

Overview

HPE GL20 IoT Gateway (Formerly HPE EL20 Intelligent Gateway)

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

HPE IoT 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 IoT 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 GL20 IoT Gateway is rugged performance-optimized edge gateway with additional features and higher compute capabilities to tackle more demanding large data volume deployments at the edge itself. It is optimally configured with CPU, memory, connectivity and an expansion I/O selection, including four (4) Power over Ethernet (PoE) ports plus 8-bit digital input/output (DIO), to address a host of IoT needs.

HPE IoT 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 IoT Gateways are complete solutions out-of-the-box, designed to be easy-to-use and quick-to-deploy. Standard in box are a universal power kit and universal mounting kits enabling these systems to be placed in a wide range of locations.



GL20 IoT Gateway

Overview

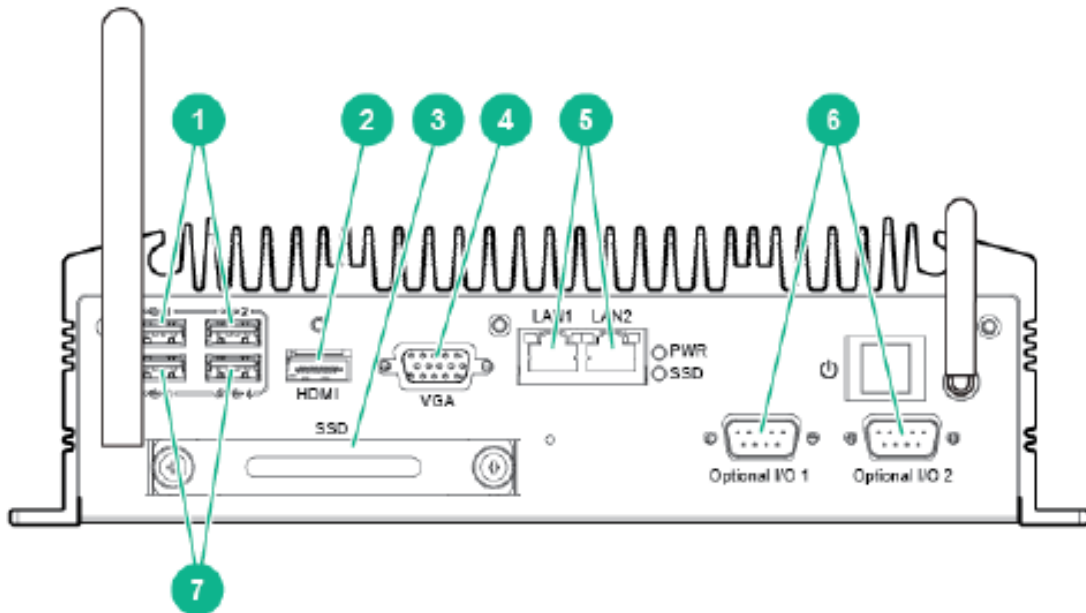
Key features of HPE IoT Gateways

- Purpose Built: HPE IoT 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 Rated
- 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 standard in box.

The HPE GL20 IoT Gateway offers the following unique benefits:

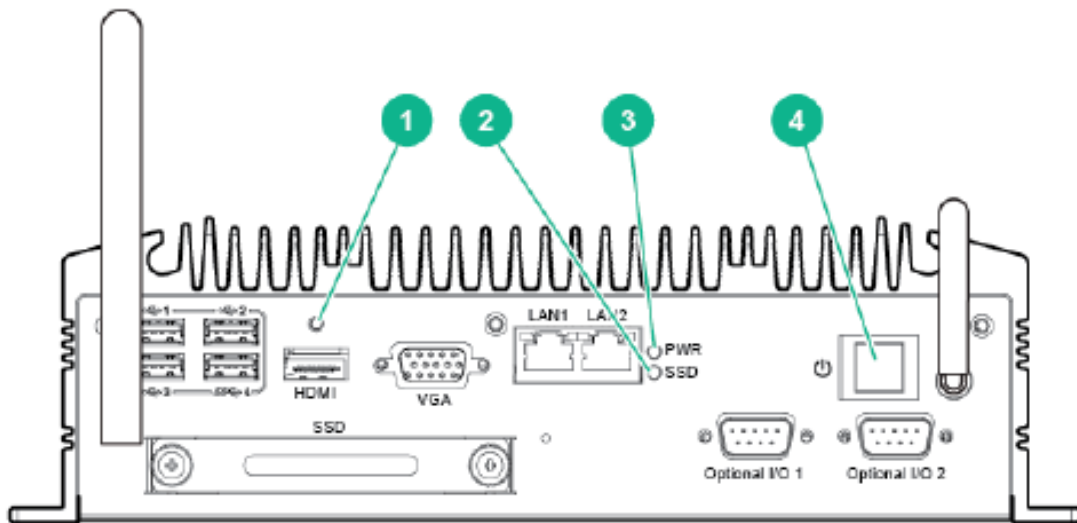
- Performance-optimized: IoT with additional features and higher compute capabilities to tackle more demanding large data volume deployments.
 - Optimally configured: Intel® Core™ i5 CPU, 8GB RAM, 64 GB SDD Storage. An expansive I/O selection including four (4) Power over Ethernet ports plus an 8-bit DIO, enables PoE enabled peripherals as well as control of sensors and actuators.
 - Wide Voltage Solution: supporting 9 to 36 Volts DC input.
 - Designed for Future Capabilities: 4 PCI Express Mini-card slots enable a host of connectivity and I/O options that are customer upgradeable providing a strong foundation for future growth requirements.
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Overview



Front Panel Components

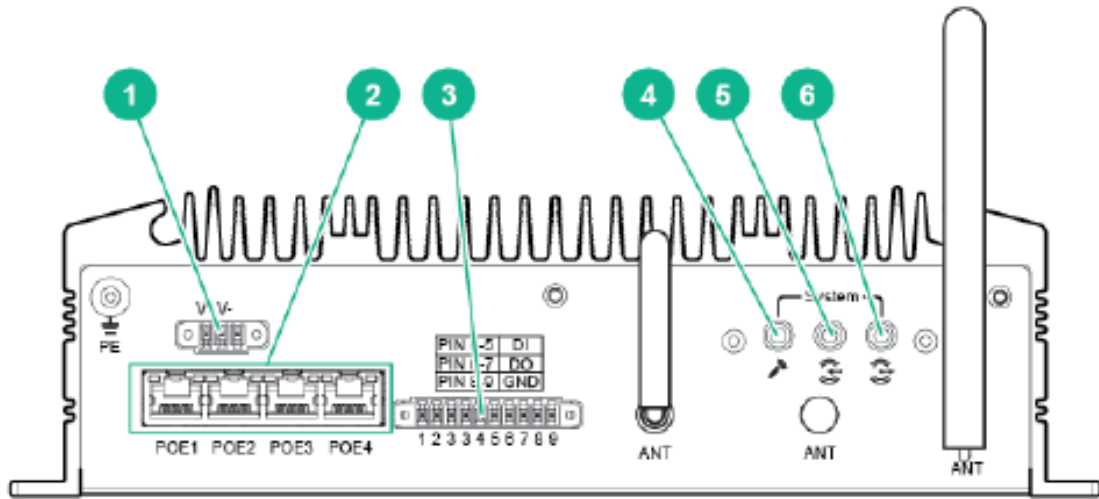
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| 1. Two (2) USB 2.0 Standard (TypeA) ports | 5. Two (2) LAN connectors (10/100/1000Mbps) |
| 2. HDMI connector Type A | 6. Two (2) serial port connectors (RS-232 or RS-422/485) |
| 3. SFF Drive bay | 7. Two (2) USB 3.0 standard (TypeA) ports |
| 4. VGA connector | |



Front Panel LEDs and Buttons

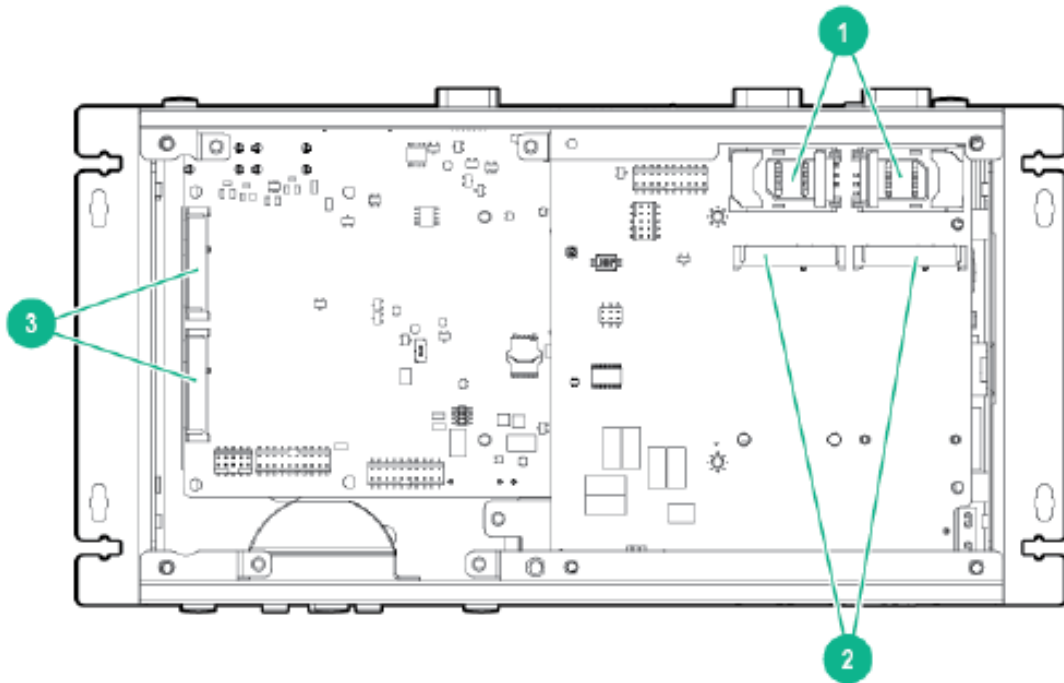
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|----------------------------|------------------------|
| 1. Reset Button (recessed) | 3. Power LED |
| 2. Drive LED | 4. Power On/Off Button |

Overview



Rear Panel Components

- 1. DC input connector
- 2. Four (4) LAN connectors with PoE (10/100Mbps)
- 3. 8 bit digital I/O connector



Expansion Board Components

- 1. SIM card holders (for slots #3 and #4)
- 2. PCI Express Full-Mini Card slots (FMC) (#3 and #4)
- 3. PCI Express Full-Mini Card slots (FMC) (#1) and PCI Express Half-Mini Card slot (HMC) (#2)

Processor

Standard Features

Intel® Core™ Model	Base Frequency	Turbo Frequency	Cores	L3 Cache	Power	DDR3 MHz
I5-4300U	1.90 GHz	2.90 GHz	2	3 MB	15W	1600

NOTE: For more information regarding Intel® Core™, please see the following

URL: <http://www.intel.com/content/www/us/en/processors/core/core-processor-family.html>

Chipset

Integrated with SoC

Graphics

Intel® HD Graphics 4400 (GT2 generation, integrated with SoC)

Base: 200 MHz

Burst: 1.1 GHz

Maximum Video Memory: 2GB

Supports: DirectX11.1, OpenGL 4.0, and OpenCL 1.2; Full AVC/VC1/MPEG2 HW Decode

Memory

Type	DDR3 Small-Outline (SO-DIMM)	
Supported DIMMs	DDR3L-1600/1333 8GB (1R x 8)	
DIMM Slots Available	1	(1 DIMM slots per processor, 1 channels per processor, 1 DIMMs per channel)
Maximum Capacity (SO-DIMM)	8GB	(1 x 8GB SO-DIMM)

NOTES:

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

Expansion slots

One (1) PCI Express Full-Mini Card (FMC) Expansion Slot #1

One (1) PCI Express Half-Mini Card (HMC) Expansion Slot #2

Two (2) PCI Express Full-Mini Card (FMC) Expansion Slot #3 and #4

- Slot #1 can also be used for mSATA and supports both PCIe and USB signaling
- Slot #2 supports PCIe signaling only
- Slots #3 and 4 supports USB signaling and are connected to SIM card holders

NOTE: This system model is pre-wired with 4 antenna attach points for use with wireless module options.

Standard Features

Network Controller

Intel® i210IT - One (1) 10/100/1000 Mbps Ethernet Port with Wake-On-LAN (WoL) support

Intel® i218 – One (1) 10/100/1000 Mbps Ethernet Port with WoL support

NOTE: These 1GbE LAN ports in this system model do not support Power-over-Ethernet (PoE).

Four (4) 10/100 Mbps Ethernet Ports with PoE capability

- 4 ports full-load, IEEE802.3af Class 2 (7W)
- 2 ports full-load, IEEE802.3af Class 3 (15.4W)

Storage Controller and Devices

SATA controllers are Integrated in the Intel® Core™ SoC

Slot #	Technology	Bus Width	Connector Width	Form Factor	Supported Sizes
SFF Drive Bay	SATA 3GB/s	x1	x1	2.5" SFF	64 GB
mSATA Slot (shared with slot #1)	SATA 3GB/s	x1	x1	mSATA	N/A (Third-party)

NOTE: The SFF drive in this system model is hot-swappable. All operations to the drive must be stopped prior to servicing to prevent data loss.

Maximum Internal Storage

Drive Bay	64 GB	1 x 64 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

3-pin DC +9-36V input isolated to 1.5KV.

Mating plug specification : MC-style, 3-position, 3.81mm pitch, screw flange

Included: External AC 12V universal power supply kit (USA, UK, EURO and JPN) with lockable connector

NOTE: If the direct DC input is used, a supply voltage of >10.9Vdc is recommended to ensure that full power can be supplied to the system.

For direct DC input end user must remove terminal block screw in connector off the AC/ DC power adapter cable and use that connector for direct DC wire input

System Fans

None. Passively cooled fan less product

Standard Features

Interfaces

- Two (1) RS-232 or RS-422/485 Serial Ports – configurable using BIOS
- Two (2) USB 2.0 Standard (TypeA) ports and Two (2) USB 3.0 Standard (Type A) ports
- One (1) VGA Port – supports 1920 x 1200 @ 154 Hz
- One (1) HDMI Port – supports 3840 x 2160 @ 24 Hz
- One (1) Audio In, One (1) Audio Out, One (1) Mic In – using Realtek ALC888S HD audio
- Power On/Off Button & LED
- Drive LED
- System Reset Button
- Digital I/O ports: Six (6) inputs and Two (2) Outputs
 - Input Voltage: 0 to 30Vdc (25 Hz)
 - Output Voltage: 24Vdc nominal in ON state (open collector to 30Vdc)
 - Output Current: Max. 500mA per channel
 - Isolated up to 3KV
- Four (4) pre-wired antenna attach points for wireless module options
 - 2 x WWAN SMA Female
 - 2 x Wi-Fi RP-SMA Female

Operating System Support

For more information on Hewlett Packard Enterprise's Certified and Supported systems for the OS' available for your system, please visit our OS Support Site:

<http://www.hpe.com/info/ossupport>

ROM, BIOS and Driver Support

For more information on Hewlett Packard Enterprise's Certified and Supported systems for the latest software ROM, BIOS and drivers available for your system, please visit our Support Center Site:

<https://support.hpe.com/hpesc/public/home>

Industry Standard Compliance

Microsoft® Logo certifications

USB 2.0 and 3.0 Support

ACPI 2.0 Compliant

International/Ingress Protection (IP): IP40 Rated

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)

The TPM (Trusted Platform Module) is NOT supported in this product.

Form Factor

HPE GL20 IoT Gateway is a standalone product.

Universal mounting kit included standard in box allows for wall, DIN rail or VESA mounting.

Standard Features

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 available

at: <http://h20564.www2.hp.com/hpsc/wc/public/home>

Configuration Information – Factory Integrated Models

NOTE: This section lists end user installable option kits applicable to the Base Configuration Model. To ensure only valid configurations are utilized; Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise approved options. Contact your local sales representative for information on custom configurable product offerings and requirements.

Step 1: Base Configuration (Choose System)

HPE IOT Gateway System

HPE Edgeline EL20 Intel i5 1.9GHz 8GB 64GB 4POE w/o OS Intelligent Gateway

847910-B21

NOTES: HPE Part Number and ordering systems will maintain “EL20” nomenclature in support of maintaining all necessary and required safety and regulatory certifications

Step 2: Choose Option Kits (End User Installation)

GL20 supports up to 2 FMC and 1 HMC in slots #1 - #4:

- One (1) PCI Express Full-Mini Card (FMC) Expansion Slot #1
- One (1) PCI Express Half-Mini Card (HMC) Expansion Slot #2
- Two (2) PCI Express Full-Mini Card (FMC) Expansion Slot #3 and #4

Connectivity Modules

(Min:0, Max:3 - 2 x FMC and 1 x HMC)

HPE Edgeline Wide Temperature Wi-Fi Option Kit

845779-B21

NOTES:

- PCI Express Full-Mini 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.
- Speeds up to 300 Mbps.
- Includes 2 Wi-Fi Antennae that attach to chassis

HPE Edgeline Wide Temperature WAN 3G Option Kit

845788-B21

NOTES: PCI Express Full-Mini 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+) WWAN module. 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)

Includes 2 WWAN Antennae that attach to chassis

HPE Edgeline Wi-Fi/Bluetooth Intel AC7260 Option Kit

874669-B21

NOTES: PCI Express Half-Mini Card (HMC) with Wi-Fi PCIe and BT USB interfaces to system

IEEE 802.11a/b/g/n/ac 2.4/5.0 GHz, and 2x2 MIMO.

Dual-Mode Bluetooth 2.1 (+EDR), 3.0 (+HS), 4.0 (BLE)

Wi-Fi speeds of up to 867 Mbps

Non Wide Temp -20 - 45 o C

Includes 2 Wi-Fi Antennae that attach to chassis

Configuration Information – Factory Integrated Models

HPE Edgeline Wireless WAN Long Term Evolution Wide Temperature AM/EU Option Kit
 HPE Edgeline Wireless WAN Long Term Evolution Wide Temperature APJ Option Kit

874665-B21
 874667-B21

NOTES:

- PCI Express Full-Mini Card (FMC) with USB 2.0 interface to system
- SIM slot is co-located next to module slot
- Supports wide operating temperature of -20°C to 60°C
- Based on Qualcomm MDM 9230 with Carrier Aggregation (CA)
- LTE Maximum Downlink (Cat 6):
 - FDD: Up to 300 Mbps
 - TDD: Up to 222 Mbps
- LTE Maximum Uplink (Cat 6):
 - FDD: Up to 50 Mbps
 - TDD: Up to 26 Mbps
- Maximum Downlink DC-HSPA+, HSPA+,HSPA, UMTS (WCDMA):
 - Up to 42 Mbps(Cat 24):
- Maximum Uplink DC-HSPA+, HSPA+,HSPA, UMTS (WCDMA):
 - Up to 5.76 Mbps (Cat 6)
- GNSS via Aux Antenna
- HPE Wide Temperature WWAN LTE AMS / EU Option Supported bands:
 - LTE FDD: B1-B5, B7,B8, B12, B13,B20, B25, B26, B29,B30
 - LTE TDD: B41
 - WCDMA: B1, B2, B3, B4, B5, B8
- Wide Temperature WWAN LTE APJ Option Kit (Sold only in APJ) Supported bands:
 - LTE FDD: B1,B3,B5 B7,B8, B18, B19,B21, B28, B38, B39,B40,B41
 - LTE TDD: B41
 - WCDMA: B1, B5, B6, B8, B9, B19
 - Includes 2 WWAN Antennae that attach to chassis

Step 3: Choose Additional Options

HPE Edgeline Wide HPE IP67 3G LTE and Wi-Fi Ant w 2m cbl

876592-B21

NOTES:

- WWAN Antennae - 2x MIMO 698-960/1710-2690MHz
 - Wi-Fi Antennae - 2X MIMO 2400-2500/4900-5900MHz
 - Size - 145 x 135 x 25mm with 2m cable length
 - IP 67 suitable for outdoor use
 - 3G / LTE WWAN and Wi-Fi Support
-

Technical Specifications

HPE GL20 IOT Gateway

Chassis Dimensions (H x W x D)

Aluminum Housing 75.1 mm (2.96") x 264.5 mm (10.41") x 133.0 mm (5.24")

Weight

3.40 KG (7.5 lbs)

Power

Typical: 15W

Maximum: 35W

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 with 0.7m/s air flow and supporting extended temperature peripherals

NOTE: Operating temperature range can be reduced if any non-wide temperature options are configured in the system.

Non-Operating -40° to 85°C (-40° to 185°F)

Relative Humidity

Operating 5 to 95% relative humidity (Rh), 40°C (104°F) maximum wet bulb temperature, non-condensing

Non-Operating 5 to 95% relative humidity (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 A

Normative Standards CE/FCC Class A, CCC, BSMI

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
13-Aug-2018	Version 10	Changed	Standard Features was updated.
07-May-2018	Version 9	Changed	Update Configuration Information – Factory Integrated Models section
18-Dec-2017	Version 8	Updated	In mid-2017 Hewlett-Packard Enterprise elected to rebrand the EL10 and EL20 to the below: HPE GL10 IoT Gateway HPE GL20 IoT Gateway Some documentation and / or labeling may reference the below as HPE continues to evaluate the rebrand of the HPE IoT Gateway product line: Edgeline Edgeline EL10 EL20 Edgeline EL20 EL20
02-Oct-2017	Version 7	Updated	Update sections, SKUs and update the name of the QuickSpecs
07-Aug-2017	Version 6	Updated	Update Overview, Standard Features and Technical Specifications
16-Dec-2016	Version 5	Updated	Comprehensive updates to introduction, features and ordering menus
10-Jun-2016	Version 4	Updated	Update overall QuickSpecs information
22-Jan-2016	Version 3	Changed	Change the overview and the technical information section
18-Dec-2015	Version 2	Update	Address formatting of HPE Edgeline .
01-Dec-2015	Version 1	New	New QuickSpecs



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

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