DynaGATE 20-30
Automotive Multi-service IoT Edge Gateway - Intel Atom, LTE Cat 4

EUROTECH

- **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 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		
STORAGE Other	Factory Option: M.2 SATA III 128 GB; 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, 2x Analog Inputs (Factory Option: Odometer input)				
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	802.11ac/abgn + Bluetooth 5.0				
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 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 nano-SIM Push Push (Service Panel) - User Configurable as Dual SIM/Single modem or Single SIM/Dual Modem				
POWER Input	Automotive Wide Input Range 6-36 VDC, Load Dump Protection and Isolated Ignition Key Sense				
Consumption	9.5W (TDP)		12W (TDP)		
ENVIRONMENT Operating Temp	- 40 to +85 °C				
Storage Temp	- 40 to +85 °C				
CERTIFICATIONS 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				
MECHANICAL Enclosure	Material: Aluminium - Color: Black Anodized				
Dimensions	150x224x62mm (LxWxH) - With Connectors				
Weight	1.6 Kg				

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.