DynaGATE 10-12

- **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

The DynaGATE 10-12 is a IoT Edge Gateway that has been designed to deliver LTE connectivity with 2G/3G fallback to automotive and lightly rugged applications.

Based on the TI AM335x Cortex-A8 (Sitara) processor family, with 1GB of RAM, 4GB 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, two protected RS-232/485 serial ports, two CAN bus interfaces, three noise and surge protected USB ports, and four 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, and two Fast Ethernet ports; an internal GPS (optionally: Untethered Dead Reckoning GPS) provides precise geolocation capabilities.

Expansion options include the ReliaCELL 10-20 family, consisting of external, rugged cellular modules for global use that are certified by leading carriers. An expansion connector allows adding extra features with side modules, such as the RelialLORA 10-12, a LoRa Gateway unit, or the RelialO 10-12, which provides analog input and more DI/O ports.

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. ESF is also integrated with Everyware Cloud (EC), Eurotech IoT Integration Platform (separately available), enabling advanced diagnostics, provisioning, and full remote device access and management.

The DynaGATE 10-12 is Microsoft Azure certified and can also be integrated with 3rd party cloud services such as Amazon Web Services IoT.

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DynaGATE 10-12

Specifications

Ordering code: DYGATE-10-12-XX						
XX	- 32	- 33	- 34	- 35	- 36	- 37
PROCESSOR — **CPU**	TI AM3352 1GHz, 1 Core					
MEMORY — **RAM**	1GB DDR3					
STORAGE — **Embedded**	4GB eMMC					
STORAGE — **Other**	1x microSD Slot (User Accessible)					
I/O INTERFACES — **Ethernet**	2x 10/100Mbps on RJ45					
USB	3x Host 2.0 (Noise and Surge Protected) - Type A (Front Panel: High Retention)					
Serial	2x 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 Side Expansion Modules (RelialO 10-12, ReliaLORA 10-12)					
RADIO INTERFACES — **Internal Cellular**	No	LTE Cat 1 (NA) 3G Fallback	LTE Cat 1 (EU) 2G Fallback	LTE Cat 1 (NA) 3G Fallback	LTE Cat 1 (EU) 2G Fallback	LTE Cat 1 (JP)
External Cellular	Optional Accessory: ReliaCELL 10-20 (3G/4G)					
GPS	Internal (72 channels GPS, Galileo, GLONASS, BeiDou) – Factory Option: Untethered Dead Reckoning GNSS					
Wi-Fi / BT	a/b/g/n, BLE 4.2	No		a/b/g/n, BLE 4.2		
Antennas (External)	1x SMA GPS, 2x RP-SMA Wi-Fi/BT	1x SMA GPS, 2x SMA Cellular		1x SMA GPS, 2x SMA Cellular, 2x RP-SMA Wi-Fi/BT		
OTHER — **RTC**	Yes (Supercap Backup)					
Ext. Watchdog	Yes					
TPM	Factory Option					
Sensors	Temperature, Accelerometer					
LEDs	1x Power, 1x Cellular, 4x Programmable					
Buttons	1x Reset, 1x Programmable					
SIM Slot	No	2x Micro-SIM (User Accessible)				
POWER — **Input**	6-36VDC, with Transient Protection, Vehicle Ignition Sense					
Consumption	2W Typ. (15W Max.)					
ENVIRONMENT — **Operating Temp**	- 40 to +85°C					
Storage Temp	- 40 to +85°C					
CERTIFICATIONS — **Regulatory**	FCC, ISED, CE	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	FCC, ISED, RED	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: Aluminium - Color: Aluminum					
Dimensions	139x118x52mm (LxWxH) - With SMA Connectors, Including Integrated Mounting Bracket					

SOFTWARE	
OS	Yocto Linux
SDK	Yocto-based Eclipse Tooling
IoT Framework	Oracle Java SE Embedded Version 8 - Everyware Software Framework (Java/OSGi)

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