Shape the Future of QuickSpecs - Your Input Matters

HPE Edgeline EL8000 Converged Edge System QuickSpecs

The HPE Edgeline EL8000 Converged Edge System brings high-performance computing to the edge of networks, where large volumes of data are being generated but compute capability to get quick insights has traditionally been very limited.

The rugged size, weight, and power (SWaP) optimized design of the HPE Edgeline EL8000 delivers new efficiency and creates new business models in domains such as telecommunications, manufacturing, defense, automotive or energy.

Overview

The Edgeline EL8000 System with ProLiant e910 and e920 Series Server Blades expands the reach of Machine Learning, Video Analytics, and Multi-Access Edge Compute. The compute capacity previously limited to traditional data centers or the cloud is now available at the Edge, close to where the data is generated.

HPE Edgeline EL8000 Converged Edge System enables data-intensive, low-latency compute, based on open standards and advanced remote manageability

The HPE Edgeline EL8000 Converged Edge System is designed to help communication service providers (CSP) capitalize on data-intensive, low-latency services for media delivery, connected mobility, and smart cities. The new system enables CSPs to process vast amounts of data in real time directly at the edge, based on open standards to boost flexibility and reduce costs.

To deliver new services that tap into this massive growth of real-time data, CSPs must transform their telecommunications network edge towards standard IT systems and software-defined architectures, such as virtual radio access networks (vRAN), Multi-Access Edge Compute (MEC), and virtual cable modem termination systems (vCMTS). The open-standards based HPE Edgeline EL8000 Converged Edge System was therefore developed as a cost effective replacement for CSPs' current proprietary edge systems, with enhanced performance and versatility for data-intensive real-time digital services.

Additionally, the HPE Edgeline EL8000 Converged Edge System's unique design delivers high performance and ultra-low latency for the most demanding use cases, including media streaming, IoT, artificial intelligence, and video analytics, in a compact and ruggedized form factor, equipped with edge-optimized serviceability and remote systems management. It shortens the time taken to make an enterprise IT system ready for deployment, provides access at the edge to the same applications used in the core and consequently accelerates the agility of defense, law enforcement and civilian agencies.

The compact and rugged design of the HPE Edgeline EL8000 Converged Edge System allows deployment of traditional datacenter software applications in hostile Edge environments

Compliant with industry standards, such as NEBS, M, IL-STD-810G, and ASHRAE class 3 and 4, the system is resistant against hazardous environmental influences like heat, shock and vibration, as well as failover, supporting continuous operation between 0°C to 55°C.

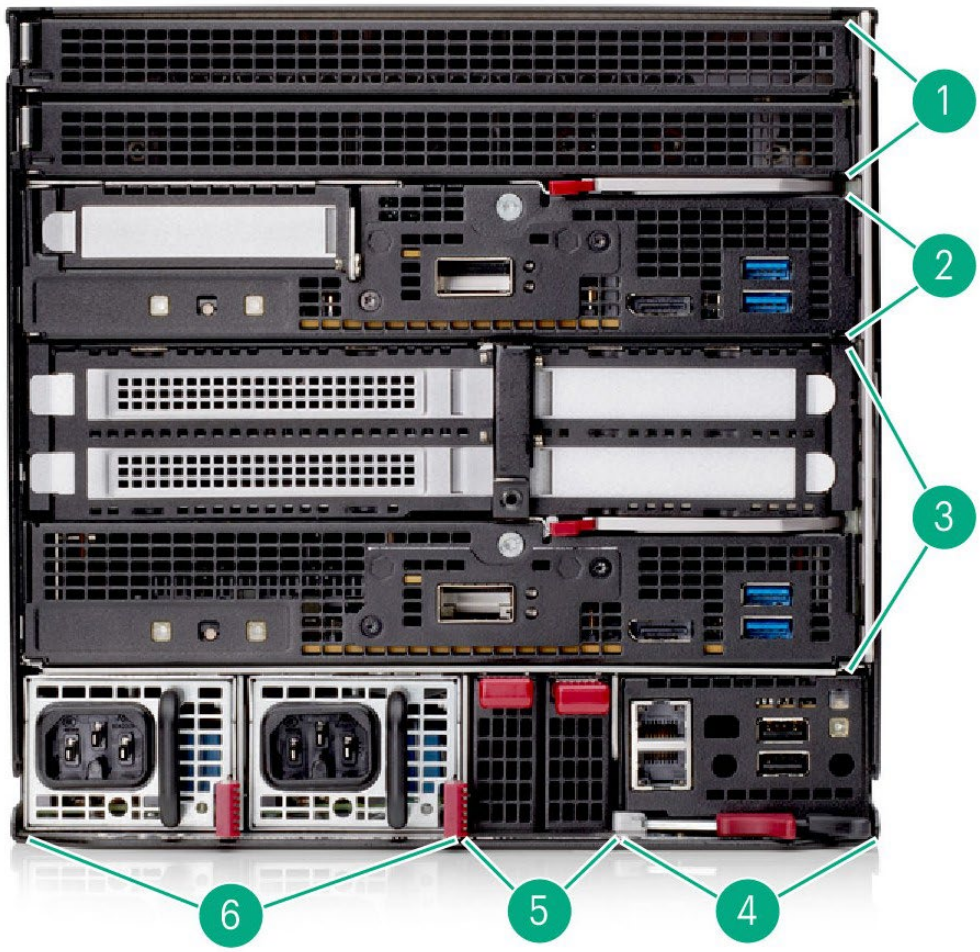
The single-socket design, equipped with high-end Intel® Xeon® Scalable Processors, reduces latency and energy consumption. System components can be combined, scaled and hot-swapped to meet changing demands, supporting, among others, NVIDIA® Tesla® GPUs, FPGAs from Intel, NICs from Intel or Mellanox.

With a range of depth and width options for blades and chassis, the system can be flexibly configured and scaled to meet new or changing use-case requirements.

Data center class security, device and remote systems management

The HPE proven HPE iLO 5 technology and the Edgeline Chassis Manager enable remote provisioning, ongoing system health monitoring, updates, management and security of HPE Edgeline EL8000 Converged Edge Systems from cell towers to oil rigs, without needing IT expertise on site.

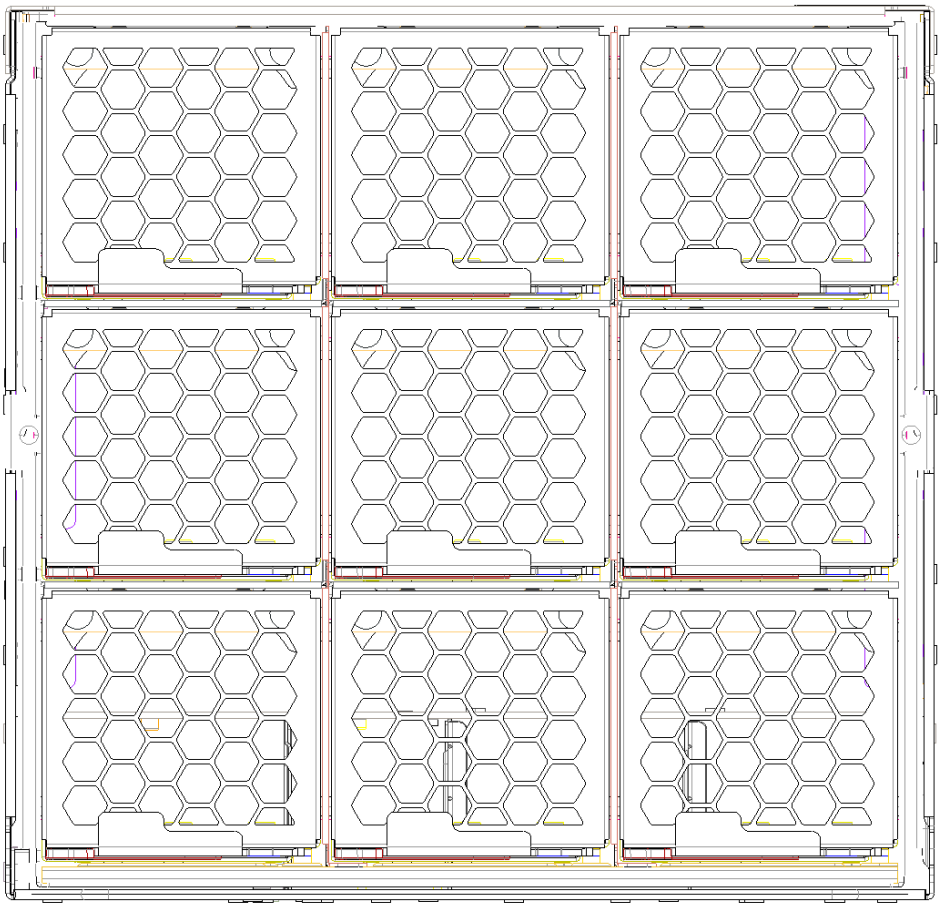
Overview



HPE Edgeline EL8000 5U Front Cabling Chassis View

Item	Description	Item	Description
1.	1U Blank (if no blade is installed)	4	Edgeline Chassis Manager (ECM) Module
2	ProLiant e910 1U Server Blade (example position)	5	Two (2) EL8000 Switch Module Bays (blanks shown)
3	ProLiant e910 2U Server Blade (example position)	6	Two (2) Edgeline EL8000 Power Supplies

Overview



HPE Edgeline EL8000 Rear View

9 System Fans



EL8000 Unmanaged 10G SFP+ Switch

One or two optional 10GbE unmanaged switches can be installed for in-chassis aggregation of network traffic from the compute blades.

One 10GbE port from each e910 compute blade can be routed to the switch and terminates in a single external SFP+ uplink (see diagram below). Each e910 compute blade in the chassis must be configured with the correct network riser (RJ-45 or SFP+), so one 10GbE ports are routed to each switch bay. If a QSFP+ network riser is configured on any e910 blade, there will be no network connection from that blade to either switch.

Overview

The switch design is based on Broadcom's BCM53406 ASIC. (ASIC specs)

Currently, the only default features supported are:

- Uplink supports 10G/1G SFP transceivers (fiber and copper)
- IGMP snooping: listening to Internet Group Management Protocol (IGMP) network traffic to control delivery of IP multicasts

Notes: ProLiant e910 blades configured with the QSFP+ network riser option are not connected to the switch bays. Appropriate selection of RJ45 or SFP+ network risers on all e910 blades is required to use the chassis switching capability.

Standard Features

Enclosure

EL8000 5U Front Cabling Chassis

The HPE Edgeline EL8000 Chassis supports the following ProLiant Server Blade configuration

Server Blade Configurations

- ProLiant e910 1U Blade Server (Min: 1, Max: 4)
- ProLiant e910 2U Blade Server (Min: 1, Max: 2)
- ProLiant e920 Blade Server (Min: 1, Max: 4)
- ProLiant e920d Blade Server (Min: 1, Max: 2)

Notes:

- Mixing of ProLiant e910 1U and 2U blades within the same EL8000 Chassis is allowed (i.e. 2 e910 1U blades and 1 e910 2U blade)
- Mixing of ProLiant e920 and e920d blades within the same EL8000 Chassis is allowed (i.e. 2 e920 blades and 1 e920d blade)
- Please visit the e910 QuickSpecs at the following URL for detailed information and configuration possibilities https://www.hpe.com/h20195/v2/GetDocument.aspx?docname=a00067735enw
- Please visit the e920 QuickSpecs at the following URL for detailed information and configuration possibilities https://www.hpe.com/psnow/doc/a50002588enw.pdf?jumpid=in_pdp-psnow-qs
- Please visit the e920d QuickSpecs at the following URL for detailed information and configuration possibilities https://www.hpe.com/psnow/doc/a50002589enw.pdf?jumpid=in_pdp-psnow-qs
- Blades supported on the Edgeline EL1000 and EL4000 systems will not fit in an Edgeline EL8000, and vice versa.

The HPE Edgeline EL8000 System is rated for extended operating temperatures of up to 55°C, which allows it to be located in environments unsuitable for traditional servers. It is also compliant with ASHRAE Class A3 and A4 specifications.

Acoustic Noise Specs

Listed are the sound power levels and average bystander position sound pressure levels 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).

- EL8000 has the following sound power levels: 62 dBA at low speeds of 10%-20% PWM, and 95 dBA at full speed.
- It has the following averaged bystander sound pressure levels (office environment): 58 dBA at 30%, and 89 dBA at full speed.

Standard Features

Configuration				
	Declared Sound Power Level, LWAD (Bels)		Declared Sound Pressure Level, LPAM (dBA) (Bystander Position)	
	Idle	Operating	Idle	Operating
Entry Config (ee9101U)	5.9	6.2	42	45
Base Config (e910 1U)	6.3	6.3	46	46
Perf Config (e910 1U)	6.9	6.9	51	51
Entry Config (e910 2U)	7.2	7.2	54	54
Base Config (e910 2U)	7.6	7.6	58	58
Perf Config (e910 2U)	7.7	7.7	60	60

HPE EL8000 Systems Power Supply

The HPE Edgeline EL8000 Systems supports redundant hot-plug power supplies

EL8000 5U Front Cabling Chassis

- HPE Edgeline EL8000 Front Cabling Chassis 1500W 264VAC Power Supply Kit
- HPE Edgeline EL8000 Front Cabling Chassis 1500W -48VDC Power Supply Kit

Notes:

- Min: 1, Max: 2
- Mixing of AC and DC power supply options in a chassis is allowed

Embedded Management

The HPE ProLiant e910 and e920 Series Blade Servers plugged into an HPE Edgeline EL8000 has its own iLO 5 management processor, which can be accessed directly through the management network port on the Edgeline Chassis Manager module.

The HPE Edgeline EL8000 System has an Edgeline Chassis Controller to monitor and control common chassis elements. The iLO 5 on the server blade communicates with the Edgeline Chassis Controller to gather and report status information on the chassis itself.

Monitor your servers for ongoing management, service alerting, reporting and remote management with HPE iLO. Learn more at http://www.hpe.com/info/ilo.

HPE NEBS Enablement Kit

Telecom equipment is frequently deployed in tough environments, and must be able to continuously sustain operating temperatures up to 55 degrees Celsius without performance degradation or downtime. The Edgeline EL8000 system accomplishes this through a unique thermal design, curated components and intelligent software-controlled fans. In addition, it is designed to meet specifications such as NEBS Level 3 that require tolerance of power feed outages (e.g. 10ms main power drop-out before backup power can be restored), and seismic conditions (e.g. continuing to remain operational after it is subject to equivalent of a 7 to 8 Richter scale earthquake).

Standard Features

The NEBS enablement kit is a factory option that configures system to operate up to 63C ambient temperature to meet NEBS requirements. If this option is ordered, switches are configured within the blade and chassis to select temperature thresholds and fan parameters that deliver optimal cooling for NEBS environments. Additional fan speed options can also be selected using the BIOS ROM based setup utility:

- Optimal Cooling – default
- Increased Cooling – fans operate at a higher minimum speed, and cooling thresholds are 5C lower than typical
- Enhanced CPU Cooling – CPU cooling thresholds are 8C lower than typical
- Max Cooling – fans always operate at maximum speed

HPE Service Pack for Edgeline

The HPE Service Pack for Edgeline is the delivery mechanism for firmware updates on the HPE Edgeline System. Before using your system for the first time, verify that you have the latest drivers, firmware, and system software installed. Update your system with the HPE Service Pack for Edgeline.

For more information, see the HPE Service Pack for Edgelineon the Hewlett Packard Enterprise website:
https://support.hpe.com/connect/s/softwaredetails?language=en_US&collectionId=MTX-14e4e074402c43cf

HPE Services

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

Consulting Services

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

HPE Managed Services

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

Standard Features

Operational services

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

HPE Complete Care Service

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

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

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

HPE Tech Care Service

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

HPE Lifecycle Services

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

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

Notes: To review the list of Lifecycle Services available for your product go to:
https://www.hpe.com/services/lifecycle

For a list of the most frequently purchased services using service credits, see the HPE Service Credits Menu

Other Related Services from HPE Services:

HPE Education Services

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

Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

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

Service and Support

Parts and Materials

HPE will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

How to Purchase Services

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

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

AI Powered and Digitally Enabled Support Experience

Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience

Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.
https://support.hpe.com/hpesc/public/home/signin

Consume IT On Your Terms

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

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

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

For more information
http://www.hpe.com/services

Connect your devices

Unlock all of the benefits of your technology investment by connecting your products to Hewlett Packard Enterprise. Reduce down time, increase diagnostic accuracy and have a single consolidated view of your environment. By connecting, you will receive 24x7monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Tech Care Service and HPE Complete Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support. Learn more about getting connected at http://www.hpe.com/services/getconnected

Other related services from HPE Services

HPE Server Hardware Installation

Provides for the basic hardware installation of your new Edgeline System. It is part of a suite of HPE deployment services that are designed to give you the peace of mind that comes from knowing your HPE products have been installed by an Hewlett Packard Enterprise authorized service specialist in accordance with the product's documentation.
https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00062322enw

HPE Installation and Startup Service

Provides for the installation of your new Edgeline System. This service will assist you in bringing your new HPE Edgeline System into operation and make it remotely accessible in a timely and professional manner. The HPE service delivery technician will connect the product to the network as appropriate and enable remote support to allow for automatic case creation for hardware failures. Installation and start up services also includes the installation of one supported operating system type (Windows® or Linux).
https://www.hpe.com/h20195/v2/Getdocument.aspx?docname=a00062211enw

HPE Service Credits

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

HPE Education Services

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

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

Warranty

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

Notes: Chassis Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support 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) Optional CSR parts are designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. 2) No CSR parts require a Hewlett Packard Enterprise authorized service provider to replace the part. Additional information regarding worldwide limited warranty and technical support is available at: https://support.hpe.com/hpesc/public/docDisplay?docId=sd00004309en_us

Parts and Materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

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

For more information

- www.hpe.com/services
- https://www.hpe.com/us/en/services/operational.html

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

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

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- Customers purchasing from a commercial reseller can find HPE Support Services at https://ssc.hpe.com/portal/site/ssc/

Configuration Information

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

Factory Integrated Models must start with an HPE Edgeline EL8000 System with the following minimum configuration:

- One (1) HPE ProLiant e910 or e920 Series Server Blade. One (1) HPE Edgeline EL8000 Power Supply

Step 1: Base Configuration (Choose System)

HPE Edgeline System

HPE Edgeline EL8000 5U Configure-to-order Front Cabling Chassis	P12379-B21

Notes: The Edgeline EL8000 chassis includes the Edgeline Chassis Manager (ECM) module. Wireless communication capability on the ECM has been disabled and the 2 antenna ports on the bezel are currently non-functional.

Power Supplies

HPE Flex Slot Power Supplies (Min: 1, Max: 2)

HPE Edgeline EL8000 1500W 264VAC Front Cabling Power Supply Kit	P11290-B21
HPE Edgeline EL8000 1500W -48VDC Front Cabling Power Supply Kit	P11291-B21
HPE Edgeline 1500W 264VAC Titanium Power Supply Kit	P42206-B21

Notes:

- The Titanium Power Supply Kit (P42206-B21) is available in the EMEA region only and does not support the Ultralife Carry On Enclosure.
- Functional systems require at least 1 power supply to be configured, with 2 power supplies recommended for redundancy
- Mixing of AC (P11290-B21) and DC (P11291-B21) power supplies in a chassis is allowed.
- The AC power supply (P11290-B21) supports a nominal input of 100-240Vac. Refer to the appendix for technical details.
- European Union ErP Lot 9 Regulation: Beginning on January 1st, 2024, the EU's Lot 9 eco-design regulations for supservers and storage products will enforce minimum efficiency for AC power supplies: 94% for multi-output and 96% for single-output. HPE Edgeline power supplies that meet Lot 9 requirements is: Titanium Power Supply Kit (P42206-B21). HPE configurators are already informing users about the mandate for units going to the European Union (EU), European Economic Area (EEA), the United Kingdom, Ireland, Switzerland, or Turkey to comply with Lot 9 minimum efficiencies that begin on January 1st, 2024. HPE will start enforcing Lot 9 minimum efficiency for AC power supplies on November 6th, 2023; purchase orders placed on or after this date that include AC power supplies that aren't Lot 9 compatible will need rework to replace them.

Step 2: Configure Chassis Storage Option

HPE Edgeline EL8000 Storage Bay Option (Min: 0, Max: 1)

HPE Edgeline EL8000 8SFF SAS/SATA Drive Bay P17293-B21

HPE Edgeline EL8000 Storage FIO Enablement Kit P22510-B21

Notes:

- The Storage FIO enablement kit is required for EL8000 chassis to fit the Drive Bay option. This enablement kit is only available as a factory option and cannot be ordered standalone.
- The Drive Bay can be ordered as a standalone option to fit into an existing “storage enabled” EL8000 chassis. But if the EL8000 was NOT originally ordered with the storage enablement from the factory, it will NOT fit the Drive Bay option.
- Selecting the Drive Bay option will restrict choice of servers in the chassis to One (1) e910 2U or e920d blade. The Drive Bay contains a Smart Array controller that is directly attached to this e910 2U or e920d blade.

HPE Edgeline EL8000 Smart Array P408i-p SR SAS FIO Cable Kit P22493-B21

Notes: The Smart Array controller option must be selected if the Storage Bay (P17293-B21) is selected.

HPE Edgeline EL8000 Storage Bay Drives (Min: 0, Max: 8)

HPE 960GB SAS 12G Read Intensive SFF SC Multi Vendor SSD P49028-B21

HPE 1.92TB SAS 12G Read Intensive SFF SC Multi Vendor SSD P49030-B21

HPE 3.84TB SAS 12G Read Intensive SFF SC Multi Vendor SSD P49034-B21

HPE 7.68TB SAS 12G Read Intensive SFF SC Multi Vendor SSD P49039-B21

HPE 15.36TB SAS 12G Read Intensive SFF SC Multi Vendor SSD P49044-B21

Notes:

- Selection of SFF drives requires the configuration of the Drive Bay option in the chassis.
- Maximum Storage Bay capacity is 122.4TB when configured with Eight (8) 15.36TB SSDs.

Step 3: Configure Chassis Networking Options

HPE 10GbE Unmanaged Switch (Min: 0, Max: 2)

HPE Edgeline EL8000 10GbE SFP+ Switch P17297-B21

Notes:

- Unmanaged Ethernet switch that takes one 10GbE port from each compute blade (i.e. from 4 1U bays) and switches it to one external 10GbE SFP+ uplink. Adding a second switch to the chassis provides a connection to the second 10GbE port from each compute blade.
- The e910 blades in the chassis must be configured with either the SFP+ or RJ45 network riser option. If the QSFP+ network riser is used, the blade will NOT connect its 10GbE ports to the switch bays Please refer to the e910 QuickSpecs for details.

Step 4: Configure ProLiant Server Blade

Notes:

- Refer to the e910 and e920 Series Server Blades QuickSpecs for blade configuration details:
- Please visit the e910 QuickSpecs at the following URL for detailed information and configuration possibilities https://www.hpe.com/h20195/v2/GetDocument.aspx?docname=a00067735enw
- Please visit the e920 QuickSpecs at the following URL for detailed information and configuration possibilities https://www.hpe.com/psnow/doc/a50002588enw.pdf?jumpid=in_pdp-psnow-qs
- Please visit the e920d QuickSpecs at the following URL for detailed information and configuration possibilities https://www.hpe.com/psnow/doc/a50002589enw.pdf?jumpid=in_pdp-psnow-qs

HPE ProLiant Server Blade (Min: 1, Max: 4)

HPE Edgeline e920 Configure-to-order Blade Server	P40891-B21
HPE Edgeline e920d Configure-to-order Blade Server	P40892-B21

Notes:

- If the Drive Bay option (P17293-B21) is selected, only One (1) e910 2U blade or e920d blade can be ordered. No e910 1U or e920 blades are supported in this configuration.
- Maximum of Four (4) e910 1U or e920 blades, or Two (2) e910 2U or e920d blades, or a combination adding to 4U total height is allowed. Each blade operates independently.
- Mixing of 1U and 2U Blade Servers is allowed (e.g. 2 e910 1U with 1 e910 2U in a chassis or 2 e920 with 1 e920d in a chassis)

Step 5: Configure Additional Options

Choose additional options for Factory Integration from sections below

Additional Options

Rail Kit

HPE Edgeline EL8000 4-post Rack Rail and Tray Kit P12773-B21

Notes: The Rack Rail and Tray Kit is designed to support Two (2) EL8000 Chassis' side-by-side within a standard 5U rack height

HPE NEBS Enablement FIO Kit

Notes: The NEBS FIO enablement kit configures the blade thermal behavior to meet Network Equipment Building System (NEBS) environmental specification. It is only available as a factory option.

HPE Power Cords

HPE C15 EU 250V 10Amp 2.5m Black Power Cord	Q7F45A
HPE C15 UK 250V 10Amp 2.5m Black Power Cord	Q7F46A
HPE Edgeline C15 125V 15Amp Black 2.5m US Power Cord	P41626-B21
HPE C15 US 250V 10Amp 2.5m Black Jumper Cord	Q7F57A
HPE C15 EU 250V 10Amp 0.76m Black Jumper Cord	Q7F60A
HPE C15 US 250V 10Amp 1m Black Jumper Cord	Q7F61A
HPE C15 EU 250V 10Amp 1m Black Jumper Cord	Q7F62A
HPE Edgeline 300V 3m DC Power Cable Kit	P27698-B21

HPE Security

HPE Edgeline EL8000 Trusted Supply Chain FIO Configuration P45076-B21

Notes: HPE Trusted Supply Chain (P45076-B21) is an optional security upgrade intended for agencies and regulated industries needing enhanced security and compliance needs. Applying this option to an e920 or e920d CTO server blade ensures it is built in the USA in a secured facility by vetted HPE personnel assigned to the manufacturing processes. A multitude of checkpoints/inspections for malicious microcode and counterfeit parts are performed throughout the server build, and additional safeguards are put in place against cyber-exploits throughout the server lifecycle. The e920 and e920d server blades are currently supported in the USA, exclusively, and is Trade Agreement Act (TAA) compliant.

HPE iLO Common Password FIO Setting P08040-B21

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

Learn more at: http://www.hpe.com/security

Additional Options

HPE Support Services

Tech Care

Installation & Startup Services

HPE Installation Edgeline 8000 Chassis Service	HF8S4E
HPE Installation and Startup Edgeline Edgeline 8000 Service	U8JA4E

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

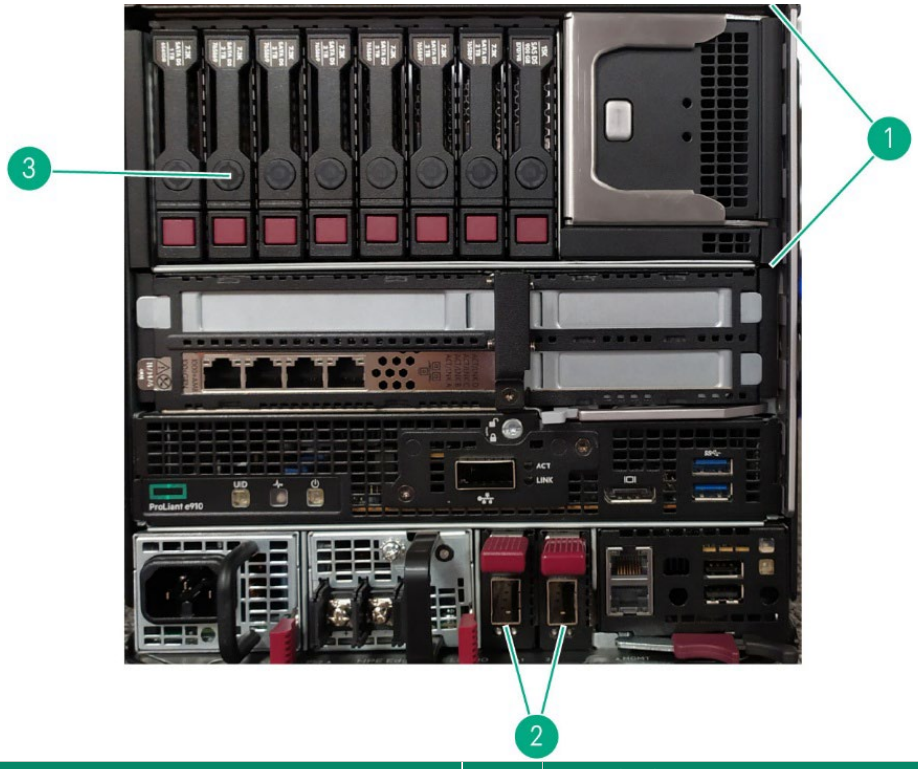
HPE EL8000 Storage Bay

The optional Storage Bay can be configured in the EL8000 chassis and requires the following components to be ordered:

- **Drive Bay kit**
  Hosts up to 8 Small Form-Factor (SFF) drives for up to 122TB of storage when fully configured with 15.3TB SSDs. All drives are hot-swappable. The drive bay kit can be ordered as a standalone option for EL8000 chassis which have been storage enabled (see storage enablement FIO option below). It can also be removed and re-installed in the field to facilitate quick data transfer or swap, as long as the adjoining e910 2U or e920d blade has been powered down.
- **Storage Enablement FIO option**
  Configures the EL8000 chassis to connect the Drive Bay to an e910 2U or e920d blade in the same chassis. This option is only orderable from the factory, and an EL8000 not configured with this kit cannot fit a Drive Bay.
- **Smart Array option kit**
  Installed inside the drive bay and connects to the 8 SFF drives. It also connects to the PCIe interface of a e910 2U or e920d blade. All the standard Smart Array management, availability and security features are available.
- **ProLiant e910 2U and e920d blades**
  These are the blades version supporting the drive bay, and the appropriate Storage Enabled Left Riser PCIe I/O option must be selected. The ProLiant e9101U and e920 don't support the drive bay option.

Notes:

- Prior to removing the Storage Bay from the chassis, ensure that the adjoining ProLiant e910 2U or e920d blade has been powered down.
- The Storage Bay and its Smart Array controller are dedicated to the adjoining ProLiant e910 2U or e920d blade. If a ProLiant e910 1U or e920 blade is installed, the Storage Bay will not be accessible.



Item	Description	Item	Description
1.	Storage Bay	3.	SFF Drives
2.	10Gb SFP+ Switches		

Power Supply Specifications

Murata (MPS) D1U54P-W-1500-12-HCxTC			
HPE Edgeline EL8000 1500W 264VAC Front Cabling Power Supply Kit	P11290-B21		
Input Voltage Range (Vrms)	100-240 Nominal (90-264 range)		
Frequency Range (Nominal) (Hz)	50-60 nominal (47-63 range)		
Nominal Input Voltage (Vrms)	90-100 (100)	110-120 (115)	200-240 (240)
Maximum Rated Output Wattage Safety (Watts)	1260	1500	1500
Nominal Input Current (Arms)	14.1	14.5	6.9
Maximum Rated Input Wattage Rated (Watts)	1394	1646	1636
Maximum Rated VA (Volt-Amp)	1410	1668	1656
Efficiency (%)	90.4	91.1	91.7
Power Factor	0.9886	0.9868	0.9879
Leakage Current (mA); max as per safety files	0.94mA; 264V; 60Hz		
Maximum Inrush Current (A peak)	<15Apk, 264Vac cold start		
Maximum Inrush Current duration (ms)	<2ms		
Maximum British Thermal Unit Rating (BTU-Hr)	4757	5651	5582

Technical Specifications

Murata (MPS) D1U54-D-1500-12-HCxC			
HPE Edgeline EL8000 1500W - 48VDC Front Cabling Power Supply Kit	P11291-B21		
Input Voltage Range (VDC)	-40 to -72		
Frequency Range (Nominal) (Hz)	DC		
Nominal Input Voltage (VDC)	-40	-48	-72
Maximum Rated Output Wattage Rating (Watts)	1500	1500	1500
Nominal Input Current (A DC); 12V/133A; 3.3/6A	45.5	38.1	24.8
Maximum Input Wattage Rating (Watts)	1856	1828	1786
Maximum VA (Volt-Amp)	1856	1828	1786
Efficiency (%)	88.4	89.7	91.9
Power Factor	N/A		
Leakage Current (mA)	N/A		
Maximum Inrush Current (A peak); 72VDC; fulload	<20		
Maximum Inrush Current duration (ms)	<30		
Maximum British Thermal Unit Rating (BTU-Hr)	6333	6337	6094

Physical Dimensions

- **Chassis Dimensions (H x W x D):**
  Height 8.442" (5U) (21.442 cm), Width 8.442" (22.3 cm), Depth 18.173" (46.16 cm).
  Notes: Installed on the rack tray option kit, the unit occupies 5U of rack space and half rack width.
- **Storage Bay Dimensions (H x W x D)**
  Height 3.3” (8.3 cm) x Width 8.4” (21.3 cm) x Depth 13.4” (33.9 cm)
- **Weight**
  50 lbs to 58 lbs (22.7 kg- 26.3 kg)
  Notes: Depending on the configuration. Max weight for fully loaded storage bay
- **Power**
  - Typical: 1400W
  - Maximum: 3000W

  Notes: With power supply redundancy and “typical” is estimated for a fully loaded EL8000 with 4 e910 1U server blades.

System Inlet Temperature

- **Extended Operating**
  Depending on hardware configuration, the supported system inlet range can be extended up to 55°C. Compliance to ASHRAE A3 and A4 standards is also available.
  Notes: The approved extended temperature hardware configurations for this system are listed in the appendix.
- **Standard Operating**
  10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000ft) above sea level to a maximum of 3050m (10,000ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed.
  Notes: When configured with certain server models, a fan fault when operating above 30°C (86°F) may reduce system performance. Refer to the appendix for details.
- **Non-Operating**
  -30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).

Relative Humidity

- **Operating**
  Minimum to be the higher (more moisture) of -12°C (10.4°F) dew point or 8% relative humidity. Maximum to be the lower (less moisture) of 24°C (75.2°F) dew point or 90% relative humidity
- **Non-Operating**
  5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.

Altitude

- **Operating**
  3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
- **Non-Operating**
  9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min)

Emissions Classification (EMC)

- **FCC Rating**
  Class A
- **Normative Standards**
  CISPR 22; EN55022; EN55024; FCC CFR 47, Pt 15; ICES-003; CNS13438; K22;K24; EN61000-3-2; EN 61000-3-3; EN 60950-1; IEC60950-1
  Notes: Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.

Hewlett Packard Enterprise Extended Ambient Operating Temperature Support

The American Society of Heating Refrigeration and Air-Conditioning Engineers set standards for building systems, energy efficiency, indoor air quality, refrigeration and sustainability. The ASHRAE A3 and A4 classes are the latest classes that have been defined in an effort to support the Fresh Air Data cooling initiative. Hewlett Packard Enterprise Extended Ambient Operating Support is defined below as comparable to an ASHRAE class. For selected system configurations the Hewlett Packard Enterprise Edgeline Extended Ambient Operating Support allows operation even beyond ASHRAE class.

Notes: Actual allowable system operating temperature will be determined by the options (I/O cards, drives etc.) selected. Details are provided in the Edgeline system configuration tables for the desired operating environment shown below.

The following table provides a summary of environmental ranges supported, with altitude de-ratings, by Hewlett Packard Enterprise ProLiant servers. Items in bold are ProLiant features that exceed the ASHRAE comparable class feature set.

Extended Ambient Operating Support Specification					
	Dry bulb temp range (°C)	**Relative humidity range (%RH)**	**Dew point limits (°C)**	**Maximum altitude**	**Altitude de-rating***
Standard Operating	10°C to 35°C (50°F to 95°F)	8% to 90%	-12°C (min) to 24°C (max)	3050 meters	1.8°C/305m above sea level
Extended Ambient 40°C Operating (ASHRAE Class A3 compliant)	5°C to 40°C (41°F to 104°F)	8% to 90%	-12°C (min) to 24°C (max)	3050 meters	1.0°C/175m above 900m
Extended Ambient 45°C Operating (ASHRAE Class A4 compliant)	5°C to 45°C (41°F to 113°F)	8% to 90%	-12°C (min) to 24°C (max)	3050 meters	1.0°C/125m above 900m
Extended Edgeline Ambient 55°C Operating	0°C to 55°C (32°F to 131°F)	8% to 90%	-12°C (min) to 24°C (max)	3050 meters	1.8°C/305m above sea level

Notes:

- *Altitude de-rating assumes no direct sustained sunlight
- The maximum rate of change for Inlet Ambient Temperature is 20°C/hr (36°F/hr). The upper limit and rate of change can be limited by the type and number of options selected.

Technical Specifications

Hewlett Packard Enterprise Operating Support				
Component	**Support Status**			
Type	Standard	Extended Ambient	Extended Ambient	Extended Edgeline Ambient
Operating Support	10°C to 35°C	40°C (ASHRAE Class A3 compliant)	45°C (ASHRAE Class A4 compliant)	55°C
Base System	Supported	Supported	Supported	Supported [1]
Fans	Supported with Redundancy	Supported with Redundancy	Supported with Redundancy [2]	Supported with Redundancy [2]
SATA M.2	Supported	Supported	Supported	Supported
NVMe M.2	Supported	Supported	Supported	Supported with exceptions[4]
PCIe I/O Cards	Supported [3]	Supported [3]	Supported [3]	Supported [3]

Notes:

- [1]Near 55°C inlet ambient AND when the CPU is stressed at 100%.
- [2]Upon fan failure the servers in the system may reduce performance
- [3]Only HPE PCIe options cards were used in this testing

MIL-STD-810G

The Edgeline EL8000 complies to these environmental specifications.

	Method	Procedures	Notes
Altitude Storage	500.5	I	40Kft
Altitude Operation	500.5	II	15Kft
Altitude Operation	500.5	III	8Kft/40Kft
High Temp Storage	501.5	I	+85°C
High Temp Operation	501.5	II	+55°C
High Temp Tactical Standby	501.5	III	+60°C
Low Temp Storage	502.5	I	-55°C
Low Temp Operation	502.5	II	-40°C
Humidity	507.5	II	95%, 10 cycles

Summary of Changes

Date	Version History	Action	Description of Change
01-Dec-2025	Version 29	Changed	New branding applied to document.
02-Sep-2025	Version 28	Changed	QS Survey link added
28-Apr-2025	Version 27	Changed	Configuration Information section was updated.
21-Jan-2025	Version 26	Changed	Configuration Information section was updated. Updated the Titanium Power Supply Kit. Obsolete SKUs were updated
16-Sep-2024	Version 25	Changed	URL updated.
19-Aug-2024	Version 24	Changed	Service and Support section was updated.
06-May-2024	Version 23	Changed	Configuration Information and Technical Specifications sections were updated.
04-Dec-2023	Version 22	Changed	Service and Support section was updated.
20-Nov-2023	Version 21	Changed	Service and Support and Additional Options (HPE Security) sections were updated.
07-Aug-2023	Version 20	Changed	Configuration Information section was updated (Power Supplies)
10-Jul-2023	Version 19	Changed	Technical Specifications section was updated (MIL-STD-810G)
17-Apr-2023	Version 18	Changed	Overview, Configuration Information, Technical Specifications sections were updated. Extended Ambient Operating Temperature Support added.
07-Nov-2022	Version 17	Changed	Configuration Information section was updated
05-Jul-2022	Version 16	Changed	Configuration Information section was updated Storage Bay Drives were updated Obsolete SKUs were removed
07-Mar-2022	Version 15	Changed	Overview, Standard Features, Configuration Information, Storage and Technical Specifications sections were updated EL8000 Chassis storage bay enablement updated Updated e910, e920, and e920d server blade options Update the Storage Bay Drives
01-Nov-2021	Version 14	Changed	Configuration Information section was updated. Added e920 and e920d server blade options
15-Sep-2021	Version 13	Changed	Obsolete SKU was removed. Services and Support Pointnext Tech Care and Complete Care information added
07-Jun-2021	Version 12	Changed	Additional Options section was updated
15-Mar-2021	Version 11	Changed	Added MIL-STD-810G tests. Clarified storage bay ordering. Overview, Standard Features, Configuration Information and Technical Specifications sections were updated
07-Dec-2020	Version 10	Changed	Standard Features, Configuration Information, and Additional Options sections were updated.
01-Jun-2020	Version 9	Changed	Rebranding applied to QuickSpecs
04-May-2020	Version 8	Changed	Overview, Standard Features, Configuration Information, and Additional Options sections were updated.
17-Feb-2020	Version 7	Changed	Overview, Standard Features, Configuration Information, and Additional Options sections were updated.
03-Feb-2020	Version 6	Changed	Standard Features, Configuration Information, and Additional Options sections were updated.

Summary of Changes

06-Jan-2020	Version 5	Changed	Overview and Configuration Information sections were updated.
02-Dec-2019	Version 4	Changed	Standard Features section was updated.
07-Oct-2019	Version 3	Changed	Technical Specifications section was updated.
19-Aug-2019	Version 2	Changed	Name changed and sections were updated.
05-Aug-2019	Version 1	New	New QuickSpecs

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