Manuals+ — User Manuals Simplified.

Rejeee GL600 LoRaWAN Gateway V1.0 User Manual

Contents

Rejeee GL600 LoRaWAN Gateway V1.0

General Information

The GL600 series is a LoRa gateway based on Semtech SX1302, designed to solve large-scale networking needs of users. The gateway can be widely used in applications like smart city, environment monitoring, smart water etc.

Gatway Series	Product Number
GL600	GL600CN / GL600EU / GL600US

Product Feature and Spec

- Based on Semtech SX1302
- 8 Channels Built-in watch-dog
- Built-in RTC and automatic clock synchronization
- Built-in web service
- Adaptive data rate, from SF5 to SF12
- Half-duplex communication
- Ethernet/RS485/LTE-4G Data uploading
- DC power supply
- Local software configuration

- **CPU:** Cortex A7
- **DDR:** 512MB
- **Flash:** 8G eMMC
- **Ethernet Port:** 2

- **SMA RS485:** 1
- **Operating System:** Linux
- **Power Consumption:** 3W
- **Power Supply:** DC9V-24V
- **Working Temperature:** -45~+ 85
- **Size:** 116mm*85mm*26mm
- **Frequency:** 470MHz~510MHz / 868MHz / 915MHz

Product detail

- **Preparations:** Here is the declaration for preparation for some function, if you do not need these functions, please just ignore. If you choose 4G uploading, please make sure there is SIM card. IF you use RS485 to connect to PC or data uploading, please make sure you have the config tool for RS485, and USB to RS485 adaptor.

Serial Port Driver Installation: Install according to the 485 serial port module purchased or owned by yourself.

Config tool: In order to verify and test the RS485 serial port, it is necessary to connect the gateway through the computer serial port to send and receive data. Select a common serial port tool sscom here to connect to the gateway. The software can be copied directly and run without installation. Gateway RS485 serial port parameters are: baud rate 115200, data bits 8bits, 1bit stop bit, no check bit.

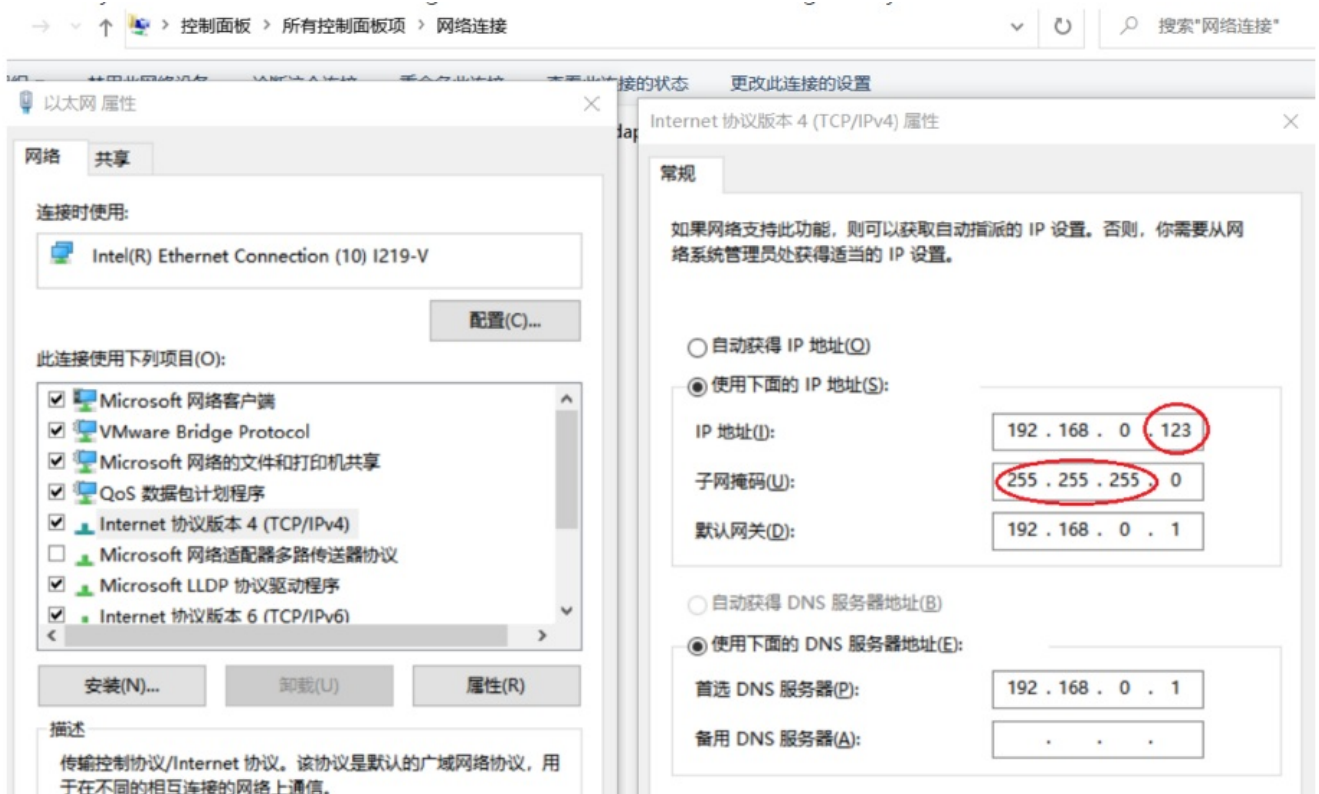## Installation

- **Slide**
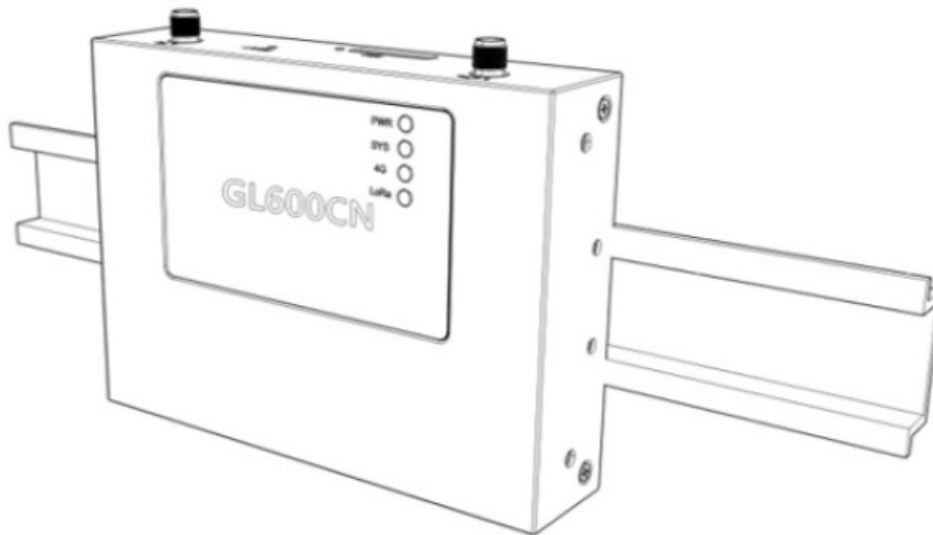
- **Hanging**

Configuration

Web service log in

After modifying the network segment on the computer side, use the ping command (open the window CMD under Windows) to test the connectivity. As shown below, the connection between the computer and the gateway network is OK. Visit web service Open the browser and enter the gateway IP that has just passed the test in the address bar, as shown below. Enter the user name and password to log in. The default user name and password are both rejeee. After successful login, the basic information of the gateway can be displayed as below. And the language will change automatically between Chinese and English based on the IP. The built-in web service is for easy visit and configuration, when the gateway is powered on, the built-in websystem automatically starts. There are two Ethernet ports, and statistic IP is 192.168.0.178 and 192.168.1.178, default subnet mask is255.255.255.0. Both Ethernet ports can support DHCP simultaneously, i.e. each Ethernet port can support statisticIP and dynamic IP simultaneously. Customer can edit statistic IP according to the applications.

1. **IP Configuration**

   Before visit gateway, you need to set the network segment of the local network to be consistent with thegateway. For example, connect eth0 to configure 192.168.0. X, and connect eth1 to configure 192.168.1.Xnetwork segment. If you access the "Ethernet" network card of "control panel" = > "network connection"on windows to set it, as shown below, you only need to configure the IP address and subnet mask, and X canwrite any value from 1 to 254, as long as it does not conflict with the gateway IP.

2. **Network Test**

   After modifying the network segment on the computer side, use the ping command (open the window CMDunder Windows) to test the connectivity. As shown below, the connection between the computer and the gateway network is OK.
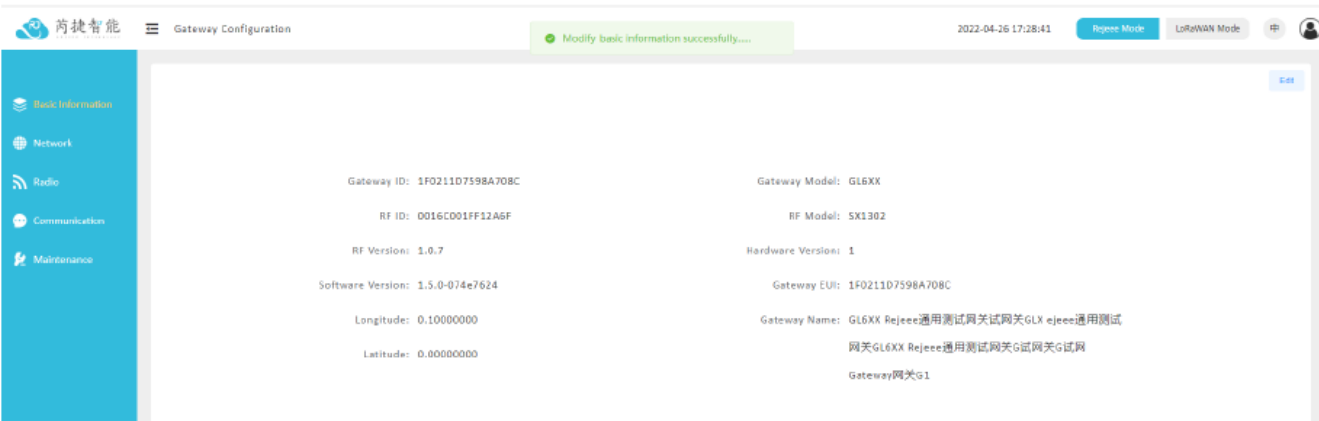
3. **Visit web service**

Open the browser and enter the gateway IP that has just passed the test in the address bar, as shown below.Enter the user name and password to log in. The default user name and password are both rejeee. Aftersuccessful login, the basic information of the gateway can be displayed as below:

And the language will change automatically between Chinese and English based on the IP.

Basic Information

Basic information for gateway is hardware/software version, device ID etc. customer can edit gateway device name, device ID or location for better management and then save.

There is notice after successful edit as below:

Network Configuration

Network configuration is used for edit gateway statistic IP, click Edit on right side, customer can change gateway statistic IP, normally customer do not need to change IP. Because the IP is used for easy log in and configuration, and the DHCP is working internally, in order to connect to router to get IP address.
Note: if you want to change 192.168.1.178 to 192.168.1.180, then you need to change the browser address:

RF Configuration

You can choose starting frequency or channel frequency and save, you can also choose the starting frequency based on your hardware.

Communication

The cloud configuration is mainly used for communication with LoRaWAN service.
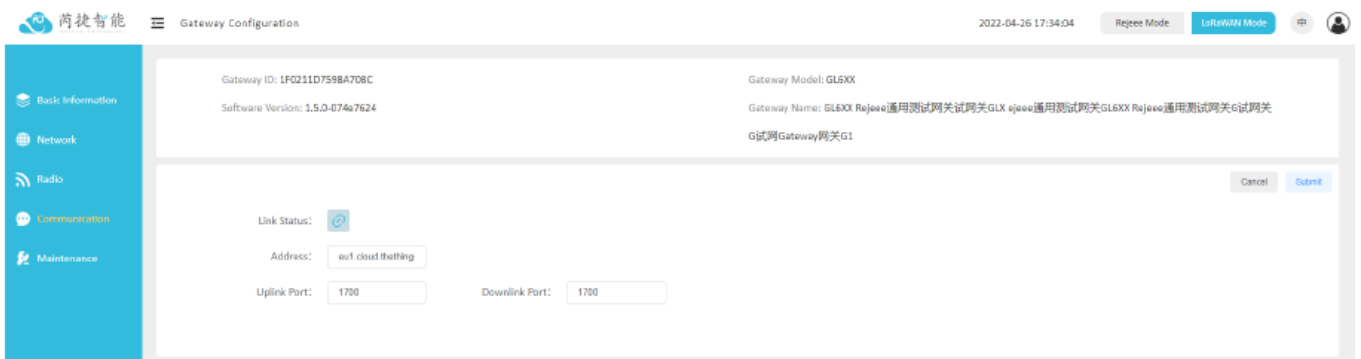
Connecting to LoRaWAN Server

The gateway can connect to any LoRaWAN server following below steps:

1. Log in TTN, and on console, click gateways. Then add gateway:

2. Set gateway information as below:

Gateway ID ⑦ *

rejeee123

Any ID you like

Gateway EUI ⑦

00 16 C0 01 FF 1C DD 2E

You can connect to web service and read gateway EUI on the top

Gateway name ⑦

Jullie's Gateway

Gateway description ⑦

Description for my new gateway

Any name you like

Optional gateway description; can also be used to save notes about the gateway

Gateway Server address

eu1.cloud.thethings.network

The address of the Gateway Server to connect to

Copy this server address and paste on gateway web service

Require authenticated connection ⑦

☐ Enabled

Controls whether this gateway may only connect if it uses an authenticated Basic Station or MQTT connection

Gateway status ⑦

☑ Public

The status of this gateway may be visible to other users

Gateway location ⑦

☑ Public

The location of this gateway may be visible to other users and on public gateway maps

Attributes ⑦

+ Add attributes

Attributes can be used to set arbitrary information about the entity, to be used by scripts, or simply for your own organization

LoRaWAN options

Frequency plan ⓘ *

Europe 863-870 MHz (SF9 for RX2 - recommended)

Choose the frequency in your country

Schedule downlink late ⓘ

☐ Enabled

Enable server-side buffer of downlink messages

Enforce duty cycle ⓘ

☑ Enabled

Recommended for all gateways in order to respect spectrum regulations

Schedule any time delay ⓘ *

530   milliseconds

Configure gateway delay (minimum: 130ms, default: 530ms)

Gateway updates

Automatic updates

☐ Enabled

Gateway can be updated automatically

3. Create gateway on TTN, and you can see information as below:

Jullie's Gateway
ID: rejeee123

• Disconnected ⓘ   ⚏ 1 Collaborator   Oⵣ 0 API keys

General information   **• Live data**   See all activity →

| Gateway ID | rejeee123 | |
| Gateway EUI | 00 16 C0 01 FF 1C DD 2E | |

⊕ 11:07:21 Create gateway

Gateway description	None
Created at	Nov 4, 2021 11:07:21
Last updated at	Nov 4, 2021 11:07:21
Gateway Server address	eu1.cloud.thethings.network

Location   Change location settings →

LoRaWAN information

| Frequency plan | EU_863_870_TTN |
| Global configuration | ⬇ Download global_conf.json |

4. Set server information on gateway web service as below:

Rejeee GW CFG   ≡   **Gateway EUI** Device ID: 0016C001FF1A314B ⚹ Account ⟳ Reboot ⏻ Quit

MENU
⚹ Basic Information
⚹ Network Configuration
⊿ RF Configuration
⊟ Cloud Configuration
⚙ System Maintenance

Server Addr eu1.cloud.thethings.network   **Paste TTN gateway server address here**   Cancel Save

Uplink Port 1700   Downlink Port 1700

"Input right IP address, port less than 65535, content less than 128 bytes; no input";

FAQ

- **Abnormal fault analysis**
  - **Power indicator is not on**

    Please check the power adaptor and the cable is right connected.
  - **The COM port device cannot be found in the device manager**

    The USB to serial driver is not installed or the driver is installed incorrectly. Please reinstall the driver. The USBport is damaged. Please replace other USB ports and try again. For example, windows can check whether USBrecognition is normal through the computer device manager.
  - **Gateway Ping failed**

    If the static IP of the gateway is unavailable, mainly check whether the network segment configuration of thecomputer end is correct, there are two network ports on the gateway, and whether the patch cord corresponds tothe IP segment. In addition, the PC can be used to test whether the communication with other devices in thesame network segment can ping to prevent the firewall or anti-virus software from blocking the connection; Youcan also directly close the firewall or antivirus software and try again, or disable the computer wired network andthen turn it on.

Package and Transportation

Package list

The package list for GL600 as below:

1. GL600 gateway
2. Sucker antenna *2
3. Power adaptor *1

Transportation and Storage

1. Due to the high-sensitivity electronic components inside the product, the transportation and loading and unloading shall not be severely impacted.
2. The ambient temperature for storage is – 25℃-70℃, the relative humidity does not exceed 85%, and there is no corrosive gas in the air.

Jiangsu Rejeee Intelligent Technology Co., Ltd
Address: Nanjing, China
Tel: 158 6180 7793
Email: jullie.zheng@rejeee.com
Web: www.rejeee.com

Documents / Resources

Rejeee GL600 LoRaWAN Gateway V1.0 [pdf] User Manual
GL600 LoRaWAN Gateway V1.0, GL600, LoRaWAN Gateway V1.0, Gateway V1.0, V1.0

References

- [🌐 _____](#)