

NODO IOT (HW)

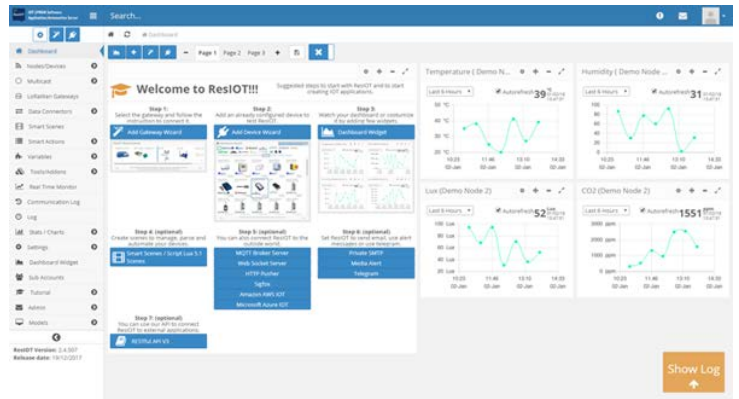
System board specs:

- 1 i210IS SFP / 3 i211AT LAN / AMD GX-412TC CPU / 4 GB DRAM
- CPU: AMD Embedded G series GX-412TC, 1 GHz quad Jaguar core with 64 bit and AES-NI support, 32K data + 32K instruction cache per core, shared 2MB L2 cache.
- DRAM: 4 GB DDR3-1333 DRAM
- Storage: Boot from SD card (internal sdhci controller), external USB or m-SATA SSD. 1 SATA + power connector (Installed 120GB SSD). mSATA is shared with miniPCI express.
- 12V DC, about 6 to 12W depending on CPU load. Jack = 2.5 mm, center positive Connectivity: 1 SFP port (Gigabit, Intel i210IS), 3 Gigabit Ethernet channels (Intel i211AT). The SFP slot can be used for WAN connectivity, e.g. fiber optics.
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- I/O: microUSB serial port, 2 USB 3.0 external + 4 USB 2.0 internal, three front panel LEDs, pushbutton.
- Expansion: 3 miniPCI express slots; GPIO header, optional I2C bus, COM2 (3.3V RXD / TXD)
- Optional NB/4G & LoraWAN boards interfaces for the miniPCIe slots. WiFi5 interface through one USB port.
- Cooling: Conductive cooling from the CPU to the enclosure using a 3 mm alu heat spreader (included). Range working temperature 0°C - 40°C. Sideways installation recommended for better thermal behavior. Optional external fan for better operational range.
- Dimensions 168 mm wide x 157 mm deep x 30 mm high. RoHS compliant



NODO IOT (SW)

Based on the ResIOT® IoT Platform



- Portable to different architectures (centralized, distributed, Edge, Virtual Machines and Sandboxes)
- Available for Windows, Linux and ARM environments
- Core IoT-Server as an Application/Automation/Data adapter Server
- Dashboard(Control Center)
 - Widgets for easily check the status of your network devices/gateways. You can have real-time charts, action buttons, images and maps with synoptic and location of devices and be notified immediately of any problems or events such as timeouts. Much more than a dashboard, a real control center
- High Availability and Scalability
 - The Platform was designed to ensure the security and availability of all data with support for redundancy, failover, workload balancing, high scalability and minimized effect on maintenance. The Platform allows the management of millions of devices
- Data Adapters & Connectors
 - Real time, simultaneous and persistent connections with multiple LoRaWAN® Network Servers and other connectors: MQTT Brokers client or server, Websockets, Azure IoT,AWS IoT, http pusher client or server, Sigfox™ backend and other network servers like TTN The Things Network
- Infinity Automation
 - With Smart Scene and Advanced Scene with Lua 5.1 scripting language, you can build and setup all kinds of automation between IOT devices, Low Power Wide Area Network or standard protocols Tcp, Http, Curl devices
- Scheduling
 - It is possible to schedule any type of event or action at configured intervals
- Lua 5.1 Scripting
 - Platform integrates the Lua5.1 scripting language interpreter into the Smart Advanced Scene module. In addition to the standard functions, more than 100 functions have been introduced to integrate with all the devices in the system, for parsing the payloads with hexadecimal management, bytes array, for saving data (eg temperature and humidity with dynamic creation of charts), to send downlinks, manage queues, create alerts, debug and much more
- Asset management Tracking & Maps
 - Dashboard integrates a management system for Openstreetmap™ and Google Maps™ with which it is possible to monitor the position or the path of the devices
- Alerts and Notifications
 - Built-in notification system on events: messages can be sent via email using private SMTP servers, with Telegram™ BOT or displayed directly on the dashboard. It is also possible to send messages through Smart Scene or Advanced Scene Lua5.1
- Web interface, autoprovisioning & monitoring
 - The platform can be used from any Desktop, Tablet or Mobile device regardless of operating system. Bootstrap system compatible with the most popular internet browsers such as IE10, IE11, Firefox, Safari, Opera, Chrome, Edge and more
 - Constant monitoring of the Base Station / Gateway of Cpu, Ram, Disk, Errors with sending alerts and notifications
- Data Store,RT Sending & Analysis
 - All action logs and uplink / downlink communication data are saved. It is possible to perform simple data analysis with ResIOT. In the case of external connectors such as Mqtt, Websocket, Http pusher or other data are simultaneously sent to all connected systems (multiple semantics supported)
- gRPC JSON REST API
 - Integrate inside any third-party software with any type of languages programming. More than 100 APIs available for the management of devices / gateways / Smart scenes / connectors and variables
- LoRaWAN® Private or/and Public LPWAN
 - LoRaWAN® Network Server included. Can be used for the development of Public, Private or Combined LPWAN networks. The network operator provides public gateways/base stations, but also allows their customers to also connect private gateways to increase coverage. LoRaWAN® Network Server supports Adaptive data rate (ADR) for all available frequencies
- IoT preconfigured devices
 - Thanks to the ResIOT® IoT Model component we have pre-configured several IoT devices inside the platform to simplify use in plug-and-play mode. Some manufacturers: Ascoel, Multitech, Adeunis, Elsys, etc. With the wizard you can quickly connect the devices and immediately start to use them without complex configurations of payload decoding
- IoT Agents for semantics gateways comms with third parties platforms (i.e. Fiware)
- UNE 178104 & UNE 178108 compatible