



- Intel Atom® x5/x7 Powered
- Carrier-certified LTE Cat 4 (NA, EU,JP)
- Automotive Grade (E-Mark, SAE J1455)
- SAE J1939 and J1708
- Cloud Certified
- Open Platform
- Highly Customizable
- Long-term Availability



## Features

**Intel Atom Powered** - Powered by Intel Atom x5 and x7 (E3900) CPU: up to four cores in a fanless, ventless enclosure

**IoT Ready** - Breadth of connectivity options: carrier certified LTE Cat 4 cellular modems for multiple geographies, Wi-Fi, BLE, Fast Ethernet and Fieldbus interfaces, including CAN bus ports, optoisolated digital I/Os, protected USB and isolated RS-485

**Automotive Grade** - E-Mark and SAE J1455 certifications, untethered GPS, 6-axis sensor, 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 automotive protocols SAE J1939, J1708 and industrial protocols like Modbus and OPC UA, the extensible, secure, and platform-independent industrial interoperability standard

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

**Open Platform** - Provides a Java/OSGi IoT Edge Framework, no lock into proprietary solutions

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

## Description

The DynaGATE 20-30 is an IoT Edge Gateway, E-Mark certified, that addresses the challenges of the next-generation applications for smart transportation and fleet management. It combines hardware, software and connectivity to bridge the vehicle with leading Cloud services.

Based on the Intel® Atom™ x5 and x7 (E39xx) processor, with up to 8GB of ECC RAM and 64GB of eMMC, the DynaGATE 20-30 is a fanless, compact unit designed to exceed the requirements of automotive applications: it features extended operating temperature range, IP54 ingress protection, a wide range automotive power supply and a 6-axis sensor (accelerometer + gyroscope).

It provides protected USB 2.0 and 3.0, one configurable RS-232/422/485, DI/DOs, and dual CAN bus interfaces - plus, a wide range of connectivity capabilities including two Gigabit Ethernet on M12, up to two LTE Cat 4 cellular modem, Wi-Fi, Bluetooth Low Energy, and a GPS with Untethered Dead Reckoning; two mPCIe and one M.2 slots can be reconfigured to host custom expansions and peripherals (Factory Option). Sophisticated power saving and management capabilities include: power monitoring, Wake-On-Ring/SMS and Wake-On-RTC. The DynaGATE 20-30 adds integrated hardware and software security through a dedicated TPM 2.0 chip and is Secure Boot ready.

Powered by [Everyware Software Framework \(ESF\)](#), the Eurotech framework for IoT Edge devices, the DynaGATE 20-30 is a gateway that is easy to use, program and manage. The friendly web-based user interface allows to visually compose powerful data flows, such as the ones to acquire data from the vehicle through the built-in support for the SAE J1939 and J1708 standards. Vehicle data can then be analyzed on the Edge and published to the Cloud through the popular MQTT protocol. [Everyware Cloud, Eurotech IoT Integration Platform](#), completes this solution by providing data integration to the applications and by offering complete management of the devices deployed on the field.

## Automotive Multi-service IoT Edge Gateway - Intel Atom, LTE Cat 4

For customers requiring more configuration flexibility, Eurotech Professional Services offer an extensive number of options, both for the hardware (e.g. additional features, custom front panel/connectors, branding) and for the software (e.g. customized application images).

### Ordering code: DYGATE-20-30-XX

XX		-10	-11	-20	-21	-22	
<b>PROCESSOR</b>	CPU	Intel Atom x5-E3940, 1.60GHz (1.80GHz), Quad Core		Intel Atom x7-E3950, 1.60GHz (2.00GHz), Quad Core			
<b>MEMORY</b>	RAM	4GB (DDR3L 1600MHz - non ECC)		8GB (DDR3L 1600MHz - with ECC)			
<b>STORAGE</b>	Embedded	16GB eMMC		64GB eMMC			
	Other	Factory Option: M.2 SATA III 128 GB; 1x microSD Slot (User Accessible); Factory Option: M.2 SATA III 128 GB					
<b>I/O INTERFACES</b>	Ethernet	2x 10/100/1000Mbps, M12 X-coded Connector					
	USB	1x USB 2.0 Noise and Surge Protected; 1x USB 3.0 Noise and Surge Protected; 1x USB 2.0 (Service Panel)					
	Serial	1x RS-485 Isolated; 1x RS-232/RS-485/RS-422 Isolated; 1x TTL Console (Service Panel)					
	CAN 2.0B	2x CANBus with 5V/100mA Power Out, Isolated					
	Digital I/O	3x Isolated Digital Input, 3x Isolated Digital Output, 2x Analog Inputs (Factory Option: Odometer input)					
	Video	1x mini DisplayPort					
	Audio	1x Stereo Mic, 1x Stereo Line Out (Service Panel)					
<b>RADIO INTERFACES</b>	Cellular	-	1x LTE Cat 4 Global (*), 2G/3G Fallback	-	1x LTE Cat 4 Global (*), 2G/3G Fallback		
	GPS	GPS/QZSS/GLONASS/BeiDou/Galileo with Untethered Dead Reckoning				GPS/QZSS/GLONASS/BeiDou/Galileo with Real Time Kinematics	
	Wi-Fi / BT	802.11ac/abgn + Bluetooth 5.0					
	Antennas (External)	2x SMA (Cellular with Antenna Diversity) - 2x RP-SMA (Wi-Fi/BT) - 1x SMA (GPS)					
<b>SPECIAL FEATURES</b>	Ultra-low Power Mgmt	Wake-On-Ring/SMS - Wake-On-RTC Alarm					
	Power Monitoring	Input Voltage and Current Monitor					
<b>OTHER</b>	RTC	Yes, with SuperCAP (up to 2 Months Retain), Fast Reboot Support					
	System Watchdog	Yes, Discrete Chip					
	EEPROM	32KB					
	TPM	TPM 2.0					
	Sensors	6-Axis (Accelerometer, Gyroscope), Temperature					
	LEDs	1x Power - 2x MiniPCIe Slot - 1x M.2 Slot - 2x Programmable (Dual Color Green/Amber)					
<b>MISC</b>	Buttons	1x Reset, 1x Programmable (Service Panel)					
	SIM slot	2x nano-SIM Push Push (Service Panel) - User Configurable as Dual SIM/Single modem or Single SIM/Dual Modem					
<b>POWER</b>	Input	Automotive Wide Input Range 6-36 VDC, Load Dump Protection and Isolated Ignition Key Sense					
	Consumption	9.5W (TDP)		12W (TDP)			
<b>ENVIRONMENT</b>	Operating Temp	- 40 to +85 °C					
	Storage Temp	- 40 to +85 °C					
<b>CERTIFICATIONS</b>	Regulatory	CE/FCC/ISED					
	Safety	EN62368, UL60950 (§)					
	Vertical	E-Mark					
	Environmental	RoHS3 - REACH					
	Wi-Fi / BT Radio	CE/FCC/ISED					
	Cellular	-	RED/FCC/ISED, PTCRB, AT&T, T-Mobile, Verizon	-	RED/FCC/ISED, PTCRB, AT&T, T-Mobile, Verizon		
	Ingress	IP54					
<b>MECHANICAL</b>	Enclosure	Material: Aluminium - Color: Black Anodized					
	Dimensions	150x224x62mm (LxWxH) - With Connectors					
	Weight	1.6 Kg					

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### SOFTWARE

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

(\*) Cellular modem is certified in several countries, DYGATE-20-30 country specific certification upon request

§ UL, NRTL listing Factory Option.

PRELIMINARY