

BoltGATE 20-25 MVB Edition

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



EN50155



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 E3845 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 ESF, an integrated open IoT Edge Framework to free the developer from proprietary solutions

Highly Customizable - Modular design for application-specific customizations, ranging from factory options to custom front panel connectors and software builds

By offering integrated hardware and software connectivity towards the Field and the Cloud, the BoltGATE 20-25 MVB Edition is an 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 MVB Edition is a fanless, compact unit designed to exceed the requirements of rolling stock in the TX temperature class with an IP54 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 through 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).

BoltGATE 20-25 MVB Edition

Specifications

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

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 | RoHS2, 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) |

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