



- Rolling Stock and Automotive Certifications
- Internal LTE Cat 1, Wi-Fi, BT, GNSS, CAN
- IP67
- Internal UPS
- ARM Powered
- IoT Ready
- Expandable
- Open Platform
- Customizable

## Features

**ARM Powered** - Powered by TI AM335x CPU: optimum performance for intensive workloads at just 2.6W

**IoT Ready** - Breadth of connectivity options: carrier certified LTE Cat 1 cellular modems for multiple geographies, Wi-Fi, BLE, Fast Ethernet, including CAN bus ports, optoisolated digital I/Os, protected serial ports

**Internal UPS** - An internal, extended temperature battery protects the device from unexpected power interruptions and allows a safe shutdown

**Rolling Stock and Automotive Certified** - Suitable for rugged Rolling Stock and Automotive applications is certified for EN50155, EN45545 (Fire and Smoke) and E-Mark

**Cloud Certified** - Seamless integration with Eurotech Everyware Cloud, Microsoft Azure, AWS IoT Core and other Cloud Services

**Open Platform** - Provides a Java/OSGi gateway middleware, to free the developer from proprietary solutions

**Customizable** - Flexible: personalization and full customization options are available, ranging from branding ("skin" and color) to deep HW/SW configurations

## Description

The BoltGATE 10-12 is a Multi-service IoT Edge Gateway designed to deliver LTE connectivity to rolling stock, automotive and rugged applications. Based on the TI AM335x Cortex-A8 (Sitara) processor family, with 1GB of RAM, 8GB of eMMC and a user-accessible microSD slot, the BoltGATE 10-12 is a low power gateway suitable for demanding use cases: it supports a 9 to 36V power supply with transient protection and vehicle ignition sense, while providing protected serial ports, CAN bus and isolated digital interfaces.

Certified for Rolling Stock and Automotive applications, the BoltGATE 10-12 is also suitable for Heavy-Duty applications, with its metal enclosure and rugged connectors, providing an IP67 protection and thanks to OT4 temperature range (-40 to +70°C).

A unique feature of the BoltGATE 10-12 is an internal battery that protects the device from power interruptions and allows for a safe shutdown.

The BoltGATE 10-12 features a wide range of connectivity capabilities: it integrates an internal LTE Cat 1 cellular modem with dual Micro-SIM support, Wi-Fi, Bluetooth Low Energy, Fast Ethernet ports, and an internal GNSS with Untethered Dead Reckoning. The BoltGATE 10-12 is equipped with a TPM 2.0 technology which provides cutting-edge security features that protect the system integrity and authenticity against unauthorized manipulations.

Expansion options include external, rugged cellular modules for global use that are certified by leading carriers, a LoRa LPWAN Gateway unit, and a DAQ unit that provides analog input and more DI/O ports.

The BoltGATE 10-12 is enriched with Everyware Software Framework (ESF), Eurotech's IoT Edge Framework, that supports ready-to-use field protocols (including Modbus, OPC-UA, S7), MQTT connectivity, a web-based visual data flow programming (ESF Wires) and deep configuration. ESF is a commercial, enterprise-ready edition of Eclipse Kura. 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.

Used stand-alone, or in conjunction with EC, the BoltGATE 10-12 provides a fast go-to-market solution for IoT projects of any size.

### Ordering Code: BTGATE-10-12-XX

XX		-66	-66U	
<b>PROCESSOR</b>	CPU	TI AM3352 1GHz, 1 Core		
<b>MEMORY</b>	RAM	1GB DDR3		
<b>STORAGE</b>	Embedded	8GB eMMC		
	Other	1x microSD Slot (Service Panel)		
<b>I/O INTERFACES</b>	Ethernet	2x 10/100Mbps on M12 D-coded		
	USB	2x Host 2.0 (Noise and Surge Protected) - Type A (Service Panel)		
	Serial	1x RS-422/485 (Protected and Isolated); 1x RS-232/RS-485 (Surge Protected); RS-485 Termination and Fail-safe Resistors; 1x Serial Console TTL (Service Panel)		
	CAN 2.0B	2x CAN bus with 5V (100mA) Power Out		
	Digital I/O	2x Digital Input 36V, 1KV Optoisolated - 2x Digital Output (40VAC/DC), 500mA Sink, 1KHz Max Switching		
<b>RADIO INTERFACES</b>	Internal Cellular	LTE Cat 1 (EU) with 2G/3G Fallback		
	GNSS	Internal (72 channels GPS, Galileo, GLONASS, BeiDou) - Untethered Dead Reckoning		
	Wi-Fi / BT	802.11a/b/g/n, BLE 4.2		
	Antennas (External)	1x SMA GPS, up to 2x SMA Cellular, up to 2x RP-SMA Wi-Fi/BT		
<b>OTHER</b>	RTC	Yes (Supercap Backup)		
	Ext. Watchdog	Yes		
	TPM	TPM 2.0		
	Sensors	Temperature, 3-axis Digital Accelerometer, 3-axis Digital Gyroscope		
	LEDs	1x Power, 5x Programmable		
	Buttons	1x System Reset, 1x Programmable (Service Panel)	1x System Reset, 1x UPS Reset, 1x Programmable (Service Panel)	
	SIM Slot	2x Micro-SIM (Service Panel)		
<b>POWER</b>	UPS Function	No	Integrated Ext. Temp. Li-Ion Battery (3.65V, 4000mAh), Enabling Safe Shutdown and Power State Restore	
	Input	Nominal: 24 VDC (Railways: EN50155 Class S1); Nominal: 12 or 24 VDC (Automotive); Vehicle Ignition Sense; Range: 9 to 36 VDC with Transient Protection; Vehicle Ignition Sense	Nominal: 24 VDC (Railways: EN50155 Class S3); Nominal: 12 or 24 VDC (Automotive); Vehicle Ignition Sense; Range: 9 to 36 VDC with Transient Protection; Vehicle Ignition Sense	
	Consumption	2.6W Idle, 15W Max	2.6W Idle, 30W Max	
<b>ENVIRONMENT</b>	Operating Temp	EN 50155 OT4 (-40 to +70°C)		
	Storage Temp	-40 to +85°C		
<b>CERTIFICATIONS</b>	Regulatory	CE		
	Safety	EN 62368-1		
	Vertical	E-Mark, EN50155, EN45545 (Fire and Smoke)		
	Environmental	RoHS3, REACH		
	Wi-Fi / BT Radio	RED		
	Cellular Radio	RED		
	IoT Platform	Microsoft Azure Certified, AWS IoT Core Qualified, Everywhere Cloud Native		
	Ingress	IP67		
<b>MECHANICAL</b>	Enclosure	Material: Aluminium - Color: Black Anodized		
	Dimensions	150x224x62mm (LxWxH) - With SMA Connectors, Including Integrated Mounting Bracket		

### Software

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<b>SOFTWARE</b>	OS	Eurotech Everyware Linux
	SDK	Yocto-based Eclipse Tooling, Azul Java
	IoT Framework	Everyware Software Framework (Java/OSGi)