# GL610 Gateway User Manual        ⌞ ⌝

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# GL600 User Manual

## LoRaWAN Gateway V1.0



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# 1. General Information

## 1.1. General

GL600 series is 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 |

## 1.2. 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

| Parameter | Feature |
|---|---|
| CPU | Cortex A7 |
| DDR | 512MB |
| Flash | 8G eMMC |
| Ethernet Port | 2 10M/100M |
| SMA | 2 LoRa*1,4G*1 |
| 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 |

## 1.3. 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.

## 1.4. Serial Port Driver Installation

Install according to the 485 serial port module purchased or owned by yourself.

## 1.5. 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.

# 2. Installation
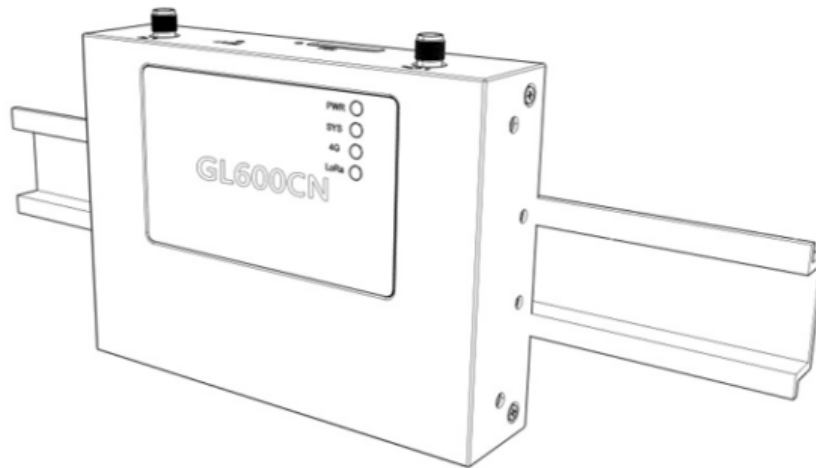
Slide

Hanging

# 3. Configuration

## 3.1. Web service log in

The built-in web service is for easy visit and configuration, when the gateway is powered on, the built-in web system automatically starts.
There are two Ethernet ports, and statistic IP is 192.168.0.178 and 192.168.1.178, default subnet mask is 255.255.255.0. Both Ethernet ports can support DHCP simultaneously, i.e. each Ethernet port can support statistic IP and dynamic IP simultaneously. Customer can edit statistic IP according to the applications.

### 3.1.1. IP Configuration

Before visit gateway, you need to set the network segment of the local network to be consistent with the gateway. For example, connect eth0 to configure 192.168.0. X, and connect eth1 to configure 192.168.1.X network 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 can

write any value from 1 to 254, as long as it does not conflict with the gateway IP.
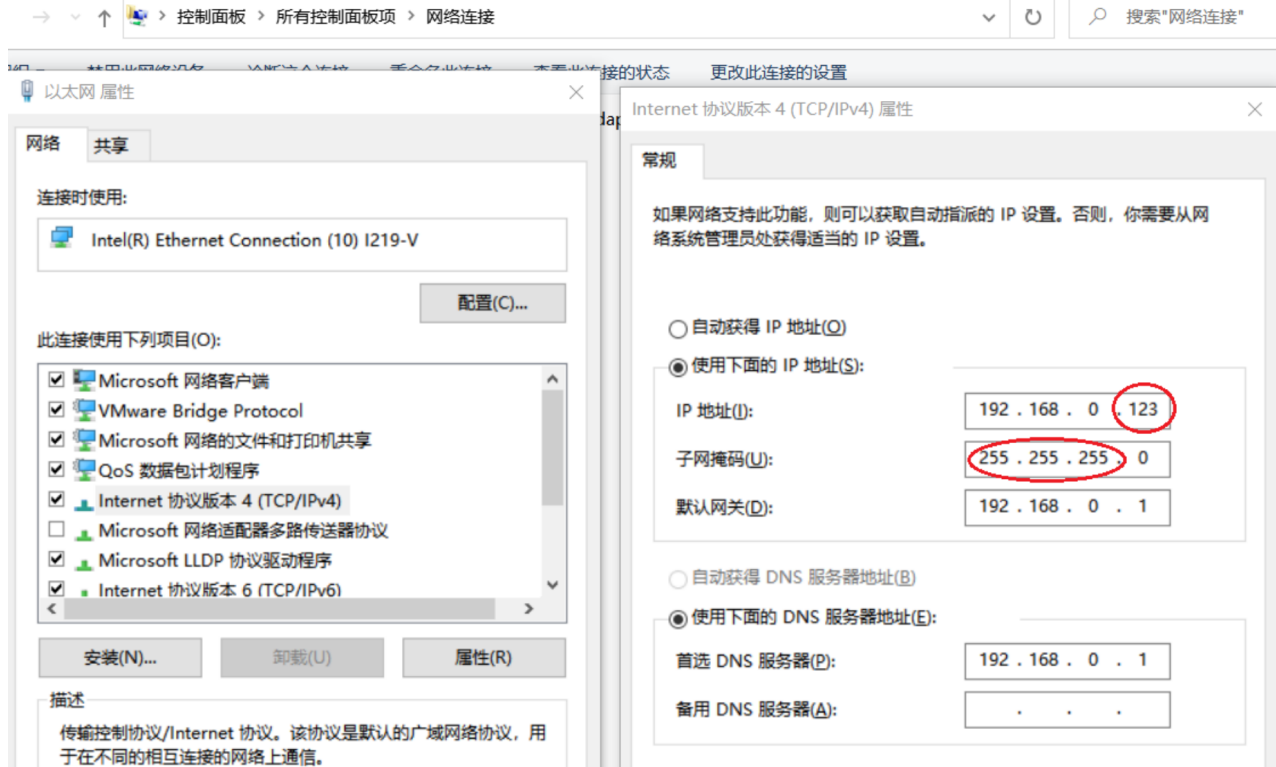


### 3.1.2. Network Test

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.

### 3.1.3. 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. After successful login, the basic information of the gateway can be displayed as below：

## 3.2. 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:

## 3.3. IP 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:

## 3.4. RF Configuration

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

## 3.5. Cloud Configuration

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

# 4. 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:

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

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

# FAQ

## 4.1. Abnormal fault analysis

### 4.1.1. Power indicator is not on

Please check the power adaptor and the cable is right connected.

### 4.1.2. 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 USB port is damaged. Please replace other USB ports and try again. For example, windows can check whether USB recognition is normal through the computer device manager.

### 4.1.3. Gateway Ping failed

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

# 5. Package and Transportation

## 5.1. Package list

The package list for GL600 as below:
1. GL600 gateway
2. Sucker antenna*2
3. Power adaptor*1

## 5.2. 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.