

### Overview

### HPE GL20 IoT Gateway Series



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

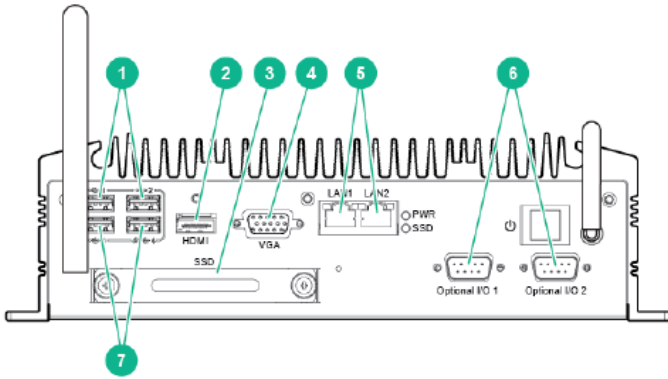
HPE IoT Gateways enable organizations to rapidly acquire, analyze and take action on real-time data as it's being collected for additional analysis at a later stage. Bringing computing and analytics close to the edge accelerates the speed of your decision making and reduces the chance of lost opportunities or a missed red flag. HPE Intelligent Edge 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) port Power over Ethernet (PoE) 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.

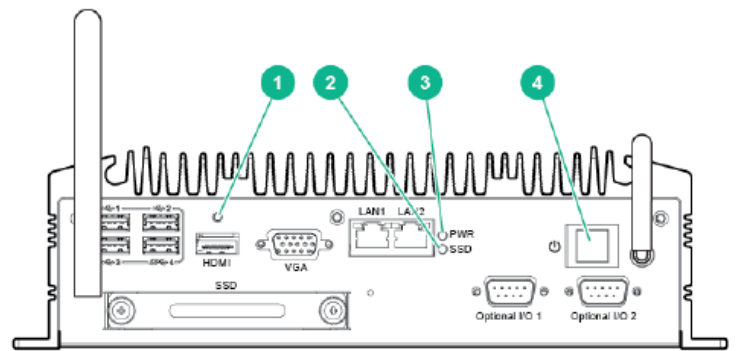
These HPE IoT Gateways are complete solutions out-of-the-box, designed to be easy-to-use and quick-to-deploy. Standard in box are a universal power kit and universal mounting kits enabling these systems to be placed in a wide range of locations.

## Standard Features



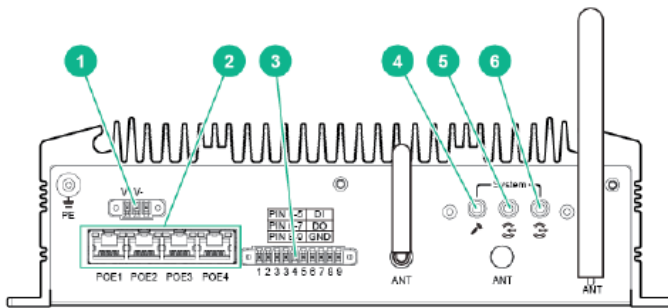
**Front Panel Components**

1. Two (2) USB 2.0 connectors
2. HDMI connector
3. SFF Drive bay
4. VGA connector
5. Two (2) LAN connectors
6. Two (2) serial port connectors (RS-232 or RS-422/485)
7. Two (2) USB 3.0 connectors



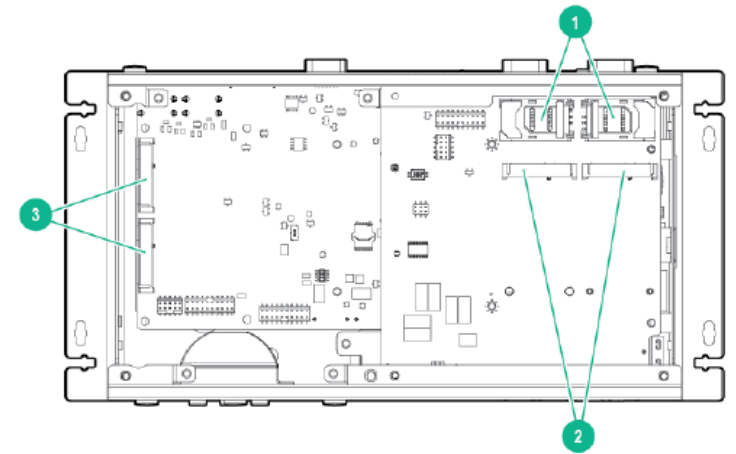
**Front Panel LEDs and Buttons**

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



**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. Full-height mini-PCIe slots (#3 and #4)
3. Full-height (#1) and half-height (#2) mini-PCIe slots

## 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

## Standard Features

- **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 Gateway 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 a 4 Port Power over Ethernet plus a 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 mini-PCIe card slots enable a host of connectivity and I/O options that are customer upgradeable providing a strong foundation for future growth requirements.

**NOTE:** In mid-2017 Hewlett-Packard Enterprise elected to rebrand the Edgeline EL20 to the below HPE IoT Gateway GL20

Some documentation and / or labeling may reference the below as HPE evaluates the rebrand of the HPE IoT Gateway product line:

Edgeline EL20

Edgeline

EL20

## Standard Features

### Processor

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) Half-size mini-PCIe Expansion Slot - Slot #2

Three (3) Full-size mini-PCIe Expansion Slot

- Slot #1 can also be used for mSATA
- Slots #3 and 4 are connected to SIM card holders

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

### 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-2	x1	x1	2.5" SFF	64 GB
mSATA Slot (shared with slot #1)	SATA-2	x1	x1	mSATA	N/A (Third-party)

## Standard Features

**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.

<b>Maximum Internal Storage</b>	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.

<b>Power Supply</b>	External AC 12V universal power supply kit (USA, UK, EURO and JPN) with lockable connector Optional: 3-pin DC +9-36V input isolated to 1.5KV.
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**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

<b>System Fans</b>	None. Passively cooled fan less product
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<b>Interfaces</b>	Two (1) RS-232 or RS-422/485 2-wire Serial Ports – configurable using BIOS; auto flow-control
	Two (2) USB 2.0 Ports and Two (2) USB 3.0 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

<b>Operating System Support</b>	Operating System Support
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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:

**<http://www.hpe.com/support/hpesc>**.

<b>Industry Standard Compliance</b>	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.

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

<b>Form Factor</b>	HPE GL20 IoT Gateway is a standalone product. Universal mounting kit included standard in box allows for wall, DIN rail or VESA mounting.
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## Standard Features

	Universal AC power kit included standard in box (USA, UK, EURO and JPN)
<b>Warranty</b>	<p>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.</p> <p><b>NOTE:</b> 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: <a href="http://h20564.www2.hp.com/hpsc/wc/public/home">http://h20564.www2.hp.com/hpsc/wc/public/home</a></p>

## Configuration Information – 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)

<b>HPE GL IoT Gateway System</b>	HPE Edgeline EL20 Intel® i5 1.9GHz 8GB 64GB 4POE w/o OS Intelligent Gateway	847910-B21
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### Step 2: Choose Option Kits (End User Installation)

<b>Connectivity Modules (Min:0, Max:3 - 2 WAN and 1 Wi-Fi)</b>	HPE Edgeline Wide Temperature Wi-Fi Option Kit	845779-B21
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#### 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.
- Speeds up to 300 Mbps.
- Includes 2 Wi-Fi Antenna that attach to chassis

	HPE Edgeline Wide Temperature WAN 3G Option Kit	845788-B21
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#### 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. 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 WAN Antenna that attach to chassis

	HPE Wide Temperature WAN LTE AMS / EU Option	874665-B21
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	HPE Wide Temperature WAN LTE APJ Option Kit (Sold only in APJ)	874667-B21
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#### NOTES:

- Full-size mini-PCIe 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 WAN LTE AMS / EU Option Supported bands:
  - LTE FDD: B1-B5, B7,B8, B12, B13,B20, B25, B26, B29,B30
  - LTE TDD: B4,1

## Standard Features

- WCDMA: B1, B2, B3, B4, B5, B8
- Wide Temperature WAN 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 WAN Antenna 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:

- WAN - 2x MIMO 698-960/1710-2690MHz
- Wi-Fi - 2X MIMO 2400-2500/4900-5900MHz
- Size - 145 x 135 x 25mm with 2m cable length
- IP 67 suitable for outdoor use
- 3G / LTE WAN 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  
**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
2-Oct-2017	From version 6 to 7	Updated	Update sections, SKUs and update the name of the QuickSpecs
7-Aug-2017	From version 5 to 6	Updated	Update Overview, Standard Features and Technical Specifications
16-Dec-2016	From version 4 to 5	Updated	Comprehensive updates to introduction, features and ordering menus
10-Jun-2016	From version 3 to 4	Updated	Update overall QuickSpecs information
22-Jan-2016	From version 2 to 3	Changed	Change the overview and the technical information section
18-Dec-2015	From version 1 to 2	Update	Address formatting of HPE Edgeline .
1-Dec-2015	Version 1	Created	Create the QS for the HPE Edgeline EL20 Intelligent Gateway Series



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

c04884769- 15469- Worldwide – V7 – 2-October-2017

