BoltGATE 20-31

MODULAR GATEWAY - Intel Atom - LTE - Wi-Fi/BT - MVB - UDR GNSS - OT4 Temp



- **Rolling Stock Certified**
- **Reliable Fanless Performance**
- **Integrated Connection**
- **Open Platform**
- **Cloud Certified**
- **Highly Customizable**
- **Long-term Availability**

Features

Rolling Stock Certified : Suitable for rugged rolling stock applications, is certified for EN50155 (EN50155 Class OT4 ST1, wide range power supply) and EN45545 (Fire and Smoke). Integrated MVB interface with ESD+ or EMD

Reliable Fanless Performance : Powerful and efficient: dual and quad core Intel Atom E3900, soldered-down eMMC storage and ECC memory for additional protection in a fanless package

Integrated Connection : Carrier pre-certified LTE cellular connectivity, 2.4/5.0GHz Wi-Fi, BLE, and Dead Reckoning GNSS

Open Platform : Provides an integrated, open IoT Edge Framework to free the developer from proprietary solutions

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Cloud Certified : Seamless integration with Eurotech Everyware Cloud, Microsoft Azure, Amazon Web Services IoT and other Cloud services
Highly Customizable : Modular design for application customizations, ranging from factory options to custom front panel connectors and software configurations
Long-term Availability : Designed for markets and use cases where long-term availability and support is a must have requirement

Description

The BoltGATE 20-31 Family is a modular IoT Edge Gateway system, EN50155-certified, which addresses the challenges of the next-generation applications for smart transportation by combining hardware and software for Edge processing and Cloud connectivity. The BoltGATE 20-31 is a stand-alone gateway that can be expanded with a family of Modules that provide a wide range of additional features. The BoltGATE 20-31 and its Expansion Modules can be combined to create a flexible system that suits any use case with the ideal solution.

The BoltGATE 20-31 is based on the Intel® Atom™ E3900 processor, with up to 8GB of ECC RAM, up to 32GB of eMMC, and an optional SSD storage module. Interfaces include up to 3x GbE, 2x USB 3.0, Serial, and Display ports; security features include TPM 2.0. Connectivity capabilities include a carrier pre-certified global LTE cellular, 2.4/5.0GHz Wi-Fi and BLE. A high accuracy GNSS receiver supporting GPS/GLONASS with UDR (Untethered Dead Reckoning) is available in selected configurations. A railway certified power supply offers an ultra-wide input voltage range: 24 to 110VDC, EN50155. The power is distributed by the BoltGATE 20-31 to the Expansion Modules.

The BoltGATE 20-31 includes hardware and software components to support the MVB interface (Configurations: ESD+ read-only / ESD+ / EMD read-only / EMD).

The Expansion Modules are:

- BoltAIR 20-31*, with up to 3 wireless units and an odometer input;
- BoltSER 20-31*, with serial & CAN interfaces;
- BoltIO 20-31*, including up to 16 +16 Digital I/Os;
- BoltNET 20-31*, with 4 Gigabit Ethernet ports;

Every module in the BoltGATE 20-31 is fanless and compact, designed to fit in a 3U recess. All modules support -40 to +70°C operating temperature range (EN50155:2017, class OT4, ST1) and can be installed on a DIN-rail, wall-mounted, or assembled in a 19? rack.

Powered by Eurotech's IoT Edge Framework, Everyware Software Framework (ESF), the BoltGATE 20-31 provides a fast go-to-market solution for IoT transportation applications such as passenger infotainment and entertainment, train-to-ground communications, and fleet management. The Java-based IoT Edge Framework provides a friendly web-based user interface to visually compose powerful data flows to acquire data from the bus, filter, aggregate and analyze it at the Edge, and publish it to the Cloud though the popular MQTT protocol. Optionally, Everyware Cloud, Eurotech's IoT Integration Platform, completes this solution by providing data integration to the applications and by offering complete management of the devices deployed in the field.

For customers requiring more configuration flexibility, Eurotech Professional Services offer an extensive number of options for both hardware (additional features, custom front panel/ connectors, branding) and software (customized application images).

* Contact Eurotech for more information about the Expansion Modules

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Ordering Code: BTGATE-20-31-XY				
XX		-11	-21	-31
PROCESSOR	CPU	Intel Atom x5-E3940, 1.60GHz (1.80GHz), Quad Core	Intel Atom x5-E3930, 1.30GHz (1.80GHz), Dual Core	Intel Atom x5-E3940, 1.60GHz (1.80GHz), Quad Core
MEMORY	RAM	8GB (DDR3L 1600MHz - with ECC)	4GB (DDR3L 1600MHz - non ECC)	8GB (DDR3L 1600MHz - with ECC)
STORAGE	Embedded	32GB of eMMC Soldered Down	16GB eMMC Soldered Down	32GB eMMC Soldered Down
	Integrated	Factory Option: Integrated 2.5" SSD SATA III		
	Other	1x microSD Slot (Service Panel)		
I/O INTERFACES	Ethernet	3x 10/100/1000Mbps, M12 X-coded Connector		
	USB	2x USB 3.0 Noise and Surge Protected - 1x USB 2.0 (Service Panel)		
	Serial	1x TTL Console (Service Panel)		
	MVB	ESD+ with "RX only" or "RX/TX" Factory Option: EMD with "RX only" or "RX/TX"	-	
	Audio	-	Factory Option: 2x Line IN, 1x Stereo Mic IN, 2x Line OUT	
	Video	1x mini DisplayPort		
CELLULAR	LTE Category	1x LTE Global Cat 4, 2G/3G Fallback		
OTHER RADIOS	GPS	GPS/QZSS/GLONASS/BeiDou/Galileo with Untethered Dead Reckoning		
	Wi-Fi / BT	-	WiFi 802.11 a/b/g/n, BLE 4.0	
	Antennas (External)	2x SMA (Cellular with Antenna Diversity) - 1x SMA (GPS)	2x SMA (Cellular with Antenna Diversity) - 2x RP-SMA (Wi-Fi/BT) - 1x SMA (GPS)	
OTHER	RTC	Yes, with SuperCAP (up 2 Months Retain), Fast Reboot Support		
	System Watchdog	Yes, Discrete Chip		
	EEPROM	32KB		
	TPM	TPM 2.0		
	LEDs	1x Power - 2x MiniPCIe Slot - 3x Ethernet - 3x Programmable (Dual Color Green/Amber)		
MISC	Buttons	1x Reset, 1x Programmable (Service Panel)		
	SIM Slot	SIM Slots (2x microSIM) (Service Panel)		
POWER	Input	Nominal: 24-110 VDC; Range: 9 to 137.5VDC, with Ignition Key Sense		
	Consumption	15W Typ, 30W Max		
ENVIRONMENT	Operating Temp.	- 40 to +70 °C, +85 °C for 10 Minutes (EN50155 Class OT4 ST1)		
	Storage Temp.	- 40 to +85 °C		
CERTIFICATIONS	Regulatory	CE, FCC, ISED		
	Safety	EN62368, UL60950 (§)		
	Vertical	EN50155, EN45545 (Fire and Smoke)		
	Environmental	RoHS3 - REACH		
	Cellular	RED		
	Ingress	IP30		
MECHANICAL	Enclosure	Material: Aluminium - Color: Black Anodized		
	Mounting Options	Mounting Options: DIN Rail, Accessories Available for Wall-mount / 19" Rack-mount		
	Dimensions	61x132x149mm (WxHxD) - With Connectors		

Software		
SOFTWARE	OS	Eurotech Everyware Linux; Factory Option: Windows 10 IoT Enterprise
	SDK	Yocto-based Eclipse Tooling, Azul Java
	IoT Framework	Everyware Software Framework (Java/OSGi)

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