BoltGATE 20-25 MVB Edition

EN50155 Multi-service IoT Edge Gateway MVB Bus - Intel Atom, LTE Cat 4



- **MVB with EMD and ESD+**
- **Visual Programming**
- **Rolling Stock Certified**
- **Fanless Performance**
- **LTE, Wi-Fi/BLE, GNSS**
- **Highly Customizable**
- **Long-term Availability**
- **Cloud Certified**

Features

MVB with EMD and ESD+ - Reliable operation on MVB with Read Only and Read/Transmit configurations
Integrated Stack - Visually compose powerful data flows for bus data acquisition, edge analysis and cloud communication
Rolling Stock Certified - Certified for EN50155 (TX Temperature Class, EN50155 Class S2 wide range power supply) and EN45545 (Fire and Smoke). Suitable for any heavy duty, rugged application where long-term availability and support is a must have requirement
Fanless Performance - Low power performance with a quad core Intel Atom E3800 in a fanless and ventless package
Connection-oriented - Highly connected, with Cat 4 LTE, 2.4/5.0GHz Wi-Fi, BLE, and Dead Reckoning GPS
Plenty of Interfaces - Versatile set of I/O interfaces such as dual Gigabit Ethernet, USB 2.0, isolated DI/O and serial ports, CAN bus and audio
Open Platform - Provides an integrated open IoT Edge Framework to free the developer from proprietary solutions
Highly Customizable - Modular design for application customizations, ranging from factory options to custom front panel connectors and software builds
Cloud Certified - Seamless integration with Eurotech Everyware Cloud, Microsoft Azure, AWS IoT Core and other Cloud services

Description

By offering integrated hardware and software connectivity towards the Field and the Cloud, the BoltGATE 20-25 MVB Edition is a Multi-service IoT Edge Gateway, EN50155 certified, designed to address the challenges of the next-generation applications for smart transportation and connected railway.

Based on the quad core Intel® Atom™ E3845 processor, with 4GB of RAM and 8GB of eMMC, the BoltGATE 20-25 is a fanless, compact unit designed to exceed the requirements of rolling stock in the TX temperature class with an IP66 enclosure. It features a large number of I/O interfaces – protected USB 2.0, isolated serial interfaces and DI/O, and CAN bus interfaces – and a wide range of connectivity capabilities including two Gigabit Ethernet, one LTE CAT 4 cellular modem, Wi-Fi, Bluetooth Low Energy, and a dedicated internal GPS with Dead Reckoning

The MVB Edition of the BoltGATE 20-25 adds integrated hardware and software components to interface with the train bus through two MVB ports on DB9 connectors. MVB options include EMD and ESD+ interfaces, both available in Read/Transmit or Read Only configurations. A dedicated 32-bit MVB controller supporting all process data offloads the CPU and ensures accurate programmable sampling from 1024 down to 16 milliseconds for each individual port. Powered by the Eurotech IoT Edge Framework, Everyware Software Framework (ESF), the BoltGATE 20-25 MVB Edition has full software support for the MVB interface. The friendly ESF web-based user interface allows to visually compose powerful data flows to acquire data from the bus, analyze it on the Edge, and publish it to the Cloud though the popular MQTT protocol. Everyware Cloud, Eurotech IoT Integration Platform, completes this solution by providing data integration to the applications and by offering complete management of the devices deployed on the field.

For customers requiring more configuration flexibility, Eurotech Professional Services offer an extensive number of options, both for the

hardware (e.g. additional features, custom front panel/connectors, branding) and for the software (e.g. customized application images).

The BoltGATE 20-25 MVB Edition is AWS IoT Core Qualified and can be integrated with 3rd party cloud services.

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EUROTECH

Ordering code: BTGATE-20-25-xx					
XX		-M1	-M2	-M3	-M4
PROCESSOR	CPU	Intel Atom E3845, 1.91GHz, Quad Core			
MEMORY	RAM	4GB 1333MHz (DDR3L-ECC)			
STORAGE	Embedded	8GB eMMC – Optional SATA Interface for Internal Expansion			
	Drive Bay	1x Drive Bay (Factory Option)			
	Other	1x microSD Slot, up to 32GB (Service Panel)			
I/O INTERFACES	Ethernet	2x 10/100/1000Mbps, M12 X-coded Connector			
	USB	2x USB 2.0 Noise and Surge Protected, 1x USB 2.0 (Service Panel)			
	Serial	2x RS-232/422/485 (9-wire) Isolated, 2x RS-485/RS-422 (5-wire) Isolated, 1x TTL Console (Service Panel)			
	CAN 2.0B	2x CAN bus 100mA with 5V Power Out, Isolated			
	MVB	EMD Transmit and Receive, 2x DB9, 150mV Immunity	EMD Receive Only, 2x DB9, 150mV Immunity	ESD+ Transmit and Receive, 2x DB9, 150mV Immunity	ESD+ Receive Only, 2x DB9, 150mV Immunity
	Digital I/O	4x Digital Input, 4x Digital Output, 1x Odometer, 1x Ignition Key (All DI/O Isolated, EN50155), 24V			
	Video	1x Micro HDMI (Service Panel)			
	Audio	1x Line IN, 1x 2W Class D Stereo OUT – Factory Option: 1x Stereo Mic IN, 1x Line OUT			
RADIO INTERFACES	Cellular	1x LTE Cat 4 EU Modem With 2G/3G Fallback (Other Geographies: Factory Option)			
	GPS	GPS/QZSS/GLONASS/BeiDou/Galileo with Dead Reckoning			
	Wi-Fi / BT	802.11 a/b/g/n, BLE 4.0			
	Antennas (External)	2x SMA Cellular, 2x RSMA Wi-Fi/BT, 1x SMA GPS			
OTHER	RTC	Yes, with SuperCAP (up to 2 Months Retain), Fast Reboot Support			
	Ext. Watchdog	Yes			
	EEPROM	32KB			
	TPM	Factory Option: TPM 1.2/2.0			
	Sensors	Temperature, Accelerometer			
	LEDs	1x Power, 3x Activity (Wi-Fi, Cellular, MVB), 2x Programmable			
	Buttons	1x Reset, 1x Programmable (Service Panel)			
	SIM Slot	2x Single Micro-SIM, Push-push, Switchable for Bandwidth Aggregation and Carrier/Cellular Backup (Service Panel)			
POWER	Input	9 - 137.5VDC Wide Input Range, EN50155 Class S2 for 24VDC and 110VDC Nominal Voltage Inputs			
	Consumption	30W Max / 15W Typical			
ENVIRONMENT	Operating Temp.	TX according to EN50155 (-40 to +70°C, -40 to +85°C for 10 Minutes)			
	Storage Temp.	- 40 to +85°C			
CERTIFICATIONS	Regulatory	CE			
	Safety	EN 62368, UL 60950 (§)			
	Vertical	EN50155, EN45545 (Fire and Smoke)			
	Environmental	RoHS3, REACH			
	Wi-Fi / BT Radio	CE (RED)			
	Cellular Radio	CE (RED)			
	Ingress	IP66			
MECHANICAL	Enclosure	Material: Aluminium - Color: Black Anodized			
	Dimensions	268x141x85mm (LxWxH) – With Connectors			
	Weight	3.7Kg			
SOFTWARE	OS	Eurotech Everyware Linux			
	SDK	Yocto-based Eclipse Tooling, Azul Java			
	IoT Framework	Everyware Software Framework (Java/OSGi)			
	IoT Platform	AWS IoT Core Qualified, Everyware Cloud Native			

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§ UL, NRTL listing Factory Option

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