netvox R207C Wireless IoT Controller with External Antenna User Manual

Contents

netvox R207C Wireless IoT Controller with External Antenna

Introduction

R207C is a smart IoT gateway. R207C can communicate with the Netvox LoRa network and act as a gateway in the LoRa network. It can automatically add the Lo Ra device into the network and is ad o pt ed CSMA/CA mechanism and A ES 128 encryption method to improve security R207C is the control center of N et vox LoRa Private. I t can work with Netv ox M2 APP to monitor the information of the device easily.

Netvox LoRa private frequency is as follows:

- 500.1 MHz_China Region C h ina
- 920.1 MHz _Asia Region A si a (including Japan, Singapore, Southeast and other region s
- 868.0 MHz_EU Region E u rope
- 915.1 MHz_AU/US Region America/Australia

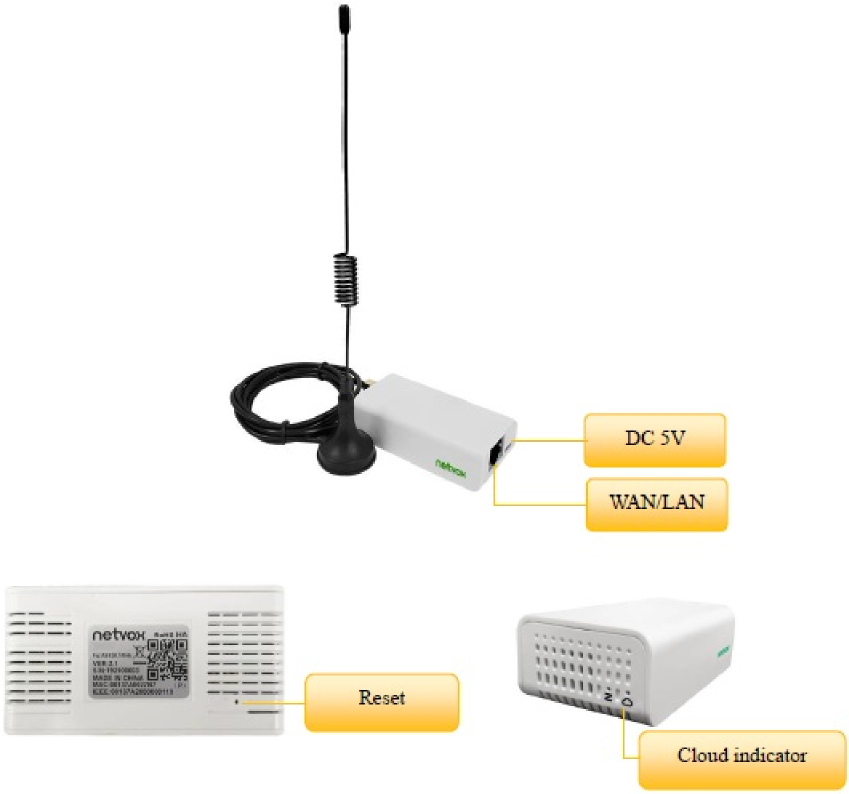
Product Appearance

Main Characteristics

- The L oRa communication distance is up to 10km de pend o n specific environment)
- Support Netvox Lo Ra Pri vate
- Support N etvox C loud
- Support M2 APP

Installation and Preparation

- R207C Appear ance



WAN/LAN Connection

The network source connects to the RJ 45 port (WAN/LAN). The network source supports static IP and DHC P client I f user needs an external IP Camera, please connect it to another router on the same network segment

Power on

- Plug in the 5V/1.5A transformer to boot

Reboot

- In the power-on state, press the reset button at the bottom to restart R207C
- If press the button for more than five seconds, it will restore to the factory setting.

Indicator

- Cloud indicator
- Keep On Connected to the cloud
- Flash Not connected to the cloud

Restore to Factory Setting

In the power-on state, press and hold the reset button for 5 seconds and release to restore the factory setting.

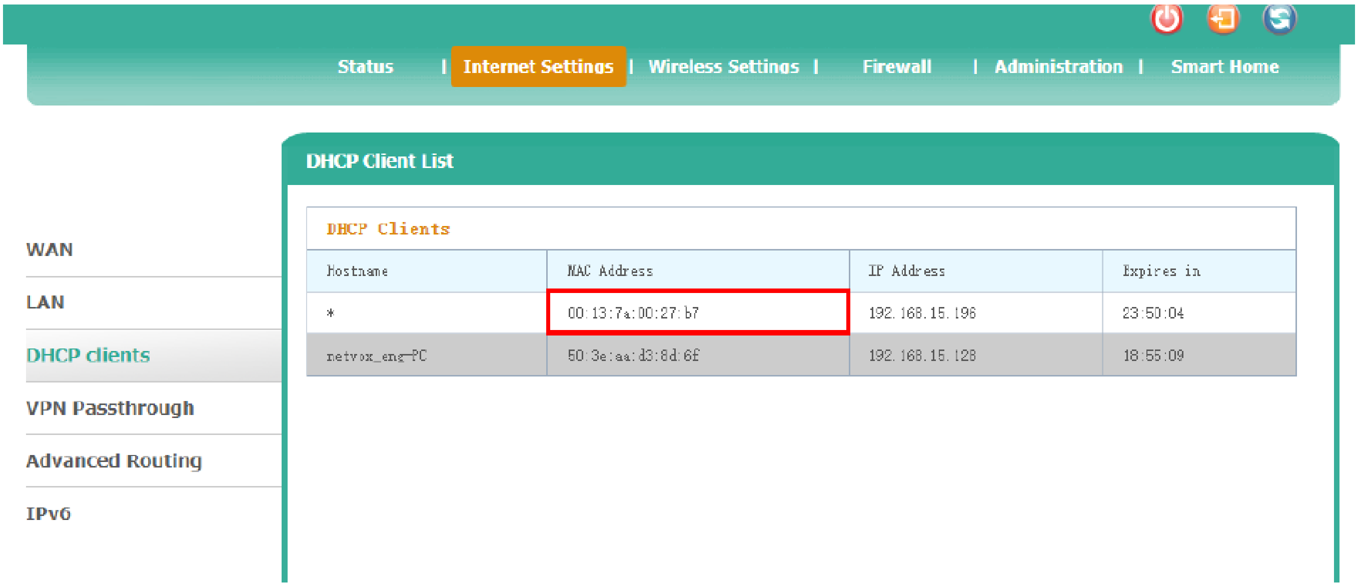
Set up R207C

Connect to the device

- Please connect the network source to the RJ 45 (WAN/LAN) jack of R207C and connect to the
- power supply The router of the network source needs to enable DHCP to view the DHCP List

Inquire R207C IP Address

Open a web browser, log in to the router setting interface of the network source, and find the DHCP List to see the R207C IP address and MAC Address. According to the IP address of R207C in the l ist, user can log in to the R207C setting interface



DHCP Client List

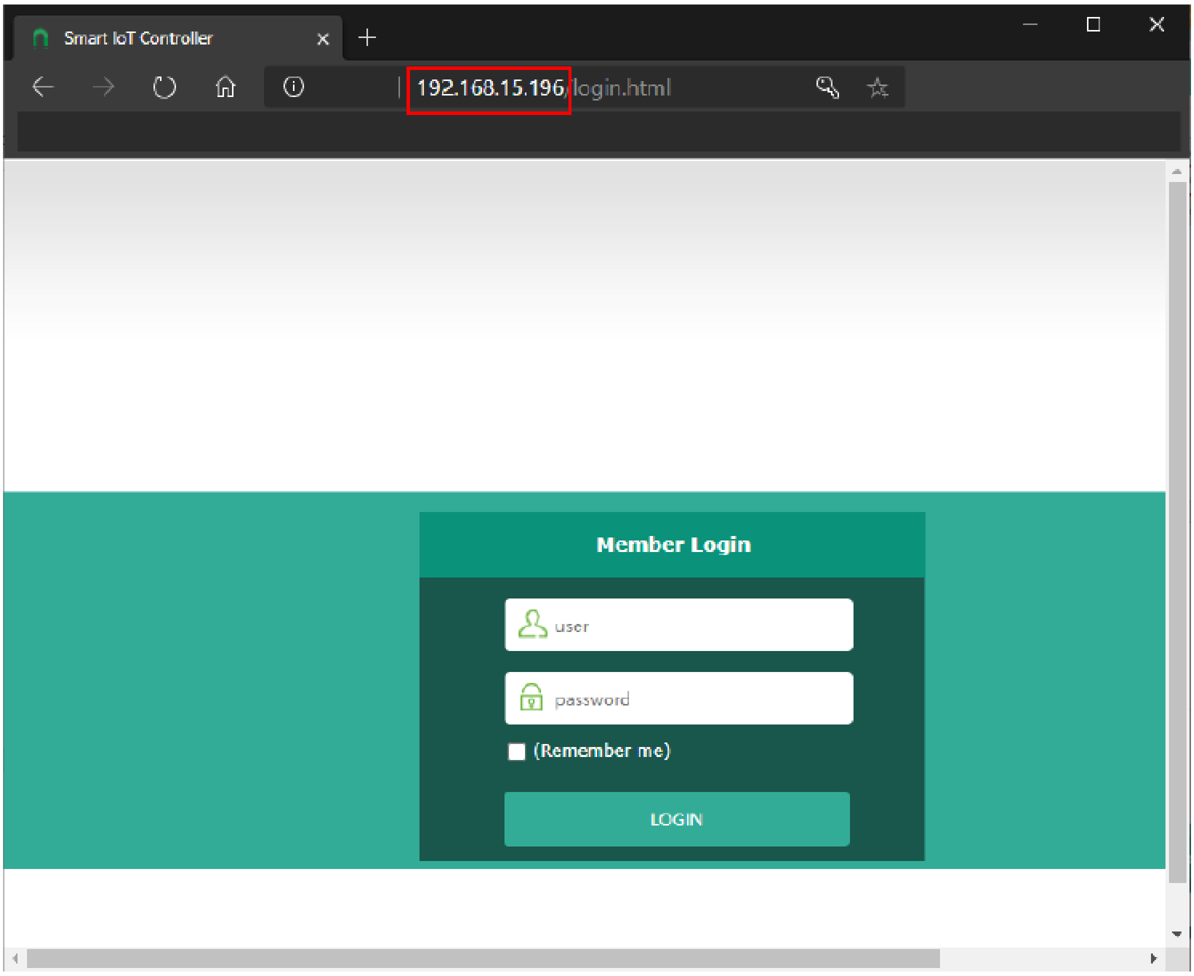
DHCP Clients

Hostname	MAC Address	IP Address	Expires in
*	00:13:7a:00:27:b7	192.168.15.196	23:50:04
netvox_eng-PC	50:3e:aa:d3:8d:6f	192.168.15.128	18:55:09

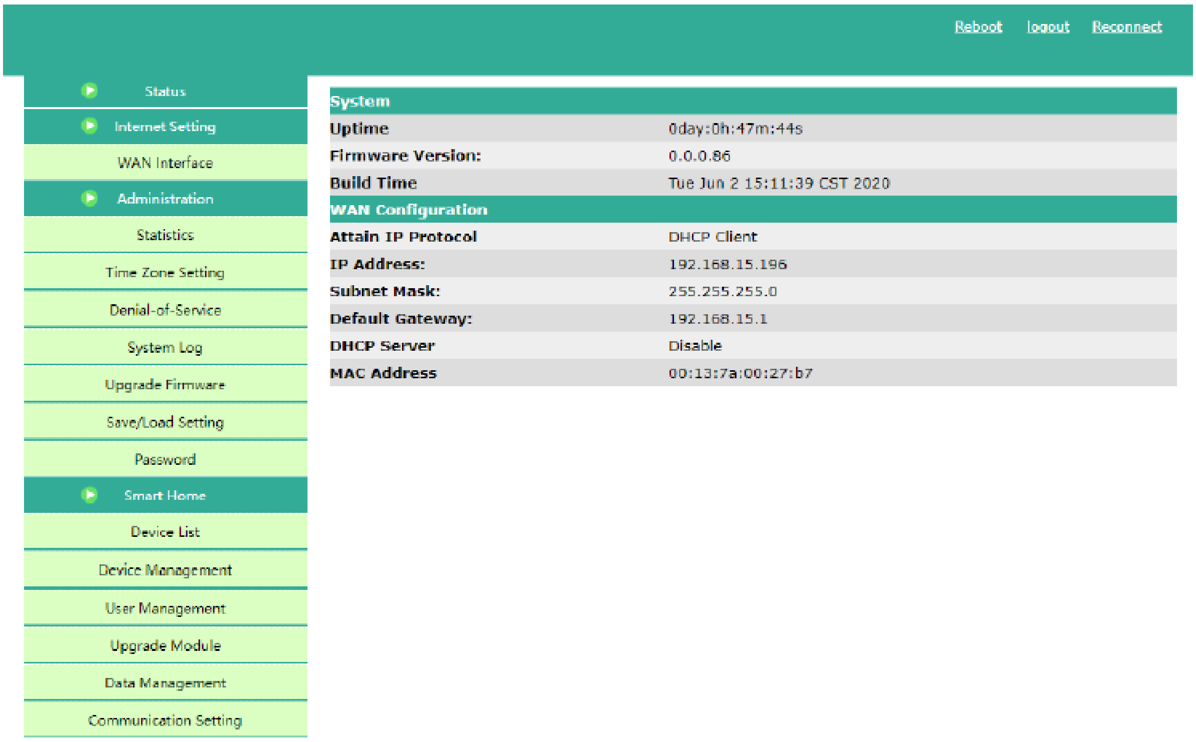
- The above network source setting screen is Netvox R206 T he location of the DHCP client of routers from other manufacturers may be different

Login R207C management interface

- Please fill in the R207C IP address in the URL bar. (the above example is 192.168.15.196)



- Default username and password (Applicable to versions after 0.0.0.83 (inclusive))
- The Administrator’s Username: operator Password: the last six digits of the IEEE
- The Customer’s Username: admin
- Password: the last six digits of TEEE



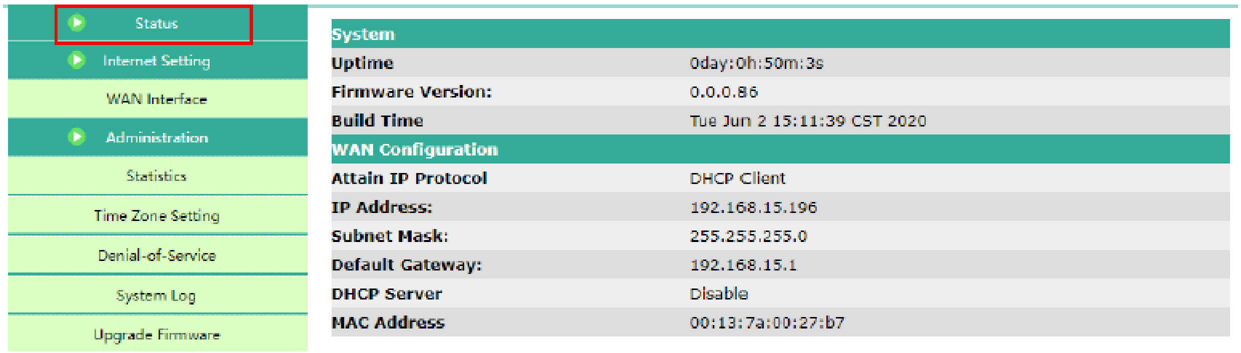
System	
Uptime	0day:0h:47m:44s
Firmware Version:	0.0.0.86
Build Time	Tue Jun 2 15:11:39 CST 2020
WAN Configuration	
Attain IP Protocol	DHCP Client
IP Address:	192.168.15.196
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.15.1
DHCP Server	Disable
MAC Address	00:13:7a:00:27:b7

- It is recommended to change the password immediately after logging in for the first time to improve network security
- Before version 0.0.0.83, the administrator’s username and password are operators, and the customer’s usename and password are the admin.
- If the user wants to log in to the R207C page, the computer must be in the same network segment as the network source to access. (the wired network of the source end or Wi-Fi can be connected)

Gateway Function Description

Status

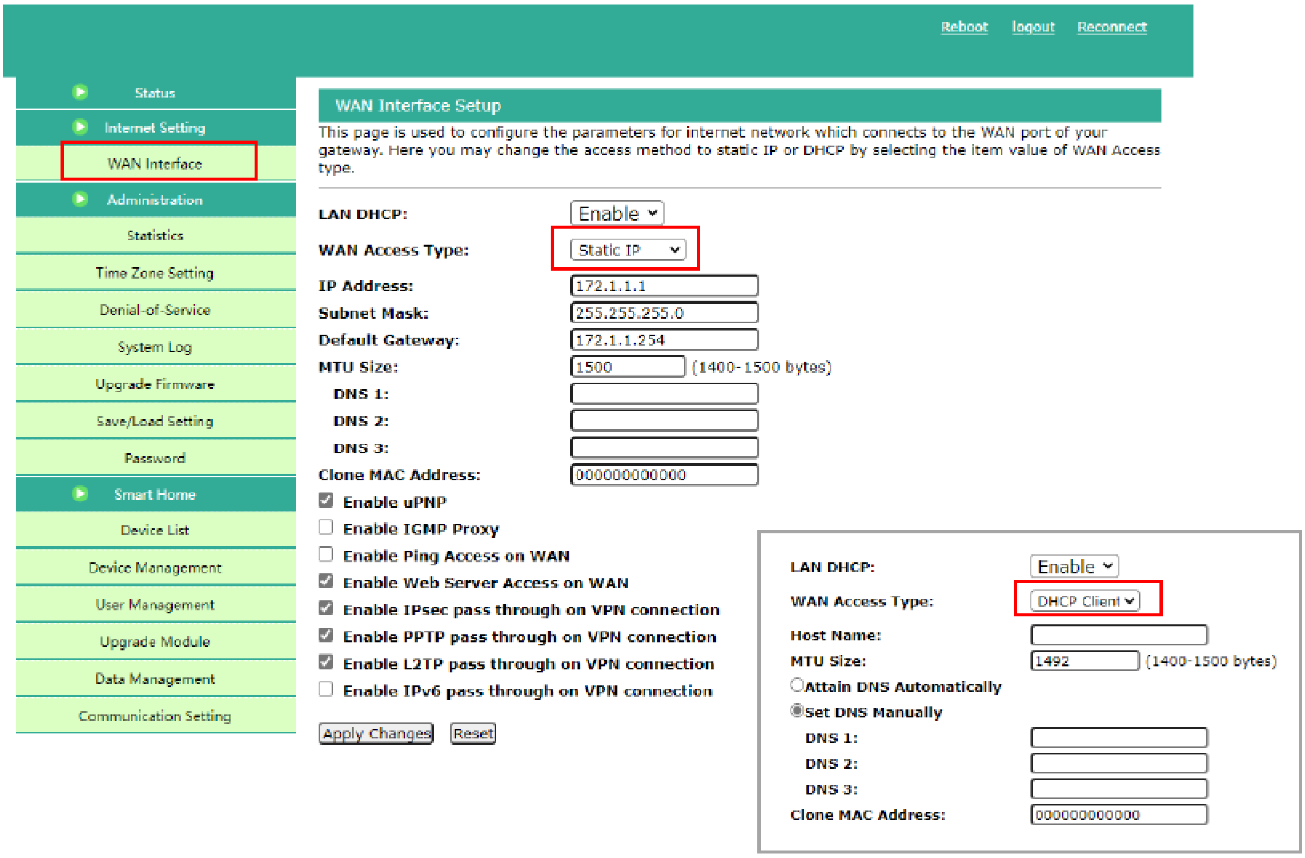
Click [Status] in the left list to view system information and network information



System	
Uptime	0day:0h:50m:3s
Firmware Version:	0.0.0.86
Build Time	Tue Jun 2 15:11:39 CST 2020
WAN Configuration	
Attain IP Protocol	DHCP Client
IP Address:	192.168.15.196
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.15.1
DHCP Server	Disable
MAC Address	00:13:7a:00:27:b7

Internet Settings

Click [WAN Interface] in the left list, and the user can modify the network information, such as WAN Access Type, etc.



WAN Interface Setup

This page is used to configure the parameters for internet network which connects to the WAN port of your gateway. Here you may change the access method to static IP or DHCP by selecting the item value of WAN Access type.

LAN DHCP: Enable

WAN Access Type: Static IP

IP Address: 172.1.1.1

Subnet Mask: 255.255.255.0

Default Gateway: 172.1.1.254

MTU Size: 1500 (1400-1500 bytes)

DNS 1:

DNS 2:

DNS 3:

Clone MAC Address: 000000000000

☑ Enable uPNP

□ Enable IGMP Proxy

□ Enable Ping Access on WAN

☑ Enable Web Server Access on WAN

☑ Enable IPsec pass through on VPN connection

☑ Enable PPTP pass through on VPN connection

☑ Enable L2TP pass through on VPN connection

□ Enable IPv6 pass through on VPN connection

LAN DHCP: Enable

WAN Access Type: DHCP Client

Host Name:

MTU Size: 1492 (1400-1500 bytes)

○ Attain DNS Automatically

● Set DNS Manually

DNS 1:

DNS 2:

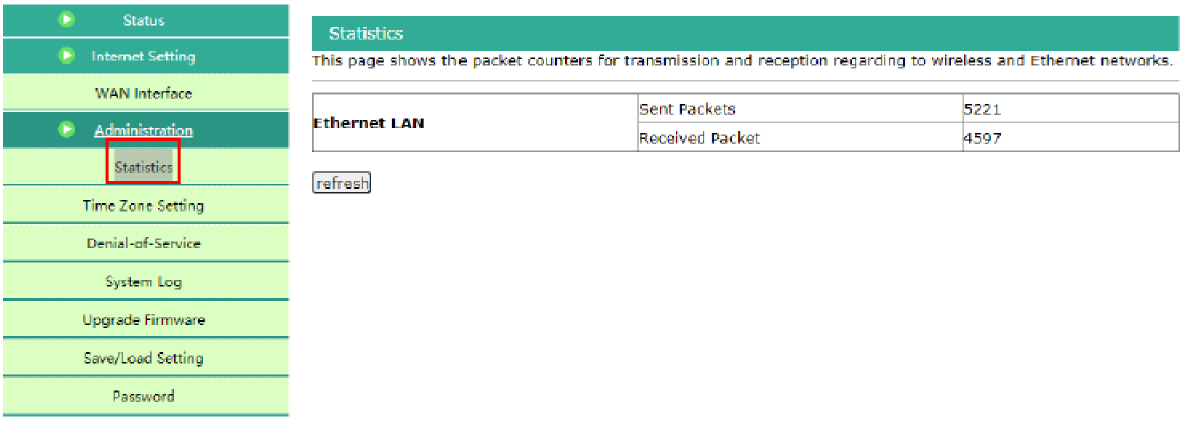
DNS 3:

Clone MAC Address: 000000000000

Administration

Statistics

This page shows the packet counters for transmission and reception regarding to wireless and Ethernet networks



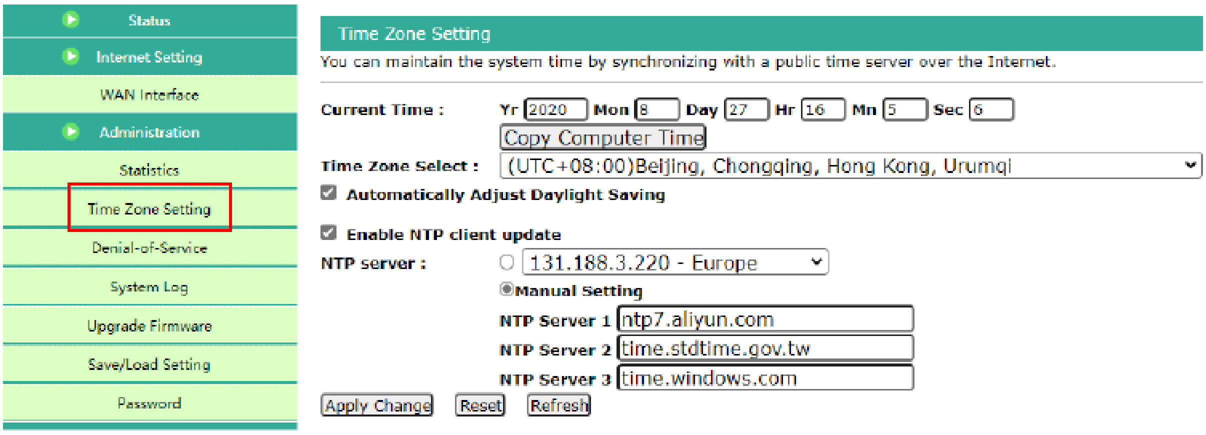
Statistics

This page shows the packet counters for transmission and reception regarding to wireless and Ethernet networks.

Ethernet LAN	Sent Packets	5221
	Received Packet	4597

Time Zone Setting

- You can maintain the system time by synchronizing with a public time server over the Internet.
- The default NTP Server such as the following
- NTP Server1: **ntp7.aliyun.com**
- NTP Server2: **time.stdtime.gov.tw**
- NTP Server3: **time.windows.com**



Time Zone Setting

You can maintain the system time by synchronizing with a public time server over the Internet.

Current Time : Yr 2020 Mon 8 Day 27 Hr 16 Mn 5 Sec 6

Copy Computer Time

Time Zone Select : (UTC+08:00)Beijing, Chongqing, Hong Kong, Urumqi

☑ Automatically Adjust Daylight Saving

☑ Enable NTP client update

NTP server : ○ 131.188.3.220 - Europe

● Manual Setting

NTP Server 1 ntp7.aliyun.com

NTP Server 2 time.stdtime.gov.tw

NTP Server 3 time.windows.com

Apply Change Reset Refresh

- Please make sure that the gateway time is consistent with the computer system time otherwise it will cause the timestamp verification failed when the gateway connects to the cloud and be unable to connect to the cloud.

Denial of Service

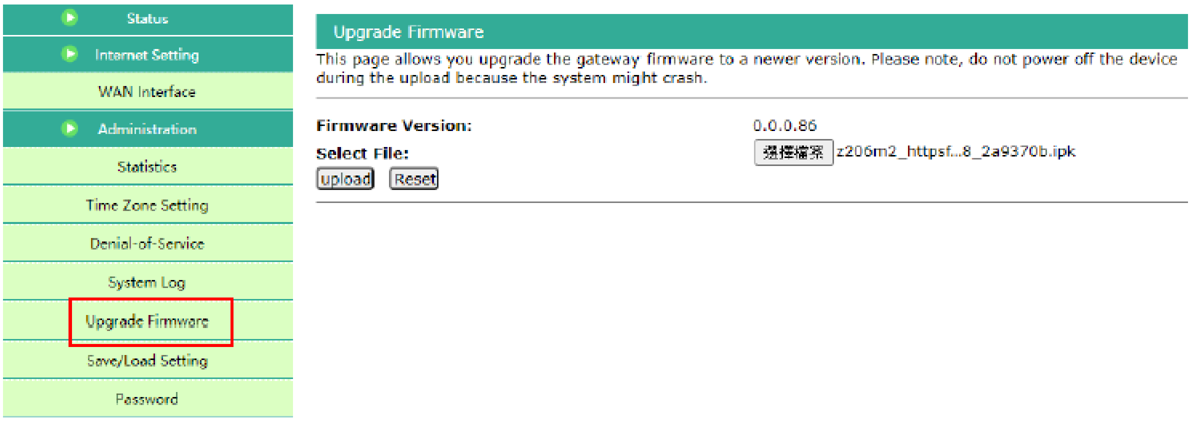
- R207C do not support this function

System Log

- R207C does not support this function.

Upgrade Firmware

- This page allows you to upgrade the gateway firmware to a new er version. Please note, do not power off the device during the upload because the system might crash.



Upgrade Firmware

This page allows you upgrade the gateway firmware to a newer version. Please note, do not power off the device during the upload because the system might crash.

Firmware Version: 0.0.0.86

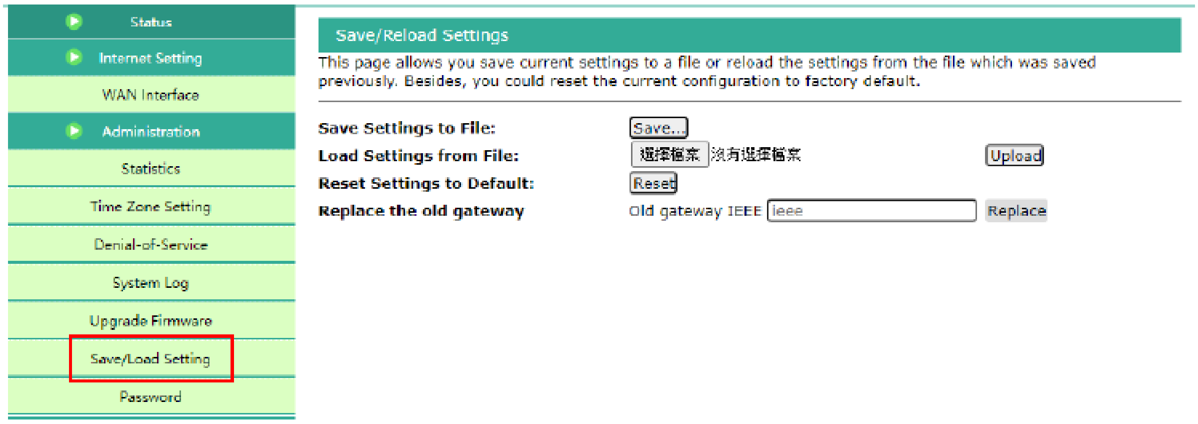
Select File: 選擇檔案 z206m2_httpsf...8_2a9370b.ipk

upload Reset

- Do not turn off the power during the firmware update

Save/Load Setting

This page allows you to save current settings to a file or reload the see tt ings from the file which was saved previously. Besides, you could reset the current configuration to factory default.



Save/Reload Settings

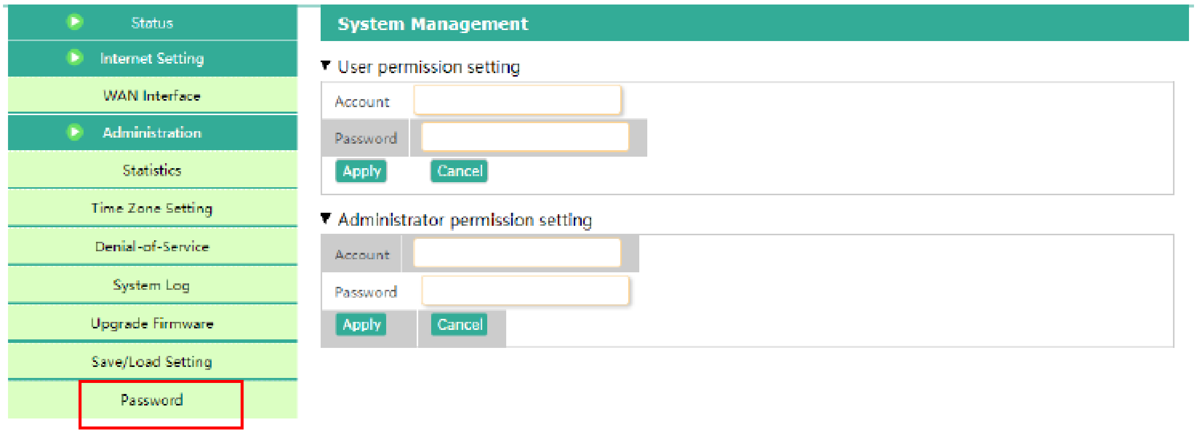
This page allows you save current settings to a file or reload the settings from the file which was saved previously. Besides, you could reset the current configuration to factory default.

Save Settings to File:	Save...	
Load Settings from File:	選擇檔案 沒有選擇檔案	Upload
Reset Settings to Default:	Reset	
Replace the old gateway	Old gateway IEEE ieee	Replace

- The saved device configuration file is "".dat

Password

- The login account and password of the administrator and customer can be changed.
- The password must be greater than or equal to 6 digits.
- It cannot be the same as the account and cannot be 123456
- The default username and password Applicable to versions after 0.0.0.83 (inclusive)
- The administrator s user name: operator Pa s sword the last six digits of IEEE
- The customer s user name: admin Password : the last six digits of IEEE



System Management

▼ User permission setting

Account
Password
Apply Cancel

▼ Administrator permission setting

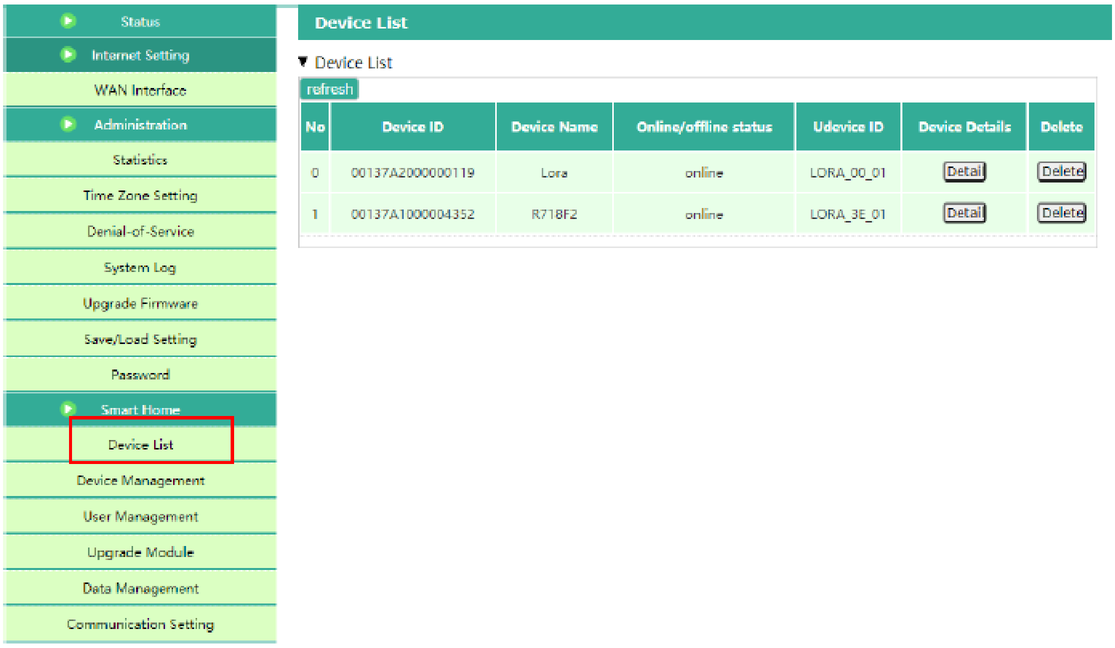
Account
Password
Apply Cancel

- When user forgets the password, please press and hold the reset button o f R207C hardware for 5 seconds and release it to restore the factor y set t ing

Smart Home

Device List

- Click [Device List] to view current device information, including Device ID (IEEE), Device name, online/offline status, etc.
- When using for the first time, please power on the end device one by one and refresh the device list to see if all items appear on the list

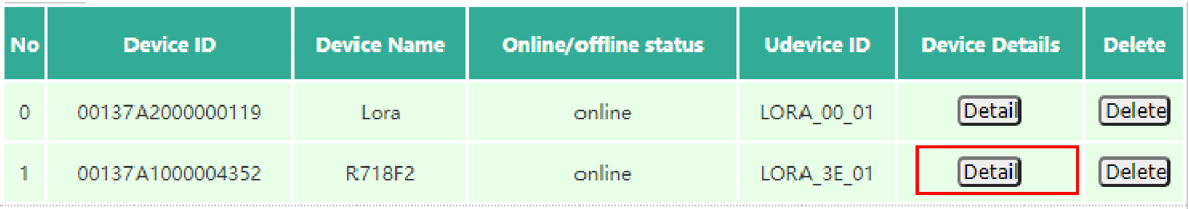


Device List

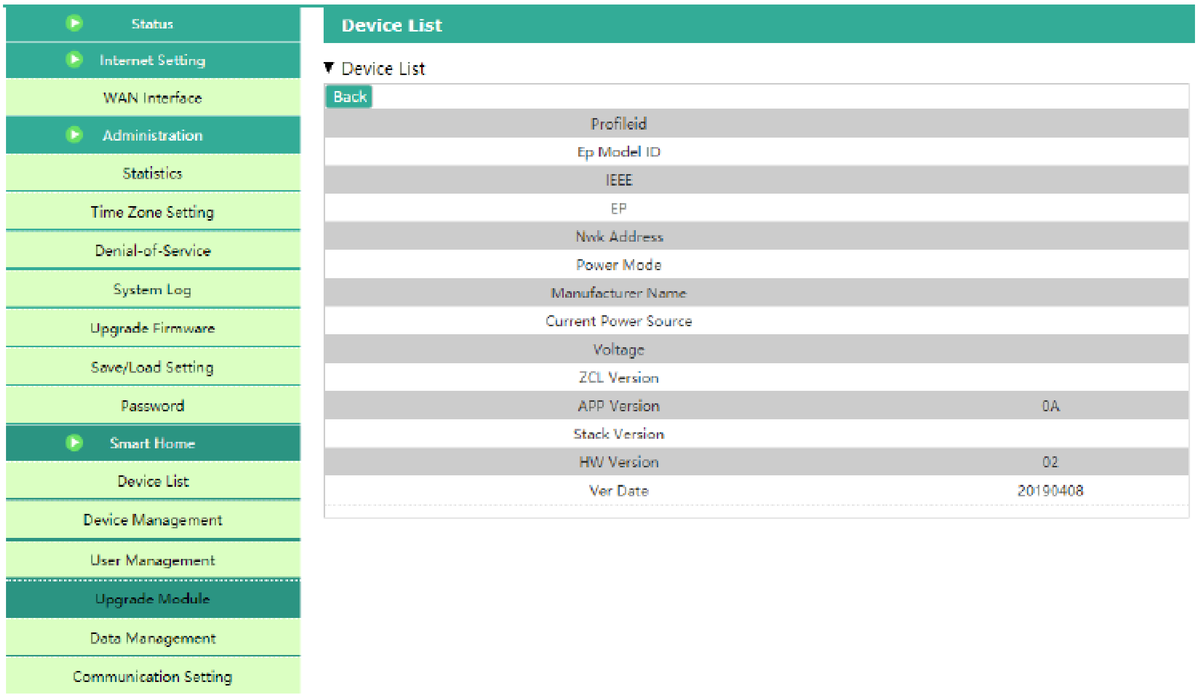
▼ Device List

No	Device ID	Device Name	Online/offline status	Udevice ID	Device Details	Delete
0	00137A2000000119	Lora	online	LORA_00_01	Detail	Delete
1	00137A1000004352	R718F2	online	LORA_3E_01	Detail	Delete

Click [Deta il] to view the detailed device information



No	Device ID	Device Name	Online/offline status	Udevice ID	Device Details	Delete
0	00137A2000000119	Lora	online	LORA_00_01	Detail	Delete
1	00137A1000004352	R718F2	online	LORA_3E_01	Detail	Delete

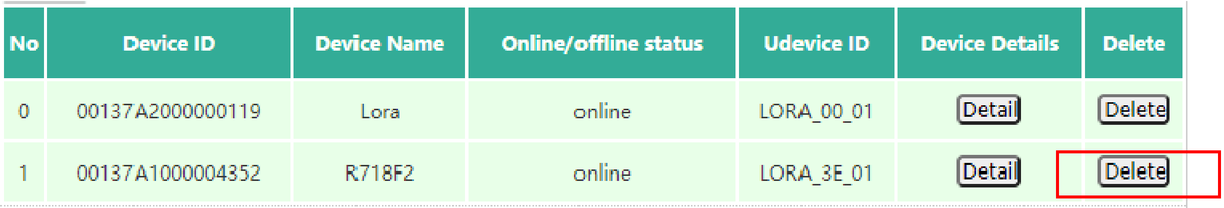


Device List

▼ Device List

Profileid	
Ep Model ID	
IEEE	
EP	
Nwk Address	
Power Mode	
Manufacturer Name	
Current Power Source	
Voltage	
ZCL Version	
APP Version	0A
Stack Version	
HW Version	02
Ver Date	20190408

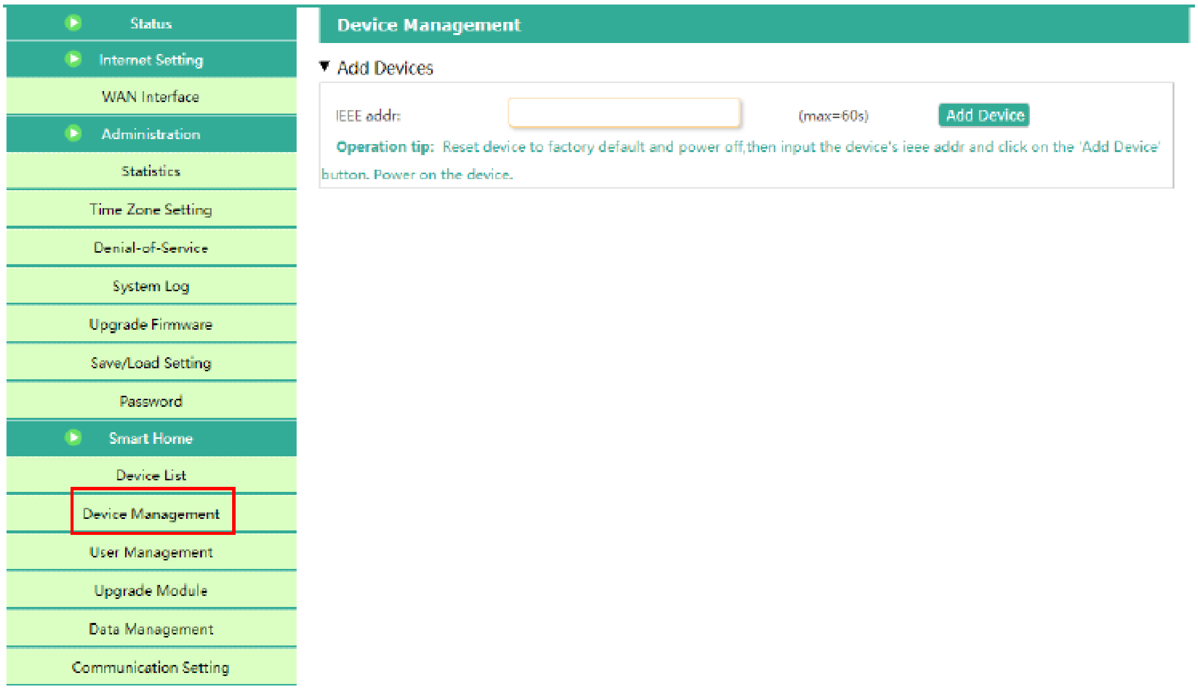
Click [Delete] to delete the device.



No	Device ID	Device Name	Online/offline status	Udevice ID	Device Details	Delete
0	00137A2000000119	Lora	online	LORA_00_01	Detail	Delete
1	00137A1000004352	R718F2	online	LORA_3E_01	Detail	Delete

Device Management

- Click [Device Management] and Add Devices will appear.
- Please enter the IEE E (Dev EUI) of the device that will be added.
- After filling in, click [Add Device], and the network will start. Each time that can join in the network is 60 seconds and the user can refresh the device list to view whether the
- the device has joined i n the netwo rk
- Operation tip:
- Reset the device to factory default and power off, then input the device's IEEE A dd and click on the
- 'Add Device' button. Power on the device



Device Management

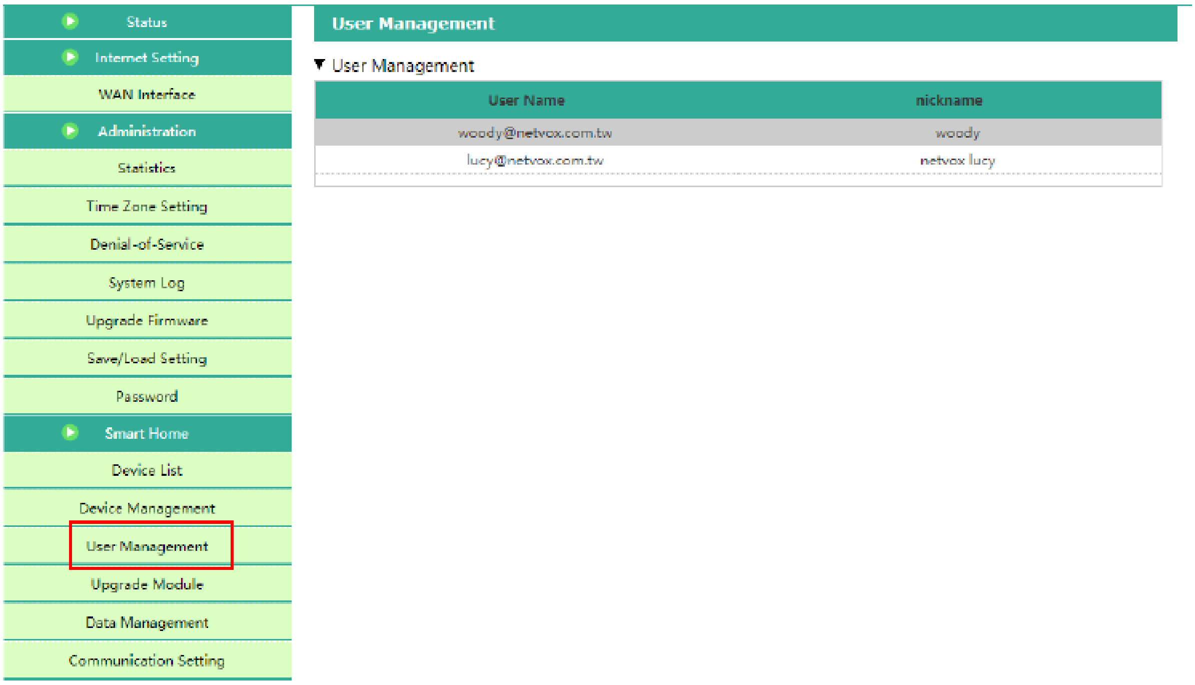
▼ Add Devices

IEEE addr: (max=60s)

Operation tip: Reset device to factory default and power off,then input the device's ieee addr and click on the 'Add Device' button. Power on the device.

User Management

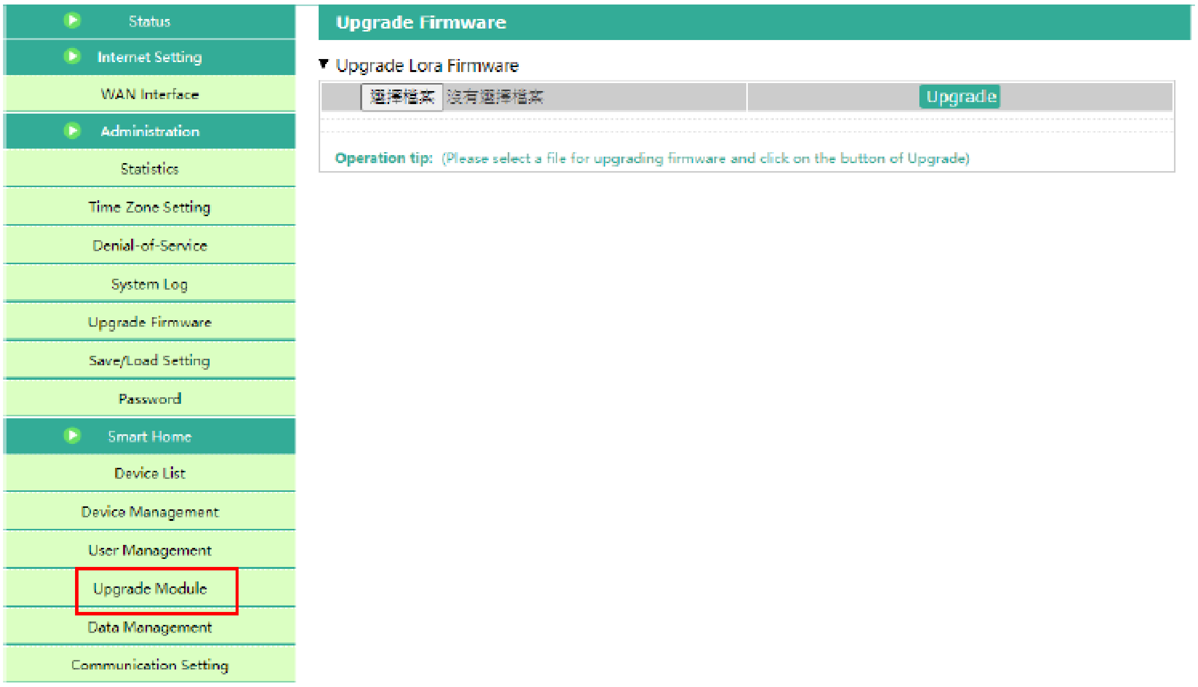
Display the list of users



User Name	nickname
woody@netvox.com.tw	woody
lucy@netvox.com.tw	netvox lucy

Upgrade Module

Please select a file for upgrading L oRa M module firmware and click on the button of Upgrade

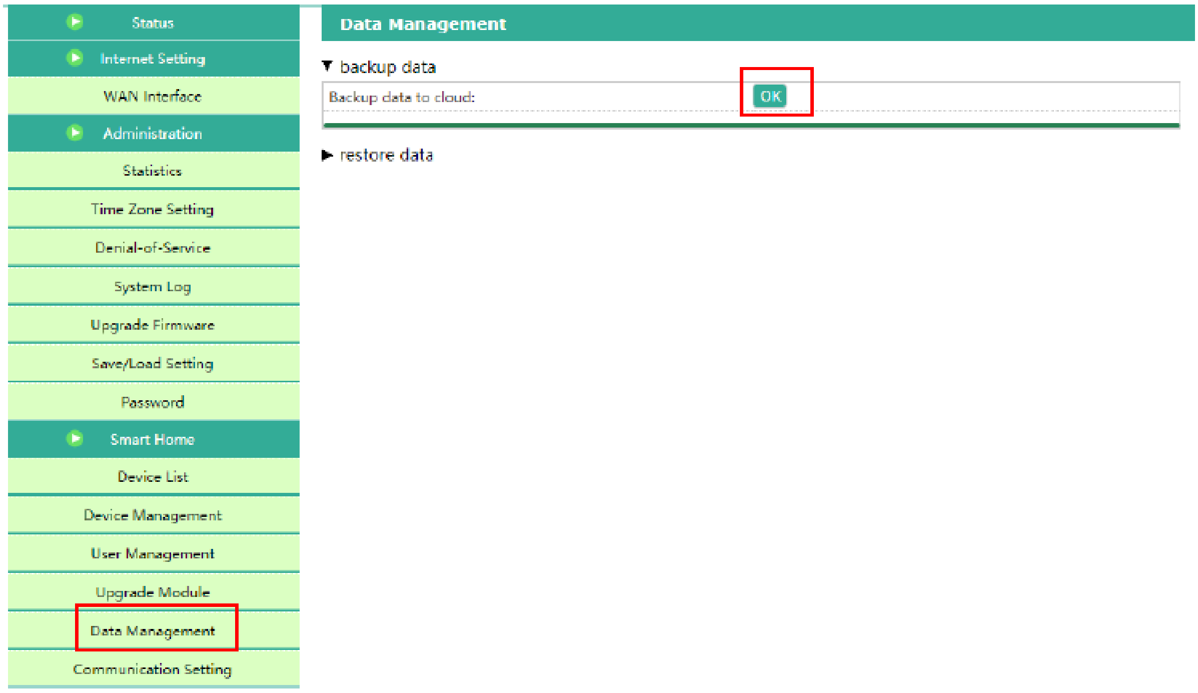


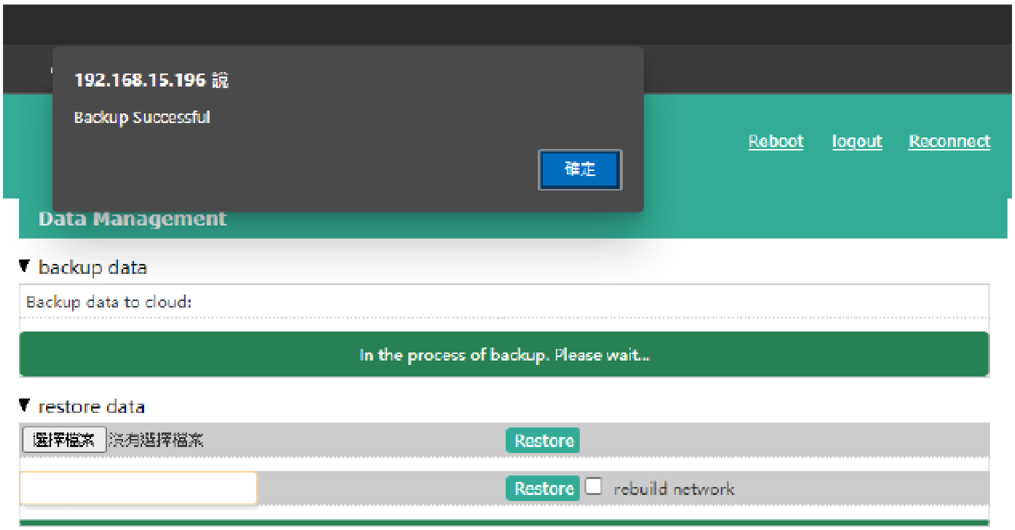
Operation tip: (Please select a file for upgrading firmware and click on the button of Upgrade)

- Do not turn off the power when updating the LoRa Module firmware

Data Management

Click OK under [backup data] to back up user data and can back u p t o the cloud

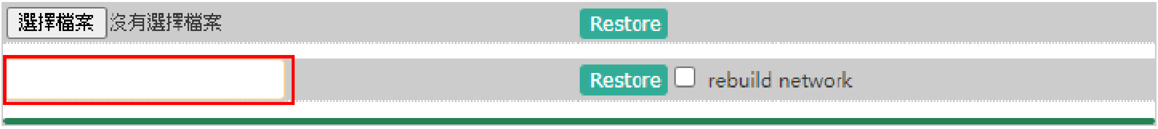


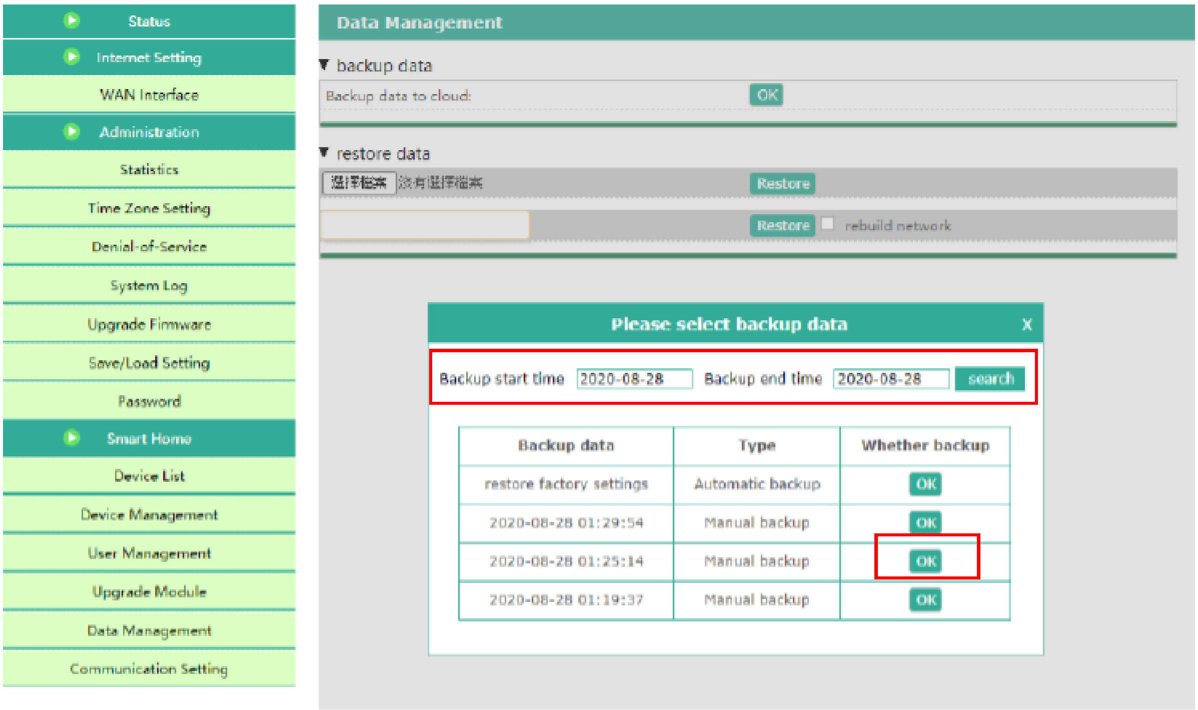

192.168.15.196 說

Backup Successful

In the process of backup. Please wait...

- In [restore data], the user can restore the backup data Click the blank box of [Cloud Restore] and select the data during the backup period that want to quer y , and then click “Search” All the backup data during this period will be listed T he n, click the one you want to restore, it will load the cloud backup data
- *This method is also suitable for data restoration operations when the gateway is abnormally replaced by a new gateway





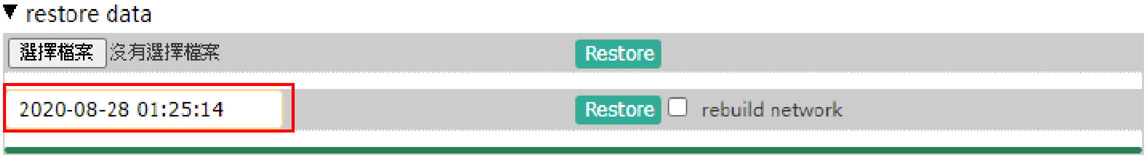
Backup data to cloud:

選擇檔案 沒有選擇檔案

□ rebuild network

Backup start time 2020-08-28 Backup end time 2020-08-28

Backup data	Type	Whether backup
restore factory settings	Automatic backup	OK
2020-08-28 01:29:54	Manual backup	OK
2020-08-28 01:25:14	Manual backup	OK
2020-08-28 01:19:37	Manual backup	OK



選擇檔案 沒有選擇檔案

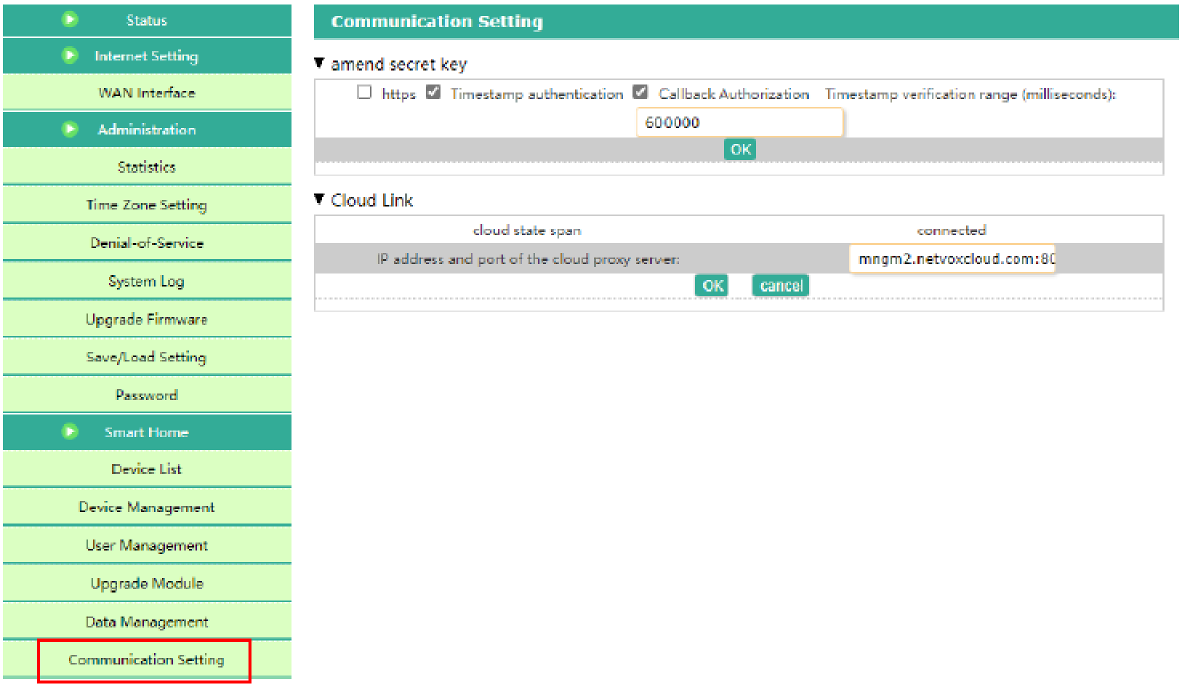
2020-08-28 01:25:14

□ rebuild network

Communication Setting

Amend Secret Key

- DHtps: Https transfer protocol
- D Timestamp authentication:
- The timestamp verification is enabled according to the factory setting and can communicate normally within about 10 minutes (600000ms). When the gateway time and the computer time are incorrectly deviant by 10 minutes, it will appear timestamp verification time-out.
- Callback Authorızation:
- Permission verification 1s are enabled according to the factory default, and the user does not need to modify this content.



Communication Setting

▼ amend secret key

☐ https ☑ Timestamp authentication ☑ Callback Authorization Timestamp verification range (milliseconds): 600000

▼ Cloud Link

cloud state span: connected

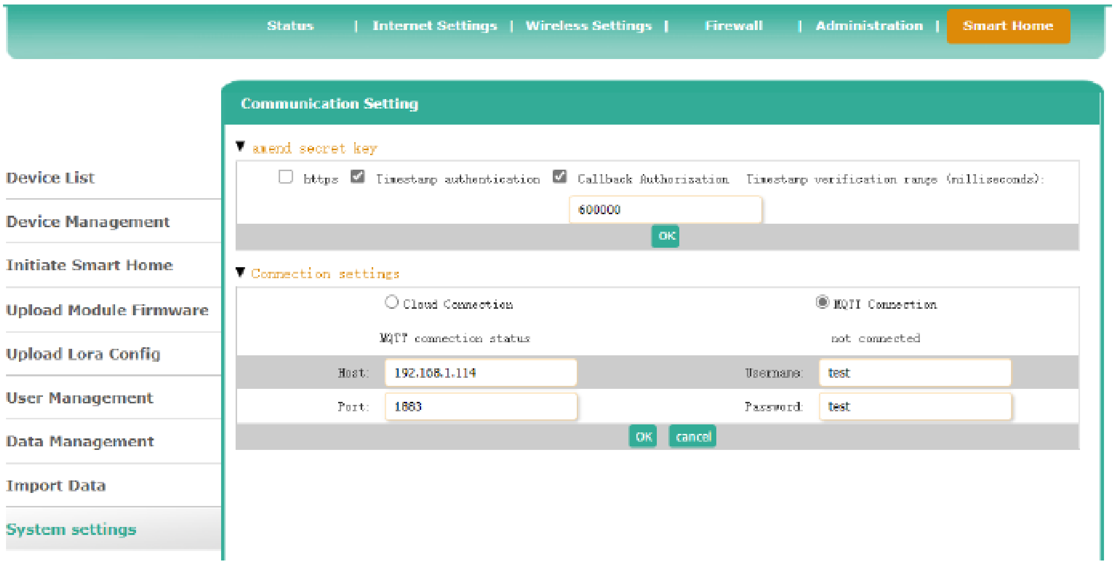
IP address and port of the cloud proxy server: mngm2.netvoxcloud.com:8(

Cloud Link

- Cloud state span: cloud connection state
- IP address and port of the cloud proxy server: mngm2.netvoxcloud.com:80 (for overseas)
- Modifying to another URL may cause the gateway to fail to connect to the cloud.
- If the network is normal and the cloud URL is entered correctly, but it still fails to connect to the cloud, please check whether the [Time Zone Setting] is consistent with the computer system time.

System Settings

- Enable https and timestamp, set cloud proxy server or MQTT
- **A.** https
- Enable/ Disable https
- **B.** Timestamp authentication
- The factory setting defaults that *Timestamp authentication” is selected. If the gateway time 1S incorrectly deviated by 10 minutes from the local time, the timestamp authentication will be timeout.
- The factory setting defaults that timestamp authentication is 10 minutes. Namely, only if the time lag between the gateway time and the local time is within plus and minus 10 minutes, the communication can be normal.
- **C.** Callback Authorization
- The factory setting defaults that “Callback Authorization is selected. Therefore, users do not need to modify it.
- **D.** Cloud Connection
- Default Cloud Address: mngm2.netvoxcloud.com:80
- Modifying to other URLs may cause the gateway to fail to connect to the cloud.
- **E.** MQTT Connection
- Please enter MQTT Host IP, Port, Username, and Password.
- **Note:** MQTT messages are encrypted. The user needs to be authorized the GW REST API before using. For the related matters, please contact the sales executive.



Communication Setting

▼ amend secret key

□ https ☑ Timestamp authentication ☑ Callback Authorization Timestamp verification range (milliseconds): 600000

▼ Connection settings

○ Cloud Connection ● MQTT Connection

MQTT connection status: not connected

Host: 192.168.1.114 Username: test

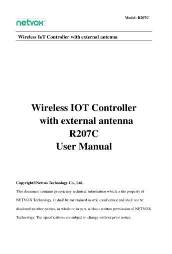
Port: 1883 Password: test

Important Maintenance Instructions

- Kindly pay attention to the following in order to achieve the best maintenance of the product:
- Keep the device dry. Rain, moisture or any liquid might contain minerals and thus corrode electronic circuits. If the device gets wet, please dry it completely.
- Do not use or store the device in a dusty or dirty environment. It might damage its detachable parts and electronic components.
- Do not store the device under excessive heat conditions. High temperatures can shorten the life of electronic devices, destroy batteries, and deform or melt some plastic parts.
- Do not store the device in places that are too cold. Otherwise, when the temperature rises to normal temperature, moisture will form inside, which will destroy the board.
- Do not throw, knock or shake

  the device. Rough handling of equipment can destroy internal c circuit boards and delicate structures.
- Do not clean the device with strong chemicals, detergents or strong detergents.
- Do not apply the device with paint. Smudges might block in the device and affect its operation.
- Do not throw the battery into the fire, or the battery will explode.
- Damaged batteries may also explode.
- All of the above applies to your device, battery and accessories. If any device is not working properly, please take it to the nearest authorized service facility for repair.

Documents / Resources

 netvox Model: R207C Wireless IoT Controller with external antenna Wireless IOT Controller with external antenna R207C User Manual Copyright©Netvox Technology Co., Ltd. This document contains proprietary technical information which is the property of NETVOX Technology. It shall be maintained in strict confidence and shall not be disclosed to other parties, in whole or in part, without written permission of NETVOX Technology. The specifications are subject to change without prior notice.	**netvox R207C Wireless IoT Controller with External Antenna** [pdf] User Manual R207C, Wireless IoT Controller with External Antenna, R207C Wireless IoT Controller with External Antenna, R207C Wireless IoT Controller, Wireless IoT Controller, IoT Controller, Controller