, and power management tasks to speed implementation and prevent downtime. For more information, see http://www.hp.com/go/insightcontrol.</p> <p>HP Insight Control includes one year of 24 x 7 HP Software Technical Support and Update Service ensuring rapid access to HP support staff and proactive delivery of software updates. For more information about this service, see: http://www.hp.com/services/insight.</p> |
| | HP iLO Essentials | <p>HP iLO Essentials license ideal for small and medium business customers. The specially created HP iLO Essentials (a subset of iLO Advanced functionality) saves SMB customers time and money, by ease of remote server set up through the interactive virtual media, lowering operational costs with remote access via the Integrated Remote Console, and faster time to resolution with email-based proactive notifications. With this newly designed HP iLO Essentials license SMB customers now have the option of a server management package solely design and priced just right for their IT environments. HP iLO Essentials is available on all HP ProLiant Gen8 e-series making this an ideal solution for small business owners. For more information, see: http://www.hp.com/go/iLO/essentials</p> |
| | HP iLO Advanced | <p>HP Integrated Lights-Out Advanced License a product option, providing smart remote server management without compromise. iLO Advanced unlocks the full set of remote administration functionality for all HP ProLiant servers by activating the full Virtual Keyboard Video and Mouse remote console, multi-user collaboration, console record and replay, GUI-based and scripted virtual media and virtual folders, and enhanced security and power management functionality. For more information, see: http://www.hp.com/go/iLOADvanced</p> |
| | HP Matrix Operating Environment | <p>The HP Matrix Operating Environment (Matrix OE) for ProLiant and Integrity servers is an integrated command center that helps you instantly adjust to dynamic business demands. This advanced infrastructure management software lets you reduce the cost of common data center tasks by up to 40 percent while keeping pace with your changing business.</p> <p>The HP Matrix OE includes the automated provisioning, optimization, and recovery management capabilities for HP CloudSystem Matrix, the ideal platform for private cloud and Infrastructure as a Service (IaaS).</p> <p>NOTE: For more information, visit: http://www.hp.com/go/matrixoe</p> |

Storage Software

Whether you need to solve a specific data protection, archiving, or storage command and control challenge, or deliver on strategic consolidation, compliance, or continuity initiatives, look no further than HP storage software. Our storage software helps you reduce costs, simplify storage infrastructure, protect vital assets and respond faster to business opportunities.

Storage software that gets the job done:

- **Data Protection and Recovery Software**
Whether you're a large enterprise or a smaller business, HP data protection and recovery software will cost-effectively protect you against disaster and ensure business continuity.

Optional Features

- **Data Archive and Migration Software**
HP's storage software enables you to comply with data retention and retrieval requirements, improve application performance, and reduce costs by efficiently migrating infrequently accessed or less valuable data to lower cost storage.
- **Storage Resource Management Software (SRM)**
HP's storage resource management software reduces operational costs and provides the command and control foundation you need to efficiently manage and visualize your physical and virtual environments.
- **Data Replication Software**
HP offers array-based and host-based replication software for use in disaster recovery, testing, application development and reporting.
- **Storage Device Management Software**
Maximize your investment in HP storage and networking with software that enables hardware-specific configuration, performance tuning and connectivity management.
- **HP StoreVirtual VSA**
With HP StoreVirtual VSA you can use the power of virtualization to turn a set of heterogeneous and disconnected physical disk drives in your servers and storage devices into a single pool of logical storage capacity.

NOTE: For more information available Storage Software including QuickSpecs, please see: <http://www.hp.com/go/storage/software>.

HP Insight Online

HP Insight Online is a new addition to the HP Support Center for one stop, secure access to product and HP support information personalized to your IT environment. Insight Online can automatically display devices remotely monitored by HP Insight Remote Support. With Insight Online's easy navigation you can efficiently track your IT support contracts and device status from anywhere and at anytime. <http://www.hp.com/go/insightonline>

HP Proactive Insight experience

Prevent problems with innovative, automated monitoring tools and proactive services. The HP Proactive Insight experience consist of using Insight Online, Insight Remote Support, and Proactive Care Support Service as one integrated solution. The Proactive Insight experience provides you with expert advice and personalized, cloud-based automated IT support, helping to prevent unplanned down time and solve problems quickly. For more information, visit: <http://www.hp.com/go/proactiveinsightexperience>

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP 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 image loading, asset tagging, and custom packaging. HP products supported through Factory Express include a wide array of servers and storage: HP Integrity, HP ProLiant, HP ProLiant Server Blades, HP BladeSystem, HP 9000 servers as well as the MSAxxxx, VA7xxx, EVA, XP, rackable tape libraries and configurable network switches.

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

HP Simple Configurator

SCE is a guided self-service tool to help sales and non-technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact HP's Customer Business Center or an Authorized Partner for assistance. <http://www.hp.com/products/configurator>

Service and Support

Service and Support

HP Technology Services for Industry Standard Servers and BladeSystem

HP Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HP to help prevent problems and solve issues faster. Our support technology lets you to tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

Protect your business beyond warranty with HP Care Pack Services

HP Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.

Optimized Care

Supports maintaining servers at optimum performance availability

HP Proactive Care with 24x7 coverage, three year Care Pack Service

HP Proactive Care helps prevent problems and stabilize IT by utilizing secure, real-time, predictive analytics and proactive consultations when your products are connected to HP. This Care Pack Service combines three years' proactive reporting and advice with our 24x7 coverage and enhanced escalation management, four hour hardware response time and two hour call back for software questions on leading industry standard software running on your HP ProLiant server.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

Standard Care

Supports maintaining high level of server availability

Foundation Care 24x7, three-year Care Pack Service

HP Foundation Care 24x7 connects you to HP 24 hours a day, seven days a week for assistance on resolving issues. Hardware onsite response within four hours if needed; collaborative software included in this Care Pack service provides troubleshooting assistance on industry leading software running on your HP server. Simplify your support experience and make HP your first call for hardware or software questions.

<http://h20195.www2.hp.com/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en>

Related Services

HP ProLiant Server Hardware Installation

Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN.pdf>

Factory Express for Servers and storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed. For more information on Factory Express services for your specific server model please contact your sales representative or go to: <http://www.hp.com/go/factory-express>.

Data Privacy Services

Protect your data through better media management. HP Data privacy services help manage and protect sensitive data to reduce the risk of unauthorized access to private information and help meet compliance requirements. Our retention services allow you to keep drives and other devices upon failure, our removal services provide convenient data sanitization and our recovery services allow you to safely retire IT assets and capture any remaining value from the hardware.

www.hp.com/services/dataprivacy

Additional HP Care Pack services can be found at: <http://www.hp.com/go/cpc>

Service and Support

Get connected to HP to improve your support experience

Prevent problems with innovative, automated monitoring tools and proactive services. Combining Proactive Care Services with our remote support technology such as Insight Online provides you with expert advice and personalized, cloud-based automated IT support, helping to prevent unplanned down time and solve problems quickly. For more information, visit:

<http://www.hp.com/go/proactiveinsightexperience>

HP Support Center

Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP's Support Center Mobile App** allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.

** HP Support Center Mobile App is subject to local availability

Parts and Materials

HP will provide HP-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 HP due to malfunction.

For more information

To learn more on services for HP ProLiant servers, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: <http://www.hp.com/services/proliant>

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Pre-configured Models

NOTE: For the Standard Features shipped in the "Factory Integrated Models", please see the "Configuration Information - Factory Integrated Models" section.

NOTE: Pre-configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.

NOTE: HP does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.

NOTE: If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

NOTE: All Pre-configured Models come populated with some hard drive blanks installed. Should the customer need additional hard drive blanks, they can order more using either P/N 666987-B21: HP SFF Gen8 Hard Drive Blank Kit or P/N 666986-B21: HP LFF Gen8 Hard Drive Blank Kit.

NOTE: Not all models are available in all regions. Check with your local country HP offices for availability.

Entry Models

| | | |
|---|--|---|
| HP ProLiant ML350e Gen8 v2 E5-2403v2 1P 2GB-U B120i 460W PS Entry Server 740898-xx1 | Processor Cache Memory Memory Network Controller Storage Controller Hard Drive Internal Storage Optical Drive Power Supply Fans Accessories Management Form Factor Warranty | (1) Intel® Xeon® E5-2403 v2 (1.8GHz/4-core/80W/10MB) Processor 10MB (1 x 10MB) Level 3 2GB (1 x 2GB) Unbuffered DIMMs HP Ethernet 1Gb 2-port 361i Adapter HP Dynamic Smart Array B120i/ZM FBWC SATA Controller (RAID 0, 1, 1+0) None ships standard 4 LFF Non-Hot Plug SATA HDD Bays only None ships standard (1) 460 Watt Power Supply (non-hot plug, non-redundant)) (AMS, APJ and PRC models) (1) 460 Watt Common Slot Power Supply (hot-plug, redundant) (EMEA model only) 2 Non-Hot Plug, Non Redundant Fans USB Keyboard and Mouse (None ship standard) HP iLO Management Engine (standard) Optional: HP iLO Essentials or HP Insight Control Tower (5U) Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response |
|---|--|---|

NOTE: For Germany (041) and France (051) SKU, please purchase Europe (421) SKU.

NOTE: All internal tape drives are only supported with the non-hot plug, non-redundant ATX power supply. The internal drives are not supported in any hot-plug, redundant power supply configuration (EMEA model).

Base Models

| | | |
|--|---|---|
| HP ProLiant ML350e Gen8 v2 E5-2407v2 1P 4GB-U 460W PS Base Server 748953-xx1 | Processor Cache Memory Memory Network Controller Storage Controller Hard Drive Internal Storage Optical Drive Power Supply | (1) Intel® Xeon® E5-2407 v2 (2.4GHz/4-core/80W/10MB) Processor 10MB (1 x 10MB) Level 3 4GB (1 x 4GB) Unbuffered DIMMs HP Ethernet 1Gb 2-port 361i Adapter HP Dynamic Smart Array B120i/512MB FBWC SATA Controller (RAID 0, 1, 1+0, 5) None ships standard 4 LFF Hot Plug SATA HDD Bays only HP Half-Height SATA DVD-ROM Optical Drive (1) 460 Watt Power Supply (non-hot plug, non-redundant)) (AMS, APJ and PRC models) |
|--|---|---|

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Pre-configured Models

| | |
|--------------------|--|
| | (1) 460 Watt Common Slot Power Supply (hot-plug, redundant) (EMEA model only) |
| Fans | 2 Non-Hot Plug, Non Redundant Fans |
| Accessories | USB Keyboard and Mouse ship standard NOTE: All European models (-031 and -421) exclude the keyboard and mouse. |
| Management | HP iLO Management Engine (standard) Optional: HP iLO Essentials or HP Insight Control |
| Form Factor | Tower (5U) |
| Warranty | Server Warranty includes 1-Year Parts, 1-Year Labor, 1-Year Onsite support with next business day response |

NOTE: For Germany (041) and France (051) SKU, please purchase Europe (421) SKU

NOTE: All internal tape drives are only supported with the non-hot plug, non-redundant ATX power supply. The internal drives are not supported in any hot-plug, redundant power supply configuration (EMEA model).

Country Code Key

xx=00
xx=01
xx=03
xx=04
xx=05
xx=29
xx=37
xx=42
xx=AA

Tower Code Key

US
Australia
UK
Germany
France
Japan
APD
Europe
PRC

NOTE: All European models (-031, -041, -051, and -421) exclude the keyboard and mouse.

Configuration Information - Factory Integrated Models

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

NOTE: Factory Integrated Models must start with a CTO Server.

NOTE: FIO indicates that this option is only available as a factory installable option.

NOTE: All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.

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

| | | |
|------------------|---|------------|
| HP Models | ML350e Gen8 v2 Tower Models | |
| | HP ProLiant ML350e Gen8 v2 Non-hot Plug 4 LFF Configure-to-order Server | 740895-B21 |
| | Includes: | |
| | HP Ethernet 1Gb 2-port 361i Adapter | |
| | HP Dynamic Smart Array B120i/ZM SATA Controller (RAID 0/1/1+0) | |
| | Four (4) Non-Hot-Plug (LFF) SATA Drive Bays | |
| | Eight (8) USB ports | |
| | Six (6) PCIe slots | |
| | Two (2) Non-hot plug, non-redundant fans | |
| | HP iLO Management Engine (standard) | |
| | Tower (5U) form factor | |
| | HP ProLiant ML350e Gen8 v2 Hot Plug 4 LFF Configure-to-order Server | 740896-B21 |
| | Includes: | |
| | HP Ethernet 1Gb 2-port 361i Adapter | |
| | HP Dynamic Smart Array B120i/ZM SATA Controller (RAID 0/1/1+0) | |
| | Four (4) Hot-Plug (LFF) SATA Drive Bays | |
| | Eight (8) USB ports | |
| | Six (6) PCIe slots | |
| | Two (2) Non-hot plug, non-redundant fans | |
| | HP iLO Management Engine (standard) | |
| | Tower (5U) form factor | |
| | HP ProLiant ML350e Gen8 v2 Hot Plug 8 SFF Configure-to-order Server | 740897-B21 |
| | Includes: | |
| | HP Ethernet 1Gb 2-port 361i Adapter | |
| | HP Dynamic Smart Array B120i/ZM SATA Controller (RAID 0/1/1+0) | |
| | Eight (8) Hot-Plug (SFF) SATA Drive Bays | |
| | NOTE: A SAS controller is required to support 8 SFF drives. | |
| | Eight (8) USB ports | |
| | Six (6) PCIe slots | |
| | Two (2) Non-hot plug, non-redundant fans | |
| | HP iLO Management Engine (standard) | |
| | Tower (5U) form factor | |

Step 2: Choose Required Options (only one of the following from each list unless otherwise noted)**HP Memory**

NOTE: To realize the performance memory capabilities listed in this document, HP SmartMemory is required. For additional information, please see the HP SmartMemory QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html
(Worldwide)

NOTE: Redundant PSU Kit (PN: 738661-B21) is required for RDIMMs, whether 1 or 2 CPUs are populated.

Configuration Information - Factory Integrated Models

Registered DIMMs (RDIMMs)**NOTE:** The following memory is supported by the E5-2400 v2 series Processors.

| | |
|--|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713981-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 731765-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713983-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit | 713985-B21 |

Registered DIMMs (RDIMMs)**NOTE:** The following memory is supported by the E5-2400 series Processors.

| | |
|---|------------|
| HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647893-B21 |
| HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 647895-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647897-B21 |
| HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 647899-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 690802-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | 647901-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | 672631-B21 |

Unbuffered with ECC DIMMs (UDIMMs)**NOTE:** The following memory is supported by the E5-2400 v2 series Processors.

| | |
|--|------------|
| HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713975-B21 |
| HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713977-B21 |
| HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | 713979-B21 |

Unbuffered with ECC DIMMs (UDIMMs)**NOTE:** The following memory is supported by the E5-2400 series Processors.

| | |
|---|------------|
| HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit | 669320-B21 |
| HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit | 647905-B21 |
| HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit | 669322-B21 |
| HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit | 647907-B21 |
| HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit | 669324-B21 |
| HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit | 647909-B21 |

NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory

Configuration Information - Factory Integrated Models

configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: <http://www.hp.com/go/ddr3memory-configurator>.

NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see:

<http://h18004.www1.hp.com/products/servers/platforms/energyefficient/>

HP Power Supplies

NOTE: Mixing of power supplies in the same server is not supported. All power supplies inside a server must be exactly the same wattage/ model.

NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at:

<http://www.hp.com/go/hppoweradvisor>.

HP Common Slot Platinum Plus Power Supply Kits

NOTE: The following Power Supplies offer 94% Efficiency with support for Intelligent Power Discovery.

HP 460W Common Slot Platinum Plus Hot Plug Power Supply Kit

656362-B21

HP 750W Common Slot Platinum Plus Hot Plug Power Supply Kit

656363-B21

Enablement Kit

HP ML350e v2 Redundant Power Supply

738661-B21

NOTE: ML350e v2 Redundant Power Supply Kit (PN: 738661-B21) is required for any common slot power supply.

NOTE: Redundant PSU Kit (PN: 738661-B21) is required for any 2P configuration.

NOTE: Redundant PSU Kit (PN: 738661-B21) is required for RDIMMs, whether 1 or 2 CPUs are populated.

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

http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html

HP Storage Controllers

HP Smart Array P430/2GB FBWC 12Gb 1-port Int SAS Controller

698529-B21

Step 3: Choose Additional Factory Integratable Options**HP Insight Software**

HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle Single Server FIO License

C6N36A

HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License

C6N36ABE

NOTE: The Electronic software license is available in EMEA only.

HP Storage Controller**Optional Upgrades**

HP 4GB Flash Backed Write Cache FIO Kit for P-series Smart Array Controllers

698537-B21

Step 4: Choose Additional Options for Factory Integration

NOTE: For additional options, please refer to the "Core Options" and "Additional Options" section below.

Core Options

NOTE: Some options may not be integrated at the factory. Contact your local sales representative for additional information.

HP Processors**E5-2400 v2 Series Processors**

NOTE: Redundant PSU Kit (PN: 738661-B21) is required for any 2P configuration.

Ten-Core Processors

NOTE: All support up to 1600MHz memory speeds.

HP ML350e Gen8 v2 Intel® Xeon® E5-2470v2 (2.4GHz/10-core/25MB/95W) Processor Kit 701849-B21

Eight-Core Processors

NOTE: All support up to 1600MHz DDR3 memory speeds.

HP ML350e Gen8 v2 Intel® Xeon® E5-2450v2 (2.5GHz/8-core/20MB/95W) Processor Kit 701847-B21

HP ML350e Gen8 v2 Intel® Xeon® E5-2440v2 (1.9GHz/8-core/20MB/95W) Processor Kit 701845-B21

Six-Core Processors

NOTE: All support up to 1600MHz DDR3 memory speeds.

HP ML350e Gen8 v2 Intel® Xeon® E5-2430v2 (2.5GHz/6-core/15MB/80W) Processor Kit 701843-B21

HP ML350e Gen8 v2 Intel® Xeon® E5-2420v2 (2.2GHz/6-core/15MB/80W) Processor Kit 701841-B21

Quad-Core Processors

NOTE: All support up to 1333MHz DDR3 memory speeds.

HP ML350e Gen8 v2 Intel® Xeon® E5-2407v2 (2.4GHz/4-core/10MB/80W) Processor Kit 701839-B21

HP ML350e Gen8 v2 Intel® Xeon® E5-2403v2 (1.8GHz/4-core/10MB/80W) Processor Kit 701837-B21

HP Memory

NOTE: To realize the performance memory capabilities listed in this document, HP SmartMemory is required. For additional information, please see the HP SmartMemory QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html (Worldwide)

NOTE: Redundant PSU Kit (PN: 738661-B21) is required for RDIMMs, whether 1 or 2 CPUs are populated.

Registered DIMMs (RDIMMs)

NOTE: The following memory is supported by the E5-2400 v2 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713981-B21

HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 731765-B21

HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713983-B21

HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713985-B21

NOTE: The following memory is supported by the E5-2400 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647893-B21

HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 647895-B21

HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low 647897-B21

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Core Options

| | | |
|---|--|------------|
| Voltage Memory Kit | | |
| HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | | 647899-B21 |
| HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | | 690802-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit | | 647901-B21 |
| HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit | | 672631-B21 |
| Unbuffered with ECC DIMMs (UDIMMs) | | |
| NOTE: The following memory is supported by the E5-2400 v2 series Processors. | | |
| HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | | 713975-B21 |
| HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | | 713977-B21 |
| HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit | | 713979-B21 |
| NOTE: The following memory is supported by the E5-2400 series Processors. | | |
| HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit | | 669320-B21 |
| HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit | | 647905-B21 |
| HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit | | 669322-B21 |
| HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit | | 647907-B21 |
| HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit | | 669324-B21 |
| HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit | | 647909-B21 |
| NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: http://www.hp.com/go/ddr3memory-configurator . | | |
| NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: http://h18004.www1.hp.com/products/servers/platforms/energyefficient/ | | |

| | | |
|--------------------------|---|------------|
| HP Optical Drives | HP Half-Height SATA DVD ROM JackBlack Optical Drive | 624189-B21 |
| | HP Half-Height SATA DVD RW JackBlack Optical Drive | 624192-B21 |

| | | |
|-----------------------|--|------------|
| HP Hard Drives | NOTE: The components of a storage subsystem (e.g. the drive, the HBA/controller, firmware, and the server backplane) should operate at the same data transfer rate or the system bandwidth will be negotiated down to an acceptable level for all components. | |
| | NOTE: Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details. | |
| | 12G SAS Hot Plug SmartDrive LFF (3.5-inch) Converter Enterprise Drives | |
| | HP 600GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty Hard Drive | 765424-B21 |
| | HP 450GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty | 737394-B21 |

Core Options

| | |
|--|------------|
| Hard Drive | |
| HP 300GB 12G SAS 15K rpm LFF (3.5-inch) SC Converter Enterprise 3yr Warranty | 737261-B21 |
| Hard Drive | |
| 12G SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise Drives | |
| HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 759212-B21 |
| HP 450GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 759210-B21 |
| HP 300GB 12G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 759208-B21 |
| 12G SAS Hot Plug SFF (2.5-inch) 10K SC Enterprise Drives | |
| HP 1.2TB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 781518-B21 |
| HP 900GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 785069-B21 |
| HP 600GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 781516-B21 |
| HP 300GB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 785067-B21 |
| 12G SAS Hot Plug SFF (2.5-inch) SC 512e Drives | |
| HP 2TB 12G SAS 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765466-B21 |
| HP 1TB 12G SAS 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765464-B21 |
| 12G SAS Hot Plug SFF (3.5-inch) SC Midline 512e Drives | |
| HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive | 765257-B21 |
| 12G SAS Hot Plug LFF (3.5-inch) SC 512e Performance Drives | |
| HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive | 793671-B21 |
| Drive | |
| HP 4TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive | 793669-B21 |
| Drive | |
| 6G SAS Hot Plug with SmartDrive SFF (2.5-inch) Enterprise Drives | |
| HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3yr Warranty Hard Drive | 718162-B21 |
| Drive | |
| HP 900GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 652589-B21 |
| HP 600GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 652583-B21 |
| HP 450GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 652572-B21 |
| HP 300GB 6G SAS 10K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 652564-B21 |
| HP 300GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 652611-B21 |
| HP 146GB 6G SAS 15K rpm SFF (2.5-inch) SC Enterprise 3yr Warranty Hard Drive | 652605-B21 |
| 6G SAS Hot Plug SmartDrive SFF (2.5-inch) Midline Drives | |
| HP 1TB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive | 652749-B21 |
| HP 500GB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive | 652745-B21 |
| 12G SAS Hot Plug SFF (2.5-inch) SC 512e HDD | |
| HP 1.8TB 12G SAS 10K rpm SFF (2.5-inch) SC Enterprise 512e 3yr Warranty Hard Drive | 791034-B21 |
| Drive | |
| 6G SAS Hot Plug SmartDrive LFF (3.5-inch) Midline Drives | |
| HP 6TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 761477-B21 |
| HP 4TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 695510-B21 |
| HP 3TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 652766-B21 |
| HP 2TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 652757-B21 |
| HP 1TB 6G SAS 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 652753-B21 |

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

http://h18000.www1.hp.com/products/quickspecs/12244_div/12244_div.html

Core Options

(Worldwide)

6G SATA Hot Plug with SmartDrive SFF (2.5-inch) Midline (MDL) Drives

| | |
|---|------------|
| HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive | 655710-B21 |
| HP 500GB 6G SATA 7.2K rpm SFF (2.5-inch) SC Midline 1yr Warranty Hard Drive | 655708-B21 |

6G SATA Hot Plug with SmartDrive LFF (3.5-inch) Midline (MDL) Drives

| | |
|---|------------|
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 753874-B21 |
| HP 4TB 6G SATA 7.2k rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 693687-B21 |
| HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 628061-B21 |
| HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 658079-B21 |
| HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 657750-B21 |
| HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 1yr Warranty Hard Drive | 658071-B21 |

6G SATA Non-Hot Plug LFF (3.5-inch) Midline (MDL) Drives

| | |
|---|------------|
| HP 2TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive | 659339-B21 |
| HP 1TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive | 659337-B21 |
| HP 500GB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive | 659341-B21 |

6G SATA Hot Plug SFF (2.5-inch) SC 512e Drives

| | |
|--|------------|
| HP 2TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765455-B21 |
| HP 1TB 6G SATA 7.2K rpm SFF (2.5-inch) SC 512e 1yr Warranty Hard Drive | 765453-B21 |

6G SATA Hot Plug LFF (3.5-inch) SC 512e Performance Drives

| | |
|---|------------|
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drive | 793667-B21 |
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive | 765255-B21 |
| HP 6TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive | 793683-B21 |
| HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC 512e Performance 1yr Warranty Hard Drives | 793665-B21 |
| HP 4TB 6G SATA 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive | 765253-B21 |
| HP 3TB 6G SATA 7.2K rpm LFF (3.5-inch) Non-hot plug Midline 1yr Warranty Hard Drive | 628065-B21 |

NOTE: SATA hard drives have a 1-year warranty. Please see the QuickSpecs for Technical Specifications and additional information:
http://h18000.www1.hp.com/products/quickspecs/13021_div/13021_div.html
(Worldwide)

12G SAS Hot plug LFF (3.5inch) SC HDD

| | |
|--|------------|
| HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC Midline 512e 1yr Warranty Hard Drive | 765259-B21 |
| HP 6TB 12G SAS 7.2K rpm LFF (3.5-inch) SC 512e Helium 1yr Warranty Hard Drive | 793699-B21 |

12G SAS Hot Plug Value Endurance SFF (2.5-inch) Enterprise Value Solid State Drives

| | |
|---|------------|
| HP 1.6TB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762263-B21 |
| HP 800GB 12G SAS Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 762261-B21 |
| HP 600GB 12G SAS 15K rpm SFF (2.5-inch) SC 512e Enterprise 3yr Warranty Hard Drive | 748387-B21 |

12G SAS Hot Plug Value Endurance SFF (3.5-inch) Enterprise Value Solid State

Core Options

Drives

HP 1.6TB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive 762272-B21

HP 800GB 12G SAS Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive 762270-B21

12G SAS High Endurance Hot Plug SFF (2.5-inch) Enterprise Performance Solid State Drives

HP 400GB 12G SAS High Endurance SFF 2.5-in SC Enterprise Performance 3yr Wty Solid State Drive 741155-B21

NOTE: This drive supports Gen8 servers only.

12G SAS Hot Plug SFF (2.5-inch) ENT Mainstream SC H2 Solid State Drives

HP 1.6TB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive 779176-B21

HP 800GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive 779172-B21

HP 400GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive 779168-B21

HP 200GB 12G SAS Mainstream Endurance SFF 2.5-in ENT Mainstream SC 3yr Wty H2 Solid State Drive 779164-B21

12G SAS Hot Plug SFF (2.5-inch) SC Read/Write Intensive Solid State Drives

HP 1.92TB 12G SAS Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 802891-B21

HP 800GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 802586-B21

HP 400GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 802582-B21

HP 200GB 12G SAS Write Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 802578-B21

6G SATA Hot Plug SFF Value Endurance (2.5-inch) Enterprise Boot Solid State Drives

HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive 717965-B21

HP 80GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Boot 3yr Wty Solid State Drive 734360-B21

6G SATA Hot Plug LFF Value Endurance (3.5-inch) Enterprise Boot Solid State Drives

HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive 718171-B21

HP 80GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Boot 3yr Wty Solid State Drive 734362-B21

6G SATA Hot Plug LFF Value Endurance (3.5-inch) Converter Enterprise Value G1 Solid State Drives

HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive 756660-B21

HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive 756639-B21

HP 120GB 6G SATA Value Endurance LFF 3.5-in SC Converter ENT Value 3yr Wty G1 Solid State Drive 756624-B21

6G SATA Hot Plug SFF Value Endurance (2.5-inch) Enterprise Value G1 Solid State Drives

HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive 756657-B21

HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive 756636-B21

Core Options

| | |
|--|------------|
| State Drive | |
| HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty G1 Solid State Drive | 756621-B21 |
| 6G SATA Hot Plug SFF (2.5-inch) SC Enterprise Value M1 Solid State Drives | |
| HP 800GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive | 764929-B21 |
| HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive | 764927-B21 |
| HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive | 764925-B21 |
| HP 120GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty M1 Solid State Drive | 764923-B21 |
| 6G SATA Hot Plug SFF Value Endurance (2.5-inch) Enterprise Value Solid State Drives | |
| HP 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 757339-B21 |
| HP 800GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 717973-B21 |
| HP 480GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 717971-B21 |
| HP 240GB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive | 717969-B21 |
| 6G SATA Hot Plug LFF Value Endurance (3.5-inch) Enterprise Value Solid State Drives | |
| HP 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive | 757342-B21 |
| HP 800GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 718189-B21 |
| HP 480GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 718183-B21 |
| HP 240GB 6G SATA Value Endurance LFF 3.5-in SC Enterprise Value 3yr Wty Solid State Drive | 718177-B21 |
| 6G SATA Hot Plug SFF Light Endurance (2.5-inch) Enterprise Light G1 Solid State Drives | |
| HP 960GB 6G SATA Light Endurance SFF 2.5-in SC Enterprise Light 3yr Wty G1 Solid State Drive | 756601-B21 |
| 6G SATA Hot Plug LFF Light Endurance (3.5-inch) Enterprise Light G1 Solid State Drives | |
| HP 960GB 6G SATA Light Endurance LFF 3.5-in SC Converter ENT Light 3yr Wty G1 Solid State Drive | 756604-B21 |
| 6G SATA Mainstream Endurance Hot Plug SFF (2.5-inch) Enterprise Mainstream Solid State Drives | |
| HP 800GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691868-B21 |
| HP 400GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691866-B21 |
| HP 200GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr Wty Solid State Drive | 691864-B21 |
| HP 100GB 6G SATA Mainstream Endurance SFF 2.5-in SC Enterprise Mainstream 3yr | 691862-B21 |

Core Options

Wty Solid State Drive

6G SATA Mainstream Endurance Hot Plug LFF (3.5-inch) Enterprise Mainstream Solid State Drives

HP 800GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr 691860-B21

Wty Solid State Drive

HP 400GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr 691856-B21

Wty Solid State Drive

HP 200GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr 691854-B21

Wty Solid State Drive

HP 100GB 6G SATA Mainstream Endurance LFF 3.5-in SC Enterprise Mainstream 3yr 691852-B21

Wty Solid State Drive

6G SATA Hot Plug SFF (2.5-inch) SC Read Intensive Solid State Drives

HP 960GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 789155-B21

HP 480GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 789145-B21

HP 240GB 6G SATA Read Intensive SFF 2.5-in SC 3yr Wty Solid State Drive 789135-B21

6G SATA Hot Plug LFF (3.5-inch) SC Read Intensive Solid State Drives

HP 960GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive 789157-B21

HP 480GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive 789147-B21

HP 240GB 6G SATA Read Intensive LFF 3.5-in SC Converter 3yr Wty Solid State Drive 789137-B21

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:http://h18000.www1.hp.com/products/quickspecs/14038_div/14038_div.html (Worldwide)**Hard Drive Kits****NOTE:** All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.**NOTE:** Mixing of SFF and LFF drive cages is not allowed.**NOTE:** A second SFF Hot Plug Drive Cage requires a separate Smart Array controller. A second LFF Hot Plug Drive cage can be supported with a P222, or both LFF drive cages can be supported with a single P430.

HP Large Form Factor Hard Drive Blank Kit 666986-B21

HP Small Form Factor Hard Drive Blank Kit 666987-B21

HP Networking

Gigabit Ethernet adapters

HP NC112T PCI Express Gigabit Server Adapter 503746-B21

HP NC365T 4-port Ethernet Server Adapter 593722-B21

HP Ethernet 1Gb 4-port 331T Adapter 647594-B21

HP Ethernet 1Gb 2-port 332T Adapter 615732-B21

HP Ethernet 1Gb 2-port 361T Adapter 652497-B21

10 Gigabit Ethernet Adapters**NOTE:** A minimum of two Gigabytes (2 GB) of server memory is required per each adapter.**NOTE:** Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. See cables/options below.

HP NC552SFP 10Gb 2-port Ethernet Server Adapter 614203-B21

HP NC523SFP 10Gb 2-port Server Adapter 593717-B21

HP Ethernet 10Gb 2-port 530SFP Adapter 652503-B21

Core Options

| | |
|---|------------|
| HP Ethernet 10Gb 2-port 530T Adapter | 656596-B21 |
| HP Ethernet 10Gb 2-port 560SFP+ Adapter | 665249-B21 |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://www.hp.com/go/ProLiantNICs | |

HP Power Supplies

NOTE: Mixing of power supplies in the same server is not supported. All power supplies inside a server must be exactly the same wattage/ model.

NOTE: Prior to making a power supply selection it is highly recommended that the HP Power Advisor is run to determine the right size power supply for your server configuration. The HP Power Advisor is located at: <http://www.hp.com/go/hppoweradvisor>.

HP Common Slot Platinum Plus Power Supply Kits

NOTE: The following Power Supplies offer 94% Efficiency with support for Intelligent Power Discovery.

| | |
|---|------------|
| HP 460W Common Slot Platinum Plus Hot Plug Power Supply Kit | 656362-B21 |
| HP 750W Common Slot Platinum Plus Hot Plug Power Supply Kit | 656363-B21 |

NOTE: Power Specification and Technical Content for supported power supplies can be found at: http://h18000.www1.hp.com/products/quickspecs/14209_div/14209_div.html

HP Computation and Graphics Accelerators

| | |
|---|------------|
| NVIDIA Quadro K2000 PCIe Graphics Adapter | 753959-B21 |
|---|------------|

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Additional Options

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

| | | |
|----------------------------|--|------------|
| HP Insight Software | HP Insight Control | |
| | HP Insight Control including 1yr 24x7 Technical Support and Updates Single Server License | C6N27A |
| | HP Insight Control including 1yr 24x7 Technical Support and Updates Electronic License | C6N28ABE |
| | NOTE: The Electronic software license is available in EMEA only. | |
| | HP Insight Control Server Provisioning Media Kit | BD883A |
| | HP Insight Management Media Kit | C6N31A |
| | NOTE: Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key. | |
| | NOTE: Customer will receive a license entitlement certificate. The license entitlement certificate must be redeemed online or via fax in order to obtain the license activation key(s). Includes one year of 24 x 7 HP Software Technical Support and Update Service. | |
| | NOTE: Licenses ship without media. The HP Insight Control Media Kit can be ordered separately, or can be downloaded at: http://www.hp.com/go/insightupdates . | |
| | NOTE: For additional license options please see the QuickSpecs at: http://h18000.www1.hp.com/products/quickspecs/12631_div/12631_div.html | |
| | HP Integrated Lights-Out (iLO) | |
| | HP Integrated Lights-Out (iLO) Advanced for ProLiant | |
| | HP iLO Advanced including 1yr 24x7 Technical Support and Updates E-LTU | E6U59ABE |
| | NOTE: The Electronic software license is available in EMEA only. | |
| | HP iLO Advanced including 3yr 24x7 Technical Support and Updates E-LTU | E6U64ABE |
| | NOTE: The Electronic software license is available in EMEA only. | |
| | HP iLO Advanced including 1yr 24x7 Technical Support and Updates Single Server License | 512485-B21 |
| | HP iLO Essentials | |
| | HP Integrated Lights-Out Essentials including 3yr 24x7 Technical Support and Updates E-LTU | E6U61ABE |
| | NOTE: The Electronic software license is available in EMEA only. | |
| | HP Integrated Lights-Out Essentials including 1yr 24x7 Technical Support and Updates E-LTU | E6U62ABE |
| | NOTE: The Electronic software license is available in EMEA only. | |
| | HP iLO Advanced 1 Server License with 3yr 24x7 Tech Support and Updates | BD505A |
| | NOTE: For additional license options please see the QuickSpecs at: http://h18004.www1.hp.com/products/quickspecs/14276_div/14276_div.html | |
| | NOTE: For more information, visit: http://www.hp.com/go/ilo . | |

HP PCIe Workload Accelerator Options

Mainstream Endurance (ME) PCIe Workload Accelerators

| | |
|--|------------|
| HP 1.4TB HH/HL Mainstream Endurance (ME) PCIe Workload Accelerator | 729307-B21 |
| HP 700GB HH/HL Mainstream Endurance (ME) PCIe Workload Accelerator | 729305-B21 |

High Endurance (HE) PCIe Workload Accelerators

| | |
|--|------------|
| HP 700GB HH/HL High Endurance (HE) PCIe Workload Accelerator | 708090-B21 |
| HP 350GB HH/HL High Endurance (HE) PCIe Workload Accelerator | 708088-B21 |

Light Endurance (LE) PCIe Workload Accelerators

| | |
|---|------------|
| HP 5.2TB FH/HL Light Endurance (LE) PCIe Workload Accelerator | 775672-B21 |
|---|------------|



Additional Options

| | |
|---|------------|
| HP 2.6TB HH/HL Light Endurance (LE) PCIe Workload Accelerator | 775670-B21 |
| HP 1.3TB HH/HL Light Endurance (LE) PCIe Workload Accelerator | 775668-B21 |
| HP 1.0TB HH/HL Light Endurance (LE) PCIe Workload Accelerator | 775666-B21 |

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

http://h18000.www1.hp.com/products/quickspecs/14528_div/14528_div.html
(Worldwide)

HP Storage Controllers

SAS Controllers**HP Smart Array P222 Controller**

| | |
|---|------------|
| HP Smart Array P222/512 FBWC 6Gb 1-port Int/1-port Ext SAS Controller | 631667-B21 |
|---|------------|

HP Smart Array P430 Controller

| | |
|---|------------|
| HP Smart Array P430/2GB FBWC 12Gb 1-port Int SAS Controller | 698529-B21 |
|---|------------|

HP Smart Array P431 Controller

| | |
|--|------------|
| HP Smart Array P431/2GB FBWC 12Gb 2-ports Ext SAS Controller | 698531-B21 |
|--|------------|

Optional Upgrades

| | |
|--|------------|
| HP 512MB B-series 36 inch Dynamic Smart Array Flash Backed Write Cache for ML/DL | 631922-B21 |
|--|------------|

NOTE: This cache option provides RAID 5 for the integrated Dynamic Smart Array B120i.

| | |
|--|------------|
| HP Tower to Rack Conversion Tray Universal Kit | 417705-B21 |
|--|------------|

| | |
|---|------------|
| HP ML350e Gen8 v2 Smart Array Cable Kit | 725895-B21 |
|---|------------|

NOTE: This Cable kit is required when ordering a Smart Array P430 Controller.

| | |
|-------------------|------------|
| HP PCI Baffle Kit | 738655-B21 |
|-------------------|------------|

NOTE: The PCI Baffle Kit is required whenever a PCI option card (NIC, Smart Array Controller, etc.) is installed in a PCIe slot. Note, only 1 PCI Baffle Kit per system is required if multiple PCI cards are installed.

| | |
|---|--------|
| HP SmartCache No Media 24x7 Technical Support 1 Svr License | D7526A |
|---|--------|

| | |
|--|--------|
| HP SmartCache No Media 24x7 Technical Support Flexible License | D7527A |
|--|--------|

| | |
|--|----------|
| HP SmartCache No Media 24x7 Technical Support Electronic License | D7527AAE |
|--|----------|

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

http://h18000.www1.hp.com/products/quickspecs/14227_div/14227_div.html
(Smart Array P222 Controller)

http://h18000.www1.hp.com/products/quickspecs/14624_div/14624_div.html
(Smart Array P430 Controller)

http://h18000.www1.hp.com/products/quickspecs/14625_div/14625_div.html
(Smart Array P431 Controller)

http://h18000.www1.hp.com/products/quickspecs/14744_div/14744_div.html
(Smart Array P830 Controller)

HP Host Bus Adapters

| | |
|--------------------------|------------|
| HP H220 Host Bus Adapter | 650933-B21 |
|--------------------------|------------|

| | |
|---------------------------------------|------------|
| HP H221 PCIe 3.0 SAS Host Bus Adapter | 729552-B21 |
|---------------------------------------|------------|

| | |
|--------------------------|------------|
| HP H222 Host Bus Adapter | 650926-B21 |
|--------------------------|------------|

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

http://h18004.www1.hp.com/products/quickspecs/14336_div/14336_div.html
(HBA 221)

http://h18004.www1.hp.com/products/quickspecs/14222_div/14222_div.html
(HBA 221)

http://h18004.www1.hp.com/products/quickspecs/14337_div/14337_div.html

Additional Options

(HBA 222)

SCSI HBA

HP SC11Xe Ultra320 Single Channel/ PCIe x4 SCSI Host Bus Adapter

412911-B21

NOTE: Please see the following QuickSpecs for additional information:http://h18000.www1.hp.com/products/quickspecs/12566_div/12566_div.html
(SC11Xe HBA)**HP Secure Encryption**

HP Secure Encryption No Media E-LTU per Drive

D8S85AAE

HP Secure Encryption No Media Flexible License per Drive

D8S84A

NOTE: HP Secure Encryption is supported on the HP Smart Array P731m and the P230i as an option. HP Secure Encryption licensing is based on the number of physical drives requiring encryption.**NOTE:** For more information about HP Secure Encryption, go to <http://www.hp.com/go/hpsecureencryption>.**HP Tape Backup****NOTE:** For the complete range of tape drives, autoloaders, libraries and media see: <http://www.hp.com/go/tape>. For hardware and software compatibility of HP tape backup products see: <http://www.hp.com/storage/SPOCK> and <http://www.hp.com/go/ebs>.**NOTE:** All internal tape drives listed are only supported with the non-hot plug, non-redundant ATX power supply. The internal drives not are supported in any hot-plug, redundant power supply configuration.

HP StoreEver LTO-3 Ultrium 920 SAS Internal Tape Drive

EH847B

HP StoreEver LTO-4 Ultrium 1760 SAS Internal WW Tape Drive

EH919B

HP StoreEver LTO-4 Ultrium 1760 SCSI Internal Tape Drive

EH921B

HP StoreEver LTO-5 Ultrium 3000 SAS Internal Tape Drive

EH957B

HP StoreEver LTO-5 Ultrium 3000 SAS External Tape Drive

EH958B

HP StoreEver LTO-6 Ultrium 6250 Tape Drive in 1U Rack-mount Kit

COL99A

HP StoreEver LTO-6 Ultrium 6650 SAS Internal Tape Drive

EH963A

HP StoreEver LTO-6 Ultrium 6650 SAS External Tape Drive

EH964A

HP StoreEver LTO-6 Ultrium 6250 Internal Tape Drive

EH969A

HP StoreEver LTO-6 Ultrium 6250 External Tape Drive

EH970A

HP StoreEver 1/8 G2 LTO-6 Ultrium 6250 FC Tape Autoloader

COH19A

HP Tape Storage Systems**HP StoreEver MSL6480**

HP StoreEver MSL6480 Scalable Base Module

QU625A

NOTE: Please see the QuickSpecs for Technical Specifications and additional information:http://h18000.www1.hp.com/products/quickspecs/14604_div/14604_div.html
(Worldwide)**HP Disk Storage Systems Disk Enclosures**

HP D3600 Enclosure

QW968A

NOTE: See the D3000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at:http://h18000.www1.hp.com/products/quickspecs/14866_div/14866_div.html
(Worldwide)

HP D3700 Enclosure

QW967A

NOTE: See the D3000 Disk Enclosure QuickSpecs for additional information including

Additional Options

configuration steps and additional options needed for a complete solution at:
http://h18000.www1.hp.com/products/quickspecs/14866_div/14866_div.html
 (Worldwide)

HP D2600 Disk Enclosure

AJ940A

NOTE: See the D2000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at:
http://h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.html
 (Worldwide)

HP D2700 Disk Enclosure

AJ941A

NOTE: See the D2000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at:
http://h18000.www1.hp.com/products/quickspecs/13404_div/13404_div.html
 (Worldwide)

HP D6000 Dual I/O Module Disk Enclosure

QQ695A

NOTE: See the D6000 Disk Enclosure QuickSpecs for additional information including configuration steps and additional options needed for a complete solution at:
http://h18000.www1.hp.com/products/quickspecs/14419_div/14419_div.html
 (Worldwide)

HP Storage Options
QLogic Fibre Channel HBAs

HP StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter

QW971A

HP StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter

QW972A

Converged Network Adapter

HP CN1100E Dual Port Converged Network Adapter

BK835A

HP CN1000Q Dual Port Converged Network Adapter

BS668A

HP StoreFabric CN1100R Dual Port Converged Network Adapter

QW990A

HP Uninterruptible Power Systems
HP DirectFlow Three Phase UPS
Power Unit (1U UPS)

NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.

HP R12000 DirectFlow - 1U Rackmount Uninterruptible Power System

G9Y75A

HP R12000 DirectFlow - POD 1U Rackmount Uninterruptible Power System

AF478A

Input/Output Module Options for 1U UPS

NOTE: Choose one I/O Module per UPS.

NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.

HP 32A 400-415 Volt Three Phase INTL R12000 DirectFlow UPS IEC309 Input/Output Module

AF488A

HP 30A 400-415 Volt Three Phase NA R10000 DirectFlow UPS IEC309 Input/Output Module

AF489A

HP 32A 380 Volt Three Phase China R12000 DirectFlow UPS Unterminated Input/Output Module

AF490A

HP 30A 480 Volt Three Phase NA R12000 DirectFlow UPS L22-30 Input/Output Module

AF491A

HP 30A 480 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module

AF492A

HP 30A 400-415 Volt Three Phase NA R12000 DirectFlow UPS IEC309 Input/Output Module

G9Y76A

Additional Options

NOTE: All Input/Output Modules support dual output outlets except the AF484A.

Power Unit (2U UPS)

NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.

HP R18000 DirectFlow - 2U Rackmount Uninterruptible Power System AF479A

Input/Output Module Options for 2U UPS

NOTE: Choose one I/O Module per UPS.

NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.

HP 32A 400-415 Volt Three Phase INTL R18000 DirectFlow UPS IEC309 Input/Output Module AF483A

HP 30A 380 Volt Three Phase China R18000 DirectFlow UPS Unterminated Input/Output Module AF485A

HP 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module AF486A

HP 30A 480 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module AF487A

HP 30A 400 Volt Three Phase NA R18000 DirectFlow UPS IEC309 Input/Output Module D9Q02A

HP 30A 400-415V Three Phase NA R18000 DirectFlow UPS 1:1 IEC309 Input/Output Module AF484A

NOTE: All Input/Output Modules support dual output outlets except the AF484A.

Battery Pack Options

NOTE: Choose up to two Battery Packs per UPS (must be the same).

NOTE: #0D1 will appear after the part number on the sales order if HP factory integration is indicated.

HP DirectFlow UPS - 1U Rackmount Lithium-ion Battery Pack AF480A

HP DirectFlow UPS - 3U Rackmount VRLA Battery Pack AF482A

NOTE: Please see the QuickSpecs for additional information:
[HP DirectFlow Three Phase Uninterruptible Power System \(Worldwide\)](#)

HP Tower UPS**HP T750 G4 UPS Models**

HP T750 G4 NA/JP Uninterruptible Power System J2P85A

HP T750 G4 INTL Uninterruptible Power System J2P88A

HP T1000 G4 UPS Models

HP T1000 G4 NA/JP Uninterruptible Power System J2P86A

HP T1000 G4 INTL Uninterruptible Power System J2P89A

HP T1500 G4 UPS Models

HP T1500 G4 NA/JP Uninterruptible Power System J2P87A

HP T1500 G4 INTL Uninterruptible Power System J2P90A

HP Rack/Tower UPS**HP R/T2200 G4 UPS Models**

HP R/T2200 G4 NA/JP Uninterruptible Power System J2R00A

HP R/T3000 G4 UPS Models

HP R/T3000 G4 Low Voltage NA/JP Uninterruptible Power System J2R01A

HP R/T3000 G4 High Voltage NA/JP Uninterruptible Power System J2R02A

Additional Options

| | |
|--|--------|
| HP R/T3000 G4 High Voltage INTL Uninterruptible Power System | J2R04A |
| HP R/T3000 G2 Uninterruptible Power System (UPS) | |
| HP Rack Models | |
| R1500 G4 Models | |
| HP R1500 G4 NA Uninterruptible Power System | J2Q99A |
| HP R1500 G4 JP/TWN Uninterruptible Power System | J2R05A |
| HP R1500 G4 INTL Uninterruptible Power System | J2R03A |
| R7000 | |
| HP R7000 4U 50A High Voltage NA/JP Uninterruptible Power System | AF462A |
| R5000 | |
| HP R5000 3U L630 High Voltage NA/JP Uninterruptible Power System | AF460A |
| NOTE: Please see the HP Line Interactive Single Phase UPS QuickSpecs for additional information. | |
| NOTE: For additional information on HP Uninterruptible Power Systems please go to: http://www.hp.com/servers/rackups . | |
| NOTE: For additional information on sizing your HP UPS, please reference: http://www.upssizer.com | |
| NOTE: Please see the UPS and PDU cable matrix's on the HP Power Protection and Management page. Under Power Cords, click on the "HP Power Cord Matrix" link. That link will list cable descriptions, requirements, and specifications for UPS and PDU units. Please see the following link: http://www.hp.com/products/powercords . | |

| | | |
|---|---|--------|
| HP Basic Power Distribution Units (bPDU) | HP Basic Power Distribution Unit: 1U/OU Version | |
| | HP 1.9kVA 120 Volt L5-20 Input (12xNEMA 5-20R) NA/JP Basic PDU | H5M54A |
| | HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Basic PDU | H5M56A |
| | HP Basic Power Distribution Unit: Half Height Version | |
| | HP 2.8kVA 120 Volt L5-30 Input (18xNEMA 5-20R) NA/JP Basic PDU | H5M55A |
| | HP 3.6kVA 200-240 Volt Detachable C20 Input (18xC13) WW Basic PDU | H5M57A |
| | HP 4.9kVA 208 Volt L6-30 Input (20xC13) NA/JP Basic PDU | H5M58A |
| | HP 7.3kVA 230 Volt IEC309 32A Input (20xC13) INTL Basic PDU | H5M68A |
| | HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13) NA/JP Basic PDU | H5M61A |
| | HP Basic Power Distribution Unit: Mid Height Version | |
| | HP 4.9kVA 208 Volt L6-30 Input (24xC13/6xC19) NA/JP Basic PDU | H5M59A |
| | HP 7.3kVA 230 Volt IEC309 32A Input (24xC13/6xC19) INTL Basic PDU | H5M70A |
| | HP 8.3kVA 208 Volt CS8265C Input (30xC13/6xC19) NA/JP Basic PDU | H5M60A |
| | HP 11kVA 230 Volt IEC309 63A Input (30xC13/6xC19) INTL Basic PDU | H5M71A |
| | HP Hardwired 200-240 Volt Input (30xC13/6xC19) WW Basic PDU | H5M75A |
| | HP 5.7kVA 208 Volt L21-20 3-Phase Input (24xC13/3xNEMA 5-20R) NA/JP Basic PDU | H5M63A |
| | HP 8.6kVA 208 Volt L21-30 3-Phase Input (24xC13/3xC19/3xNEMA 5-20R) NA/JP Basic PDU | H5M64A |
| | HP 8.6kVA 208 Volt L15-30 3-Phase Input (24xC13/6xC19) NA/JP Basic PDU | H5M62A |
| | HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/6xC19) INTL Basic PDU | H5M72A |
| | HP Basic Power Distribution Unit: Full Height Version | |
| | HP 11kVA 400 Volt IEC309 16A 3-Phase Input (36xC13/6xC19) INTL Basic PDU | H5M73A |
| | HP 11kVA 400 Volt IEC309 30A 3-Phase Input (36xC13/6xC19) NA Basic PDU | H5M67A |
| | HP Basic Power Distribution Unit: 480/277 Volt Version | |

Additional Options

| | |
|--|--------|
| HP 19.9kVA 480 Volt IEC309 30A 3-Phase Input (30 Outlet) NA Basic PDU | H3X08A |
| HP 800VA - 277V Input / 230V Output NA Rack Mount Transformer | H3X09A |
| NOTE: Please see the QuickSpecs for Technical Specifications and additional information: http://h18000.www1.hp.com/products/quickspecs/14557_div/14557_div.html (Worldwide) | |
| NOTE: Additional HP Power Distribution Units are available. For a complete list of all HP PDUs and additional information please visit: http://www.hp.com/go/rackandpower . | |

HP Remote Monitored Power Distribution Units (mPDU)**HP Remote Monitored Power Distribution Unit: 1U Version**

| | |
|---|--------|
| HP 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU | D9N43A |
| HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Monitored PDU | D9N46A |
| HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU | D9N44A |

HP Remote Monitored Power Distribution Unit: Half Height Version

| | |
|---|--------|
| HP 3.6kVA 200-240 Volt Detachable C20 Input (16xC13) WW Monitored PDU | D9N45A |
| HP 4.9kVA 208 Volt L6-30 Input (12xC13) NA/JP Monitored PDU | G9Z05A |
| HP 7.3kVA 230 Volt IEC309 32A Input (12xC13) INTL Monitored PDU | G9Z06A |

HP Remote Monitored Power Distribution Unit: Mid Height Version

| | |
|---|--------|
| HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Monitored PDU | D9N47A |
| HP 7.3kVA 230 Volt IEC309 32A Input (20xC13/4xC19) INTL Monitored PDU | D9N48A |
| HP 8.6kVA 208 Volt L15-30 3-Phase Input (18xC13/3xC19) NA/JP Monitored PDU | D9N51A |
| HP 5.7kVA 208 Volt L21-20 3-Phase Input (18xC13/3xNEMA 5-20R) NA/JP Monitored PDU | D9N52A |
| HP 8.6kVA 208 Volt L21-30 3-Phase Input (20xC13/3xC19/3xNEMA 5-20R) NA/JP Monitored PDU | D9N53A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (18xC13/3xC19) INTL Monitored PDU | D9N55A |

HP Remote Monitored Power Distribution Unit: Full Height Version

| | |
|---|--------|
| HP 8.3kVA 208 Volt CS8265C Input (30xC13/3xC19) NA Monitored PDU | D9N49A |
| HP 7.3kVA 230 Volt IEC309 32A Input (32xC13/4xC19) INTL Monitored PDU | D9N50A |
| HP 11kVA 400 Volt IEC309 16A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU | D9N57A |
| HP 14.4kVA 208 Volt CS8365C 3-Phase Input (12xC13/12xC19)NA Monitored PDU | D9N58A |
| HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (30xC13/3xC19) NA Monitored PDU | D9N61A |
| HP 16.6kVA 400 Volt IEC309 30A 3-Phase Input (12xC13/12xC19) NA Monitored PDU | D9N62A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (24xC13/3xC19) NA/JP Monitored PDU | D9N54A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Input (12xC13/12xC19) NA/JP Monitored PDU | D9N59A |
| HP 17.3kVA 208 Volt IEC309 60A 3-Phase Watertight Input (12xC13/12xC19) NA/JP Monitored PDU | G9Z07A |
| HP 19.9kVA 480 Volt 3-Phase (30 Outlet) NA Monitored PDU | D9N63A |
| HP 22kVA 400 Volt IEC309 32A 3-Phase Input (12xC13/12xC19) INTL Monitored PDU | D9N60A |
| HP 22kVA 400 Volt IEC309 32A 3-Phase Input (30xC13/3xC19) INTL Monitored PDU | D9N56A |
| HP 22kVA 400 Volt IEC309 32A 3-Phase Watertight Input (12xC13/12xC19) INTL Monitored PDU | G9Z08A |

HP Environmental Sensor for Remote Monitored PDUs

| | |
|---|--------|
| HP Environmental Sensor for Remote Monitored and Managed PDUs | E2D53A |
|---|--------|

Additional Options

HP Remote Monitored Power Distribution Unit: 1U Version

| | |
|---|--------|
| HP 2.8kVA 120 Volt L5-30 Input (12xNEMA 5-20R)NA/JP Monitored PDU | D9N43A |
|---|--------|

| | |
|---|--------|
| HP 3.6kVA 200-240 Volt Detachable C20 Input (12xC13) WW Monitored PDU | D9N46A |
|---|--------|

NOTE: Please see the QuickSpecs for additional information:

http://h18000.www1.hp.com/products/quickspecs/14669_div/14669_div.html
(Worldwide)

HP Intelligent Power Distribution Units (iPDU)**iPDU Core Units**

| | |
|---|--------|
| HP 4.9kVA 24A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF520A |
|---|--------|

| | |
|---|--------|
| HP 8.3kVA 40A Single Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF521A |
|---|--------|

| | |
|--|--------|
| HP 8.6kVA 24A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF522A |
|--|--------|

| | |
|--|--------|
| HP 14.4kVA 40A Three Phase NA/JP Intelligent Modular Power Distribution Unit | AF533A |
|--|--------|

| | |
|---|--------|
| HP 17.3kVA 48A Three Phase NA/JP Core Intelligent Modular Power Distribution Unit | AF523A |
|---|--------|

| | |
|--|--------|
| HP 7.3kVA 32A Single Phase INTL Core Intelligent Modular Power Distribution Unit | AF525A |
|--|--------|

| | |
|--|--------|
| HP 11kVA 16A Three Phase INTL Core Intelligent Modular Power Distribution Unit | AF526A |
|--|--------|

| | |
|--|--------|
| HP 22kVA 32A Three Phase INTL Core Intelligent Modular Power Distribution Unit | AF527A |
|--|--------|

| | |
|--|--------|
| HP 17.3kVA 48A 208V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit | AF535A |
|--|--------|

| | |
|--|--------|
| HP 17.3kVA 24A 415V Three Phase 12 Outlet Core NA/JP Intelligent Power Distribution Unit | AF537A |
|--|--------|

| | |
|---|--------|
| HP 22kVA 32A 400V Three Phase 12 Outlet Core INTL Intelligent Power Distribution Unit | AF538A |
|---|--------|

iPDU Kits with Standard Extension Bars

| | |
|---|--------|
| HP 4.9kVA 24A Single Phase NA/JP Intelligent Modular Power Distribution Kit | AF531A |
|---|--------|

| | |
|--|--------|
| HP 8.6kVA 24A Three Phase NA/JP Intelligent Modular Power Distribution Kit | AF532A |
|--|--------|

| | |
|--|--------|
| HP 7.3kVA 32A Single Phase INTL Intelligent Modular Power Distribution Kit | AF534A |
|--|--------|

iPDU Extension Bars

| | |
|---|--------|
| HP 5xC13 Intelligent PDU Extension Bar G2 Kit | AF547A |
|---|--------|

| | |
|---|--------|
| HP 5xC13 Outlets Power and UID LEDs Pair Standard Extension Bar | AF528A |
|---|--------|

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

http://h18000.www1.hp.com/products/quickspecs/13650_div/13650_div.html
(Worldwide)

HP Managed Power Distribution Units (maPDU)**Half Height Models**

| | |
|--|--------|
| HP 3.6kVA 200-240 Volt Detachable C20 Input (7xC13/1xC19) WW Managed PDU | H8B49A |
|--|--------|

Full Height Models

| | |
|--|--------|
| HP 2.8kVA 120 Volt L5-30 Input (24x NEMA 5-20) NA/JP Managed PDU | H8B48A |
|--|--------|

| | |
|---|--------|
| HP 4.9kVA 208 Volt L6-30 Input (20xC13/4xC19) NA/JP Managed PDU | H8B50A |
|---|--------|

| | |
|---|--------|
| HP 7.3kVA 200-240 Volt IEC309 32A Input (20xC13/4xC19) INTL Managed PDU | H8B51A |
|---|--------|

| | |
|--|--------|
| HP 8.6kVA 208 Volt L15-30 3 Phase Input (18xC13/6xC19) NA/JP Managed PDU | H8B52A |
|--|--------|

| | |
|---|--------|
| HP 8.6kVA 208 Volt L21-30 3 Phase Input (20xC13/3xC19/1x NEMA 5-20) NA/JP Managed PDU | H8B53A |
|---|--------|

| | |
|--|--------|
| HP 11kVA 400 Volt IEC309 16A 3 Phase Input (21xC13/3xC19) INTL Managed PDU | H8B54A |
|--|--------|

| | |
|---|--------|
| HP 14.4kVA 208V CS8365C 3 Phase Input (12xC13/12xC19) NA/JP Managed PDU | H8B55A |
|---|--------|

| | |
|--|--------|
| HP 17.3kVA 208V IEC309 60A 3 Phase Input (12xC13/12xC19) NA/JP Managed PDU | H8B56A |
|--|--------|

Additional Options

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

<http://www8.hp.com/h20195/v2/GetHtml.aspx?docname=c04376673>
(Worldwide)

HP Rack Series**HP Intelligent Series Rack**

| | |
|---------------------------------------|--------|
| HP 636 1075mm Pallet Intelligent Rack | BW895A |
| HP 636 1075mm Shock Intelligent Rack | BW896A |
| HP 642 1075mm Pallet Intelligent Rack | BW903A |
| HP 642 1075mm Shock Intelligent Rack | BW904A |
| HP 642 1200mm Pallet Intelligent Rack | BW907A |
| HP 642 1200mm Shock Intelligent Rack | BW908A |
| HP 647 1075mm Pallet Intelligent Rack | BW911A |
| HP 647 1075mm Shock Intelligent Rack | BW912A |
| HP 647 1200mm Pallet Intelligent Rack | BW913A |
| HP 647 1200mm Shock Intelligent Rack | BW914A |

NOTE: Please see the QuickSpecs for Technical Specifications such as height, width, depth, weight, and color:

http://h18000.www1.hp.com/products/quickspecs/14223_div/14223_div.html
(Worldwide)

NOTE: For additional information regarding Rack Cabinets, please see the following URL: <http://www.hp.com/go/rackandpower>.

HP Rack Options**HP LCD8500 1U Rackmount Console Kit Models**

| | |
|--|--------|
| HP LCD8500 1U US Rackmount Console Kit | AF630A |
| HP LCD8500 1U UK Rackmount Console Kit | AF631A |
| HP LCD8500 1U DE Rackmount Console Kit | AF632A |
| HP LCD8500 1U FR Rackmount Console Kit | AF633A |
| HP LCD8500 1U JP Rackmount Console Kit | AF642A |
| HP LCD8500 1U RU Rackmount Console Kit | AF643A |
| HP LCD8500 1U INTL Rackmount Console Kit | AF644A |
| HP LCD8500 1U US TAA Rackmount Console Kit | AF645A |

HP LCD8500 1U Rackmount Console Kit Options

| | |
|--|--------|
| HP Kit LCD 1.83m Latch Display Port Cable | G7T29A |
| HP Location Discovery Services LCD8500 Kit | TL052A |
| HP Rack LED Light Kit | BW939A |

HP USB Keyboard and Mouse

| | |
|--|------------|
| HP USB BFR with PVC Free US Keyboard/Mouse Kit | 631341-B21 |
| HP USB BFR with PVC Free UK Keyboard/Mouse Kit | 631344-B21 |
| HP USB BFR with PVC Free FR Keyboard/Mouse Kit | 631346-B21 |
| HP USB BFR with PVC Free ES Keyboard/Mouse Kit | 631348-B21 |
| HP USB BFR with PVC Free DE Keyboard/Mouse Kit | 631358-B21 |
| HP USB BFR with PVC Free JP Keyboard/Mouse Kit | 631360-B21 |
| HP USB BFR with PVC Free IT Keyboard/Mouse Kit | 631362-B21 |
| HP USB BFR with PVC Free CN Keyboard/Mouse Kit | 631364-B21 |
| HP USB BFR with PVC Free AE Keyboard/Mouse Kit | 638212-B21 |

Additional Options

| | |
|---|------------|
| HP USB BFR with PVC Free RU Keyboard/Mouse Kit | 638214-B21 |
| HP USB BFR with PVC Free IN Keyboard/Mouse Kit | 672097-D63 |
| HP USB BFR with PVC Free AP-Intl Keyboard/Mouse Kit | 672097-373 |
| HP USB BFR with PVC Free Intl Keyboard/Mouse Kit | 672097-B33 |
| HP USB BFR with PVC Free PT Keyboard/Mouse Kit | 672097-133 |
| HP USB BFR with PVC Free TR Keyboard/Mouse Kit | 672097-143 |
| HP USB BFR with PVC Free CZ Keyboard/Mouse Kit | 672097-223 |
| HP USB BFR with PVC Free FI Keyboard/Mouse Kit | 672097-353 |
| HP USB BFR with PVC Free SE Keyboard/Mouse Kit | 672097-103 |
| HP USB BFR with PVC Free CH Keyboard/Mouse Kit | 672097-113 |
| HP USB BFR with PVC Free KR Keyboard/Mouse Kit | 672097-KD3 |

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

http://h18000.www1.hp.com/products/quickspecs/13792_div/13792_div.html
(Worldwide)

HP Server Console Switches

| | |
|--|--------|
| HP USB Remote Access Key for G3 KVM Console Switches | AF650A |
| HP 0x1x8 G3 KVM Console Switch | AF651A |
| HP 0x2x16 G3 KVM Console Switch | AF652A |
| HP TAA 0x2x16 G3 KVM Console Switch | AF653A |

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

http://h18000.www1.hp.com/products/quickspecs/11834_div/11834_div.html
(Worldwide)

Rack Kits

| | |
|--|------------|
| HP Tower to Rack Conversion Tray Universal Kit | 417705-B21 |
|--|------------|

HP USB and SD Options**HP Flash Media Kits for USB Drives**

NOTE: HP qualified blank USB key for use with HP ProLiant servers that support the VMware virtualization environment and other HP value-add software. HP recommends this industry standard USB flash device for use with VMware ESXi. USB device must be installed in the internal slot of the ProLiant server for use with VMware ESXi. Refer to HP VMware Getting Started Guide for installation instructions.

| | |
|--|------------|
| HP 8GB USB Enterprise Mainstream Flash Media Drive Key Kit | 737953-B21 |
|--|------------|

HP Enterprise Mainstream Flash Media Kits for Memory Cards

| | |
|--|------------|
| HP 8GB SD Enterprise Mainstream Flash Media Kit | 726113-B21 |
| HP 32GB SD Enterprise Mainstream Flash Media Kit | 700136-B21 |

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

http://h18000.www1.hp.com/products/quickspecs/13971_div/13971_div.html

HP Care Pack Services**Proactive Care**

NOTE: Collaborative Support plus Proactive services delivered by the onshore, local language Advanced Solution Center (ASC), end-to-end case ownership from a Technical Solution Specialists and Technical Account Manager who remotely delivers firmware/software revision management, proactive scans and incident trend reports. Recommended for customers running a virtualized infrastructure and/or customers who desire an enhanced call support experience.

| | |
|--|--------|
| HP 3 year 4 hour 24x7 ProLiant ML350e Proactive Care Service | U6C93E |
|--|--------|

Additional Options

| | |
|---|--------|
| HP 3 year 4 hour 24x7 with Defective Media Retention ProLiant ML350e Proactive Care Service | U6C94E |
| HP 3year 4-Hour 24x7 with Comprehensive Defective Material Retention ML350e ProactiveCare Service | U9F16E |
| Foundation Care | |
| HP 3 year 24x7 ML350e Foundation Care Service | U2FU0E |
| HP 3 year 24x7 with Defective Media Retention ML350e Foundation Care Service | U2FU1E |
| HP 3 year 24x7 with Comprehensive Defective Material Retention ML350e Foundation Care Service | U2FU2E |
| Installation Services | |
| NOTE: Reduce the time required to get your system up and running and help minimize disruptions to your business. | |
| HP Installation ML350e/ML150 Service | U6D41E |
| HP Startup ML350e/ML150 Service | U6D43E |
| NOTE: For more information, customer/resellers can contact: http://www.hp.com/services/carepack | |

Memory

NOTE: Memory configurations listed do not apply to "Factory Integrated Models".

DDR3 memory population guidelines

For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool:

<http://www.hp.com/go/ddr3memory-configurator>

General Guidelines:

- White DIMM slots denote the first slot of a channel. For 1 DPC (DIMM per channel) populate white slots only.
- Install DIMMs only if the corresponding processor is installed.
- If only one processor is installed in a two processor system, only half of the DIMM slots are available.
- To maximize performance, balance the total memory capacity between all installed processors
 - Populate DIMMs from heaviest load (quad-rank) to lightest load (single-rank) within a channel
 - Heaviest load (DIMM with most ranks) within a channel goes furthest from the processor
- Do not mix UDIMMs or RDIMMs
- DIMMs of different voltages (1.35V & 1.5V) may be mixed in any order
 - The system will power them at the higher voltage
- DIMMs of different speed grades may be mixed in any order
 - The system will select a common optimal speed
- Memory speed is a function of the processor QPI bus speed.

Population Guidelines:

- There are three (3) channels per processor; six (6) channels per server
- There are two (2) DIMM slots for each memory channel; twelve (12) total slots
- Memory channel 1 consists of the two (2) DIMMs that are furthest from the processor
- Memory channel 3 consists of the two (2) DIMMs that are closest to the processor

| DIMM slot/capacity/populated speed table | | | | | | | | | | | | | | | | | | | | |
|---|----------------------------------|------|------|------|-----------------------|------|------|------|------|------|---|------|------|-----------------------|------|------|------|------|------|-----|
| DIMM Type -> | Registered DIMMS (RDIMMs) | | | | | | | | | | Unbuffered with ECC DIMMs (UDIMMs) | | | | | | | | | |
| DIMM Rank -> | Single Rank (1R) | | | | Dual Rank (2R) | | | | | | Single Rank (1R) | | | Dual Rank (2R) | | | | | | |
| DIMM Capacity -> | 4GB | 4GB | 4GB | 8GB | 8GB | 8GB | 8GB | 8GB | 16GB | 16GB | 16GB | 2GB | 2GB | 2GB | 4GB | 4GB | 4GB | 8GB | 8GB | 8GB |
| DIMM Native Speed (MHz) -> | 1333 | 1600 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 | |
| Voltage | LV | Std | LV | Std | LV | Std | LV | LV | Std | LV | LV | Std | LV | LV | Std | LV | LV | Std | LV | |
| SLOTS THAT CAN BE POPULATED | | | | | | | | | | | | | | | | | | | | |
| 12 slot servers | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | |
| MAXIMUM CAPACITY (GB)* | | | | | | | | | | | | | | | | | | | | |
| 12 slot servers | 48 | 48 | 48 | 96 | 96 | 96 | 96 | 192 | 192 | 192 | 24 | 24 | 24 | 48 | 48 | 48 | 96 | 96 | 96 | |

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Memory

| POPULATED DIMM SPEED (MHz) | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------|------|------|------|------|------|------|------|------|------|------|--------|------|------|--------|------|------|--------|------|------|--------|------|------|
| 1 DIMM Per Channel | 1333 | 1600 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 |
| 2 DIMM Per Channel | 1333 | 1600 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333 | 1600 | 1600 | 1333** | 1600 | 1600 | 1333** | 1600 | 1600 | 1333** | 1600 | 1600 | 1333** | 1600 | 1600 |

Please note:

Memory speed is a function of the processor QPI bus speed.

* Maximum capacity will vary based on individual server platform qualification schedule

** For HP SmartMemory, UDIMM is supported at 2DPC@DDR3-1333. Third party memory may only support up to 2DPC@DDR3-1066.

DIMM slot and configuration diagrams

Basic memory slot & population diagram

- Population order; start with "A" first, "B" second, "C" third, etc.

| 12 DIMM SLOTS (6 per CPU node) | | | | | |
|--------------------------------|-------------|------------------|-------------|------------------|--------|
| | Processor 1 | | Processor 2 | | |
| | slot # | population order | slot # | population order | |
| Chnl 1 | 6 | A | 1 | A | Chnl 1 |
| | 5 | D | 2 | D | |
| Chnl 2 | 4 | B | 3 | B | Chnl 2 |
| | 3 | E | 4 | E | |
| Chnl 3 | 2 | C | 5 | C | Chnl 3 |
| | 1 | F | 6 | F | |

Standard memory configuration (1 CPU model) - Entry models

- 2GB, consisting of one (1) 2GB single-rank PC3L-10600E-9 UDIMM

| | Processor 1 | | Processor 2 | | |
|--------|-------------|------------------|-------------|------------------|--------|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 6 | A; 2GB UDIMM | 1 | A; empty | Chnl 1 |
| | 5 | D; empty | 2 | D; empty | |
| Chnl 2 | 4 | B; empty | 3 | B; empty | Chnl 2 |
| | 3 | E; empty | 4 | E; empty | |
| Chnl 3 | 2 | C; empty | 5 | C; empty | Chnl 3 |
| | 1 | F; empty | 6 | F; empty | |

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Memory

Standard memory configuration (1 CPU model) - Base models

- 4GB, consisting of one (1) 4GB dual-rank PC3L-10600E-9 UDIMM

| | Processor 1 | | Processor 2 | | |
|--------|-------------|------------------|-------------|------------------|--------|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 6 | A; 4GB UDIMM | 1 | A; empty | Chnl 1 |
| | 5 | D; empty | 2 | D; empty | |
| Chnl 2 | 4 | B; empty | 3 | B; empty | Chnl 2 |
| | 3 | E; empty | 4 | E; empty | |
| Chnl 3 | 2 | C; empty | 5 | C; empty | Chnl 3 |
| | 1 | F; empty | 6 | F; empty | |

Standard memory configuration (1 CPU model) - Performance models

- 8GB, consisting of two (2) 4GB dual-rank PC3L-10600E-9 UDIMMs

| | Processor 1 | | Processor 2 | | |
|--------|-------------|------------------|-------------|------------------|--------|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 6 | A; 4GB UDIMM | 1 | A; empty | Chnl 1 |
| | 5 | D; empty | 2 | D; empty | |
| Chnl 2 | 4 | B; 4GB UDIMM | 3 | B; empty | Chnl 2 |
| | 3 | E; empty | 4 | E; empty | |
| Chnl 3 | 2 | C; empty | 5 | C; empty | Chnl 3 |
| | 1 | F; empty | 6 | F; empty | |

RDIMM maximum configuration (1 CPU model)

- 96GB, consisting of six (6) 16GB dual-rank PC3L-10600R-9 RDIMMs

| | Processor 1 | | Processor 2 | | |
|--------|-------------|------------------|-------------|------------------|--------|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 6 | A; 16GB RDIMM | 1 | A; empty | Chnl 1 |
| | 5 | D; 16GB RDIMM | 2 | D; empty | |
| Chnl 2 | 4 | B; 16GB RDIMM | 3 | B; empty | Chnl 2 |
| | 3 | E; 16GB RDIMM | 4 | E; empty | |
| Chnl 3 | 2 | C; 16GB RDIMM | 5 | C; empty | Chnl 3 |
| | 1 | F; 16GB RDIMM | 6 | F; empty | |

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Memory

UDIMM maximum configuration (1 CPU model)

- 48GB, consisting of six (6) 8GB dual-rank PC3L-10600E-9 UDIMMs

| | Processor 1 | | Processor 2 | | |
|--------|-------------|------------------|-------------|------------------|--------|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 6 | A; 8GB RDIMM | 1 | A; empty | Chnl 1 |
| | 5 | D; 8GB RDIMM | 2 | D; empty | |
| Chnl 2 | 4 | B; 8GB RDIMM | 3 | B; empty | Chnl 2 |
| | 3 | E; 8GB RDIMM | 4 | E; empty | |
| Chnl 3 | 2 | C; 8GB RDIMM | 5 | C; empty | Chnl 3 |
| | 1 | F; 8GB RDIMM | 6 | F; empty | |

RDIMM maximum configuration (2 CPU model)

- 192GB, consisting of twenty (12) 16GB dual-rank PC3L-10600R-9 RDIMMs

| | Processor 1 | | Processor 2 | | |
|--------|-------------|------------------|-------------|------------------|--------|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 6 | A; 16GB RDIMM | 1 | A; 16GB RDIMM | Chnl 1 |
| | 5 | D; 16GB RDIMM | 2 | D; 16GB RDIMM | |
| Chnl 2 | 4 | B; 16GB RDIMM | 3 | B; 16GB RDIMM | Chnl 2 |
| | 3 | E; 16GB RDIMM | 4 | E; 16GB RDIMM | |
| Chnl 3 | 2 | C; 16GB RDIMM | 5 | C; 16GB RDIMM | Chnl 3 |
| | 1 | F; 16GB RDIMM | 6 | F; 16GB RDIMM | |

UDIMM maximum configuration (2 CPU model)

- 96GB, consisting of twelve (12) 8GB dual-rank PC3L-10600E-9 UDIMMs

| | Processor 1 | | Processor 2 | | |
|--------|-------------|------------------|-------------|------------------|--------|
| | slot # | population order | slot # | population order | |
| Chnl 1 | 6 | A; 8GB RDIMM | 1 | A; 8GB RDIMM | Chnl 1 |
| | 5 | D; 8GB RDIMM | 2 | D; 8GB RDIMM | |
| Chnl 2 | 4 | B; 8GB RDIMM | 3 | B; 8GB RDIMM | Chnl 2 |
| | 3 | E; 8GB RDIMM | 4 | E; 8GB RDIMM | |
| Chnl 3 | 2 | C; 8GB RDIMM | 5 | C; 8GB RDIMM | Chnl 3 |
| | 1 | F; 8GB RDIMM | 6 | F; 8GB RDIMM | |

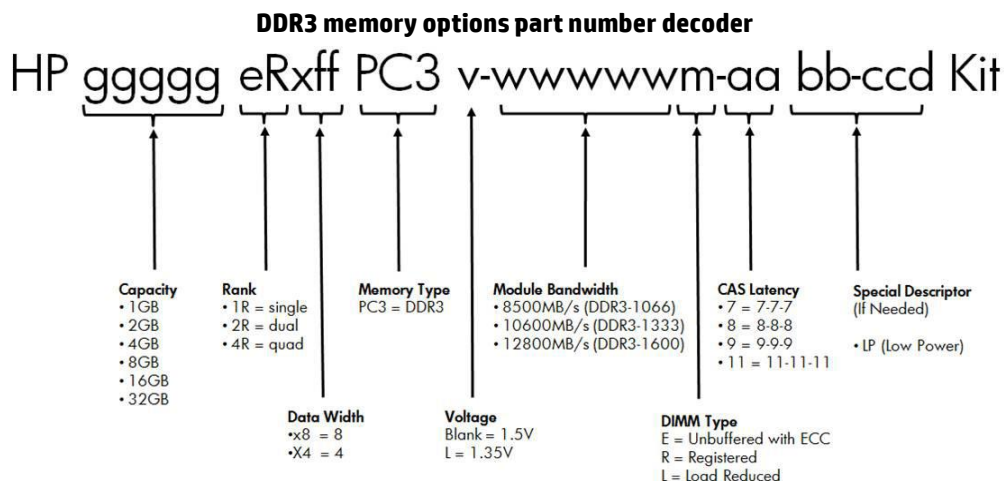
NOTE: Capacity references are rounded to the common Gigabyte values.

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Memory

- 1GB = 1024MB
- 2GB = 2048MB
- 4GB = 4096MB
- 8GB = 8192MB
- 16GB = 16384MB



Following are memory options available from HP:

HP Memory

NOTE: To realize the performance memory capabilities listed in this document, HP SmartMemory is required. For additional information, please see the HP SmartMemory QuickSpecs at:

http://h18000.www1.hp.com/products/quickspecs/14225_div/14225_div.html (Worldwide)

NOTE: Redundant PSU Kit (PN: 738661-B21) is required for RDIMMs, whether 1 or 2 CPUs are populated.

Registered DIMMs (RDIMMs)

NOTE: The following memory is supported by the E5-2400 v2 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713981-B21

HP 8GB (1x8GB) Single Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 731765-B21

HP 8GB (1x8GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713983-B21

HP 16GB (1x16GB) Dual Rank x4 PC3L-12800R (DDR3-1600) Registered CAS-11 Low Voltage Memory Kit 713985-B21

NOTE: The following memory is supported by the E5-2400 series Processors.

HP 4GB (1x4GB) Single Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647893-B21

HP 4GB (1x4GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 647895-B21

HP 8GB (1x8GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647897-B21

HP 8GB (1x8GB) Single Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 647899-B21

Memory

Memory Kit

HP 8GB (1x8GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 690802-B21

HP 16GB (1x16GB) Dual Rank x4 PC3L-10600R (DDR3-1333) Registered CAS-9 Low Voltage Memory Kit 647901-B21

HP 16GB (1x16GB) Dual Rank x4 PC3-12800R (DDR3-1600) Registered CAS-11 Memory Kit 672631-B21

Unbuffered with ECC DIMMs (UDIMMs)

NOTE: The following memory is supported by the E5-2400 v2 series Processors.

HP 2GB (1x2GB) Single Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit 713975-B21

HP 4GB (1x4GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit 713977-B21

HP 8GB (1x8GB) Dual Rank x8 PC3L-12800E (DDR3-1600) Unbuffered CAS-11 Low Voltage Memory Kit 713979-B21

NOTE: The following memory is supported by the E5-2400 series Processors.

HP 2GB (1x2GB) Single Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669320-B21

HP 2GB (1x2GB) Single Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit 647905-B21

HP 4GB (1x4GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669322-B21

HP 4GB (1x4GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit 647907-B21

HP 8GB (1x8GB) Dual Rank x8 PC3-12800E (DDR3-1600) Unbuffered CAS-11 Memory Kit 669324-B21

HP 8GB (1x8GB) Dual Rank x8 PC3L-10600E (DDR3-1333) Unbuffered CAS-9 Low Voltage Memory Kit 647909-B21

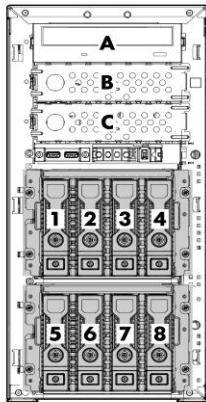
NOTE: All DDR3 memory option kits consist of one DIMM per kit. For detailed memory configuration rules and guidelines, please use the Online DDR3 Memory Configuration Tool: <http://www.hp.com/go/ddr3memory-configurator>.

NOTE: Kits described as LP include Low Power DIMMs. For more information on ProLiant Energy Efficient Features, see: <http://h18004.www1.hp.com/products/servers/platforms/energyefficient/>

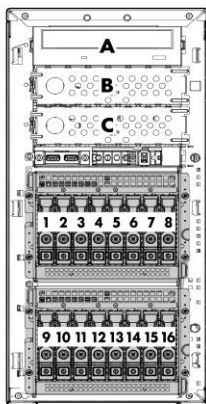
QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Storage



- A Optical Drive (standard with BTO, optional with CTO)
- B Optional Media Bay
- C Optional Media Bay
- 1-4 Standard LFF Drive Cage
- 5-8 Optional LFF Drive Cage (only available with hot-plug models)



- A Optical Drive
- B Optional Media Bay
- C Optional Media Bay
- 1-8 Standard SFF Drive Cage
- 9-16 Optional SFF Drive Cage

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Technical Specifications

| | | | |
|--|---|--|---|
| System Unit | Dimensions (H x W x D) (with feet/bezel) | 16.93 x 7.87 x 24.8 in (43 x 20 x 63 cm) | |
| | Weight (approximate) | Maximum (all hard drives, power supplies, and processors installed) | 72.34 lb (27 kg) |
| | | Minimum (one hard drive, power supply, and processor installed) | 53.58lb (20 kg) |
| Input Requirements (per power supply) | Input Requirements (per power supply) | Rated Line Voltage | 100 to 240 VAC |
| | | Rated Input Current | 7.1 Amps (at 120VAC) to 3.5 Amps (at 240 VAC) |
| | | Rated Input Frequency | 50 to 60 Hz |
| | | Rated Input Power | 852 W |
| BTU Rating | BTU Rating | Maximum | 460W - 1773 BTU / hr (at 120 VAC), 1715 (at 240 VAC) 750W - 2892 BTU / hr (at 120 VAC), 2797 (at 240 VAC) 1200W - 3530 BTU / hr (at 120 VAC), 4600 (at 240 VAC) |
| | | | |
| | | | |
| Power Supply Output (per power supply) | Power Supply Output (per power supply) | Rated Steady-State Power | 460(750) W (at 100 VAC) 460(750) W (at 200 VAC) |
| | | Maximum Peak Power | 460(750) W (at 100 VAC) 460(750) W (at 200 VAC) |
| System Inlet Temperature | System Inlet Temperature | Operating | 10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 304.8 m (1.8°F per every 1000 ft) above sea level to a maximum of 3048 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/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 30°C (86°F). |
| | | Non-operating | -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr). |
| Relative Humidity (non-condensing) | 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 | Altitude | Operating | 3048 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min). |
| | | Non-operating | 9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min). |

Technical Specifications

Acoustic Noise

Listed are the declared A-Weighted sound power levels (LWAd) and declared average bystander position A-Weighted sound pressure levels (LpAm) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109).

Idle

| | |
|--------------|---|
| L WAd | 4.1 Bets (1P 460W ATX) 3.7 Bets (1P 460W RPSU) |
| L pAm | 25 dBA (1P 460W ATX) 21 dBA (1P 460W RPSU) |

Operating

| | |
|--------------|---|
| L WAd | 4.1 Bets (1P 460W ATX) 4.0 Bets (1P 460W RPSU) |
| L pAm | 26 dBA (1P 460W ATX) 21 dBA (1P 460W RPSU) |

NOTE: Configurations tested for Base models included one (1) 1TB non-hot plug LFF SATA HDD and Windows 2008 Enterprise 64-bit.

NOTE: The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.

Emissions Classification (EMC)

| | |
|----------------------------|---|
| FCC Rating | Class A |
| Normative Standards | 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 |

NOTE: 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.

HP Dynamic Smart Array B120i Controller

| | |
|---|---|
| Dimensions | Embedded |
| Disk Drive Interface - Transfer rate | Up to 6Gb/s SATA (Serial ATA) |
| Connectors | 6 internal SATA connectors |
| Server Interface | x4 PCIe 2.0 |
| SATA Speed | 6Gb/s SATA links |
| Cache Memory | Zero Memory RAID has no cache memory optional 40-bit 512MB ECC protected Flash Backed Write Cache (FBWC) |
| Logical Drives Supported | Up to 8 logical volumes (6 physical drives) |
| Host Memory Addressing | 64-bit, supporting greater than 4GB server memory space |
| RAID Support | RAID 0 (Striping), RAID 1 (Mirroring) RAID 1+0 (Striping & Mirroring) RAID 5 with optional 512MB FBWC NOTE: 512 MB cache is required to enable RAID 5 support NOTE: NO SAS supported. |

HP Ethernet 1Gb 2-port 361i Adapter

| | |
|--------------------------|--|
| Network Interface | 10Base-T/100Base-TX/1000Base-TX |
| Compatibility | IEEE 802.3 10Base-T IEEE 802.3ab 1000Base-T |

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Technical Specifications

| | | |
|------------------------------|---|--|
| | IEEE 802.3u 100Base-TX | |
| | IEEE 1588, IEEE 802.1AS | |
| | IEEE 802.3az - Energy Efficient Ethernet (EEE) | |
| Data Transfer Method | PCI Express V2.0, 5.0 GT/s with x2 link (fixed) | |
| Controller | Intel I350 Powerville | |
| Network Transfer Rate | 10Base-T (Half-Duplex) | 10 Mb/s per port, 20 Mb/s Combined |
| | 10Base-T (Full-Duplex) | 20 Mb/s per port, 40 Mb/s Combined |
| | 100Base-TX (Half-Duplex) | 100 Mb/s per port, 200 Mb/s Combined |
| | 100Base-TX (Full-Duplex) | 200 Mb/s per port, 400 Mb/s Combined |
| | 1000Base-TX (Half-Duplex) | 1000Mb/s per port, 2000 Mb/s Combined |
| | 1000 Base-TX (Full-Duplex) | 2000Mb/s per port, 4000 Mb/s Combined |
| Connector | RJ-45 | |
| Cable Support | 10Base-T | Categories 3, 4 or 5 UTP; up to 328 ft (100 m) |
| | 10/100/1000Base-TX | Category 5E or better; up to 328 ft (100 m) |

| | | |
|---|---|--|
| Environment-friendly Products and Approach | End-of-life Management and Recycling | Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green . To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. |
|---|---|--|

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

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Summary of Changes

| Date | Version History | Action | Description of Change |
|-------------|-----------------------|---------|---|
| 01-Jun-2015 | From Version 22 to 23 | Added | New Hard Drives were added to Core Options. |
| | | Removed | Obsolete SKUs were removed from Configuration Information - Factory Integrated Models, Core Options, and Additional Options. |
| 30-Mar-2015 | From Version 21 to 22 | Added | New Hard Drives were added to Core Options. |
| | | Removed | Obsolete SKUs were removed from HP Care Pack Services and HP Insight Software. |
| 09-Feb-2015 | From Version 20 to 21 | Added | New Hard Drives, DirectFlow UPS, Rack and Tower G4 Models, LCD8500 1U Rackmount Models and Options were added to the Additional Options section. |
| | | Changed | HP Uninterruptible Power Systems, HP Rack Options, and HP Care Pack Services in Additional Options section were revised. |
| 01-Dec-2014 | From Version 19 to 20 | Added | HP 1.6TB 6G SATA Value Endurance SFF 2.5-in SC Enterprise Value 3yr Wty Solid State Drive and HP 1.6TB 6G SATA Value Endurance LFF 3.5-in SC Converter Enterprise Value 3yr Wty Solid State Drive were added to HP Hard Drives. |
| | | Removed | HP 3 year ISS ProactiveCare Personalized Support was removed from HP Care Pack Services. |
| 01-Nov-2014 | From Version 18 to 19 | Changed | Service and Support Updated |
| 29-Sep-2014 | From Version 17 to 18 | Added | New Solid State Drives were added. HP Managed Power Distribution Units (maPDU) was added to Additional Options. |
| | | Changed | Service and Support section was revised. HP Hard Drives was revised in Core Options section. |
| | | Removed | Obsolete part numbers were removed from QuickSpecs. |
| 09-Sep-2014 | From Version 16 to 17 | Added | 12G SAS Hot Plug VE SFF (2.5-inch) SC EV SSD, 12G SAS Hot Plug VE SFF (2.5-inch) SCC EV SSD, 6G SATA Hot Plug SFF VE (2.5-inch) SC EB SSD, 6G SATA Hot Plug SFF VE (2.5-inch) SC EV SSD, 6G SATA Hot Plug LFF VE (3.5-inch) SCC EV SSD, and 6G SATA Hot Plug LFF VE (3.5-inch) SCC EB SSD hard drives were added to Core Options section. |
| 18-Aug-2014 | From Version 15 to 16 | Added | New Hard Drives were added. HP Remote mPDUs half height version were added. |
| | | Changed | Standard Features, Configuration Information - Factory Integrated Models, Core Options, and Additional Options sections were revised. |
| | | Removed | HP Processors E5-2400 Series were removed from QuickSpecs. |
| 16-Jul-2014 | From Version 14 to 15 | Changed | Storage Controller and Common Slot Power Supplies were revised in Standard Features section. Changes in Pre-configured Models, Configuration Information - Factory Integrated Models, Core Options, Memory, and Technical Specifications sections. |
| | | Removed | Removed HP ProLiant ML350e Gen8 v2 E5-2407 1P 4GB-U B120i 460W PS Base Server from Base Models in Pre-configured Models section. |
| 10-Jun-2014 | From Version 13 to 14 | Added | Customer Advisory note was added to Upgradeability. HP 1.2TB 6G SAS 10K rpm SFF (2.5-inch) SC Dual Port Enterprise 3yr Warranty Hard Drive was added to Hard Drives. HP PCIe Workload Accelerator Options was added to |

QuickSpecs

HP ProLiant ML350e Generation 8 (Gen8) v2

Summary of Changes

| | | | |
|-------------|-----------------------|---------|--|
| | | | Additional Options. HP StoreEver DAT 160 SCSI Internal Tape Drive and HP StoreEver LTO-4 Ultrium 1760 SCSI Internal Tape Drive were added to HP Tape Backup. |
| | | Changed | Updated What's New section. HP Remote Monitoring Power Distribution Units (mPDU) was revised. Updates made to Configuration Information - Factory Integrated Models, Core Options, Additional Options, Memory and Storage sections. |
| 09-May-2014 | From Version 12 to 13 | Changed | Foundation Care, Memory, HP Disk Storage Systems, and HP Basic and Remote Monitoring Power Distribution Units were revised. |
| 15-Apr-2014 | From Version 11 to 12 | Changed | Correction made to the Changes File. |
| 31-Mar-2014 | From Version 10 to 11 | Changed | Changes made throughout the QuickSpecs. |
| 01-Mar-2014 | From Version 9 to 10 | Changed | Changes made in the North America and Canada versions only. |
| 20-Feb-2014 | From Version 8 to 9 | Changed | Changes made in Steps 2 & 3 and in the Options sections. |
| 18-Feb-2014 | From Version 7 to 8 | Changed | Processors, Hard Drives, and Storage Controllers were revised HP Secure Encryption was added to Additional Options |
| 22-Jan-2014 | From Version 6 to 7 | Changed | A link was corrected in the Upgradeability section of Standard Features. |
| 13-Jan-2014 | From Version 5 to 6 | Changed | A SKU description was corrected in the Processors sections. |
| 09-Jan-2014 | From Version 4 to 5 | Changed | Changes made throughout the QuickSpecs. |
| 13-Dec-2013 | From Version 3 to 4 | Changed | HP Insight Control including 1yr 24x7 Support ProLiant ML/DL/BL-bundle FIO Electronic License was added to Step 3 in Configuration Information SmartCache was added to Storage Controllers HP Tape and Disk Storage Systems were added to Additional Options HP Basic Power Distribution Units and HP Remote Monitoring Power Distribution Unites were revised in Additional Options HP Power Distribution Units was removed from Additional Options |
| 18-Oct-2013 | From Version 2 to 3 | Changed | Change made in the Models and Configuration Information sections. |
| 02-Oct-2013 | From Version 1 to 2 | Changed | Change made in the Standard Features, Configuration Information, Options, Storage and Memory sections. |

© Copyright 2015 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice.

Microsoft and Windows NT are US registered trademarks of Microsoft Corporation. Intel is a US registered trademark of Intel Corporation.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

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