



- 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 | |
|-------------------------|----------------------|---|--|---|--|---|--|
| 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, 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 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) | | | | | |
| 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 | | | | | |

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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