Overview

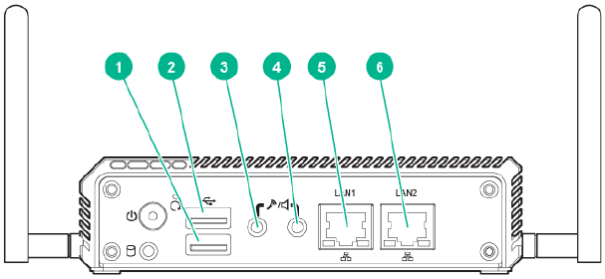
HPE Edgeline EL10 Intelligent Gateway Series

Is your company struggling with moving analytics to the edge of your network?

HPE Edgeline Gateways enable organizations to rapidly acquire, analyze and take action on real-time data as it's being collected for additional analysis at a later stage. Bringing computing and analytics close to the edge accelerates the speed of your decision making and reduces the chance of lost opportunities or a missed red flag. HPE Edgeline Gateways are a perfect complement to the industry's first HPE Edgeline Converged Edge Systems for expanding your Internet of Things (IoT) infrastructure beyond traditional data center confines and to enable true edge computing.

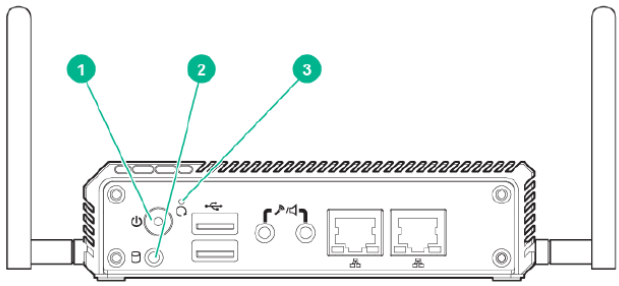
The HPE Edgeline EL10 Intelligent Gateway is an entry-level ruggedized compute solution designed for data aggregation and light analysis at the edge itself. It is optimally configured with CPU, memory, connectivity and an expansion I/O selection to address a host of IoT needs. HPE Edgeline Intelligent Gateways are designed to operate in harsh edge environments, such as such as manufacturing plants, oil and gas facilities and power stations, where wide operating temperature ranges, tolerance for high levels of shock/vibration and resilience against ingress are the norm. These gateways are complete solutions out-of-the-box, designed to be easy-to-use and quick-to-deploy. A universal power kit and a range of mounting kits allow these systems to be placed in a wide range of locations

Overview



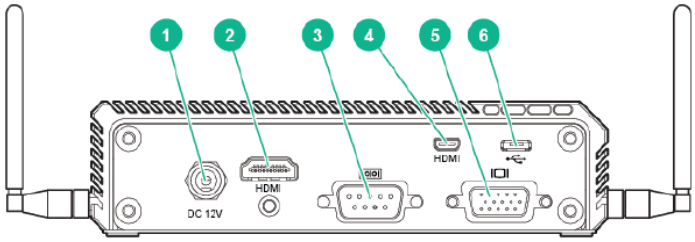
Front Panel Components

1. USB 2.0 connector
2. USB 3.0 connector
3. Audio In
4. Audio Out
5. LAN 1 connector (10/100/1000 Mbps)
6. LAN 2 connector (10/100/1000 Mbps)



Front Panel LEDs and Buttons

1. Power On/Off Button & LED
2. Drive LED
3. Reset Button (indented)



Rear Panel Components

1. Power connector
2. HDMI connector
3. Serial port connector (RS-232 or RS-422/485)
4. Micro-HDMI connector
5. VGA connector
6. Micro USB 2.0 connector

Standard Features

Key features of HPE Edgeline Intelligent Gateways

- Purpose Built: HPE Edgeline Intelligent Gateways are ruggedized compute solutions designed to operate in a variety of edge environments – Industrial, Manufacturing, Smart Infrastructure, Oil & Gas etc.
- Optimum Configuration: Optimum CPU, memory, connectivity and expansive I/O selection addresses a host of IoT needs. Designed for Future Capabilities: Product designed to support a host of modular connectivity options that are customer upgradeable providing a strong foundation for future growth.
- Secure Platform: I /O Port Disablement, BIOS Password , Secure Boot. HPE Aruba software such as ClearPass to authenticate edge devices and secure VPN to protect remote connections
- Industrial Grade: Extended operating temperature -20°C to 60°C, Passively cooled, Shock and Vibration Tested, IP40 Certified
- Complete Solution: Easy-to-use and quick-to-deploy including a universal power kit (USA, UK, EURO and JPN) as well as universal mounting kit in support of DIN and wall mount applications.

The HPE Edgeline EL10 Intelligent Gateway offers the following unique benefits:

- Rugged price/performance-optimized edge gateway designed for entry level deployments
- Optimally configured with an Intel Atom CPU, 4GB RAM, 32 GB SDD Storage and an expansive I/O selection .
- Low power solution: 12 Volts DC with locking connector (typical total power consumption of 10.5 Watts)
- Designed for Future Capabilities: 2 mini-PCIe card slots enable a host of connectivity options that are customer upgradeable providing a strong foundation for future growth requirements.

Standard Features

Processor

Intel® Atom™ Model	SoC HFM Frequency	SoC LFM Frequency	Cores	L2 Cache	Power	DDR3 MHz
E3826	1.46 GHz	533 MHz	2	1 MB	7W	1067

NOTE: For more information regarding Intel® Atom, please see the following URL:
http://www.intel.com/content/www/us/en/processors/atom/atom-processor.html

Chipset Integrated with SoC

Graphics Intel® HD Graphics (integrated with SoC)
Base: 533 MHz
Burst: 667 MHz

Memory

Type	DDR3 Small-Outline (SO-DIMM)	
Supported DIMMs	DDR3L-1067 4GB (1R x 8)	
DIMM Slots Available	1	(1 DIMM slots per processor, 1 channels per processor, 1 DIMMs per channel)
Maximum Capacity (SO-DIMM)	4GB	(1 x 4GB SO-DIMM)

NOTES:

- The SoC supports 2 memory channels but a DIMM slot is available on only 1 channel
- Only 4GB SO-DIMMs are currently offered with this model, but it's compatible with 2GB/8GB SO-DIMMS.
- Registered DIMMs (RDIMMs), Load Reduced DIMMs (LRDIMMs) and Non-Volatile DIMMs (NVDIMMs) are not supported.

Expansion slots One (1) Half-size mini-PCIe Expansion Slot – Slot #2
One (1) Full-size mini-PCIe Expansion Slot – Slot #1. Can also be used for mSATA
NOTE: This system model is pre-wired with 4 antenna attach points for use with wireless module options.

Network Controller Intel® i210AT - One (1) 10/100/1000Mbps Ethernet Port
Realtek 8111G – One (1) 10/100/1000Mbps Ethernet Port
NOTE: This system model does not support Power-over-Ethernet (PoE).

Storage Controller and Devices SATA controllers are Integrated in the Intel® Atom™ SoC

Slot #	Technology	Bus Width	Connector Width	Form Factor	Supported Sizes
SFF Drive Bay	SATA-2	x1	x1	2.5" SFF	32 GB
mSATA Slot (shared with slot #1)	SATA-2	x1	x1	mSATA	N/A (Third-party)

NOTE: The SFF drive in this system model is not hot-swappable.

Maximum Internal Storage

Drive Bay	32 GB	1 x 32 GB
mSATA Slot	N/A (Third Party)	-

NOTE: This system is compatible with any SFF or mSATA drive, but only selected SSDs are currently offered.

Power Supply External AC 36W (12V, 3A) universal power supply kit (USA, UK, EURO and JPN)

System Fans None. Passively cooled fanless product

Standard Features

Interfaces

One (1) RS-232 Serial Port – switchable to RS-422/485 4-wire by internal ribbon cable changes
Two (2) USB 2.0 Ports – 1 standard and 1 micro
One (1) USB 3.0 Port
One (1) VGA Port – supports 2560 x 1600 @ 60 Hz
Two (2) HDMI Port – 1 standard and 1 micro, supporting 1920 x 1080 @ 60 Hz
One (1) Audio In and One (1) Audio Out

Power On/Off Button & LED
Drive LED
System Reset Button

Four (4) pre-wired antenna attach points for wireless module options

Operating System Support

Microsoft Windows IoT Core
Microsoft Windows Server
Canonical Ubuntu Snappy Core
CentOS

NOTE: For more information on Hewlett Packard Enterprise's Certified and Supported systems for each OS and latest listing of software drivers available for your system, please visit our OS Support Site at: **http://www.hp.com/go/ossupport** and our driver download page which can be found from the HPE Support Center: **http://www.hpe.com/support/hpesc**

Industry Standard Compliance

Microsoft® Logo certifications
USB 2.0 and 3.0 Support
ACPI 2.0 Compliant

International/Ingress Protection (IP): IP40 Certified
NOTE: IP40 – protected against ingress of objects such as tools and small wires >1mm, but not liquids.

Security

I/O Port Disablement
BIOS Password
UEFI Secure Boot
HPE Aruba Secure VPN (for protecting remote connections)
HPE Aruba ClearPass (for authenticating edge devices)

Trusted Platform Module

Trusted Platform Module 1.2 (Infineon SLB9635) is embedded on the system, and can be enabled and disabled using the BIOS
NOTE: The TPM (Trusted Platform Module) is a microcontroller chip that can securely store artifacts used to authenticate the system. These artifacts can include passwords, certificates and encryption keys. Windows® BitLocker™ Drive Encryption (BitLocker) is a data protection feature available in Windows Server® 2008, 2012/2012 R2. BitLocker leverages the enhanced security capabilities of a Trusted Platform Module (TPM) version 2.0. The TPM works with BitLocker to help protect user data and to ensure that a server running Windows Server has not been tampered with while the system was offline. For more information about TPM, including a white paper, go to:
https://www.hpe.com/h20195/v2/gethtml.aspx?docname=c04939549
NOTE: The TPM key is unique to every TPM deployed system and must be retained. Misplacing or losing the key could result in data loss.

Form Factor

HPE Edgeline EL10 Intelligent Gateway is a standalone product.
Universal mounting kit allows for wall or DIN rail mounting. Optional VESA kit is available.

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 Channel Partners 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 warranty services are available through customized service agreements.

NOTE: System Warranty includes 3-Year Parts, 0-Year Labor, 0-Year Onsite support with next business day response. Additional information regarding worldwide limited warranty and technical support is

Standard Features

available at: http://h20564.www2.hpe.com/hpsc/wc/public/home

Technical Specifications

NOTE:
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.

Step 1: Base Configuration (Choose System)

HPE Edgeline Gateway System	HPE Edgeline EL10 Intel Atom Dual Core 1.46GHz 4GB 32GB w/o Operating System Intelligent Gateway	847976-B21

Step 2: Choose Factory Integration Options

Connectivity Modules (Min:0, Max:1)	HPE Edgeline Wide Temperature Wi-Fi Option Kit **NOTES:** • Full-size mini-PCIe Card (FMC) with PCIe interface to system • Supports wide operating temperature of -20°C to 60°C • Wi-Fi Module supporting 802.11 a/b/g/n, 2.4/5.0 GHz, and 2x2 MIMO with dual-antennas. Speeds up to 300 Mbps.	845779-B21
	HPE Edgeline Wide Temperature WAN 3G Option Kit **NOTES:** • Full-size mini-PCIe Card (FMC) with USB 2.0 interface to system • SIM slot is located on the underside of the module • Supports wide operating temperature of -20°C to 60°C • 3G/3.75G (HSPA+) WAN module supporting dual antennas. Speeds up to 21.0 Mbps Download and 5.76 Mbps Upload. • Supported frequencies: GSM | GPRS | EDGE: 850, 900, 1800, 1900 MHz, UMTS | HSPA: 800 / 850*, 900, AWS 1700,1900, 2100 MHz, * includes Bands B6 and B19 (800 MHz) as a subset of B5 (850 MHz)	845788-B21

Step 3: Choose Additional Options

NOTE: Some options may not be integrated at the factory.

Mounting Accessories	HPE Edgeline EL10 Intelligent Gateway VESA Mounting Kit	848461-B21

Technical Specifications

HPE Edgeline EL10 Intelligent Gateway

Chassis Dimensions (H x W x D)	Aluminum Housing 35.98 mm (1.4") x 138.5 mm (5.5") x 116.4 mm (4.6")	
Weight	0.68 KG (1.5 lbs)	
Power	Typical: 5.9W Maximum: 10.6W	
Shock and Vibration	**Operational Shock**	30 G, IEC 60068-2-27, half sine, 11 ms duration
	Operational Vibration	3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis
	NOTE: Shock and Vibration testing conducted on a system configured with SSDs	
System Inlet Temperature	**Extended Operating**	-20° to 60°C (-4° to 140°F) at sea level **NOTE:** Operating temperature range can be reduced if any non-wide temperature options are configured in the system.
	Non-Operating	-40° to 60°C (-40° to 140°F)
Relative Humidify	**Operating**	5 to 95% relative humidify (Rh), 40°C (104°F) maximum wet bulb temperature, non-condensing
	Non-Operating	5 to 95% relative humidify (Rh), 40°C (104°F) maximum wet bulb temperature, non-condensing
Acoustic Noise	**None - Passively cooled solution with solid state drives**	
Emissions Classification (EMC)	**FCC Rating**	Class B
	Normative Standards	CE/FCC Class B (w/o RF) with base model only CE/FCC Class B (RF), PTCRB, GCF with Intel AC7260 WIFI Card and Telite HE910G 3G module
	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.	

Summary of Changes

Date	Version History	Action	Description of Change
16-Dec-2016	From version 4 to 5	Update	Comprehensive updates to introduction, features and ordering menus
10-Jun-2016	Froim version 3 to 4	Update	Updates overall QuickSpecs information
22-Jan-2016	From version 2 to 3	Update	Update the overview and technical specifications section
11-Dec-2015	From version 1 to 2	Update	Update messaging for the HPE Edgeline EL10 Intelligent Gateway Series
1-Dec-2015	Version 1	Created	Create the QS for the HPE Edgeline EL10 Intelligent Gateway Series

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