DynaGATE 20-30

AUTOMOTIVE GATEWAY - Intel Atom - LTE - Carrier Certified - Wi-Fi/BT



- **Intel Atom® x5/x7 Powered**
- **Carrier-certified (NA, EU,JP)**
- **Global Cat 4 LTE**
- **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 certification (SAE J1455 option), untethered GPS, 6-axis sensor, high retention USB connectors, wide operating temperature, 6-35V power supply with transient protection and ignition key input, and optional conformal coating

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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 global LTE Cat 4 cellular modems, Wi-Fi, Bluetooth Low Energy, and a GNSS 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 though 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.

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).

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Ordering code: DYGATE-20-30-XX						
XX		-10	-11	-20	-21	-22
PROCESSOR	CPU	Intel Atom x5-E3940, 1.60GHz (1.80GHz), Quad Core		Intel Atom x7-E3950, 1.60GHz (2.00GHz), Quad Core		
MEMORY	RAM	4GB (DDR3L 1600MHz - non ECC)		8GB (DDR3L 1600MHz - with ECC)		
STORAGE	Embedded	16GB eMMC		64GB eMMC		
	Other	1x microSD Slot (User Accessible); Factory Option: M.2 SATA III 128 GB				
I/O INTERFACES	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, Factory Option: Odometer input				
	Analog I/O	2x Not Isolated Analog Inputs (12-bit, 0-36VDC)				
	Video	1x mini DisplayPort				
	Audio	1x Stereo Mic, 1x Stereo Line Out (Service Panel)				
RADIO INTERFACES	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	802.11 a/b/g/n + Bluetooth 4.0				
	Antennas (External)	2x SMA (Cellular with Antenna Diversity) - 2x RP-SMA (Wi-Fi/BT) - 1x SMA (GPS)				
SPECIAL FEATURES	Ultra-low Power Mgmt	Wake-On-Ring/SMS - Wake-On-RTC Alarm				
	Power Monitoring	Input Voltage and Current Monitor				
OTHER	RTC	Yes, with SuperCAP (up 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)				
MISC	Buttons	1x Reset, 1x Programmable (Service Panel)				
	SIM slot	2x Micro-SIM Push Push (Service Panel) - User Configurable as Dual SIM/Single modem or Single SIM/Dual Modem				
POWER	Input	Nominal: 12-24 VDC; Range: 6 to 35VDC, Load Dump Protection and Ignition Key Sense				
	Consumption	Nominal: 17W				
ENVIRONMENT	Operating Temp	- 40 to +70 °C				
	Storage Temp	- 40 to +70 °C				
CERTIFICATIONS	Regulatory	CE/FCC/ISED				
	Safety	EN62368, UL60950 (§)				
	Vertical	E-Mark (SAE J1455 Factory Option)				
	Environmental	RoHS3 - REACH				
	Wi-Fi / BT Radio	CE(RED)/FCC/ISED				
	Cellular	-	CE (RED)/FCC/ISED, PTCRB, AT&T, Verizon	-	CE(RED)/FCC/ISED, PTCRB, AT&T, Verizon	
	Ingress	IP54				
MECHANICAL	Enclosure	Material: Aluminium - Color: Black Anodized				
	Dimensions	224 (W) x 128 (D) x 62 (H), mm (connectors excluded)				
	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.

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