BoltGATE 10-12

Multi-service IoT Edge Gateway - Rolling Stock and Automotive, LTE Cat 1

- **ARM Powered**
- **IoT Ready**
- **Internal UPS**
- **Rolling Stock and Automotive Certified**
- **Cloud Certified**
- **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 lightly 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, provides a UPS and protected serial ports, CAN bus and isolated digital interfaces.

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.

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.

BoltGATE 10-12

Multi-service IoT Edge Gateway - Rolling Stock and Automotive, LTE Cat 1

EUROTECH

Ordering Code: BTGATE-10-12-XX			
XX		-66	-66U
PROCESSOR	CPU	TI AM3352 1GHz, 1 Core	
MEMORY	RAM	1GB DDR3	
STORAGE	Embedded	8GB eMMC	
	Other	1x microSD Slot (Service Panel)	
I/O INTERFACES	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	
RADIO INTERFACES	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	
OTHER	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)	
POWER	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
ENVIRONMENT	Operating Temp	EN 50155 OT4 (-40 to +70°C)	
	Storage Temp	-40 to +85°C	
CERTIFICATIONS	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, Everyware Cloud Native	
	Ingress	IP67	
MECHANICAL	Enclosure	Material: Aluminium - Color: Black Anodized	
	Dimensions	150x224x62mm (LxWxH) - With SMA Connectors, Including Integrated Mounting Bracket	

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

Note: The information in this document is subject to change without notice and should not be construed as a commitment by EUROTECH. While reasonable precautions have been taken, EUROTECH assumes no responsibility for any error that may appear in this document. All trademarks or registered trademarks are the properties of their respective companies.