



- **Embeddable SBC**
- **ARM® Powered**
- **IoT Ready**
- **Industrial Grade**
- **LTE Cat 1 (NA, EU, JP)**
- **Open Platform**
- **Customizable**

## Features

**Embeddable SBC** - Single Board Computer version of the ReliaGATE 10-12: the same HW and SW features in an easy to integrate compact board

**ARM Powered** - Powered by TI AM335X CPU: optimum performance for intensive workloads at just 2W

**IoT Ready** - Breadth of connectivity options: carrier certified LTE Cat 1 cellular modems for multiple geographies, Wi-Fi, BLE, Fast Ethernet and Fieldbus interfaces, including CAN bus ports, optoisolated digital I/Os, protected USB and serial ports

**Industrial Grade** - Wide operating temperature, wide range power supply with transient protection

**Field Protocol Support** - Native support for Modbus, S7 and OPC UA, the extensible, secure, and platform-independent industrial interoperability standard

**Open Platform** - Provides a Java/OSGi gateway middleware, to free the developer from proprietary solutions

**Customizable** - Personalization and full customization options are available, ranging from custom SW image pre-installation to deep HW/SW configurations

## Description

The CPU-310-12 is a Single Board Computer that implements an IoT Edge Gateway with LTE connectivity (and 3G fallback). It is designed to be deeply embedded in industrial and lightly rugged applications.

Based on the TI AM335X Cortex-A8 (Sitara) processor family, with 1GB of RAM, 8GB of eMMC and user-accessible MicroSD slot and dual Micro-SIM slots, the CPU-310-12 is a low power embeddable SBC suitable for demanding use cases: it supports a 9 to 36V power supply with transient protection and ignition sense, two protected RS-232/RS-485 serial ports, two CAN bus interfaces, three noise and surge protected USB ports, and four isolated digital interfaces.

The CPU-310-12 features a wide range of connectivity capabilities: it integrates an on-board LTE Cat 1 cellular modem with dual Micro-SIM support, Wi-Fi, Bluetooth Low Energy, and two Fast Ethernet ports and three Sensors: Temperature, 3-axis Gyroscope and a 3-axis Accelerometer; an optional on-board GPS provides precise geolocation capabilities.

The CPU-310-12 is equipped with a TPM 2.0 technology which provides standard cutting-edge security features that protect the system integrity and authenticity against unauthorized manipulations.

The CPU-310-12 comes with Everyware Software Framework (ESF), a commercial, enterprise-ready edition of Eclipse Kura, the open source Java/OSGi middleware for IoT Edge Gateways.

Distributed and supported by Eurotech, ESF supports ready-to-use field protocols (including Modbus, OPC-UA, S7), MQTT connectivity, web-based visual data flow programming and deep configuration.

ESF is also integrated with Everyware Cloud (EC), Eurotech IoT Integration Platform (separately available), enabling advanced diagnostics, provisioning, and full remote device access and management.

Used stand-alone, or in conjunction with EC, the CPU-310-12 provides a fast go-to-market solution for IoT projects of any size.

## Ordering code: CPU-310-12-XX

| XX                      |                      | - 62  | - 63                            | - 64                           | - 65                            | - 66                                       | - 67                    |  |
|-------------------------|----------------------|---|---------------------------------|--------------------------------|---------------------------------|--|-------------------------|--|
| <b>PROCESSOR</b>        | CPU                  | TI AM3352 1GHz, 1 Core  |                                 |                                |                                 |  |                         |  |
| <b>MEMORY</b>           | RAM                  | 1GB DDR3  |                                 |                                |                                 |  |                         |  |
| <b>STORAGE</b>          | Embedded             | 8GB eMMC  |                                 |                                |                                 |  |                         |  |
|                         | Other                | 1x microSD Slot   |                                 |                                |                                 |  |                         |  |
| <b>I/O INTERFACES</b>   | Ethernet             | 2x 10/100Mbps - RJ45  |                                 |                                |                                 |  |                         |  |
|                         | USB                  | 3x Host 2.0 (Noise and Surge Protected) - Type A  |                                 |                                |                                 |  |                         |  |
|                         | Serial               | 1x RS-485 protected and isolated, 1x RS-232/RS-485 (Surge Protected, RS-485 Termination and Fail-safe Resistors), 1x Serial Console TTL |                                 |                                |                                 |  |                         |  |
|                         | CAN 2.0B             | 2x CAN bus with 5V (100mA) Power Out  |                                 |                                |                                 |  |                         |  |
|                         | Digital I/O          | 2x Digital Input 36V, 1KV Optoisolated – 2x Digital Output (40VAC/DC), 500mA Sink, 1KHz Max Switching                                   |                                 |                                |                                 |  |                         |  |
| <b>RADIO INTERFACES</b> | Cellular             | No  | LTE Cat 1 (NA), 3G Fallback     | LTE Cat 1 (EU), 2G/3G Fallback | LTE Cat 1 (NA), 3G Fallback     | LTE Cat 1 (EU), 2G/3G Fallback             | LTE Cat 1 (JP)          |  |
|                         | GPS                  | Factory Option: Internal (72 channels GPS, Galileo, GLONASS, BeiDou)  |                                 |                                |                                 |  |                         |  |
|                         | Wi-Fi / BT           | a/b/g/n, BLE 4.2  | No                              |                                |                                 | a/b/g/n, BLE 4.2                           |                         |  |
|                         | Antennas (Internal)  | 2x U.FL (M) Wi-Fi/BT  | 2x U.FL (M) Cellular            |                                |                                 | 2x U.FL (M) Cellular, 2x U.FL (M) Wi-Fi/BT |                         |  |
|                         | <b>OTHER</b>         | RTC   | Yes                             |                                |                                 |  |                         |  |
|                         | Ext. Watchdog        | Yes   |                                 |                                |                                 |  |                         |  |
|                         | EEPROM               | 256kbit   |                                 |                                |                                 |  |                         |  |
|                         | TPM                  | TPM 2.0   |                                 |                                |                                 |  |                         |  |
|                         | Sensors              | Temperature, Accelerometer  |                                 |                                |                                 |  |                         |  |
|                         | LEDs                 | Temperature, 3-axis digital Accelerometer, 3-axis digital Gyroscope   |                                 |                                |                                 |  |                         |  |
|                         | Buttons              | 1x Reset, 1x Programmable   |                                 |                                |                                 |  |                         |  |
|                         | SIM Slot             | No  | 2x microSIM                     |                                |                                 |  |                         |  |
| <b>POWER</b>            | Input                | 6-36VDC, with Transient Protection, Ignition Sense  |                                 |                                |                                 |  |                         |  |
|                         | Consumption          | 2W Idle (15W Max)   |                                 |                                |                                 |  |                         |  |
| <b>ENVIRONMENT</b>      | Operating Temp       | - 30 to +70°C   |                                 |                                |                                 |  |                         |  |
|                         | Storage Temp         | - 40 to +85°C   |                                 |                                |                                 |  |                         |  |
|                         | Humidity             | 5 to 95% Relative Humidity (non condensing) at +40°C  |                                 |                                |                                 |  |                         |  |
| <b>CERTIFICATIONS</b>   | Regulatory (§)       | CE, FCC, ISED   | FCC, ISED                       | CE                             | FCC, ISED                       | CE   | JATE, TELEC             |  |
|                         | Safety (§)           | EN 62368, UL 60950  |                                 |                                |                                 |  |                         |  |
|                         | Environmental        | RoHS2, REACH  |                                 |                                |                                 |  |                         |  |
|                         | Wi-Fi / BT Radio (§) | RED, FCC, ISED  | FCC, ISED                       | RED                            | FCC, ISED                       | RED  | JATE, TELEC             |  |
|                         | Cellular Radio (§)   | No  | FCC, ISED, PTCRB, AT&T, Verizon | RED                            | FCC, ISED, PTCRB, AT&T, Verizon | RED  | JATE, TELEC, NTT DoCoMo |  |
|                         | IoT Platform         | Microsoft Azure Certified   |                                 |                                |                                 |  |                         |  |
| <b>MECHANICAL</b>       | Dimensions           | 138x85x24mm (LxWxH)   |                                 |                                |                                 |  |                         |  |

§: Designed to meet.

## Software

|                 |               |   |
|-----------------|---------------|---|
| <b>SOFTWARE</b> | OS            | Yocto Linux                                 |
|                 | SDK           | Yocto-based Eclipse Tooling, Oracle Java SE |
|                 | IoT Framework | Everyware Software Framework (Java/OSGi)    |