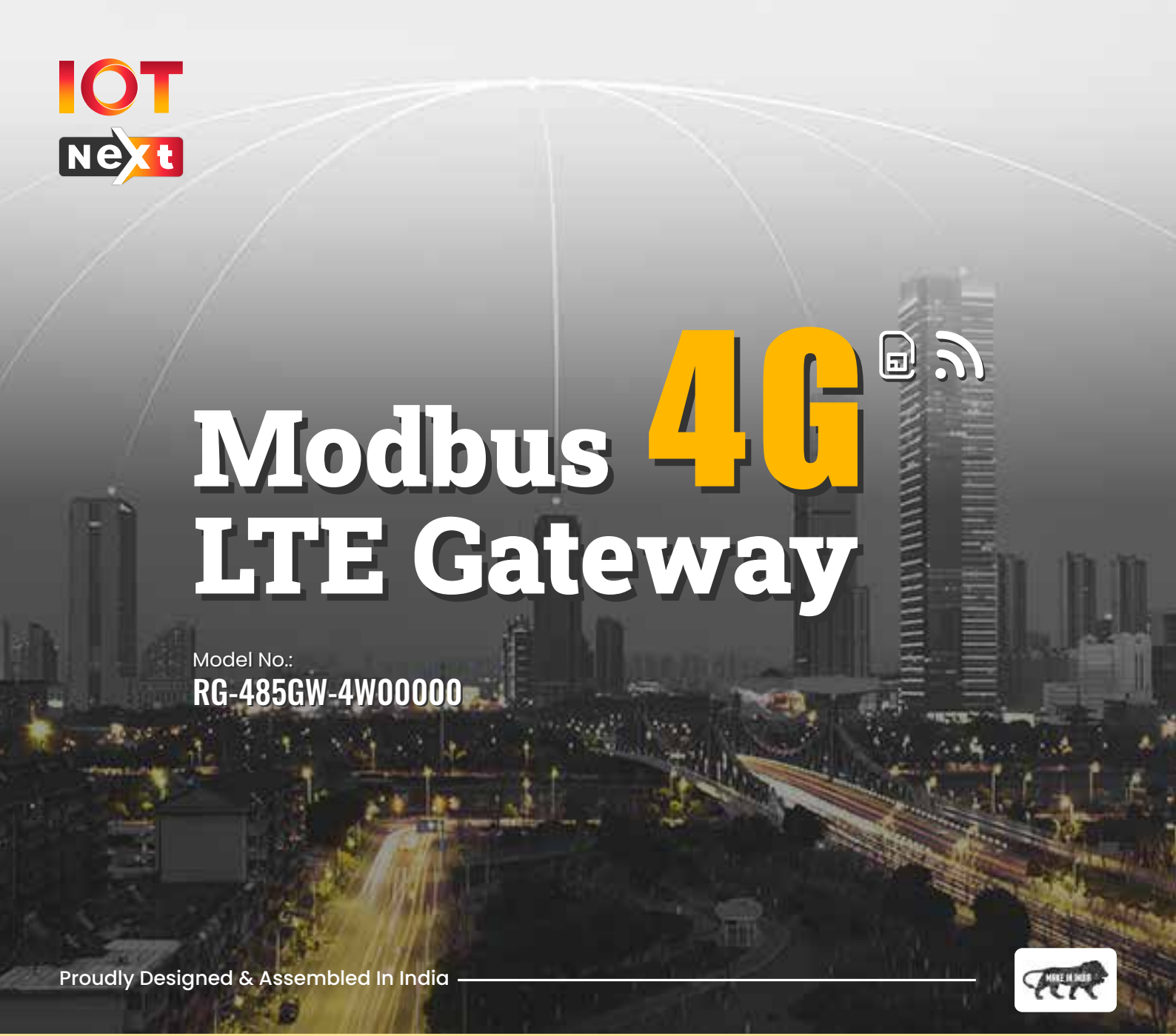
IOT Next

Modbus 4G LTE Gateway

Model No.:
RG-485GW-4W00000



Proudly Designed & Assembled In India

MSME सूक्ष्म, लघु एवं मध्यम उद्यम MICRO, SMALL & MEDIUM ENTERPRISES

GeM Government e Marketplace

ISO 9001:2015

#startupindia

+91 - 120 - 4556126
info@iotnext.net
www.iotnext.net

MODBUS 4G
LTE GATEWAY

(With Firmware & Portal Access)

Model No.:

RG-485GW-4W00000

Technical Specifications Feature And Product Overview

MSME सूक्ष्म, लघु एवं मध्यम उद्यम MICRO, SMALL & MEDIUM ENTERPRISES

GeM Government e Marketplace

ISO 9001:2015

#startupindia

+91 - 120 - 4556126
info@iotnext.net
www.iotnext.net

Modbus 4G LTE Gateway

Model No.:

RG-485GW-4W00000

Product Overview

ModBus Gateway is a device that connects a network of sensors to a internet cloud service or onpremise system where the data can be stored, processed, visualized or used to generate feedback for other systems. This **ModBus Gateway** provides two ways of upstream connectivity **(1)** WiFi **(2)** 4G cellular network. It supports **HTTP(S)** and **MQTT Data** protocol as they are commonly used by IoT cloud service providers. On the source side the device acts as a Modbus **"MASTER"** and allow multiple **"SLAVE"** devices to be connected in a bus fashion using 2 wires **(A & B)**. Multiple such slaves can be connected in a location and the same Modbus Gateway can be used to upload the data.

Node-RED **Compatibility**

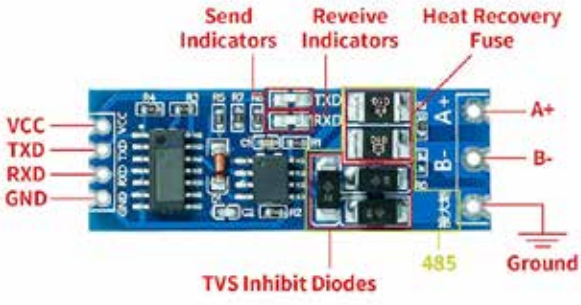
This device is compaitable with **Node-Red System** which is a popular system for designing flows based on network of sensors and actuators. the **MQTT Protocol** can be used for publishing and subscribing to the system data.

4G LTE Module

the **4G/2G Connectivity** of the device is based on **Simcom A7600 Series Chip**.
The **A7670C** is a high-performance, compact cellular module from IMCom, offering 4G LTE connectivity with USB interface support.
It is designed for IoT applications, providing reliable communication for devices requiring cellular connectivity and a USB and TTL connection for easy integration with host systems.

RS485/Modbus Module

This device uses modbus module based on Maxim MAX485 chip. The module is high quality and comes with voltage spike protection and heat recovery fuse.



Modbus 4G LTE Gateway

Model No.:

RG-485GW-4W00000

Features

- Industrial-grade Modbus 4G LTE Gateway with compact boxed hardware.
- Based on Xtensa dual-core 32-bit LX6 microprocessor, up to 240 MHz
- Upto 16MB flash storage to store data offline in case of internet failure.
- RS485 interface supporting Modbus RTU protocol for multiple slave devices.
- High-speed 4G LTE data transmission for cloud connectivity.
- Automatic fallback to 2G network in case of weak or unavailable 4G.
- Send data to cloud / on-premise server using 4G LTE Data or Wifi.
- Wide input power range: operates on 12–24 V DC supply.
- Preloaded with Redgrape Universal IoT Gateway firmware.
- Includes 1-year subscription to Redgrape IoT portal.
- Portal supports branded and custom Modbus slave device configurations.
- Portal dashboard provides real-time data visualization and graphing tools.
- Upload of custom firmware for programming.
- Multiple protocols like HTTP / MQTT are supported.

Safety Features

- Lightning protection on modbus lines.
- Supports wide input voltage range 12 - 24 V DC.
- Robust power connectors.
- Conformal coated PCB for long life and protection against humidity.

Additional Features

- Supports secondary programming.
- Supports NodeRed visual programming system and Popular Arduino platform.
- Product uses components that are globally certified adhering to multiple standards.
- Comes with ABS protective cover with mounting holes.

Modbus 4G LTE Gateway

Model No.:

RG-485GW-4W00000

Advantages

- Supports integration of multiple Modbus devices/sensors into one gateway.
- Reliable data transmission through LTE with backup 2G ensures uptime.
- Flexible power input makes it suitable for diverse industrial environments.
- Preloaded firmware eliminates complex setup and reduces installation effort.
- Scalable solution—ideal for small to large industrial or IoT deployments.
- Centralized cloud portal allows easy remote monitoring and management.
- Custom firmware compatibility minimizes vendor lock-in.
- Graphs and analytics provide clear insights into performance trends.
- Compact and durable design fits easily into existing control cabinets.
- Secure packaging reduces risk of transit damage.

Benefits

- Saves time and cost during deployment with plug-and-play setup.
- Ensures uninterrupted data collection even in poor network areas.
- Provides reliable insights that help in better operational decisions.
- Reduces downtime by enabling remote troubleshooting and reconfiguration.
- Optimizes energy and resource management through real-time monitoring.
- Builds confidence in critical operations with a reliable, industrial-grade gateway.
- Future-proof investment with universal compatibility for new devices.
- Enhances efficiency in industrial automation and IoT projects.
- Improves scalability—can be rolled out across multiple sites with ease.
- Helps organizations digitize processes without major infrastructure changes.
- Lowers total cost of ownership by reducing manual intervention.
- Supports compliance and reporting with detailed data logging and graphs.

Model No.:

RG-485GW-4W00000

Specification

Technical Specifications

4G LTE MODBUS GATEWAY	
Input Supply	12-24 V DC Supply
Power Requirement	upto 5W
Product Dimension	65 mm (W) x 100 mm (L) x 30 mm (H)
Box Dimension	76 mm (W) x 140 mm (L) x 39 mm (H)

MODBUS MODULE SPECIFICATION	
Chip/IC	Maxim Integrated MAX485, Low-Power, Slew-Rate-Limited RS-485/RS-422 Transceivers
Operating Voltage	3.3 to 5V
Maximum Devices	128 Devices on a single RS485 bus
Bus length	800 m
Duplex Mode	Full with Automatic Flow Control.
Operating Temperature	-40°C to +85°C
TVS Protection	Yes

Model No.:

RG-485GW-4W00000

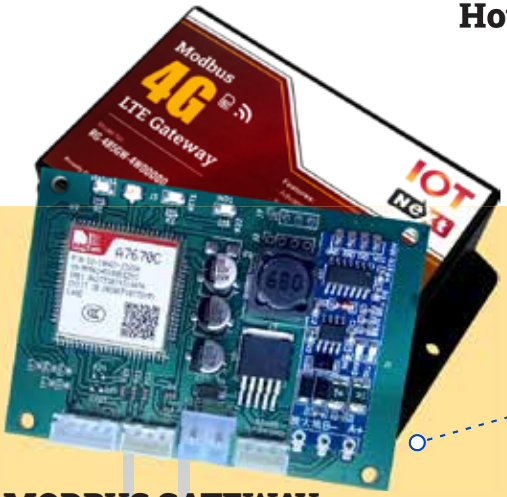
Specification

Technical Specifications

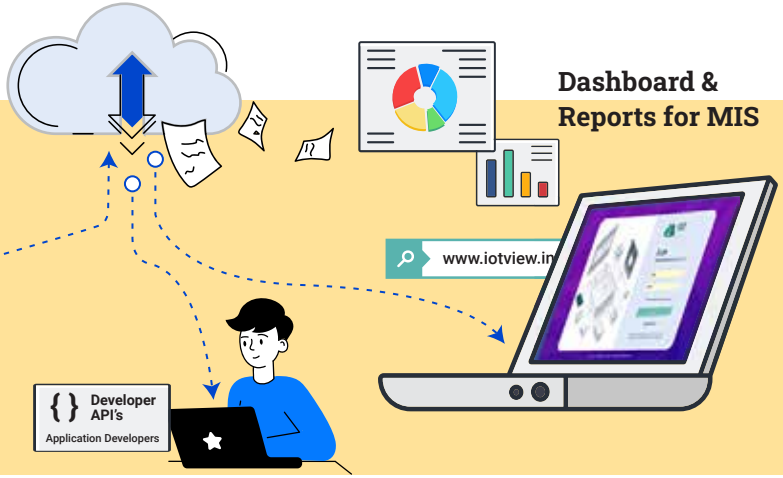
4G LTE MODULE SPECIFICATION	
Chip/IC	SIMCOM A7670C-LASE 4G+GSM Module – Cat-1
Supported Bands	LTE-FDD B1/B3/B5/B8 , LTE-TDD B34/B38/B39/B40/B41 , GSM 900/1800MHz
DATA Transfer LTE(Mbps)	LTE-FDD CAT1:10 Mbps (DL), 5 Mbps (UL) LTE-TDD CAT1 :8.96Mbps (DL), 3.1 Mbps (UL)
Transmitting Power	**GSM/GPRS power class:** • EGSM900: 4 (33dBm±2dB) • DCS1800: 1 (30dBm±2dB) **EDGE power class:** • EGSM900: E2 (27dBm±3dB) • DCS1800 : E1 (26dBm+3dB/-4dB) **LTE power class:** 3 (23dBm±2.7dB)
Temperature Range	Normal operation temperature: -30°C to +80°C Extended operation temperature: -40°C to +85°C* Storage temperature -45°C to +90°C

Use Cases / Application Areas

How to use MODBUS GATEWAY in Your Farm / Factory/ Labs ...



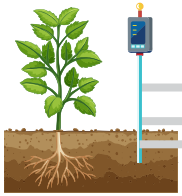
MODBUS GATEWAY
Master Mode



A A A
B B B

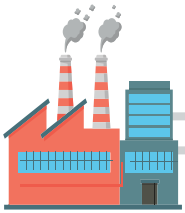
Farm

- Soil Moister Meters
- Climate Sensor
- Hydroponics Sensor
- Any Kind of Modbus Device



Factory

- Energy Meters
- Air Compressor Meters
- Flow Meters
- Gas Detector
- Integrate with Existing PLCs
- Any Kind of Modbus Device



Labs

- Humidity Temperature Sensor
- PH Sensors
- Turbidity Sensor
- Any Kind of Modbus Device

Model No.:

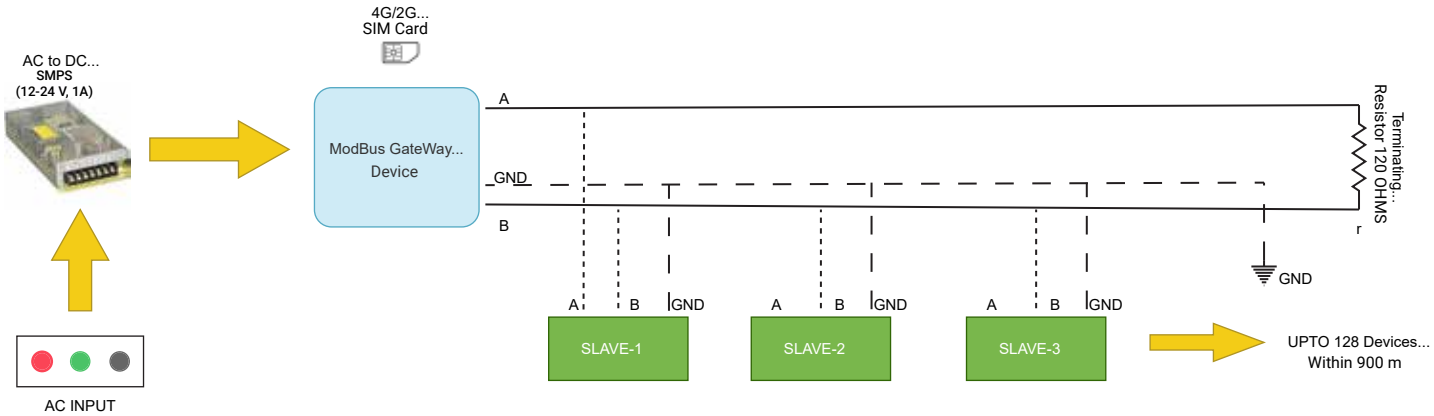
RG-485GW-4W00000

Diagram

Wiring/Connection Diagram

Wiring the Modbus Gateway is simple. Following are the steps to wire it.

1. Connect power to modbus gateway using a DC power adapter on the DC input pins. The power supply should be 12-24 V and 1 AMPS capacity.
2. Connect modbus slaves taking care of the 'A' and 'B' terminals. Upto 128 such Devices within 900m wire length can be connected.
3. In case the number of devices is more than 5 terminal resistor is recommended.
4. Register the device on portal to access the data



Device Component Certifications

This device uses certified modules adhering to international usages. The main components of the devices namely the 4G module and the microcontroller have the following certifications:

Expressif ESP32
Microcontroller Certifications

Source: https://www.espressif.com/en/support/documents/certificates?keys=&field_certificate_product_tid%5B%5D=2139

- ✓ Environmental Compliance Declaration for Espressif Chips and Modules
- ✓ EU Declaration of Conformity
- ✓ ESP32-WROOM-32UE ANATEL Certification
- ✓ ESP32 Alibaba Cloud IoT Technical Certification

SIMCOM
Certifications

Source: https://en.simcom.com/certification.html

IC	CE	NCC	FCC	CCC	JATE
CTA	RoHS	A-TICK	REACH	ATEX	GCF
ICASA	CE-RED	TA	FTA	PTCRB	ANATEL

Ordering Information

General / Sample Orders

The device can be order from various online marketplaces in small uantities for sampling and POC implementation. Search **"Modbus gateway"** as keyword in the eCommerce sites below.

EVELTA
www.evelta.com

www.sharvielectronics.com

KTRON
www.ktron.in

GRAYLOGIX
www.graylogix.in

ROBU.IN Your Ideas, Our Parts
www.robu.in

HUBTRONICS
www.hubtronics.in

amazon
www.amazon.in

ROBOMART
www.robomart.com

Bulk Orders

For bulk order quantities you can contact the company using online **B2B Marketplaces** or contact directly as mentioned under Sales contact.

trade® india.
www.tradeindia.com

indiamart
www.indiamart.com

Sales Contact

For Direct Sales Contact As Below:

Email: sales@iotnext.net

Mobile Contact: +91 - 09811255597

Corporate Address:
RedGrape Technologies Private Limited.
E33, SPA HOUSE, First Floor
Sector-3 , Noida , UP - 201301
Phone: 91-120-4556126 (10:00 am to 6:00 pm)
CIN: U72200DL2017PTC310093
GSTIN: 07AAICR0425P1Z3

Registered Address:
RedGrape Technologies Private Limited.
C401 , Happy Home Appmts
Sector-7 , Plot-12A Dwarka , New Delhi, Delhi - 110075
CIN: U72200DL2017PTC310093
GSTIN: 07AAICR0425P1Z3

Dashboard/Data Access:
www.iotnext.net