



- EN50155 Class TX with IP66
- Fanless Performance
- LTE, Wi-Fi/BLE, GNSS and Video
- Isolated I/O, CAN bus, Optional MVB
- Open Platform
- Highly Customizable
- Long-term Availability
- Cloud Certified



Features

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

Integrated Stack : Visually compose powerful data flows for bus data acquisition, edge analysis and cloud communication

Fanless Performance : Low power performance, with single, dual and quad core Intel Atom E3800 options in a fanless and ventless package

Highly Connected : Carrier pre-certified LTE cellular connectivity, 2.4/5.0GHz Wi-Fi, BLE, and Dead Reckoning GPS

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

Long-term Availability : Designed for markets and use cases where long-term availability and support is a must have requirement

Cloud Certified : Seamless integration with Eurotech Everyware Cloud, Microsoft Azure, AWS IoT Core and other Cloud services

Description

The BoltGATE 20-25 is a Multi-service IoT Edge Gateway, EN50155 certified, and designed to exceed the requirements of rolling stock in the TX temperature class. With IP66 rating, it is extremely rugged and suitable for any application where consistent performance and reliability are a must.

Based on the Intel Atom E3800 processor family, with up to 4GB of RAM and 8GB of eMMC, the BoltGATE 20-25 offers extra storage expansions through optional internal or removable 2.5" SATA SSD/HDD, mSATA, and a user-accessible microSD slot.

At 30W max, the BoltGATE 20-25 is a fanless, compact unit that provides a large number of communication and I/O interfaces: two Gbit Ethernet, protected USB 2.0, four isolated serial interfaces, eight isolated DI/O plus odometer and key signals, CAN bus, video, and optional MVB. It also features a wide range of connectivity capabilities including one cellular modem, Wi-Fi, Bluetooth Low Energy, and a dedicated internal GNSS with Untethered Dead Reckoning.

As a result of its modular design, the BoltGATE 20-25 can easily be customized for the requirements of the target application. With three full miniPCIe slots, it can accommodate additional connectivity or communication options and, through Eurotech Professional Services, it can offer custom front panel configuration and connectors or customized software images.

The BoltGATE 20-25 comes with Linux and Windows operating systems. It offers Everyware Software Framework (ESF), a commercial, enterprise-ready edition of Eclipse Kura, the open source Java/OSGi middleware for IoT EdgeGateways. Distributed and supported by Eurotech, ESF supports ready-to-use field protocols (including Modbus, OPC-UA, S7), MQTT connectivity, web-based visual data flow programming and deep configuration. ESF is also integrated with Everyware Cloud (EC), Eurotech's IoT Edge Management Platform (separately available), enabling advanced diagnostics, provisioning, and full remote device access and management.

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

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| General Specifications | | |
|-------------------------|---------------------|-----------------------------------------------------------------------------------------------------|
| PROCESSOR | CPU | E3845, 1.91GHz, Quad Core - E3827, 1.75GHz, Dual Core - E3815, 1.46GHz, Single Core |
| MEMORY | RAM | Up to 4GB 1333MHz (DDR3L-ECC) |
| STORAGE | Embedded | 8GB eMMC – Optional mSATA Module |
| | Drive Bay | 1x Removable Drive Bay for up to 2x 2.5” Drives (with Key Lock) |
| | Other | 1x microSD Slot (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), 1x TTL Console (Service Panel) |
| | CAN 2.0B | 2x CAN bus 100mA with 5V Power Out, Isolated |
| | 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) – Optional: 1x HDMI (Circular Connector) |
| | Audio | 1x Line IN, 1x 2W Class D Stereo OUT – Factory Option: 1x Stereo Mic In, 1x Line OUT |
| EXPANSION | MiniPCIe Slots | 3x Full/Half-Size Mini PCIe Slots (USB/mSATA, USB/PCIe, USB) |
| RADIO INTERFACES | Cellular | 1x LTE Cat 4 Modem |
| | 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) |
| | Ext. Watchdog | Yes |
| | EEPROM | 32KB |
| | TPM | Factory Option: TPM 1.2/2.0 |
| | Sensors | Temperature, Accelerometer |
| | LEDs | 1x Power, 3x Activity (MiniPCIe Slots), 2x Programmable |
| | Buttons | 1x Reset, 1x Programmable (Service Panel) |
| | SIM Slot | 2x Single SIM, 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 | 15W Typ, 30W Max |
| 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 |
| | 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 or Windows 10 IoT Enterprise |
| | SDK | Yocto-based Eclipse Tooling, Azul Java |
| | IoT Framework | Everyware Software Framework (Java/OSGi) |
| | IoT Platform | AWS IoT Core Qualified, Everyware Cloud Native |

§ UL, NRTL listing Factory Option

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Standard Variants

| Ordering codes | | CPU | RAM | Drive Bay | Included Drives | Cellular | Software |
|----------------------|----|--------------------|-----------------|-----------|--------------------------------------|----------|----------|
| BTGATE-20-25- | 01 | E3815, Single Core | 2GB 1067MHz ECC | Yes | No | | Yocto |
| | 02 | E3827, Dual Core | 2GB 1333MHz ECC | Yes | No | | Yocto |
| | 03 | E3827, Dual Core | 2GB 1333MHz ECC | Yes | 1x 512GB SSD MLC High Reliability | No | Yocto |
| | 04 | E3845, Quad Core | 4GB 1333MHz ECC | Yes | 1x 512GB SSD MLC High Reliability | No | Yocto |

Video-oriented Variants

| Ordering codes | | CPU | RAM | Drive Bay | Included Drives | Video on Rear Panel | Cellular | Software |
|----------------------|----|------------------|-----------------|-----------|---------------------------------------------------------|------------------------------|-------------------|--------------------|
| BTGATE-20-25- | 11 | E3845, Quad Core | 4GB 1333MHz ECC | Yes | 1x 512GB SSD MLC High Reliability | 1x HDMI (circular connector) | 1x LTE Cat 4 (EU) | Yocto |
| | 15 | E3845, Quad Core | 4GB 1333MHz ECC | Yes | 1x 64GB mSATA – 1x 512GB SSD MLC High Reliability | 1x HDMI (circular connector) | 1x LTE Cat 4 (EU) | Windows 10 IoT ETP |