CASCADEMIC solutions

InnovaTion towards Embedded Planet

Modbus to LoRawan converter

Highlights

Easy configuration of MODBUS slave

Customizable LoRaWAN frequency

Retrofit device

Long battery life

Integrating the Industry with LoRaWAN

CASCADEMIC MODBUS to LoRaWAN Converter plays the role of a bridge between the legacy MODBUS Interface and the emerging Long range LoRaWAN Network across geographies. MODBUS is typically used to transmit signals from instrumentation and control devices back to a main controller or data gathering system, for example a system that measures temperature and humidity and communicates the results to a computer. This data can now be collected through the LoRa Network which may be a public or a private network.

Easy Configuration and Customization

CASCADEMIC MODBUS to LoRa Converter allows easy configuration and installation. It has a quick turn around time due to customization existing solution as per requirement. Device configuration is easy and possible through both wired and wireless options based on the network. Most of the LoRaWAN parameters like the frequency of sending data, calibration and configuration of the industrial equipment (like energy meter) are configurable through LoRa as well as UART, though the initial LoRa settings are only done through UART. The MODBUS parameters of individual devices can also be configured based on the registry for the correct Decoding of data through MODBUS.

Enabling Network Intelligence

The node is made server ready and can be integrated with any of the various LoRaWAN network servers and gateways. The node sits at the intersection by aggregating the various sensor data, device management of nodes with the support for various types of sensors and protocols. System integrators, application developers and embedded developers find great use for this node as it helps them in minimizing their time to market, reducing their cost of ownership and bringing about maximum utility from their respective applications.

A Retrofit Device

CASCADEMIC's MODBUS to LoRaWAN Converter can be fitted onto existing industrial sensors and meters and needs no replacement of the infrastructure, thus acting as an add-on non-invasive wireless adapter to the legacy systems.

Customizable Architecture

The MODBUS to LoRaWAN Converter can be customized for multiple LoRa frequencies across the globe – 433 MHz, 865-867 MHz, 915 MHz, 1020 MHz. Also in case of other industrial interfaces like PROFIBUS, HART and PROFINET, the modular architecture enables a very short design life cycle for the new interfaces.

Support of End to End LoRaWAN Solution

CASCADEMIC has built strong expertise on the complete LoRaWAN Node and gateway solution. We customize the nodes with sensors according to the IoT use case, and provide the complete solution coupled with our LoRaWAN gateway helping customers focus on their strengths and reduce their time to market.

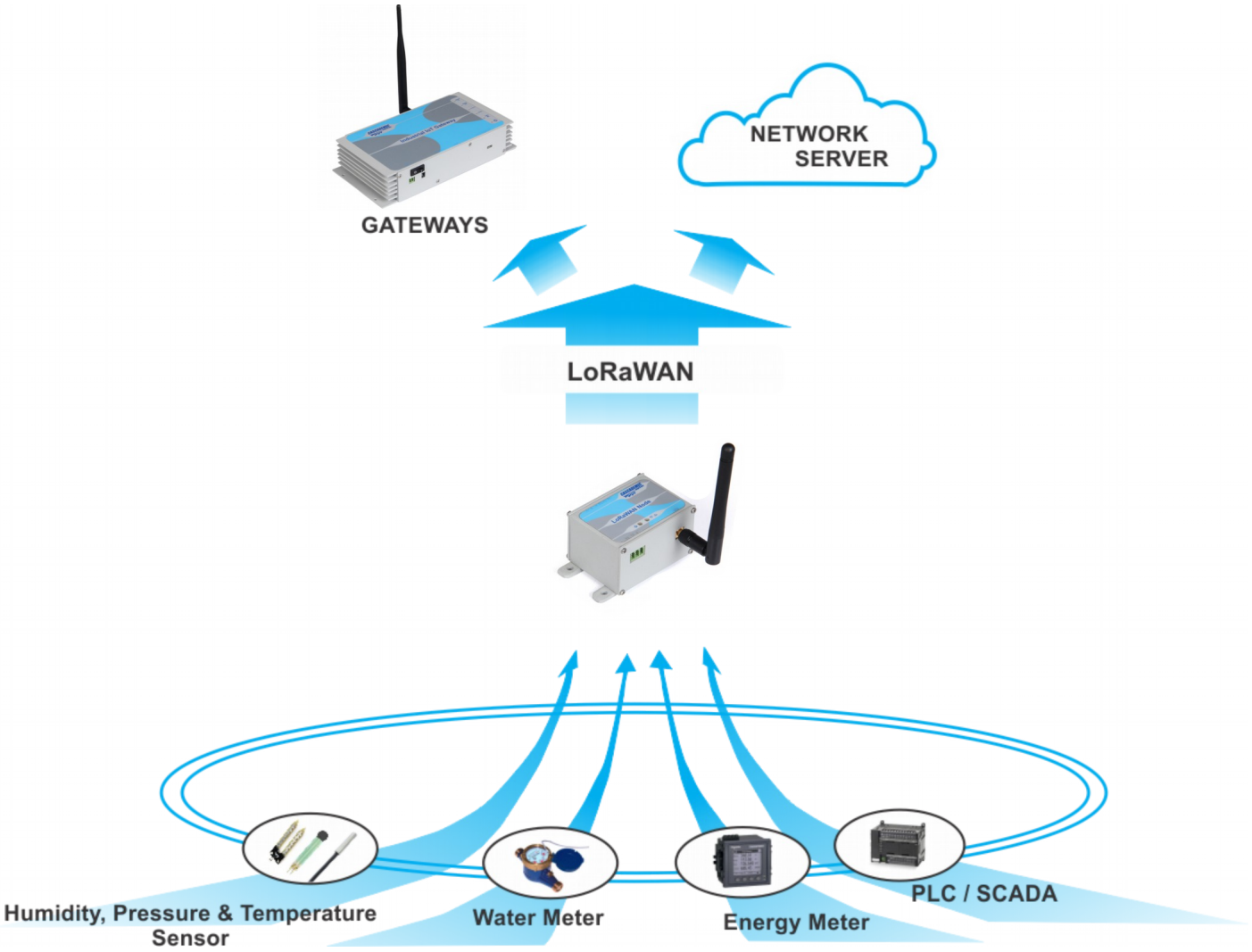
Hardware	
Processor	• ARM Cortex M0+ based CPU
Operating speed (Max)	• 48 MHz
Memory	• 32 KB RAM • 256 KB ROM
Storage	• 8 MB SPI Flash
Power supply	• 5V through USB • Battery • 3.7V, 1100 mAh Rechargeable battery
Wired Interface Support	
Protocol	• MODBUS RTU
Serial	• RS232 / RS485 • UART / TTL
LoRaWAN Communication	
Protocol	• LoRaWAN 1.2
Frequency	• 863-870 MHz • 902-928 MHz • 915-928 MHz
Transmit power	• 14 dBm - 20 dBm
Bit rate	• 0.3 to 50 Kbps for LoRaWAN, can support upto 300 kbps
Spreading factor	• 7 to 12 (Adaptive spreading factor support)
Sensitivity	• Upto -148 dBm

User Interface	
LED Indication	• Power status • MODBUS slave device status • LoRa connection status
Environmental Parameters	
Operating temperature	• 0 °C to 55 °**C**
Storage temperature	• 0 °C to 55 °C
Relative humidity	• 5% to 95% Non condensing
Mechanical Parameters	
Dimension	• 65(L) x 55(W) x 45(H)mm
Chassis	• Aluminum
Mounting	• Wall mounting • Table top

* Certification based on customer requirement
* Battery life dependent on data frequency

Smart Metering

With the increase in the number of Industries and residential complexes and depleting energy resources, efficient energy management has gained high importance. With Smart Metering method from CASCADEMIC using the MODBUS to LoRa converter it is possible to track and manage energy wastage and pilferage, thus greatly reduce operating costs. The MODBUS Converter works with and can be connected to most energy meters and the data can be passed on to the cloud through the LoRa Gateway for real time energy monitoring thereby enabling utility based billing.



CASCADEMIC solutions

Industrial IoT Gateway

Energy Monitoring Solution

LoRa™

LoRa Connectivity Solution

InnovaTion towards Embedded Planet

Cloud Connectivity Solution

Azure
IBM Bluemix
amazon web services

Environment Monitoring

Thermal Printer

Address:

1743, 1st Floor, Sri Raghavendra Plaza
9th Cross, 2nd Phase, JP Nagar
Bangalore,Karnataka, India.
Pincode: 560078
Mobile: 080 2658 3333 Email: info@cascademic.com