IOT-4GW01-A User Manual

File version: V1.0.4.1

Content

1. Overview

If user has any question, please submit it back to customer center: https://www.hinovision.com

1.1. Brief introduction

IOT-4GW01-A is an industrial 4G LTE router for North American which supports WAN, LAN, WLAN and 4G interface. User can access to 3G/4G network by WLAN interface or Ethernet interface.

1.2. Product feature

- 1 wired LAN ports, 1 wired WAN ports (WAN ports can be switched to LAN ports).
- 2.4G WIFI wireless 802.11 b/g/n
- LED communication indicators
- Configure device by webpage
- Support one button to restore factory settings.
- The wired net ports support 10/100Mbps rate.
- Support VPN Client (PPTP/L2TP/IPSEC/GRE/OPENVPN/SSTP) and supports VPN encryption and static IP functions.
- Support APN automatic checking network, 2/3/4G system switching, SIM information display, support APN/VPDN special network card.
- Support for wired wireless multi network simultaneous online and multi network intelligent switching backup function
- Support remote upgrade and remote monitoring.
- Support Dynamic Domain Name System (DDNS), Static Routing, PPPOE, DHCP, Static IP Function
- Support mandatory portal (WIFIDOG), this function needs to be customized accodeing to customer needs.
- Support the firewall, NAT, DMZ host, access control black-and-white list, IP speed limit, NTP, MAC speed limit.
- Support SMS AT command
- Support external hardware watchdog design to ensure system stability.
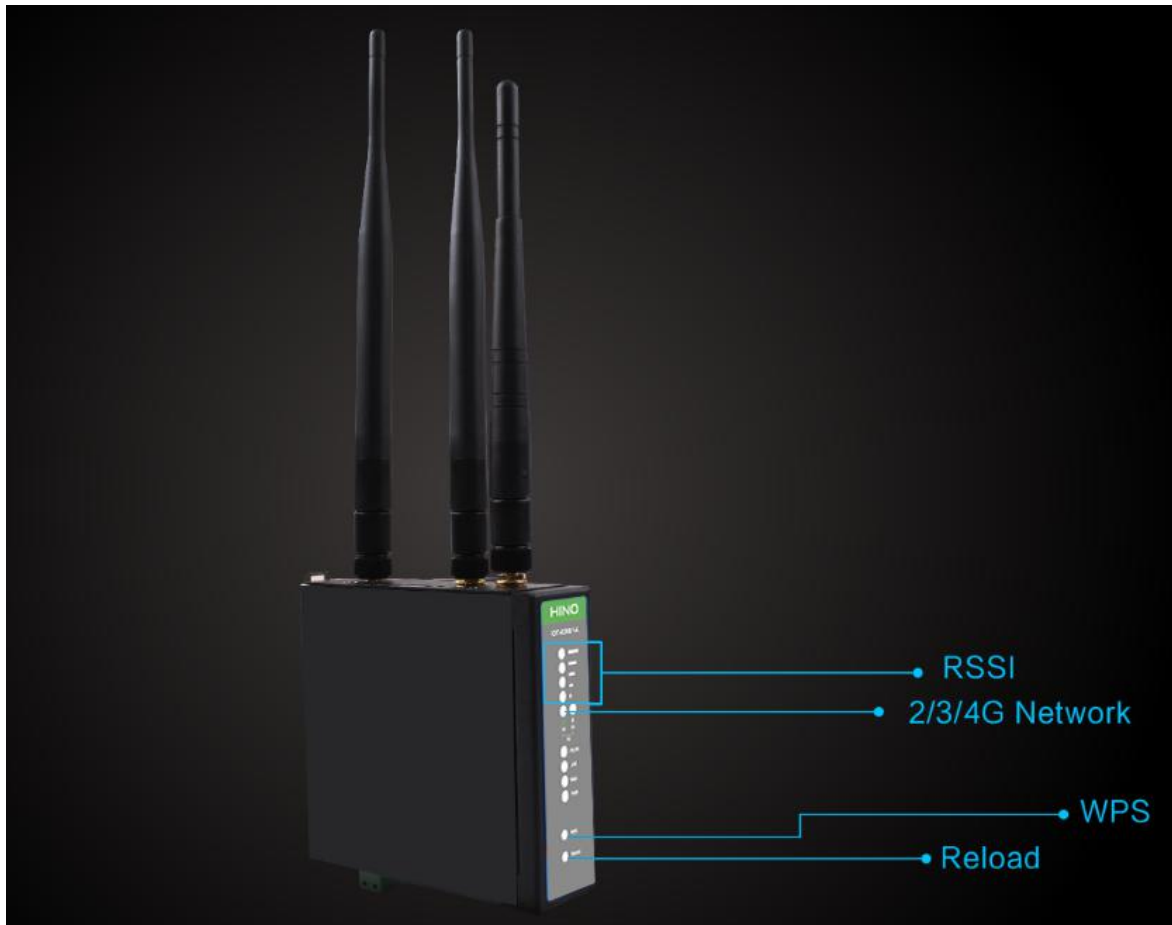
1.3. Hardware introduction

Figure 1 LED

| LED	Function	
RSSI	The more green LEDs lighten, the signal is stronger.	
2G	2G:On 3G:Off	2G network accessing
	2G:Off 3G:On	3G network accessing
3G	2G:On 3G:On	4G network accessing
WLAN	On: Wi-Fi enabled	Off: Wi-Fi disabled
LAN	Blink: LAN port working	Off: LAN port not working
WAN	Blink: WAN/LAN port working	Off: WAN/LAN port not working
PWR	On: Power on	Off: Power off
Button	**Function**	
WPS	Reserved	
Reload	Restore default settings	

Figure 2 LED functions
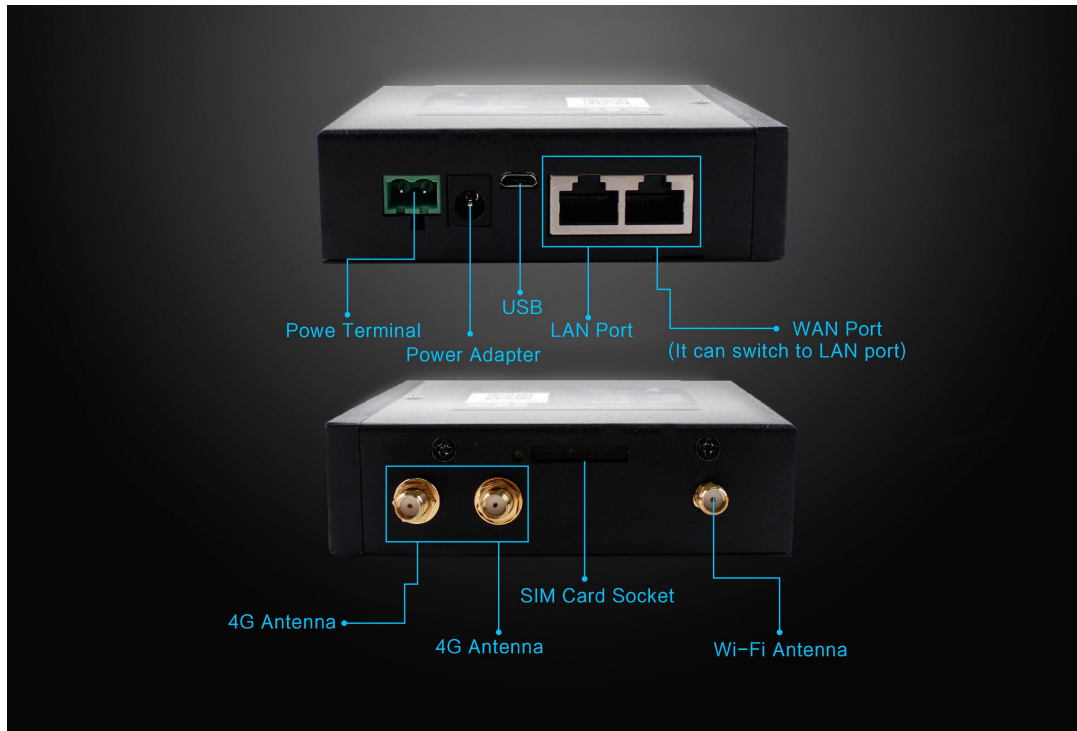
Figure 3 Interface

1.4. Band

To check if the IOT-4GW01-A works in specific country, please check which 3G/4G technology and band is used in this country and operator. Then please contrast our form of different model.

		4GW01-A 4G Band
FDD-LTE		2
		4
		12
WCDMA		2
		4
		5

2. Product Functions

This chapter introduces the functions of IOT-4GW01-A, as the following diagram shown, you can get an overall knowledge of it.

Figure 11 Product function

2.1. Install procedure

（1） Connect the 4G antenna and Wi-Fi antenna to the router. (Longer one is 3G/4G antenna and Shorter one is Wi-Fi antenna.)

（2） Plug the SIM card in socket.

（3） Power on the module by power adaptor and check the LED status.

（4） Connect PC or mobile to the 4GW01-A router via LAN interface or Wi-Fi interface. Wi-Fi password is "www.usr.cn".

（5） Log in Web Server of router. (Default IP address of router is 192.168.1.1, either the username and password is "root".)

（6） Configure APN parameters according to SIM card. Some SIM card APN can be recognized automatically.(Network->APNSET)

（7） Configure other parameters according to user applications.
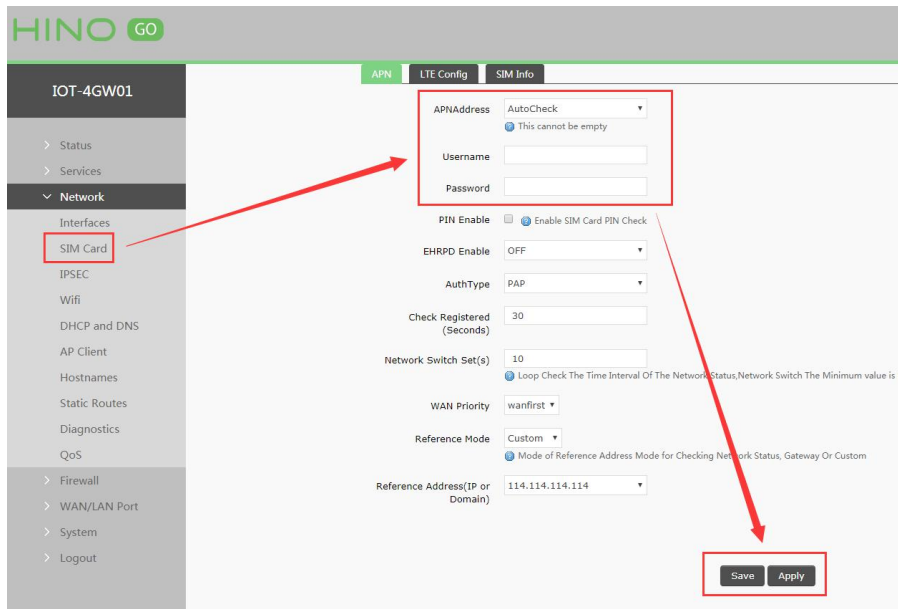
2.2. APN

APN configuration by Web Server as follow:

Figure 12 APN configuration

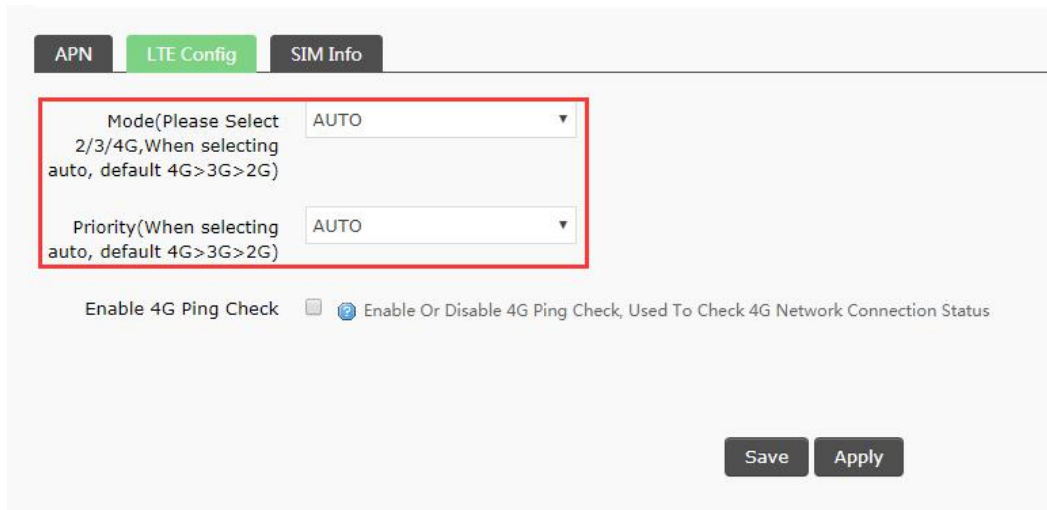To choose the network type, please configure the LTE configuration.

Figure 13 LTE configuration

2.2.1. Create a VPN client

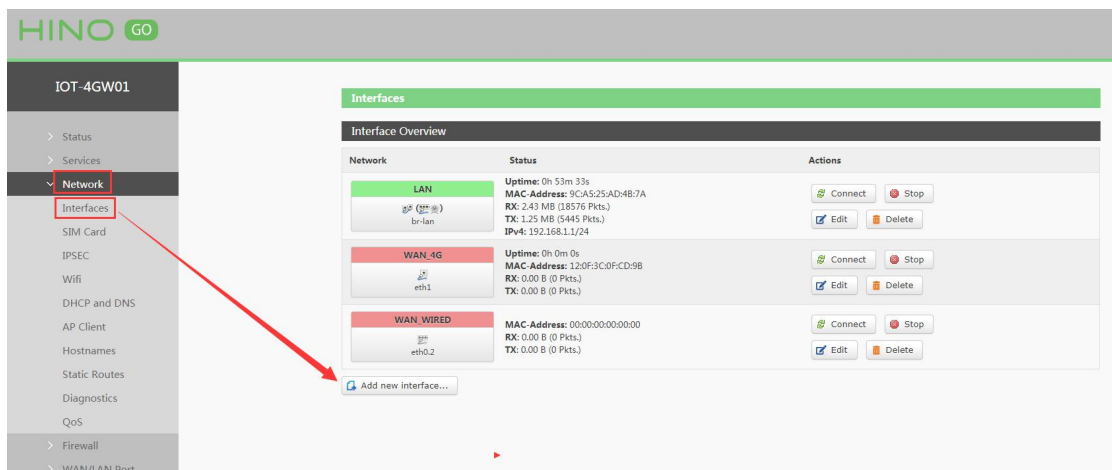User can set VPN client configuration by Web Server as follow:

Figure 14 VPN Client

2.3. Networking mode

2.3.1. WAN+LAN+4G

In this networking mode, user can access internet through WAN interface and 4G interface. WAN interface has higher priority than 4G interface to ensure communication and save 4G flows. When WAN interface occurs problems, router can change to 4G interface to connect internet. In this mode, user can also connect to router through WIFI.

To achieve this mode, user don't need to change the router's parameters. Just connect the cable to router and insert SIM card, then power the router.
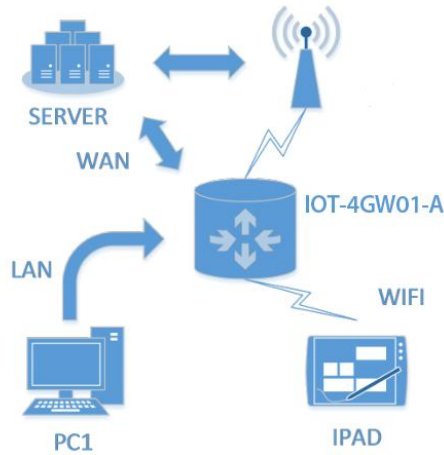
Application diagram as follow:

Figure 15 WAN+LAN+4G networking

2.3.2. LAN+LAN+4G

In this networking mode, two devices can connect to router through LAN and access the Internet by 4G network. User can achieve this by Web Server as follow:
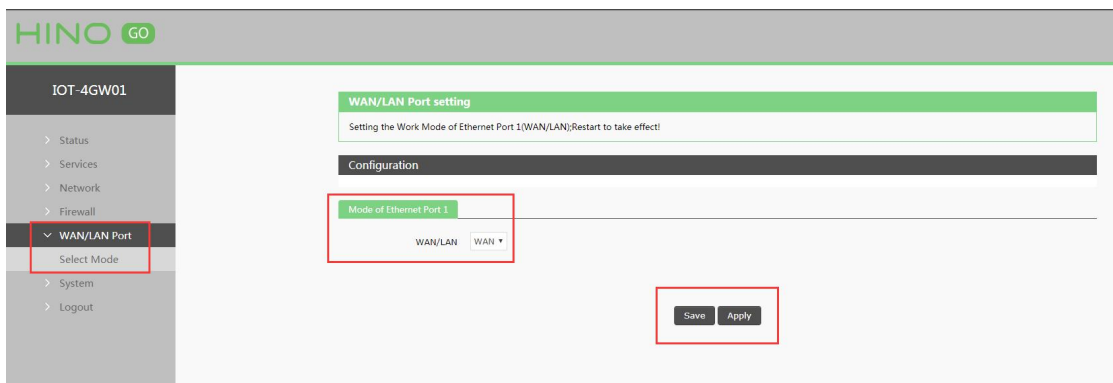

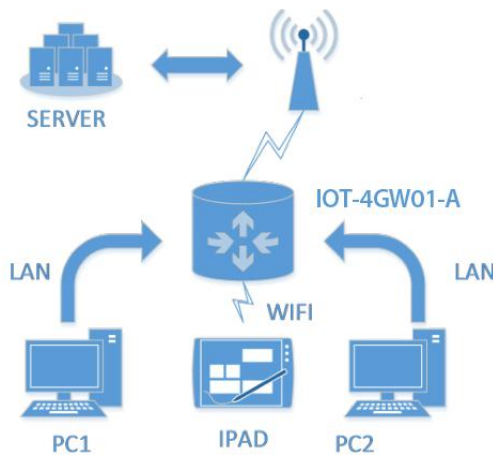**Figure 16 Switch WAN/LAN interface**

Application diagram as follow:

Figure 17 LAN+LAN+4G networking

2.4. Common functions

2.4.1. 4G interface

4GW01-A supports one 4G interface to access internet. Functional diagram as follow:
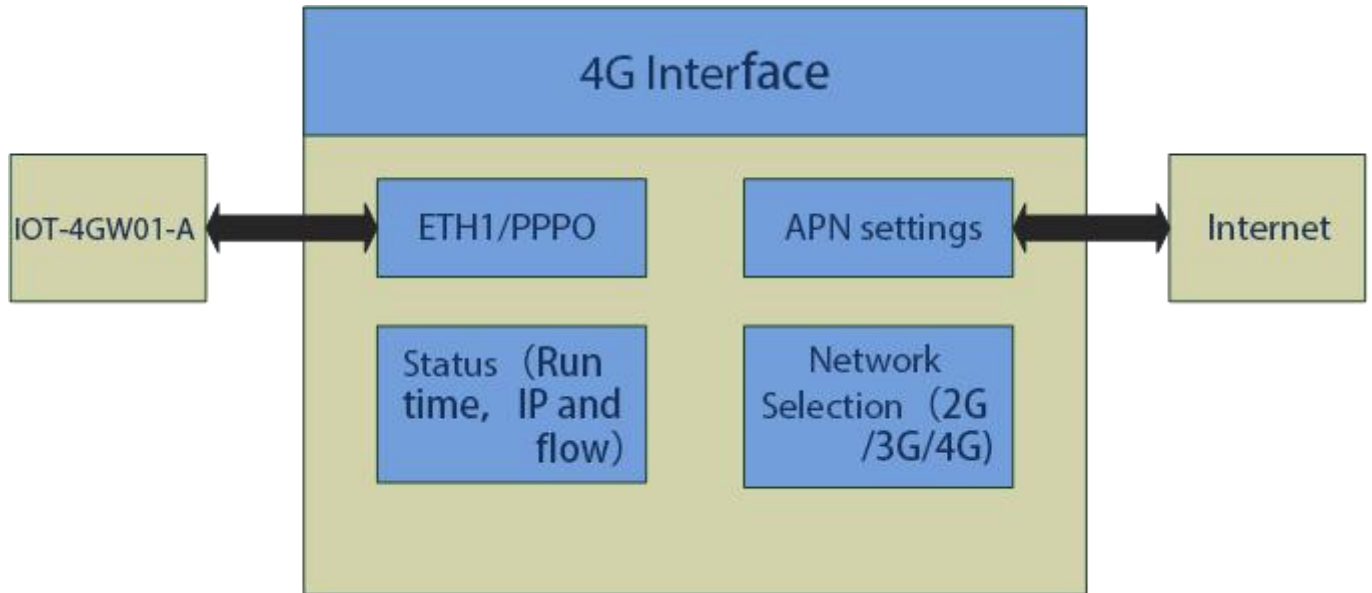

Figure 18 4G interface

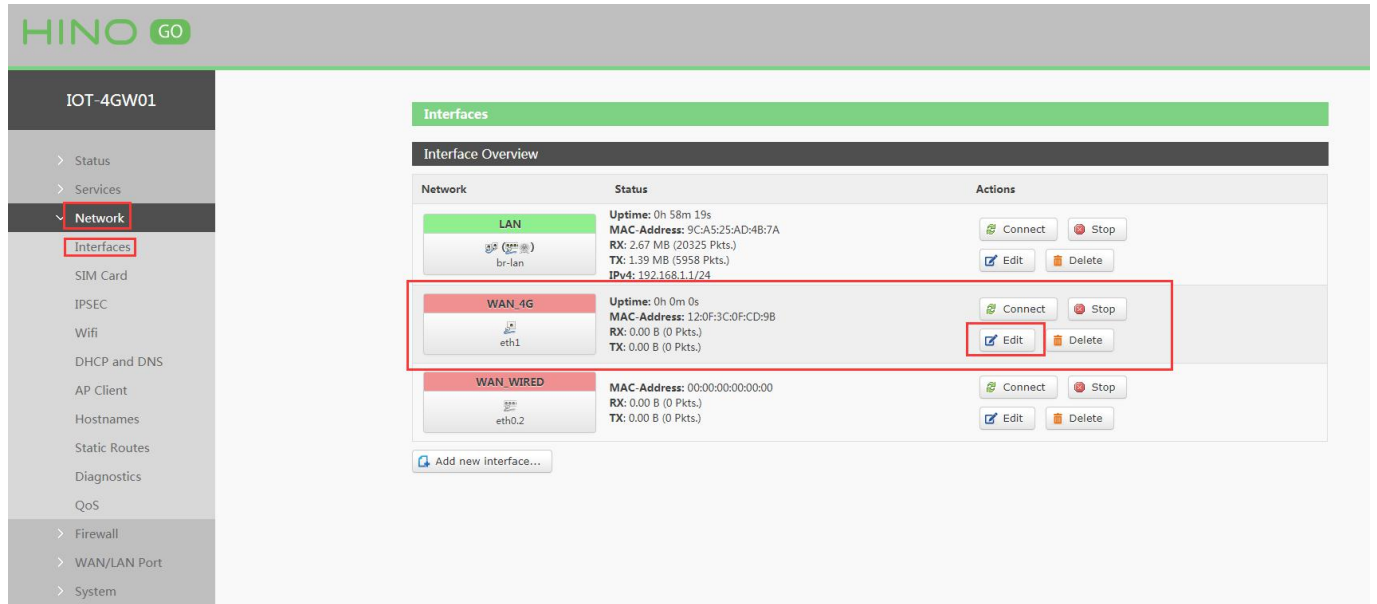User can configure 4G interface by Web Server as follow:

Figure 19 4G interface

2.4.2. LAN interface

4GW01-A supports two LAN interface (one is WAN/LAN interface).

Default settings: One LAN interface (WAN/LAN used as WAN interface; IP address: 192.168.1.1; Subnet mask: 255.255.255.0; Open DHCP function).

User can configure LAN interface by Web Server as follow:
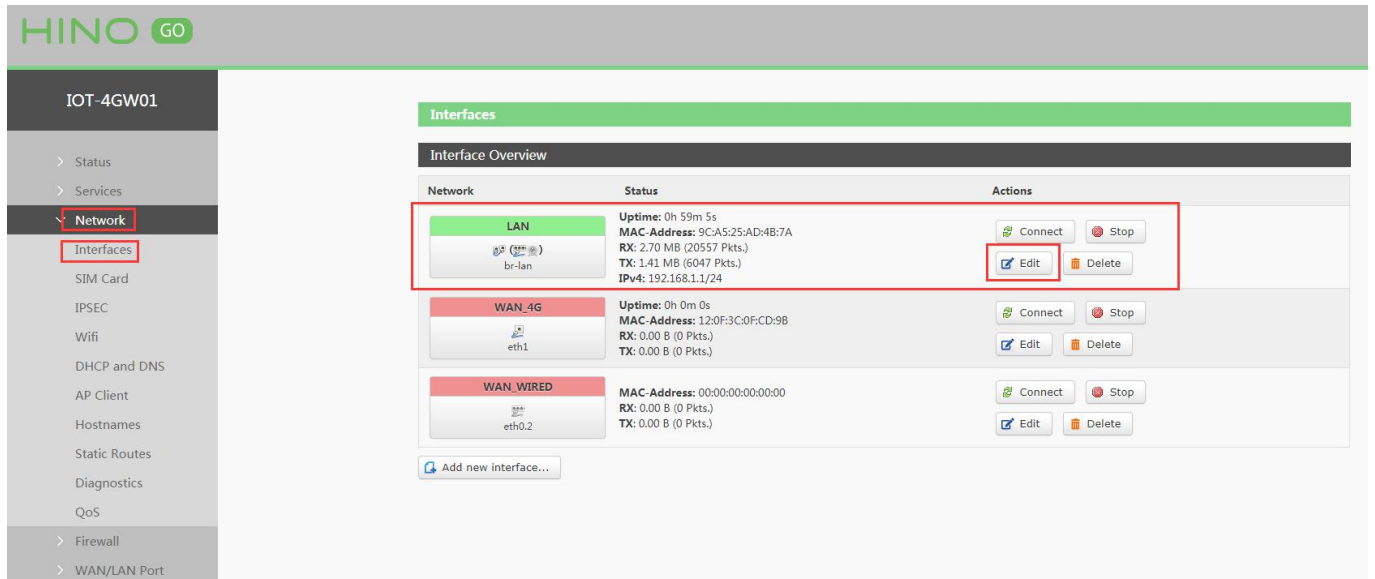
Figure 20 LAN interface

2.4.2.1. DHCP Function

DHCP default range of distribution is from 192.168.1.100 to 192.168.1.250 and default address lease time is 12 hours. Address range and lease time can be changed.

After you enter Web Server LAN interface, you can find 'DHCP Server' on Web Server as follow:

Figure 21 DHCP function

2.4.3. WAN interface

4GW01-A supports one WAN interface and WAN interface can switch between WAN/LAN interface. WAN interface supports DHCP and Static IP, and default setting is DHCP.

User can configure WAN interface by Web Server as follow:
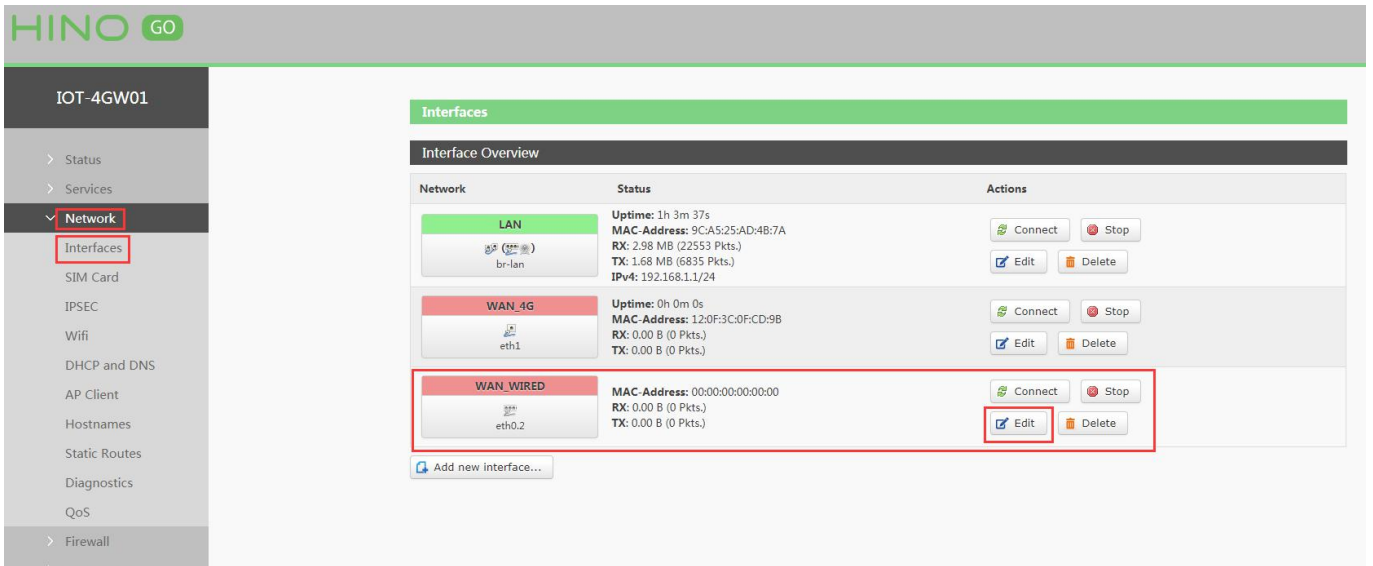
Figure 22 WAN interface

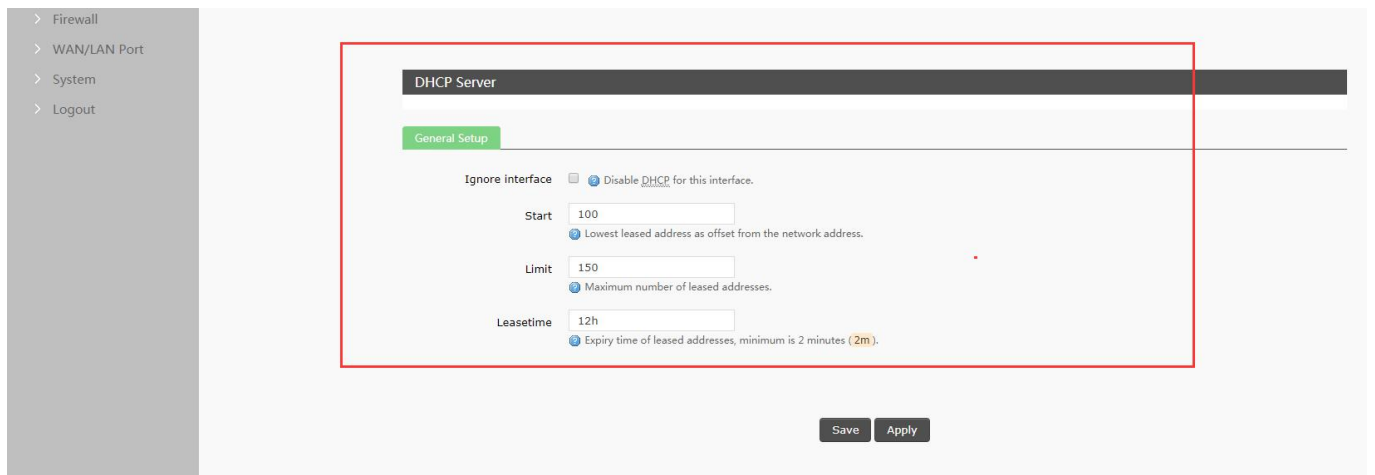## 2.4.4. WLAN interface

4GW01-A supports at most 24 STA device connection.

Default parameters as follows:

SSID	IOT-4GW01-XXXX(XXXX is MAC)
Password	www.higoiotcloud.com
Channel	Auto
Bandwidth	40MHz
Encryption Mode	WPA2-PSK

Figure 23 WALN default parameters

WLAN interface on Web Server as follow:

Figure 24 WLAN interface

After clicking "Edit" and entering WLAN interface configuration web, user can change follow parameters.

User can configure SSID on Web Server as follow:
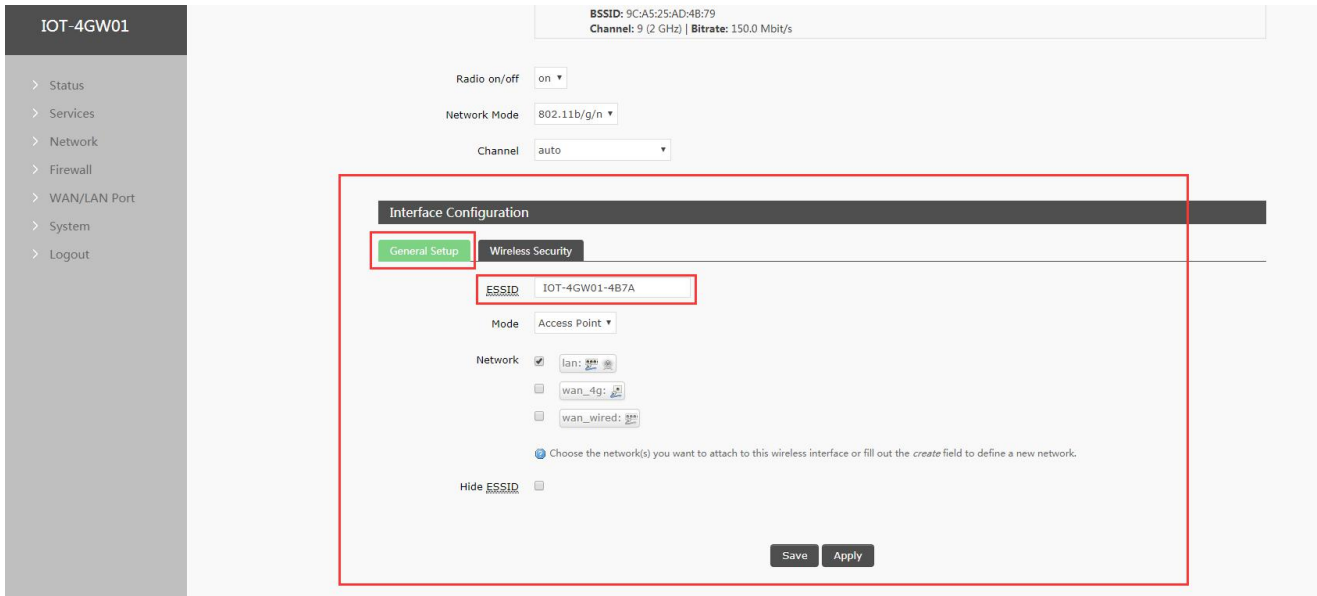
Figure 25 Configure SSID

User can configure password on Web Server as follow:
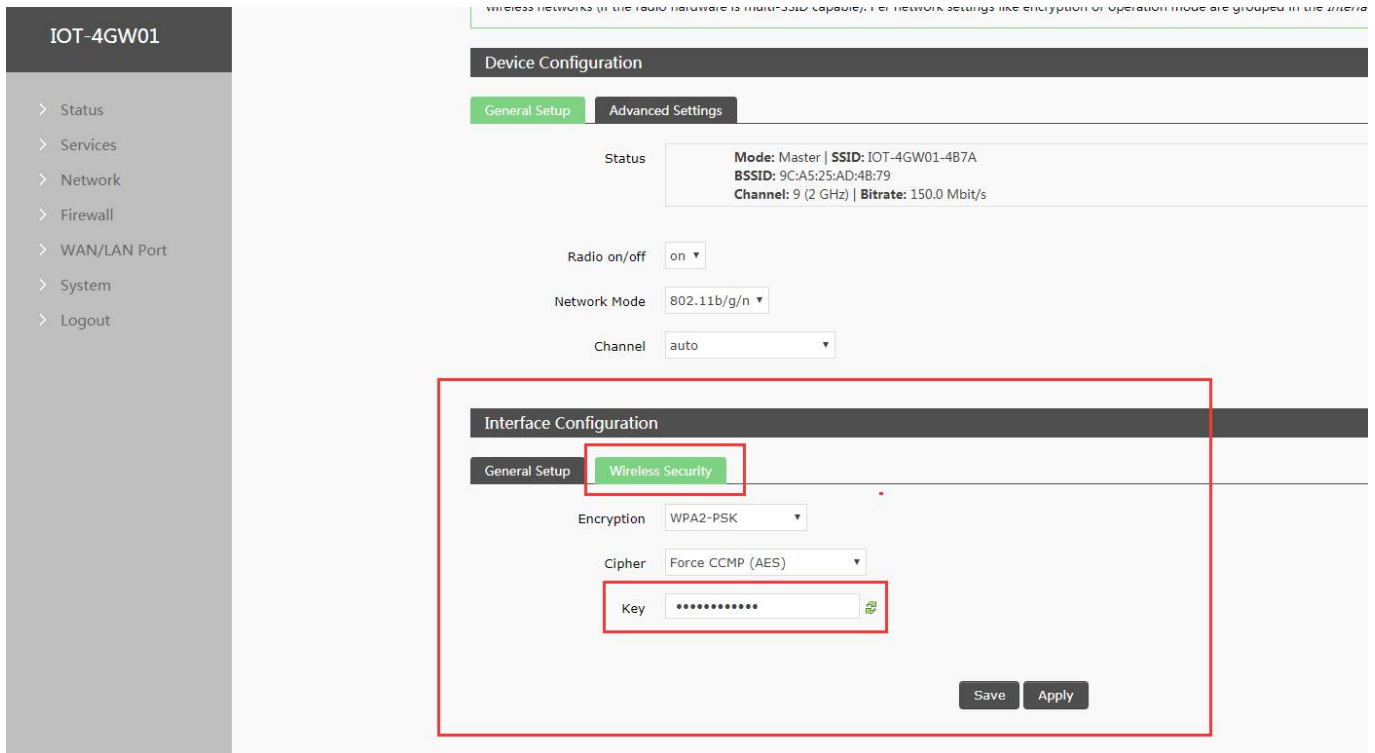
Figure 26 Configure password

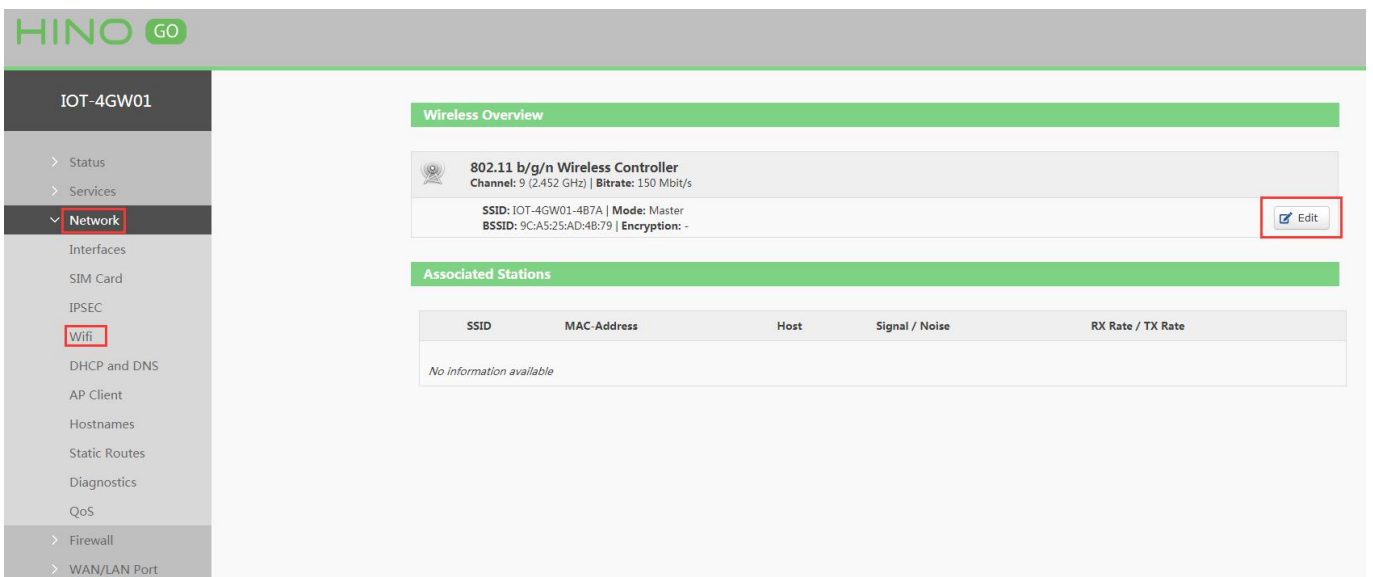Other settings on Web Server as follow:
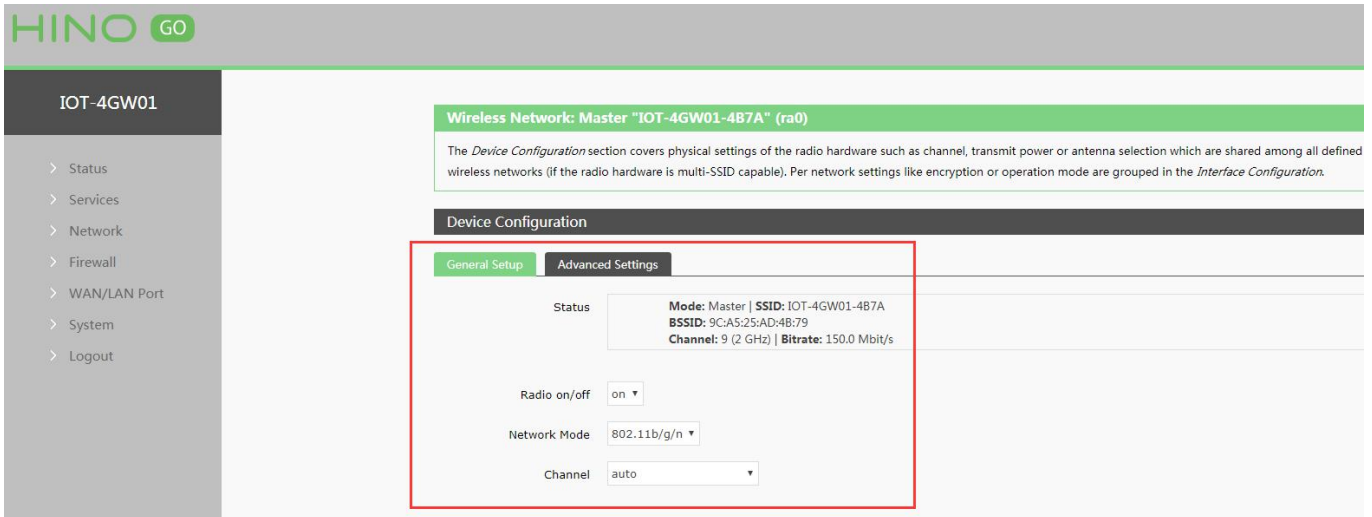
Figure 27 Other settings

User can close WLAN interface by changing 'Radio on/off' into off.

2.4.5. Network Diagnosis

User can use network diagnosis function by Web Server as follow:
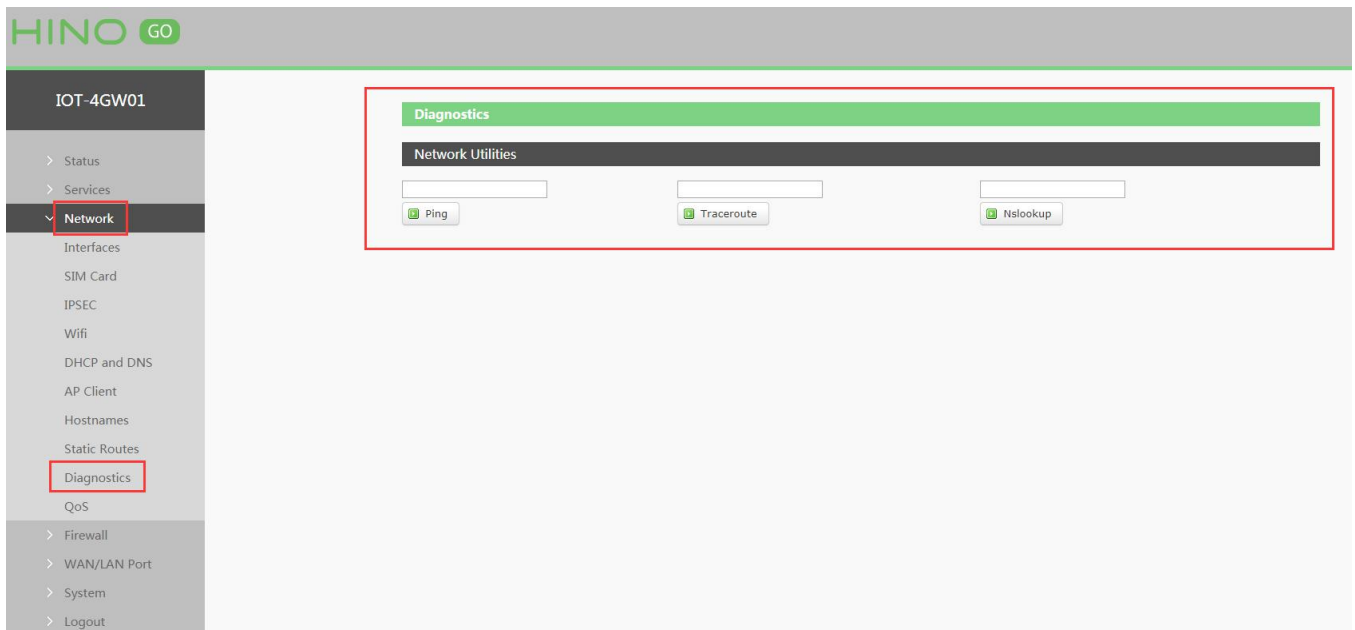
Figure 28 Network diagnosis

➢ Ping: User can do PING test to a specific address in 4GW01-A.

➢ Traceroute: Can acquire routing path to visit a specific address.

➢ Nslookup: Can analyse DNS into IP address

2.4.6. Module Name and Time Zone

4GW01-A default module name is IOT-4GW01-A and default Time Zone is Beijing time zone.

User can configure module name and Time Zone by Web Server as follow:
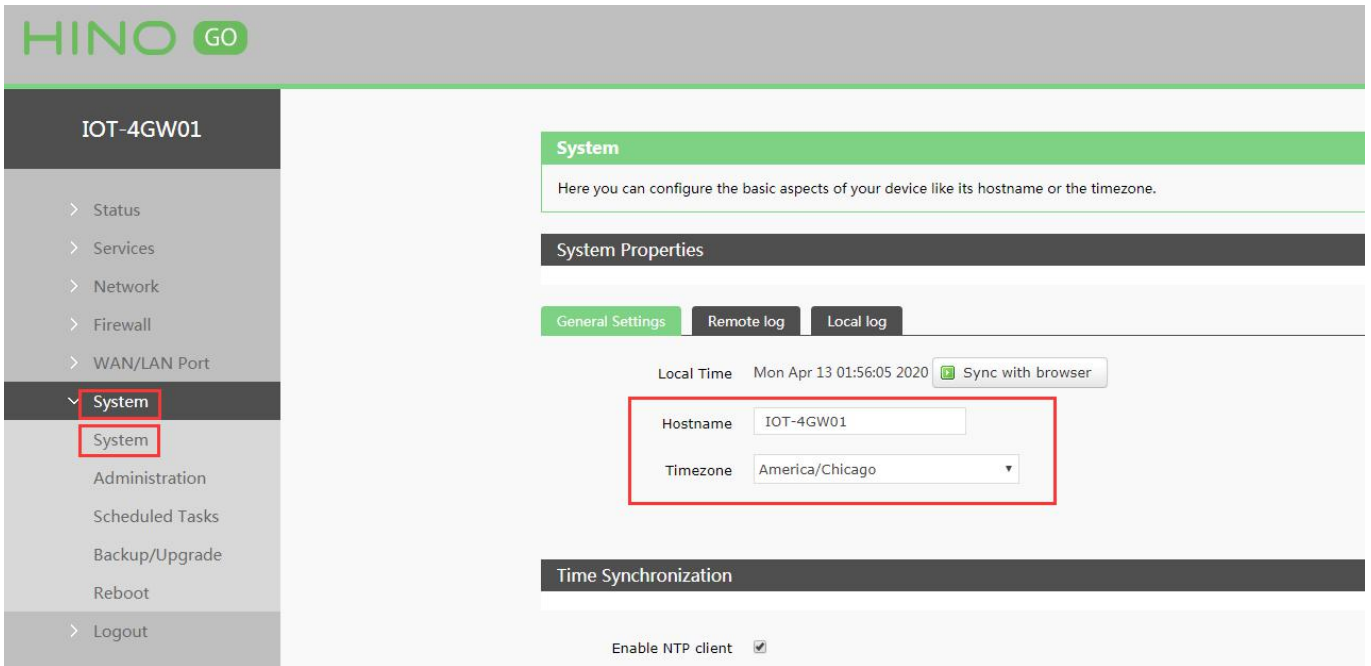
Figure 29 Module name and Time Zone

2.5. Basic Functions

2.5.1. Web Server Password

Default password is root, this password is used to enter Web Server.

User can change password by Web Server as follow:
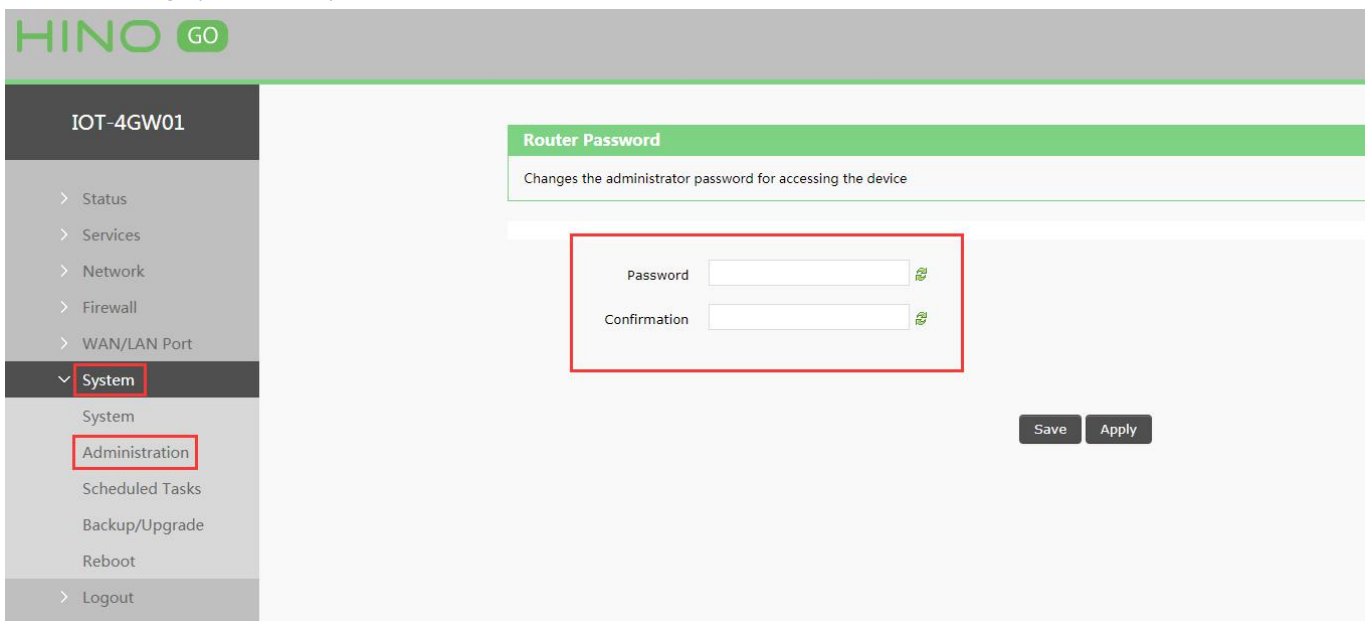
Figure 30 Change Web Server password

2.5.2. Restore

Hardware restore: Press Reload button over 5 seconds and release, 4GW01-A will restore default settings and reset.

User can restore default settings by Web Server as follow:
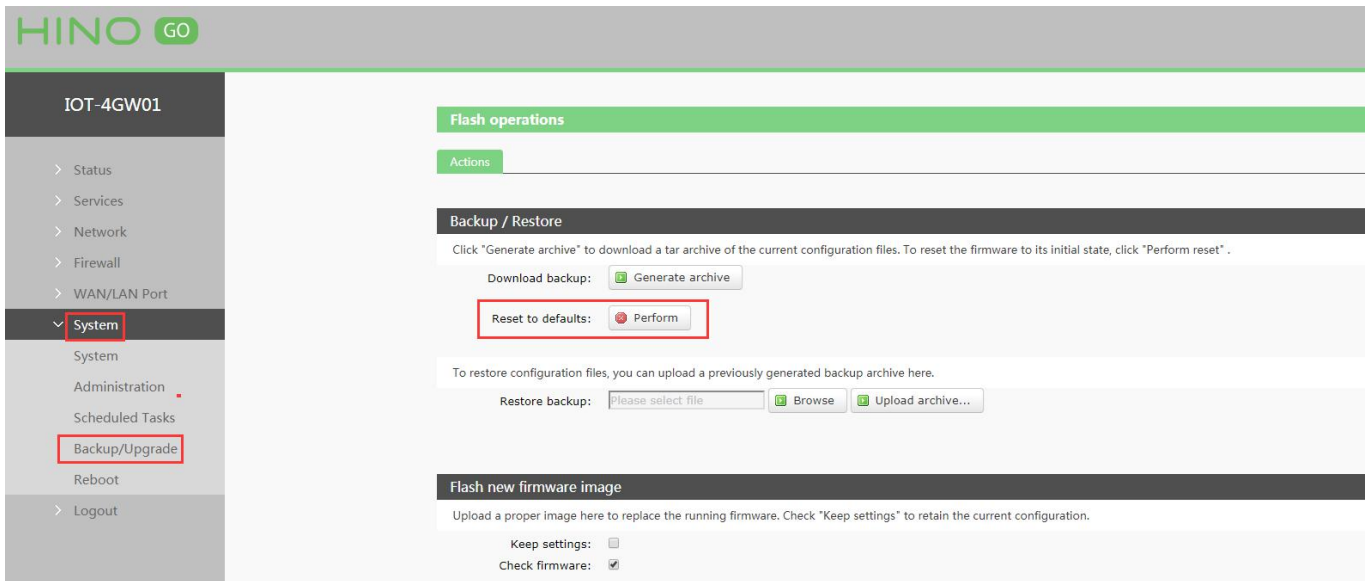
Figure 31 Restore default settings

2.5.3. Upgrade Firmware Version

Upgrade by Web Server as follow:
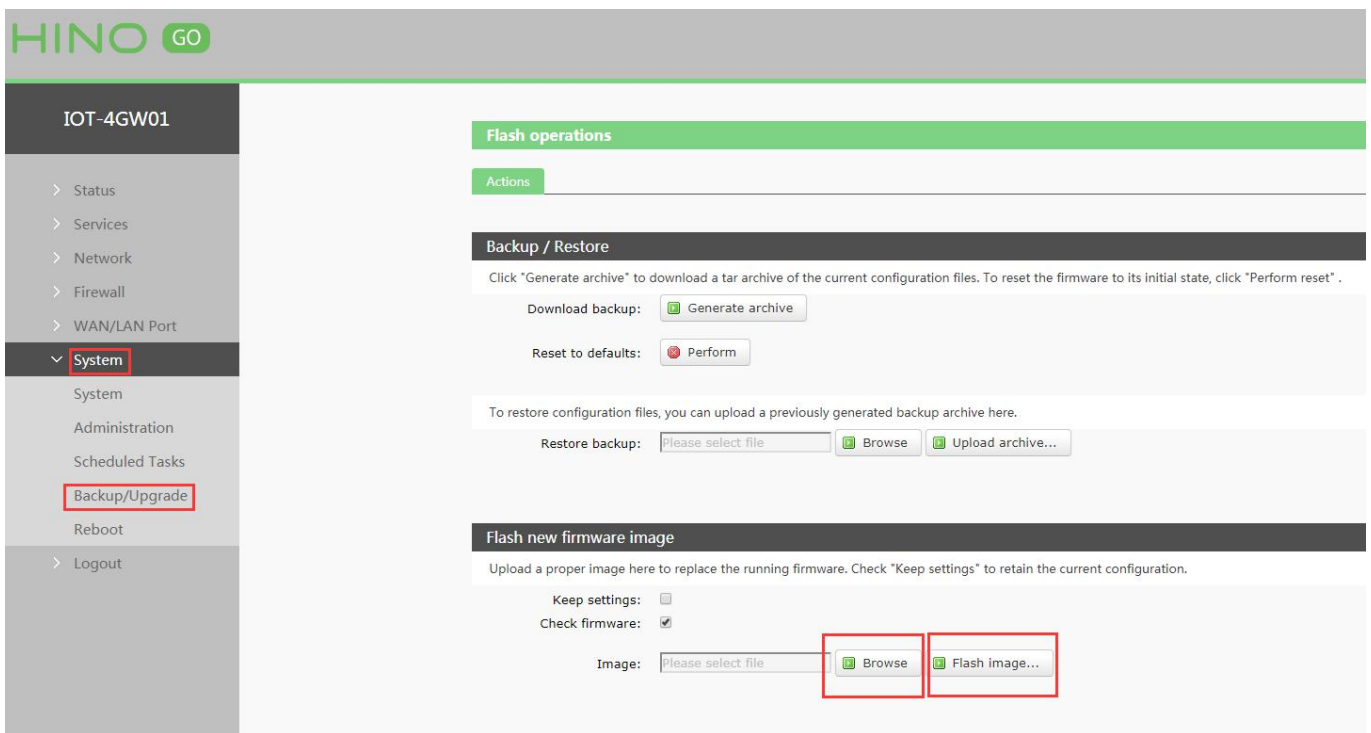
Figure 32 Upgrade firmware version

Note:

➢ The whole upgrade process will last about 1 minute, user can enter Web Server after about 1 minute.

➢ User can choose saving settings.

➢ User should keep powering up and LAN/WIFI connection during the whole upgrade process.

2.5.4. Reset

Reset time is about 40~60 seconds.

Reset by Web Server as follow:
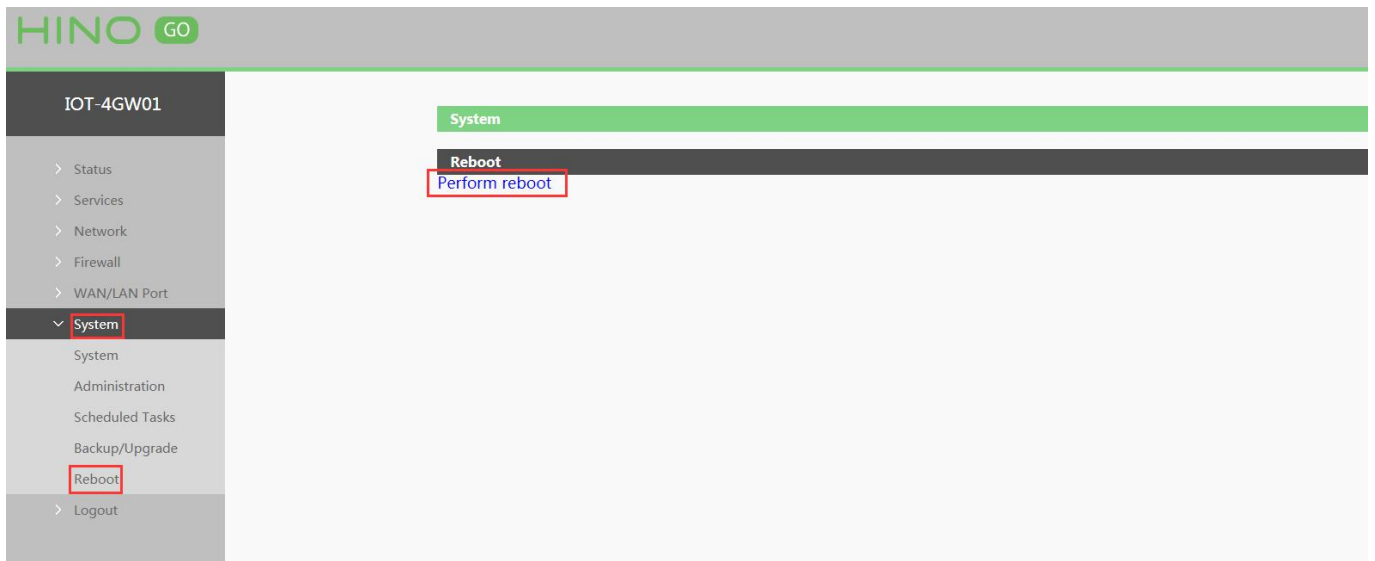
<p align="center">**Figure 33 Reset module**</p>

3. Web Server

When user need to configure the 4GW01-A, user can connect PC to IOT-4GW01-A through LAN interface or WLAN, then open Web Server.

Default parameters of 4GW01-A as follows:

SSID	IOT-4GW01-XXXX
IP Address	192.168.1.1
User name	root
Password	root
WLAN Password	www.higoiotcloud.com

<p align="center">**Figure 34 Default parameters**</p>

Take default parameters as example: User can connect PC to SSID IOT-4GW01-XXXX. Then open browser and enter 192.168.1.1, log in with User name and Password(both are root), user can enter Web Server.
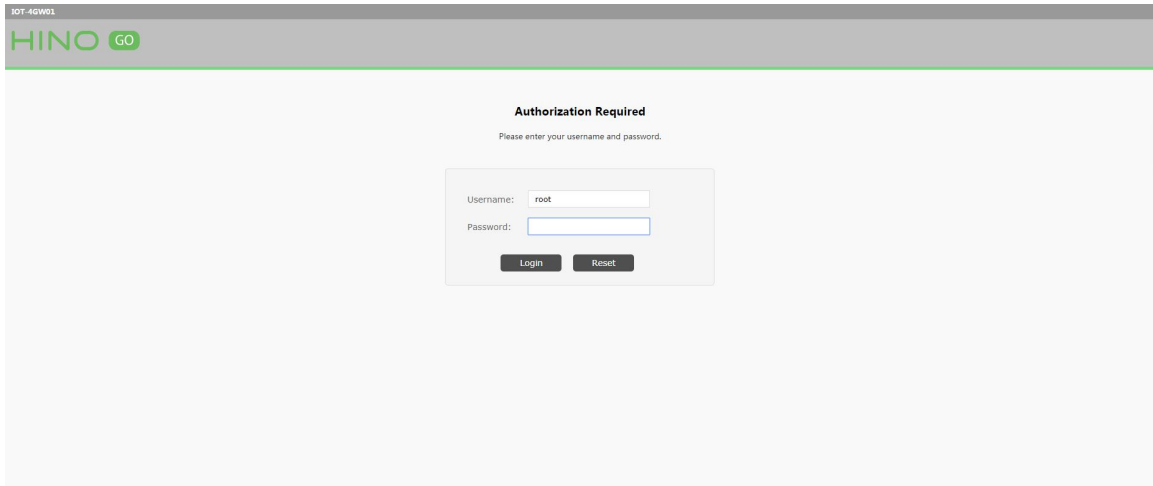
Figure 35 Web Server login web

4. Contact us

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Web: www.hinovision.com

Support: www.hinovision.com

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5. Disclaimer

This document provides the information of IOT-4GW01-A products, it hasn't been granted any intellectual property license by forbidding speak or other ways either explicitly or implicitly. Except the duty declared in sales terms and conditions, we don't take any other responsibilities. We don't warrant the products sales and use explicitly or implicitly, including particular purpose merchant-ability and marketability, the tort liability of any other patent right, copyright, intellectual property right. We may modify specification and description at any time without prior notice.

6. Updated History

2018-01-05   IOT-4GW01-A English version user manual V1.0.4.2.

Appendix: IOT-4GW01-A certification

ISEDC WARNING

This device complies with Innovation, Science, and Economic Development Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d' Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil nedoit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radio apparatus containing digital circuitry which can function separately from the operation of a transmitter or an associated transmitter, shall comply with ICES-003. In such cases, the labeling requirements of the applicable RSS apply, rather than the labelling requirements in ICES-003.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

SAR tests are conducted using standard operating positions accepted by the ISEDC with the phone transmitting at its highest certified power level in all tested frequency bands, although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value, in general, the

closer you are to a wireless base station antenna, the lower the power output.

Before a new model phone is a available for sale to the public, it must be tested and certified to the ISEDC that it does not exceed the exposure limit established by the ISEDC, Tests for each phone are performed in positions and locations (e.g. at the ear and worn on the body)as required by the ISEDC.

For body worn operation, this model phone has been tested and   meets the   ISEDC RF exposure guidelines when used with an accessory designated for this product or when used with an accessory that Contains no metal and that positions the handset a minimum of 10 mm from the body.

Non-compliance with the above restrictions may result in violation of RF exposure guidelines.

Le présent appareil est conforme

Après examen de ce matériel aux conformité aux limites DAS et/ou aux limites

d'intensité de champ RF,les utilisateurs peuvent sur l'exposition aux radiofréquences

et la conformité and compliance d'acquérir les informations correspondantes La

distance minimale du corps à utiliser le dispositif est de 10 mm

FCC WARNING

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.