



**InHand ER805 5G Edge Router**

# **Quick Installation Manual**

**V1.3—2021.09**

**InHand Networks**  
Global Leader in Industrial IoT

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# Overview

This manual is a guide for the installation and operation of ER805 series routers from InHand Networks. Please confirm the product model and packaging accessories (power terminal, antenna), and purchase SIM cards from local network operators

All statements, information and recommendations in this manual do not constitute any expressed or implied warranty.

## 1 Packing List

Each ER805 product includes common accessories, please check carefully when you receive our products. If there is any missing or damage, please contact InHand sales staff.

InHand can provide customers with optional accessories according to different field. Please refer to the list of optional accessories for detailed information.

### ER805 4G model accessories

Accessories	Unit	Remarks
ER805	1	
Ethernet cable	1	
LET antenna	2	Magnetic antenna, can change to stick antenna optionally
Wi-Fi antenna	2	Magnetic antenna, can change to stick antenna optionally
Power cable	1	
Power adaptor	1	
Panel mounting lug	4	2 hangers and 2 wall mounting lugs
SIM card needle/slot	1	
Rubber pad	4	
Certificate and product warrant card	1	

### ER805 5G model accessories

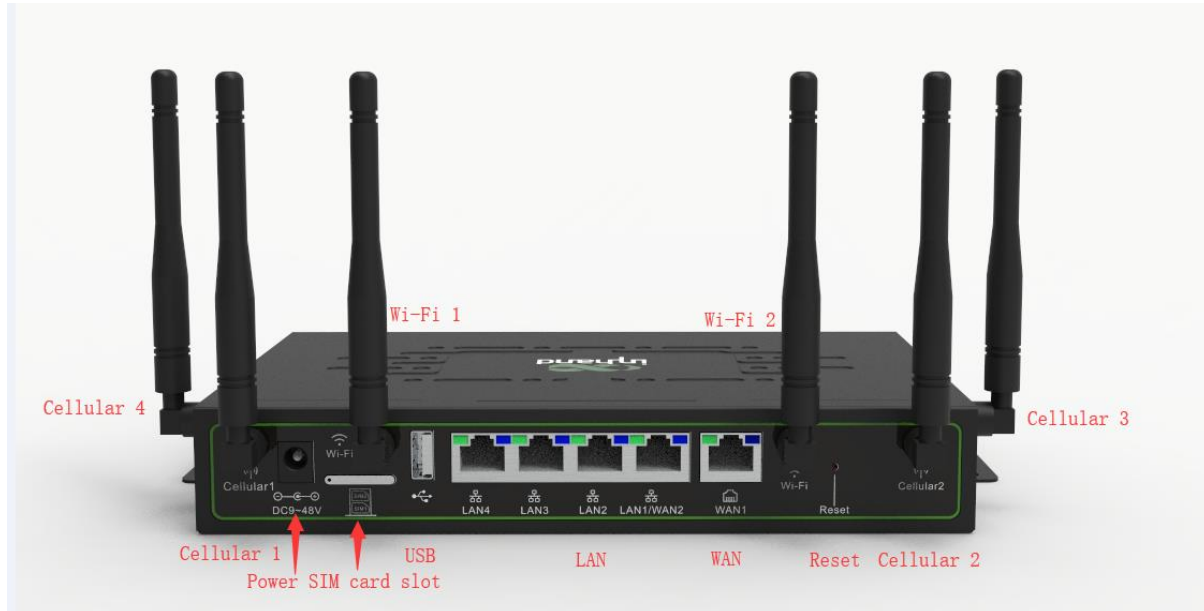
Accessories	Unit	Remarks
ER805	1	
Ethernet cable	1	
5G antenna	4	Magnetic antenna, can change to stick antenna optionally

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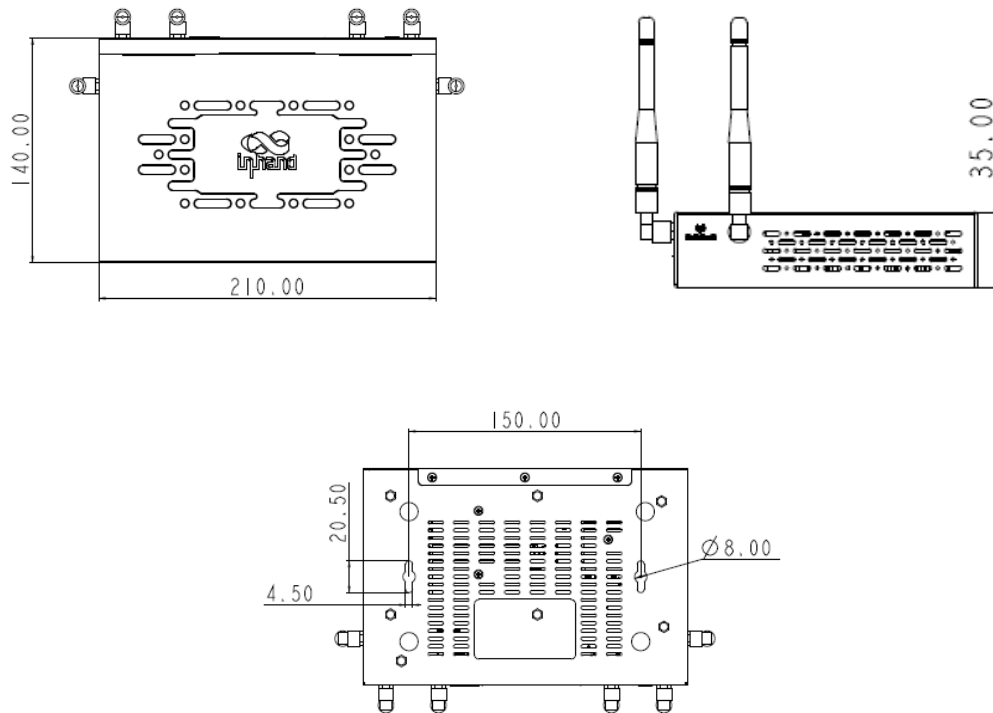
Wi-Fi antenna	2	Magnetic antenna, can change to stick antenna optionally
Power cable	1	
Power adaptor	1	
Panel mounting lug	4	2 hangers and 2 wall mounting lugs
SIM card needle/slot	1	
Rubber pad	4	
Certificate and product warrant card	1	

## 2 Panel Introduction and Structural Size

### 2.1 Panel Introduction



## 2.2 Structural Size



Unit: millimeter

## 3 Installation

Precautions for installation:

- Power supply: 12V DC(9 ~ 48V DC), please pay attention to the power voltage level.
- Environment: Working temperature:  $-25^{\circ}\text{C} \sim 70^{\circ}\text{C}$ , storage temperature:  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ , relative humidity: 5%~95% (no frosting), equipment surface may be high temperature, please consider the surrounding environment before installation. Device should be installed in the restricted area.
- Avoid direct sunlight, away from heat source or strong electromagnetic interference
- Support wall hanging.
- Check for cables and connectors required for installation.

### 3.1 SIM card Installation

ER805 supports dual Nano SIM card. Eject SIM card slot by stabbing the hole in the left via needle or other pointed thing, and then install SIM card.



## 3.2 Antenna Installation

Rotate the metal interface clockwise until the movable part cannot be rotated, do not hold the black glue stick to twist the antenna.

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### Note

ER805 supports 4 antennas, please install all antennas to obtain high communication quality.

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## 3.3 Power Installation

ER805 uses round hole power supply, just insert power cable into the power interface.

# 4 Access to Internet

ER805 supports three ways of accessing the Internet: wired, cellular and Wi-Fi. When ER805 does not access to Internet via cellular, please disable the "dial-up interface", otherwise the device will restart after trying dial up and fail for several times.

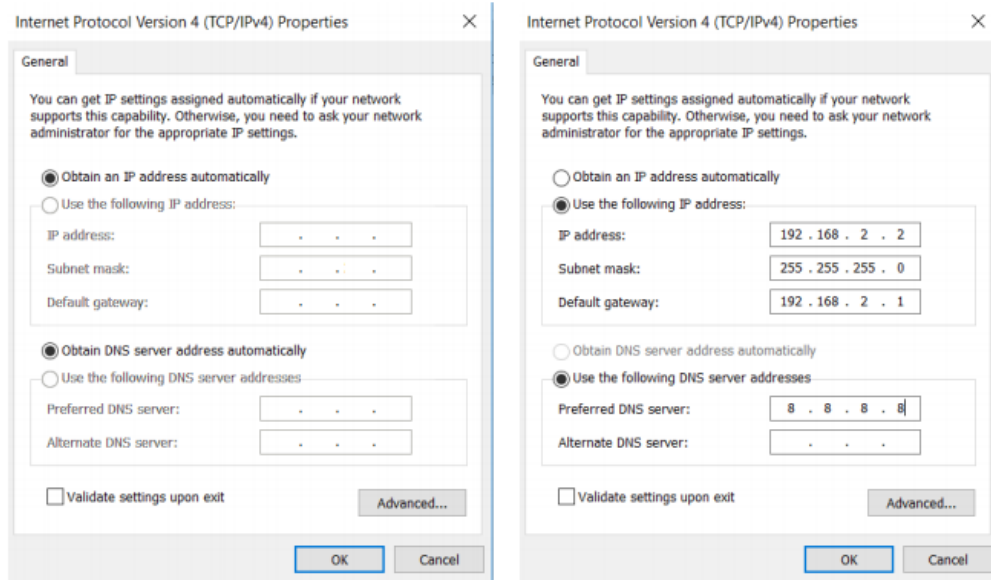
## 4.1 Wired to Internet

Step 1: Connect power and Ethernet cable to ER805, connect WAN port to public network, and one of LAN to PC.

Step 2: Configure PC to be in the same network segment as the IP address of the router.

(1) Enable PC to obtain an IP address from DHCP automatically (recommended).

(2) Configure a fixed IP address in the same network segment as the router for PC. The IP address should be one of the address in 192.168.2.2~192.168.2.254, Subnet mask should be 255.255.255.0, and Default gateway should be 192.168.2.1. DNS server should be 8.8.8.8 or the address of ISP's DNS server.



Step 3: Access to the default IP address 192.168.2.1 in a browser, enter username and password (adm/123456 by default) and then access to router's WEB management page. If the browser alarms the connection is not private, show advanced, and proceed to access to the address.



Login

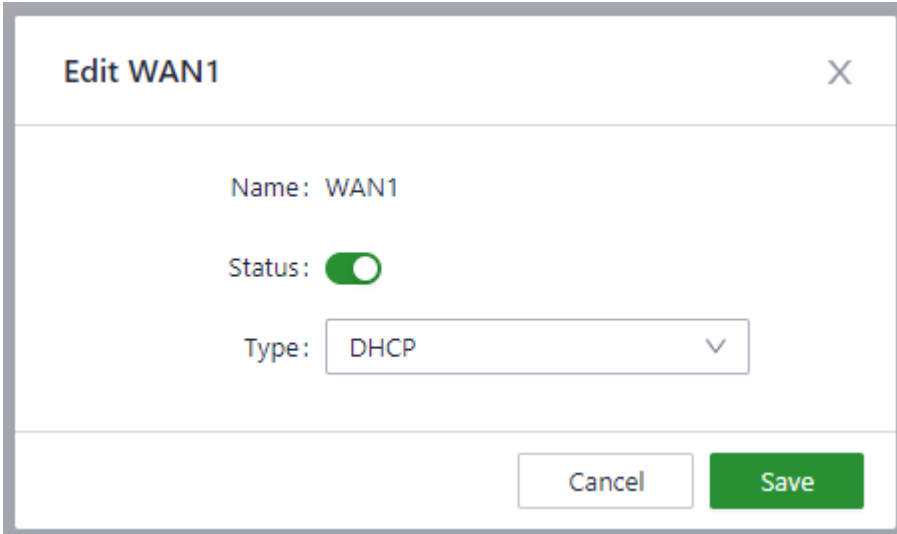
Step 4: Create a WAN port in “Internet” in the left menu. ER805 will enable WAN1 as DHCP mode by default. It will connect to Internet is the upstream device also works in DHCP mode.

Priority	Name	Status	Interface Type	Address Type	Actions
1	WAN1	Enable	WAN	DHCP	<a href="#">Edit</a>
2	Cellular	Enable	Cellular: SIM1	Dialup	<a href="#">Edit</a>   <a href="#">Policy</a>

Note: Modifying the configuration of the internet interface or adjusting the priority may cause the device network to be interrupted.



There are two methods to obtain IP address: Dynamic DHCP (recommend) and Static IP (save after configure manually).

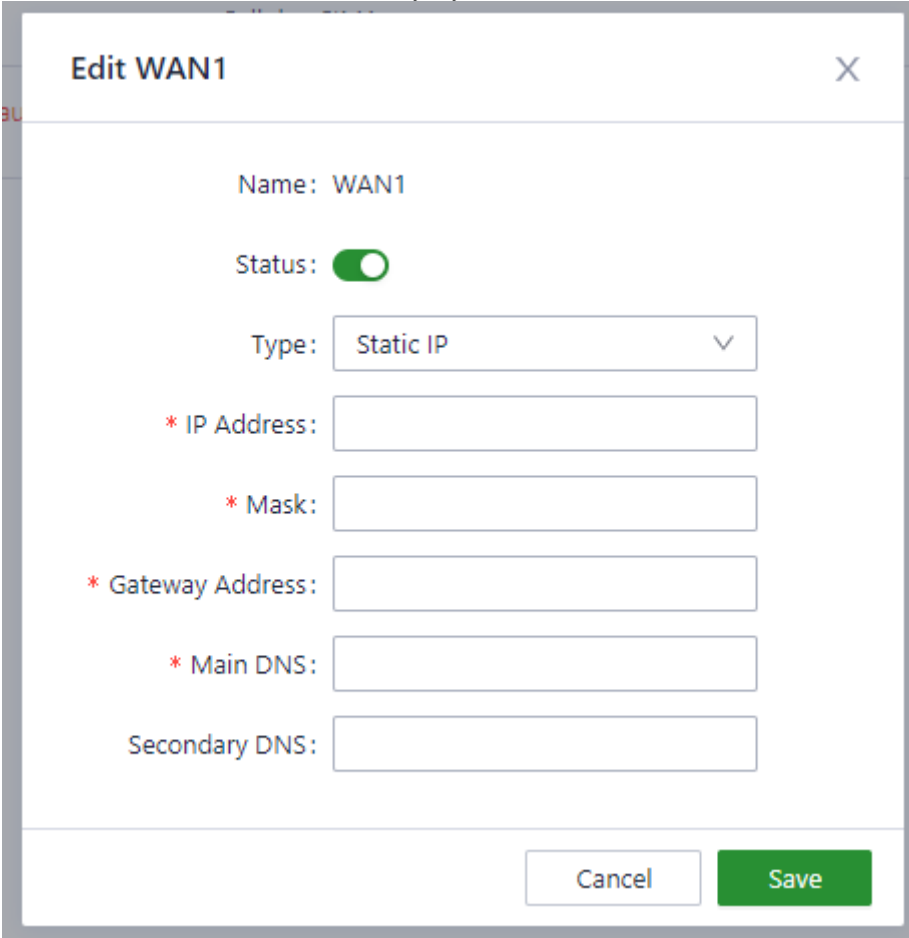


The screenshot shows a configuration window titled "Edit WAN1" with a close button (X) in the top right corner. The configuration includes:

- Name: WAN1
- Status: A green toggle switch is turned on.
- Type: A dropdown menu is set to "DHCP".

At the bottom right, there are two buttons: "Cancel" and "Save".

Obtain IP address by Dynamic Address (DHCP)



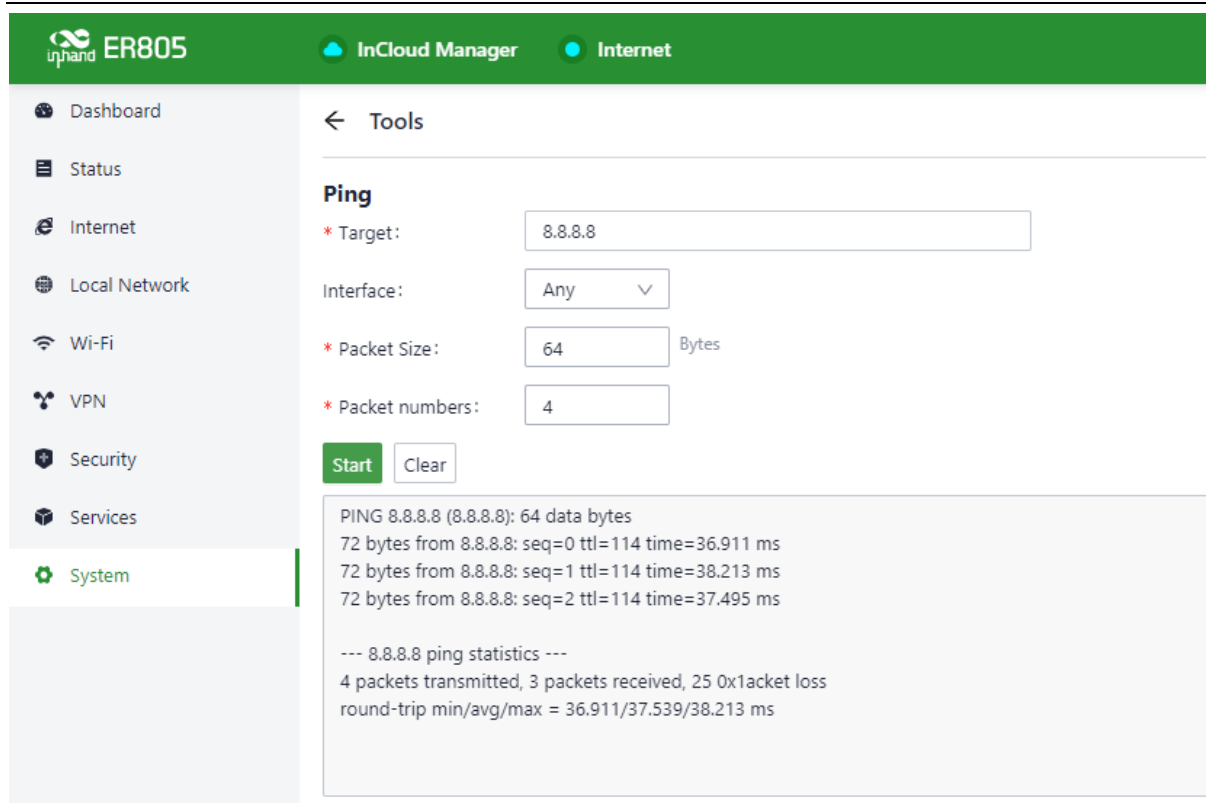
The screenshot shows a configuration window titled "Edit WAN1" with a close button (X) in the top right corner. The configuration includes:

- Name: WAN1
- Status: A green toggle switch is turned on.
- Type: A dropdown menu is set to "Static IP".
- \* IP Address: An empty text input field.
- \* Mask: An empty text input field.
- \* Gateway Address: An empty text input field.
- \* Main DNS: An empty text input field.
- Secondary DNS: An empty text input field.

At the bottom right, there are two buttons: "Cancel" and "Save".

Obtain IP address by Static IP

Step 5: Check the connectivity in "System >> Tools >> Ping".



The screenshot shows the 'Tools' section of the inhand ER805 InCloud Manager. The 'Ping' tool is configured with a target of 8.8.8.8, interface set to 'Any', packet size of 64 bytes, and 4 packet numbers. The results show three successful ping attempts with round-trip times of approximately 36-38 ms. The statistics indicate 4 packets transmitted, 3 received, and 25% packet loss.

## 4.2 SIM Card Dialup

Step 1: Insert the SIM card when device is power off. Connect 4 4G/5G antennas to the router, and connect PC to router. Then power on.

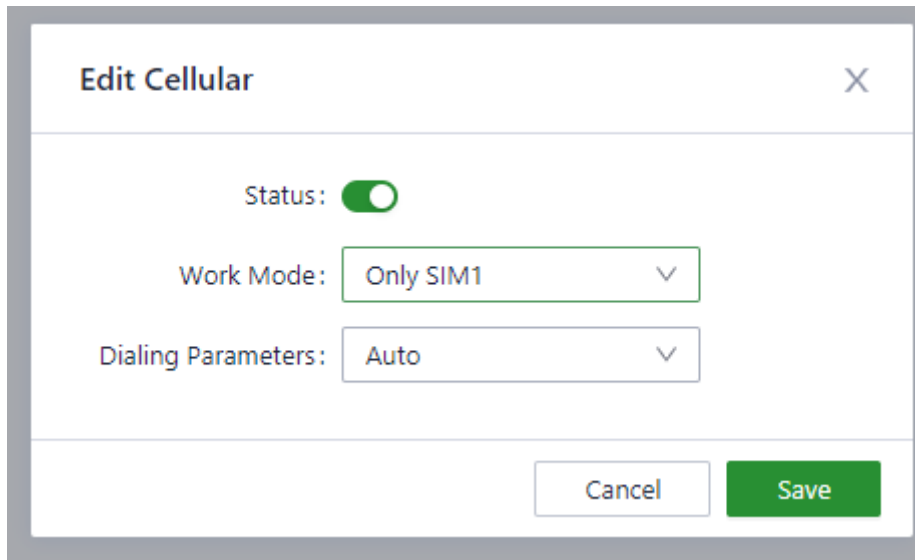
Note:

When insert or plug out SIM card, please unplug the power cable to prevent data loss or damage the router.

Step 2: Open a browser and access to router's WEB management page. (refer to 4.1)

Step 3: Click "Internet", click Edit button in the right of Cellular to set dialup profile. The device enables the cellular by default, it will connect to Internet within a few minutes. If the device cannot connect to Internet, please disable and restart dialup. (If you use a private network SIM card, you also need to configure APN parameter)

Priority	Name	Status	Interface Type	Address Type	Actions
1	WAN1	Enable	WAN	DHCP	<a href="#">Edit</a>
2	Cellular	Enable	Cellular: SIM1	Dialup	<a href="#">Edit</a> <a href="#">Policy</a>

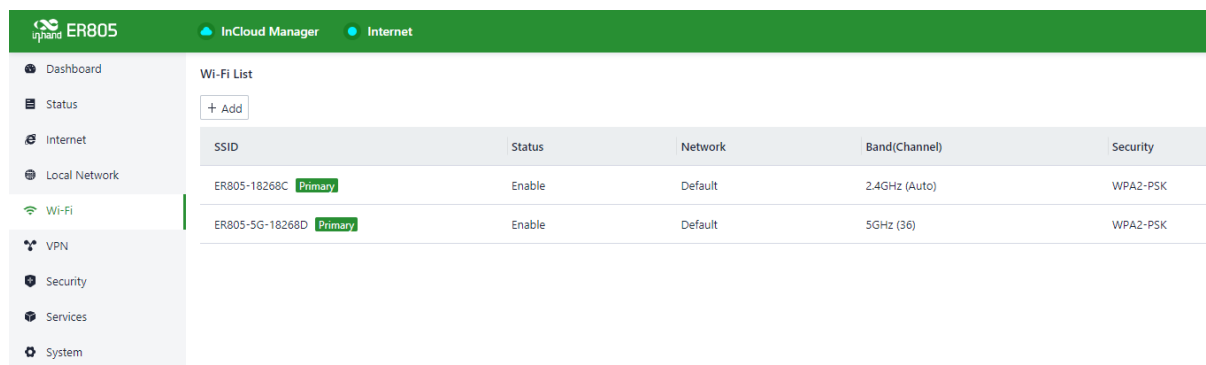


Step 4: Check the dialup status in “Dashboard >> Interface Status”, if it shows green in Cellular icon, the router has connected to Internet by SIM card. Click Cellular icon to get check more dialup information like signal strength, IP address or DNS.

## 4.3 Wi-Fi to Internet

Step 1: Connect Wi-Fi antenna, and connect PC to the device. Access to router’s WEB management page. (refer to 4.1)

Step 2: Choose the frequent band of Wi-Fi. ER805 supports 2.4G and 5G Wi-Fi. These two Wi-Fi can work independently at the same time. 2.4G Wi-Fi has higher penetration while 5G Wi-Fi has higher transmission speed. You can check Wi-Fi status in “Wi-Fi” of the left menu.

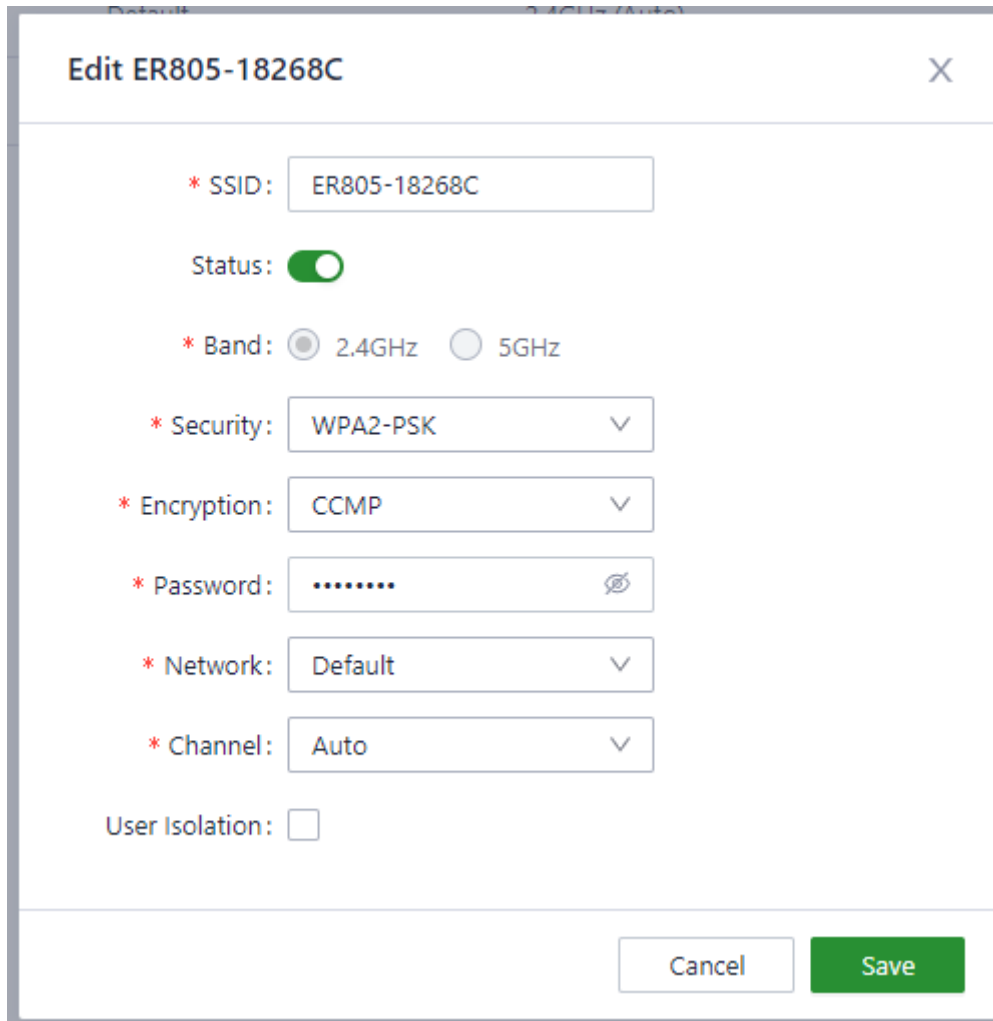


SSID	Status	Network	Band(Channel)	Security
ER805-18268C <span>Primary</span>	Enable	Default	2.4GHz (Auto)	WPA2-PSK
ER805-5G-18268D <span>Primary</span>	Enable	Default	5GHz (36)	WPA2-PSK

Step 3: Set Station Role in “Wi-Fi 2.4G” or “Wi-Fi 5G”: AP or Client.

AP mode (default mode): ER805 acts as an access point to radiate wireless signals, and other terminal devices can connect this device to access the Internet. It is necessary to ensure that ER805 itself has been connected to the Internet through wired or dialup mode. AP mode supports setting

SSID name and encryption authentication mode, and terminal devices will need to input password when connecting.



Client mode: ER805 connects to other AP Wi-Fi device to access the Internet.

Click Add button in “Internet” page, select “Wi-Fi(STA)” and then configure other parameters.

Internet List

+ Add

Priority	Name	Status	Interface Type
⇅	WAN1	Enable	WAN
⇅	Cellular	Enable	Cellular: SIM1

Note: Modifying the configuration of the Internet interface or adjusting the priority may cause the device network to be interrupted!

**Add Internet**
✕

**Note :** When the Wi-Fi (STA) interface is added, SSID(s) with the same band will be disabled

Name:  WAN2  Wi-Fi(STA)

Status:

Band:  2.4GHz  5GHz

\* SSID:

Security:  ▼

Encryption:  ▼

\* Password:

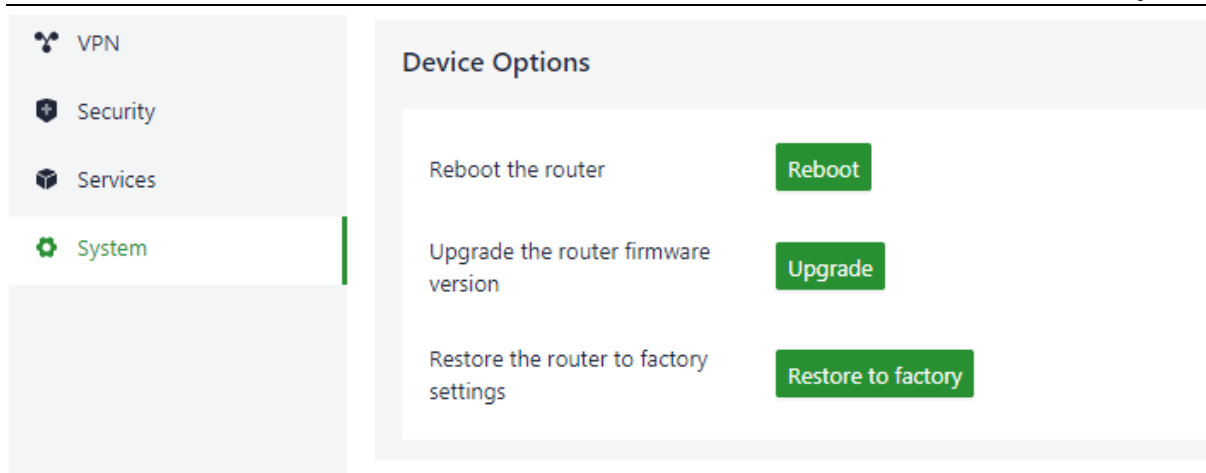
Type:  ▼

## 5 Quick-Use Guidance

### 5.1 Restore to Factory Setting

#### 5.1.1 Web Setting

Login to the WEB management page, click "System" in the left menu. Click "Restore to factory" button in "Device Options", router will restore to default settings after reboot.



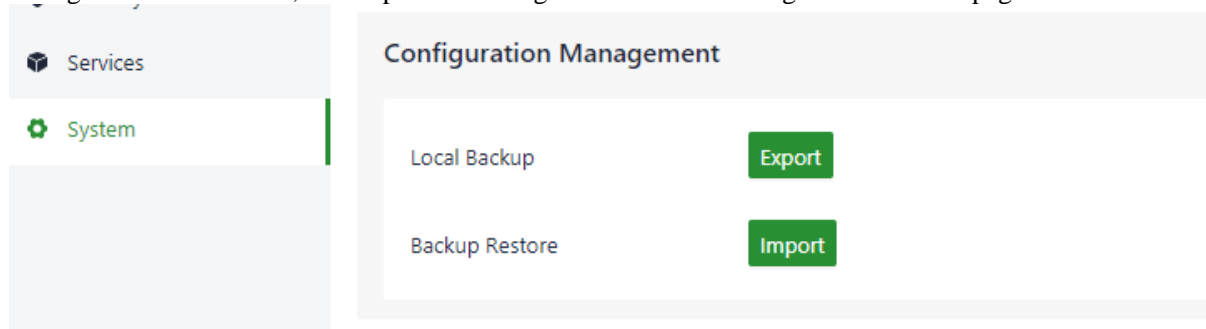
### 5.1.2 Hardware Restore

To restore to default settings via the reset button, please perform the following steps:

1. Press the RESET button immediately after power on the device.
2. System indicator will blink after a few seconds, and after blinking for about half a minute, it will be steady on.
3. Release RESET button, System indicator will blink, and press the RESET button again.
4. When System indicator blinks slowly, release the RESET button. The device has been restored to default settings and will start up normally later.

## 5.2 Import/Export Configuration

Click "System" in the left menu and then click "Configuration Management". User can export system configuration to local PC, and import the configuration when device gets error in this page.



## 5.3 Log and Diagnose Record

Click "Export Events" button on the right in "Status" page to export event log to PC, and in "System >> Tools", user can export Diagnose log to PC.

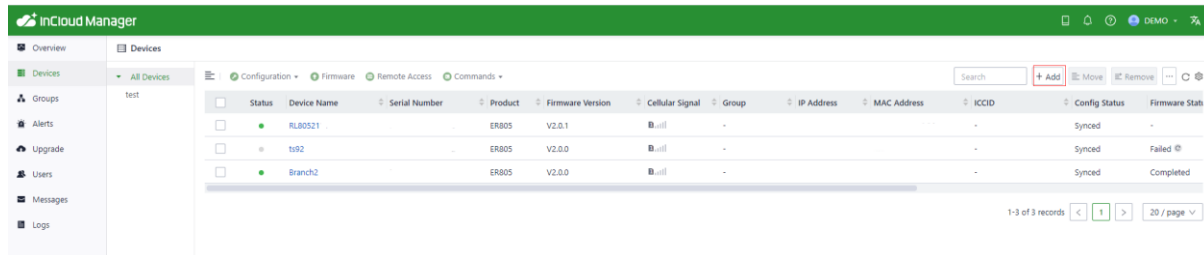
### Diagnostic Log

Export log information of system operation



## 5.4 Connect to InHand platform

Access to InCloud Manager ([star.inhandcloud.com](http://star.inhandcloud.com)), follow the prompts to register an account and then login. Click "Add" in "Device" page, enter "Device name" as you wish and enter the "Serial Number" in router's "Dashboard" page. Click "Save". Platform will verify the serial number and add the device to your account.



Status	Device Name	Serial Number	Product	Firmware Version	Cellular Signal	Group	IP Address	MAC Address	ICCID	Config Status	Firmware Status
<input type="checkbox"/>	RL80521		ER805	V2.0.1	Bill	-				Synced	-
<input type="checkbox"/>	ts92		ER805	V2.0.0	Bill	-				Synced	Failed
<input type="checkbox"/>	Branch2		ER805	V2.0.0	Bill	-				Synced	Completed

### Add Device ✕

\* Device Name:

\* Serial Number:   
Where is the serial number?

Description:

Then you can check and manage the router in platform after adding it successfully.

## 6 Description of Panel Indicator



ER805 Indicator	LED Status and Definition
<b>System</b>	Steady off --- Power off. Blinking in <b>blue</b> --- System starting. Steady in <b>blue</b> --- System operates properly. Blinking in <b>red</b> --- System faults. Blinking in <b>green</b> --- System upgrading.
<b>Network Status</b>	Blinking in <b>red</b> --- Network connection lost. Blinking in <b>green</b> --- Cellular network connecting. Steady in <b>green</b> --- Cellular network connected. Blinking in <b>blue</b> --- Ethernet network connecting. Steady in <b>blue</b> --- Ethernet network connected.
<b>Wi-Fi 2.4G</b>	Steady off --- Disabled. Steady in <b>green</b> --- Wi-Fi 2.4G connecting. Blinking in <b>green</b> --- Wi-Fi 2.4G working properly.
<b>Wi-Fi 5G</b>	Steady off --- Disabled. Steady in <b>blue</b> --- Wi-Fi 2.4G connecting. Blinking in <b>blue</b> --- Wi-Fi 2.4G working properly.

Note: If both cellular network and ethernet network are working properly, Network Status Indicator will be in blue. And it will show the color of the connecting network if another network is not connected. If either two network are not connected, this indicator will be in red.