DynaGATE 10-12
Automotive Multi-service IoT Edge Gateway - TI AM335x, LTE Cat 1

≡ EUROTECH

- **ARM® Powered**
- **Internal LTE Cat 1 (NA, EU, JP)**
- **Automotive Grade (E-Mark, SAE/J1455)**
- **Field Protocol Support**
- **Cloud Certified**
- **Open Platform**
- **Customizable**

EC   ESF

Features

ARM Powered - Powered by TI AM335x CPU: optimum performance for intensive workloads at just 2W

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

Automotive Grade - E-Mark and SAE/J1455 certifications, GPS, high retention USB connectors, wide operating temperature, 6-36V power supply with transient protection and ignition key input, and optional conformal coating

Field Protocol Support - Native support for Modbus, S7 and OPC UA, the extensible, secure, and platform-independent industrial interoperability standard

Cloud Certified - Seamless integration with Eurotech Everyware Cloud, Microsoft Azure, Amazon Web Services IoT 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 DynaGATE 10-12 is a Multi-service IoT Edge Gateway designed to deliver LTE connectivity to 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 DynaGATE 10-12 is a low power gateway suitable for demanding use cases: it supports a 6 to 36V power supply with transient protection and vehicle ignition sense, and provides protected serial ports, CAN bus, noise and surge protected USB ports, and isolated digital interfaces.

All interfaces are suitable for applications with a high level of shock and vibration: front panel USB ports feature high retention connectors and all other signals are delivered by locking connectors or screw-flange terminal blocks.

The DynaGATE 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 GPS (Untethered Dead Reckoning GNSS). Expansion options include the ReliaCELL 10-20 family, consisting of external, rugged cellular modules for global use. Other side expansion modules are available, such as the ReliaLORA 10-12, a LoRa Gateway unit, or the RelialO 10-12, which provides analog input and more DI/O ports.

The DynaGATE 10-12 is equipped with a TPM 2.0 technology which provides standard cutting-edge security features that protect the system integrity and authenticity against unauthorized manipulations.

The DynaGATE 10-12 comes with Everyware Software Framework (ESF), a commercial, enterprise-ready edition of Eclipse Kura, the open source Java/OSGi middleware for IoT Edge Gateways. 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.

The DynaGATE 10-12 is Microsoft Azure certified and can also be integrated with Everyware Cloud (EC), the Eurotech IoT Integration Platform, or with 3rd party cloud services such as Amazon Web Services IoT.

DynaGATE 10-12
Automotive Multi-service IoT Edge Gateway - TI AM335x, LTE Cat 1

Ordering code: DYGATE-10-12-XX							
XX		- 62	- 63	- 64	- 65	- 66	- 67
PROCESSOR	CPU	TI AM3352 1GHz, 1 Core					
MEMORY	RAM	1GB DDR3					
STORAGE	Embedded	8GB eMMC					
	Other	1x microSD Slot (User Accessible)					
I/O INTERFACES	Ethernet	2x 10/100Mbps - RJ45					
	USB	3x Host 2.0 (Noise and Surge Protected) - Type A (Front Panel: High Retention)					
	Serial	1x RS-485 protected and isolated, 1x RS-232/RS-485 (Surge Protected, RS-485 Termination and Fail-safe Resistors), 1x Serial Console TTL					
	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					
	Exp. Connector	Yes, for Eurotech Side Expansion Modules (ReliaIO 10-12, ReliaLORA 10-12)					
RADIO INTERFACES	Internal Cellular	No	LTE Cat 1 (NA), 3G Fallback	LTE Cat 1 (EU), 2G/3G Fallback	LTE Cat 1 (NA), 3G Fallback	LTE Cat 1 (EU), 2G/3G Fallback	LTE Cat 1 (JP)
	External Cellular	Optional Accessory: ReliaCELL 10-20 (3G/4G)					
	GPS	Internal (72 channels GPS, Galileo, GLONASS, BeiDou) − Untethered Dead Reckoning GNSS					
	Wi-Fi / BT	a/b/g/n, BLE 4.2	No			a/b/g/n, BLE 4.2	
	Antennas (Ext.)	1x SMA GPS, up to 2x SMA Cellular, up to 2x RSMA 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, 1x Cellular, 4x Programmable					
	Buttons	1x Reset, 1x Programmable					
	SIM Slot	No	2x microSIM (User Accessible)				
POWER	Input	6-36VDC, with Transient Protection, Vehicle Ignition Sense					
	Consumption	2W Idle (15W Max)					
ENVIRONMENT	Operating Temp	- 40 to +85°C					
	Storage Temp	- 40 to +85°C					
	Humidity	5 to 95% Relative Humidity (non condensing) at +40°C					
CERTIFICATIONS	Regulatory	CE, FCC, ISED	FCC, ISED	CE	FCC, ISED	CE	JATE, TELEC
	Safety	EN 62368, UL 60950 (§)					
	Vertical	E-Mark, SAE/J1455					
	Environmental	RoHS2, REACH					
	Wi-Fi / BT Radio	RED, FCC, ISED	FCC, ISED	RED	FCC, ISED	RED	JATE, TELEC
	Cellular Radio	No	FCC,ISED,PTCRB, AT&T, Verizon	RED	FCC,ISED,PTCRB, AT&T, Verizon	RED	JATE, TELEC, NTT DoCoMo
	IoT Platform	Microsoft Azure Certified					
	Ingress	IP40					
MECHANICAL	Enclosure	Material: Aluminum - Color: Aluminum					
	Dimensions	139x118x52mm (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)

§ UL, NRTL listing Factory Option.

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.