Data Sheet

GL600CN-O LoRa Outdoor Gateway

V1.0

Jiangsu Rejeee Intelligent Technology Co., Ltd

Address: Nanjing, China

Tel: 158 6180 7793

Email: jullie.zheng@rejeee.com

Web: www.rejeee.com

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1. General

1.1. General information

GL600CN-O is outdoor LoRa gateway based on Semtech SX1302, designed to solve large-scale networking needs of users, with IP67 waterproof, the gateway can be widely used in outdoor applications like smart city, environment monitoring, smart water etc.

1.2. Product Feature

Based on Semtech SX1302, 8 Channels

Adaptive data rate, from SF7 to SF12

Half-duplex communication

High sensitivity down to -142dBm

Configurable power and communication frequency points

Ethernet/RS484/LTE-4G Data uploading

AC power supply

Local software configuration

Industrial design, IP67, Interface isolation and anti - emi design

1.3. Spec

Parameter	Feature
Operating System	Linux
CPU	Cortex A7
Flash	8G eMMC

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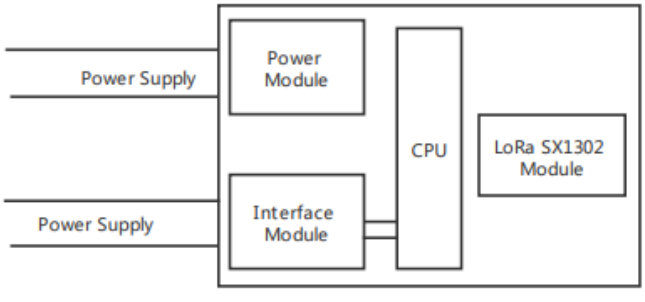
Parameter	Feature
DDR	512MB
Ethernet Port	2 10M/100M
SMA	LoRa*1,4G*1
SIM	1
RS485	1
I2C	1
Receiving Sensitivity	-141dBm
Transmit Power	20 dBm Max
Power	<3W
Working Power	External DC 9V-24V
Working Frequency	470~510MHz,868MHz,915MHz

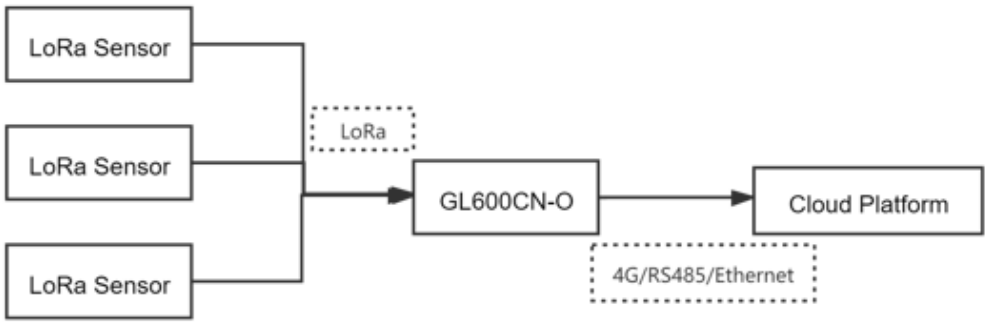
2. Design Principle

GL600CN-O high performance gateway is designed based on Semtech SX1302, compatible with LoRaWAN class A, the system framework diagram as below:



2.1. Network Communication

Based on 8 channels of GL600CN-O, it is easy to build a star network, customers can build a LoRa network with Rejeee GL600CN-O outdoor gateway and LoRa sensors, network topological structure as below:



If there are too many sensors in the area, as more than one thousands sensors need to connect to cloud through GL600CN-O, you can put more than one GL600CN-O to cover this area.

2.2. Interface Description

Picture of GL600CN-O as below:

No.	Name	Quantity	Function Description

1	Antenna Interface	1	N-Female
2	RJ45	1	Power and Ethernet
3	Reserved Interface	1	Reserved power supply

2.3. Definition of RJ45 interface

RJ45 interface definition as below:

No.	Name	Type	Definition
1	TX+	IO	TX+
2	TX-	IO	TX-
3	RX+	IO	RX+
4	12V	P	AC power input
5	12V	P	AC power input
6	RX-	IO	RX-
7	GND	G	Power ground
8	GND	G	Power ground

2.4. Gateway cable connection

GL600CN-O support one antenna, the gateway reserve N female, external antenna should have N male or adaptor with N male. If the

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gateway is installed outdoor all the time, please make sure using waterproof tape while install.

The Ethernet interface support standard 10/100M, besides, ethernet interface support DC 12 power supply for gateway power.

Note: To insure no damage to the gateway while cable connection, please use the Use the factory standard ethernet adaptor.

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

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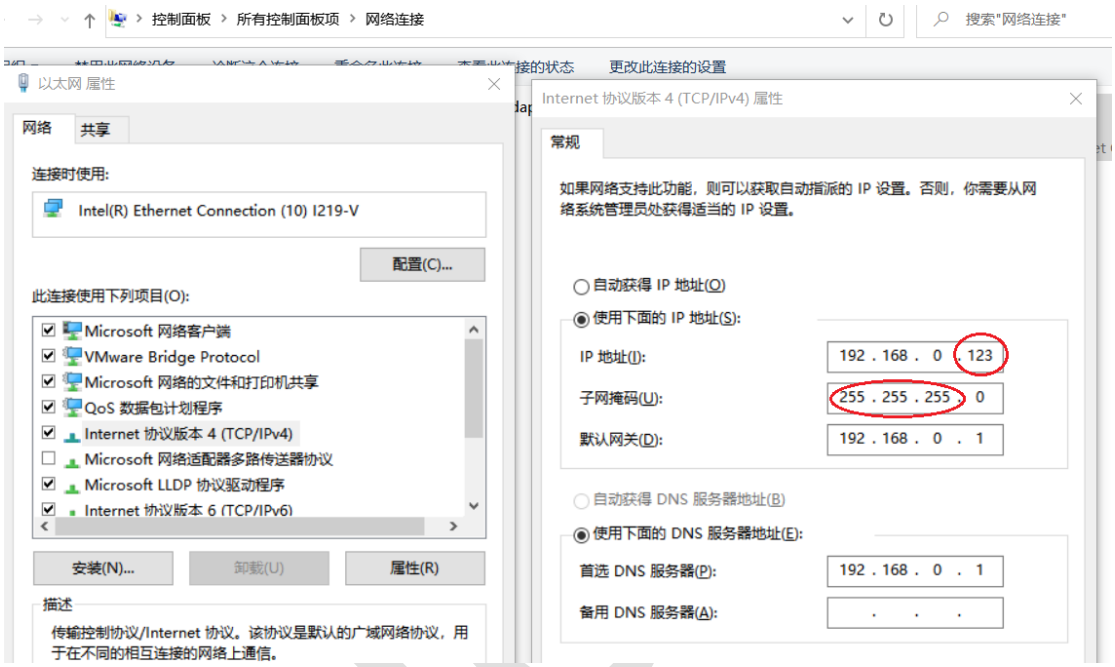
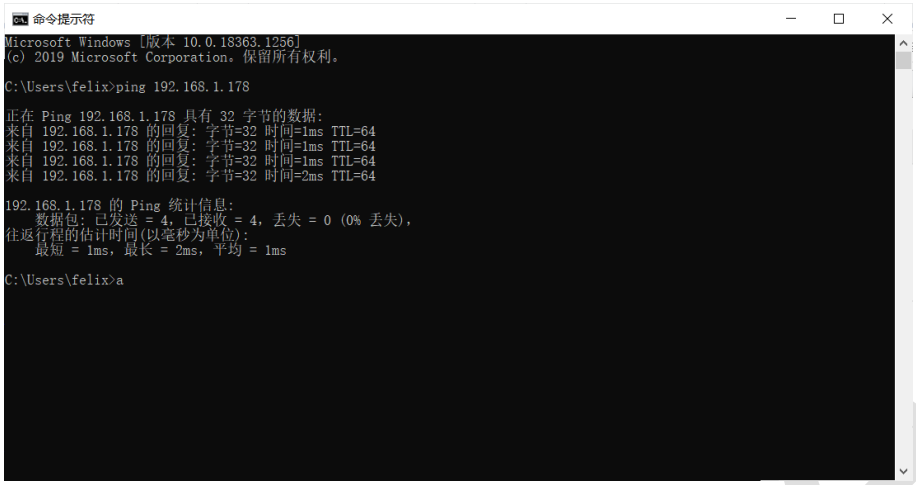
below, you only need to configure the IP address and subnet mask, and X can write any value from 1 to 254, as long as it does not conflict with the gateway IP.



3.1.2. Network Test

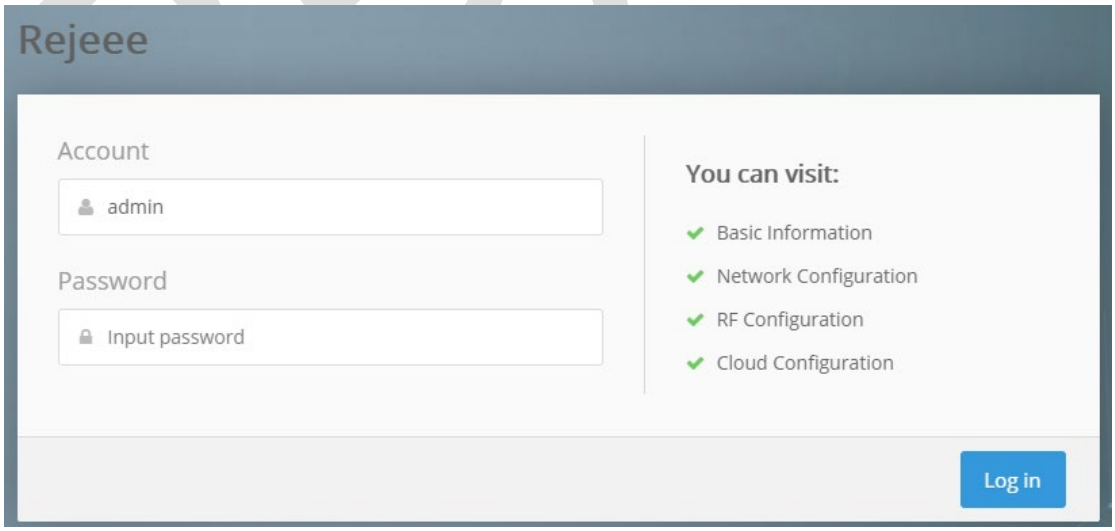
After modifying the network segment on the computer side, use the ping command (open the window CMD under Windows) to test the connectivity. As shown below, the connection between the computer

and the gateway network is OK.



3.1.3. Visit web service

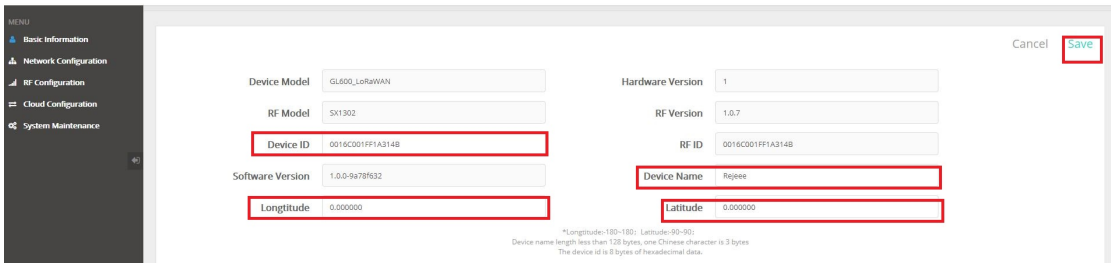
Open the browser and enter the gateway IP that has just passed the test in the address bar, as shown below. Enter the user name and password to log in. The default user name and password are both rejeee. After successful login, the basic information of the gateway can be displayed as below：



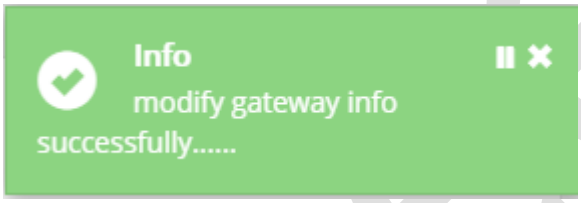
3.2. Basic Information

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



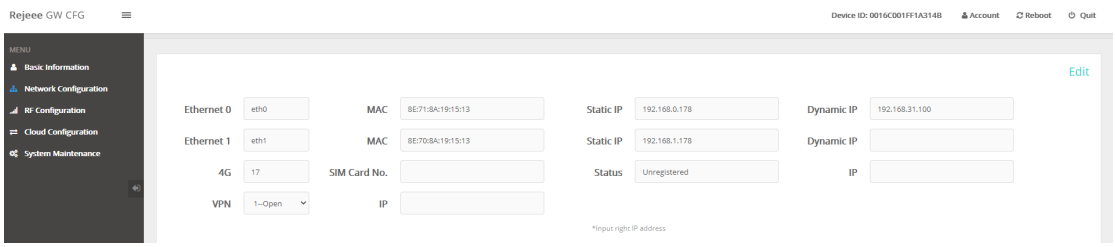
There is notice after successful edit as below:



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.

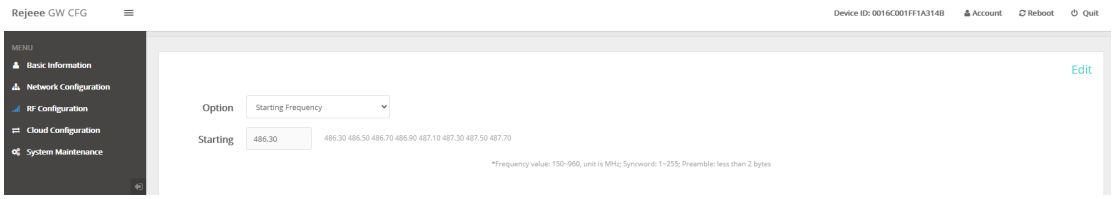
Note: if you want to change 192.168.1.178 to 192.168.1.180, then you need to change the browser address:



3.4. RF Configuration

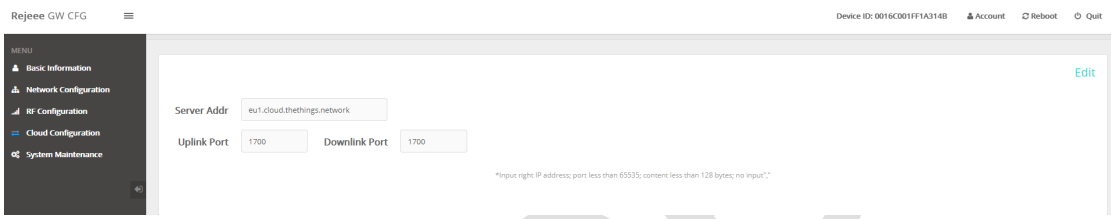
You can choose starting frequency or channel frequency and save,

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. 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.

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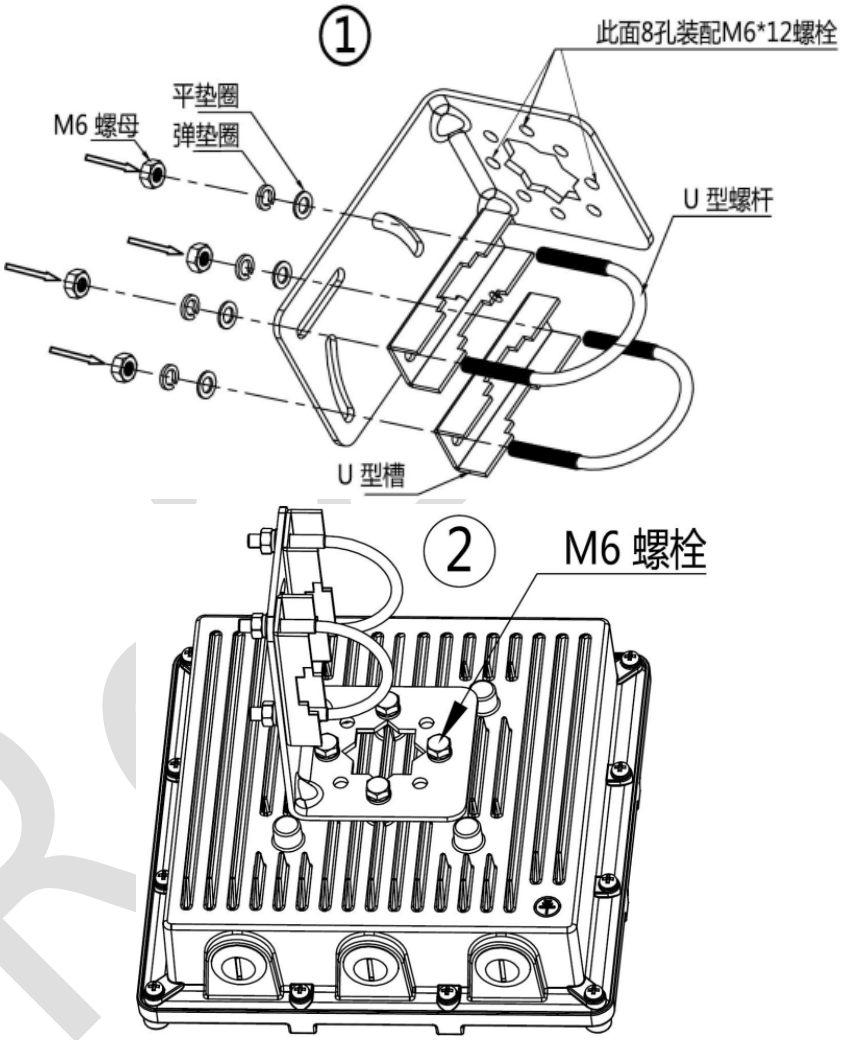
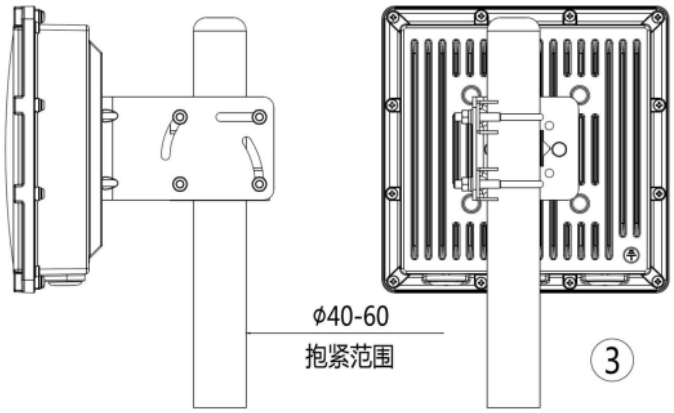
5. Installation and Package

5.1. Gateway installation

GL600CN-O is small size, there is special holes for installation as below:





Note: When install the gateway, take consideration of antenna angle, to insure the signal quality, we suggest the antenna should avoid metal shielding.

5.2. Package list

Please make sure the product when open the box, package list as below:

1. GL600CN-O gateway 1 pc
2. Antenna 1pc
3. Antenna adaptor 1pc
4. Antenna feeder adapter cable 1 pc
5. Mounting bracket 1pc

If anything missing in the package, please contact sales.

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