CASCADEMIC solutions

InnovaTion towards Embedded Planet

MODBUS GATEWAY

LoRa

Modbus

Highlights

- Configurable Inputs
- Modular Wireless Communication
- Intelligent On Board Storage
- Wide Protocol Support
- Cloud Ready Gateway

The Bridge in Industrial IoT

With an ever increasing necessity to collect data from sensors and industrial machines, there is now a need for a Single gateway adaptable to all. CASCADEMIC's MODBUS gateway provides the user this adaptability and modularity from software as well as hardware points of view, with all the wireless and wired interfaces built on modular architecture. This plug and play architecture greatly reduces the prototype development life cycle and provides developers and integrators with a multitude of options with regard to the feature set of the gateway. With various input interfaces like RS485, RS232 and Analog inputs, the gateway can be connected to multiple sensors finding its role in a variety of Industrial IoT use cases. There is a need for a stable rugged gateway which ensures reliable connectivity and no downtime helping customers make intelligent decision based on data available.

Retrofit device-plug and play architecture

The MODBUS Gateway can be fitted onto existing industrial sensors and meters with no replacement of the infrastructure, thus acting as an add-on non-invasive wireless converter to the legacy systems. Coupled with an easy installation procedure and system integration, the gateway can be fitted in a very short duration with no downtime and can be up and running within a few hours. The user interface helps the customers at the time of installation with simple mounting provision on the enclosure.

Modular wireless communication

With the ever growing list of types of wireless communication and the various types of connection preferences, there is a modular gateway required which can be customized based on the necessity. The MODBUS Gateway can be configured with various wireless topologies like Bluetooth, LoRa, Wi-Fi and Cellular Connectivity (3G /4G / LTE) provides the perfect fit.

Enabling cloud intelligence

The gateway is built cloud ready and can be integrated with any of the various cloud platforms with minimum effort. With the need for billions of devices to be connected to the internet in the emerging IoT era, the gateway 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 or this gateway as it helps them in minimizing their time to market, reducing their cost of ownership and bringing about maximum utility from their respective applications.

Intelligent on Board storage

The MODBUS gateway has the provision for an on board Flash Storage which has the capability to store data in case of connectivity loss due to network issues. With an intelligent logic built on board, the customer can be assured of receiving the sensors data for the complete duration.

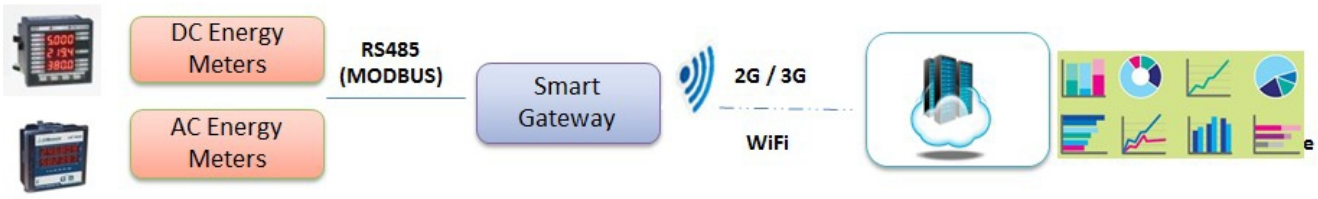
Hardware	
Processor	• ARM Cortex M4 based CPU
Operating system(Max)	• 120 MHz
Memory	• 128KB RAM • 1MB ROM
Storage	• 8MB Spl Flash • Store and forward logic in case of connectivity loss
Power supply	• 24V, 3A (Power jack / Terminal block) • 7.4V, 1100mAh Lithium Ion Rechargeable battery
RTC support	• Yes
Wired Input Interfaces	
Protocol	• MODBUS RTU • DLMS / COSEM* • IEC 62056-21*
Serials	• 1 RS232 Port • 2 RS485 (Half duplex / single full duplex) • UART / TTL interfaces • Terminal block interface • DIN*
Analog Inputs	• 4 Analog Input channel (0-24 V) • 4–20 mA current loop support
Wireless Communication	
Protocol	• HTTP / MQTT Protocol • JSON Data format
WWAN – 3G/4G/LTE	• 3G-HSPA: Upto 7.2 Mbps (D/L), Upto 5.76 Mbps (U/L) • 3G-WCDMA: Upto 384 kbps (U/L and D/L) • 4G- DL, 5 Mbps UL
Wi-Fi	• 802.11 b/g/n support • Client mode
LoRaWAN	• LoRaWAN 1.0.2 • Class A and Class C support
SIM card Interface	• Micro SIM interface x 1 (default) • Embedded SIM x 1 (optional)
Antenna Interface	• SMA (default)

	• IPEX (optional)

User Interfaces	
LED Indication	• Power status • MODBUS slave device status • Wireless connectivity status
Operating Conditions	
Operating temperature	• 0 ºC to 50 ºC • -30 °C to +70 °C
Storage temperature	• 0 ºC to 55 ºC
Relative humidity	• 5% to 95% Non condensing
Mechanical Parameters	
Enclosure grade	• IP 65 (optional)
Dimension	• 125 * 157 * 43 (mm)
Chassis	• Aluminum
Mounting	• Wall Mount, Table Mount

* Custom configuration
** Device operating in the extreme industrial range, on a continuous basis, with maximum load can
significantly impact the specification values.

MODBUS Gateway for Energy Monitoring



Industry, more than any other sector, has developed a keen interest in reducing energy consumption because high energy costs have become a key economic driver, especially for those in technology-intensive fields. With the MODBUS Gateway from CASCADEMIC it is possible to connect to various energy meters through the DLMS and MODBUS Protocol enabling real time monitoring of energy consumption. The rugged gateway can be connected to most energy meters with cloud connectivity enabling utility based billing. With a modular architecture and intelligent wireless communication with store and forward logic implemented on Gateway, you can be assured of no data loss so as to make accurate

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

and effective decisions using the energy data.

CASCADEMIC solutIons

Industrial IoT Gateway

Energy Monitoring Solution

LoRa™

LoRa Connectivity Solution

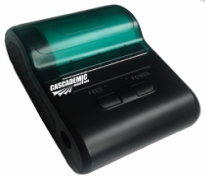
InnovaTion towards Embedded Planet

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