



- 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 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.

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                | 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, 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)  |   |   |   |     |
| <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           | 802.11 a/b/g/n + Bluetooth 4.0   |   |   |   |     |
|                         | Antennas (External)  | 2x SMA (Cellular with Antenna Diversity) - 2x RP-SMA (Wi-Fi/BT) - 1x SMA (GPS)                               |   |   |   |     |
| <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 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 Micro-SIM Push Push (Service Panel) - User Configurable as Dual SIM/Single modem or Single SIM/Dual Modem |   |   |   |     |
| <b>POWER</b>            | Input                | Nominal: 12-24 VDC; Range: 6 to 35VDC, Load Dump Protection and Ignition Key Sense                           |   |   |   |     |
|                         | Consumption          | Nominal: 17W   |   |   |   |     |
| <b>ENVIRONMENT</b>      | Operating Temp       | - 40 to +70 °C   |   |   |   |     |
|                         | Storage Temp         | - 40 to +70 °C   |   |   |   |     |
| <b>CERTIFICATIONS</b>   | 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   |   |   |   |     |
| <b>MECHANICAL</b>       | 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.