



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



## 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 certification (SAE J1455 option), GNSS, high retention USB connectors, wide operating temperature, 9-30V 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, 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 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 9 to 30V 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 a GNSS with Untethered Dead Reckoning.

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 ReliaWAN 10-12, a LoRa Gateway unit, or the ReliaIO 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 is enriched with [Everyware Software Framework \(ESF\)](#), [Eurotech's IoT Edge Framework](#), that supports ready-to-use

## Automotive Multi-service IoT Edge Gateway - TI AM335x, LTE Cat 1

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 Integration Platform](#) (separately available), enabling advanced diagnostics, provisioning, and full remote device access and management

The DynaGATE 10-12 is AWS IoT Core Qualified, Microsoft Azure Certified and can be integrated with 3rd party cloud services.

### Ordering code: DYGATE-10-12-XX

XX		- 62	- 63	- 64	- 65	- 66	- 67	
<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 (User Accessible)						
<b>I/O INTERFACES</b>	Ethernet	2x 10/100Mbps - RJ45						
	USB	3x Host 2.0 (Noise and Surge Protected) - Type A (Front Panel: High Retention)						
	Serial	1x RS-422/RS-485 Protected and Isolated, 1x RS-232/RS-485 (Surge Protected, RS-485 Termination and Fail-safe Resistors), 1x TTL Serial Console						
	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, ReliaWAN 10-12)						
<b>RADIO INTERFACES</b>	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	802.11a/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						
<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, 1x Cellular, 4x Programmable						
	Buttons	1x Reset, 1x Programmable						
	SIM Slot	No	2x microSIM (User Accessible)					
<b>POWER</b>	Input	Nominal: 12 or 24 VDC; Range: 9 to 30VDC with Transient Protection, Ignition Key Sense						
	Consumption	2W Idle (15W Max)						
<b>ENVIRONMENT</b>	Operating Temp	- 40 to +70°C						
	Storage Temp	- 40 to +85°C						
	Humidity	5 to 95% Relative Humidity (non Condensing) at +40°C						
<b>CERTIFICATIONS</b>	Regulatory	CE, FCC, ISED	FCC, ISED	CE	FCC, ISED	CE	JATE, TELEC	
	Safety	EN 62368, UL 60950 (S)						
	Vertical	E-Mark, SAE J1455 (*)						
	Environmental	RoHS3, 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	
	Ingress	IP40						
<b>MECHANICAL</b>	Enclosure	Material: Aluminum - Color: Aluminum						
	Dimensions	139x118x52mm (LxWxH) - with SMA Connectors, Including Integrated Mounting Bracket						

### Software

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

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IoT Platform

AWS IoT Core Qualified, Microsoft Azure Certified, Everyware Cloud Native

§ UL, NRTL listing Factory Option.

\* Factory Option