



InHand IR305 LTE Router

Quick Installation Manual

V1.0—2021.8

InHand Networks
Global Leader in Industrial IoT

Contents

| | |
|---------------------------------------|---|
| Overview | 1 |
| 1 Packing List | 1 |
| 2 Panel Introduction | 2 |
| 3 Installation | 2 |
| 3.1 SIM card Installation | 2 |
| 3.2 Antenna Installation | 2 |
| 4 Access to Internet | 2 |
| 4.1 Wired to Internet | 3 |
| 4.2 SIM Card Dialup | 5 |
| 4.3 Wi-Fi to Internet | 6 |
| 5 Quick-Use Guidance | 7 |
| 5.1 Restore to Factory Setting | 7 |
| 5.1.1 Web Setting | 7 |
| 5.1.2 Hardware Restore | 7 |
| 5.2 Import/Export Configuration | 8 |
| 5.3 Log and Diagnose Record | 8 |
| 5.4 Connect to InHand platform | 8 |
| 6 Description of Indicator | 9 |

Overview

This manual is a guide for the installation and operation of IR305 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 ER305 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.

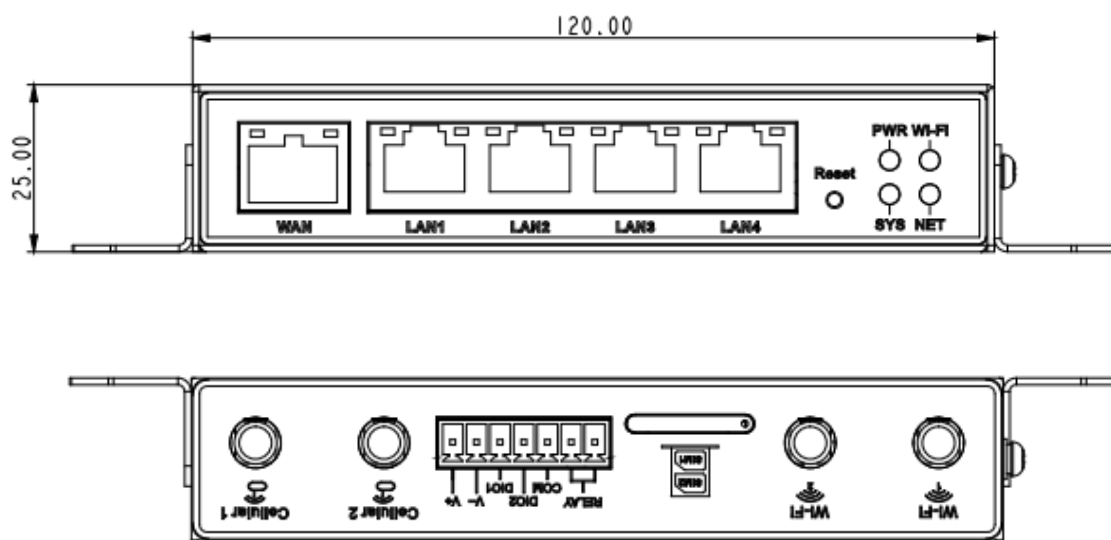
Common accessories

| Accessories | Unit | Remarks |
|--------------------------------------|------|-------------------------------------|
| IR305 | 1 | |
| Mounting fittings | 2 | Hanging |
| Factory terminal | 1 | 7 PIN |
| Certificate and product warrant card | 1 | IR305 has 1 year of warranty period |

Optional accessories

| Accessories | Unit | Remarks |
|----------------------------|------|---------|
| Ethernet cable | 1 | |
| 4G antenna | 1 | |
| Wi-Fi antenna | 1 | |
| Power adaptor | 1 | |
| Din rail mounting fittings | 1 | |

2 Panel Introduction



3 Installation

Precautions for installation:

- Power supply: 12V 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
- Check for cables and connectors required for installation.

3.1 SIM card Installation

IR305 supports dual nano SIM card. Stick Stab the hole on the left of the SIM card slot to eject it. Then insert SIM card.

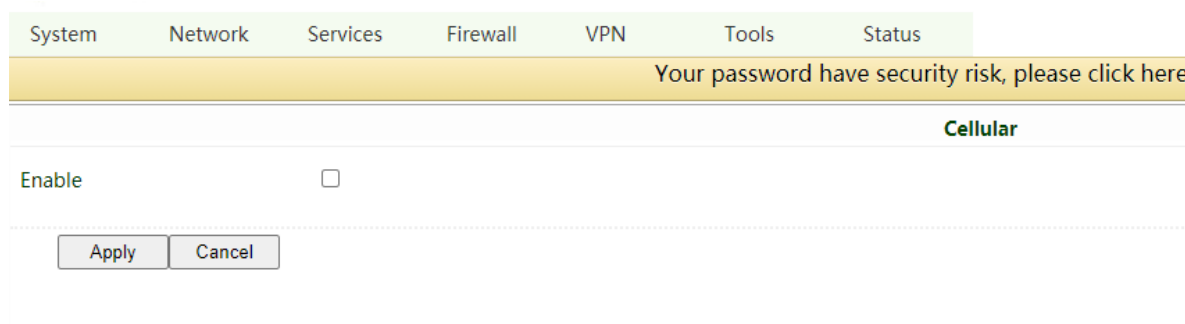
3.2 Antenna Installation

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

4 Access to Internet

IR305 supports three ways of accessing to Internet: wired, cellular and Wi-Fi.

When IR305 does not access to Internet via cellular, please disable Cellular in “Network>>Cellular”, otherwise the device will restart after trying dial up and fail for several times.

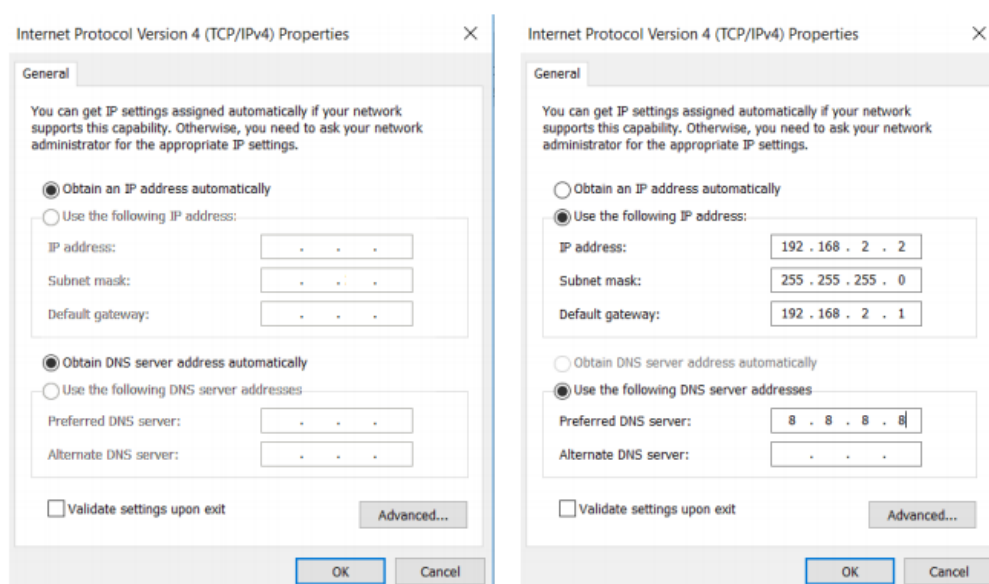


4.1 Wired to Internet

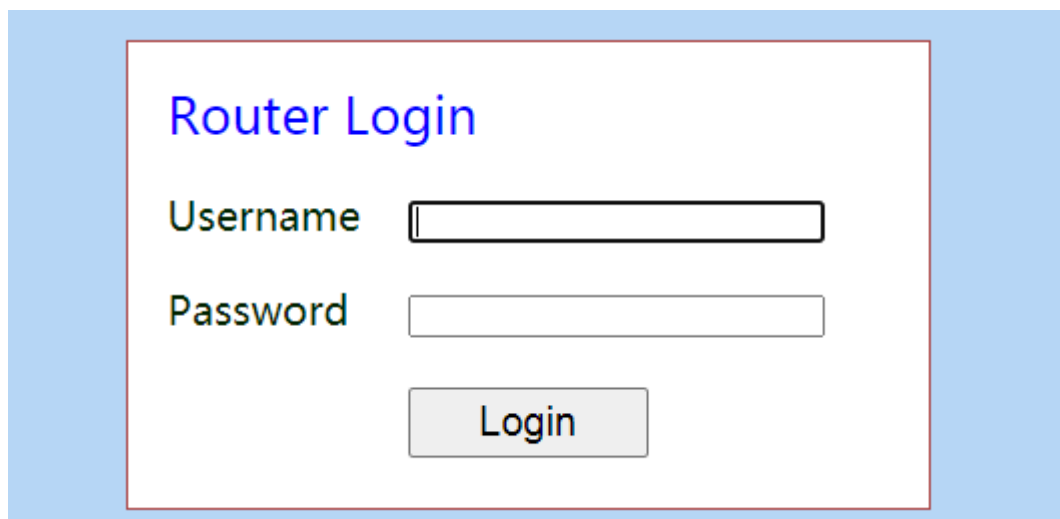
Step 1: Connect power and Ethernet cable to IR305, connect WAN/LAN1 port to public network, and one of LAN to PC.

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) Or 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) in pop-up window 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.



Step 4: Create a WAN port in “Network >> WAN” in the left menu. Configure an IP address for WAN port and let the router connect to Internet.

There are three methods to obtain IP address: Dynamic DHCP (recommend). Static IP (Click Apply & Save after configure manually) and ADLS Dialup (Click Apply & Save after configure manually).

WAN

Type

Shared Connection(NAT)

Default Route

MAC Address

MTU

Obtain IP address by Dynamic Address (DHCP)

WAN

Type

Shared Connection(NAT)

Default Route

MAC Address

IP Address

Netmask

Gateway

MTU

Multi-IP Settings

| IP Address | Netmask | Description |
|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> |

Obtain IP address by Static IP

WAN

Type ADSL Dialup (PPPoE) ▼

Shared Connection(NAT)

Default Route

MAC Address 00:18:05:30:50:01 Default Clone

MTU Default ▼ 1492

ADSL Dialup (PPPoE) Settings

Username

Password

Static IP

Connection Mode Always Online ▼

Show Advanced Options

Apply Cancel

Obtain IP address by ADSL Dialup

Step 5: Check the connectivity in “Tools >> PING”.

PING

Host 8.8.8.8 Ping

Ping Count 4

Packet Size 32 Bytes

Expert Options

```

PING 8.8.8.8 (8.8.8.8): 32 data bytes
40 bytes from 8.8.8.8: seq=0 ttl=108 time=63.139 ms
40 bytes from 8.8.8.8: seq=1 ttl=108 time=61.144 ms
40 bytes from 8.8.8.8: seq=2 ttl=108 time=61.688 ms
40 bytes from 8.8.8.8: seq=3 ttl=108 time=62.431 ms

--- 8.8.8.8 ping statistics ---
4 packets transmitted, 4 packets received, 0% packet loss
round-trip min/avg/max = 61.144/62.100/63.139 ms

```

4.2 SIM Card Dialup

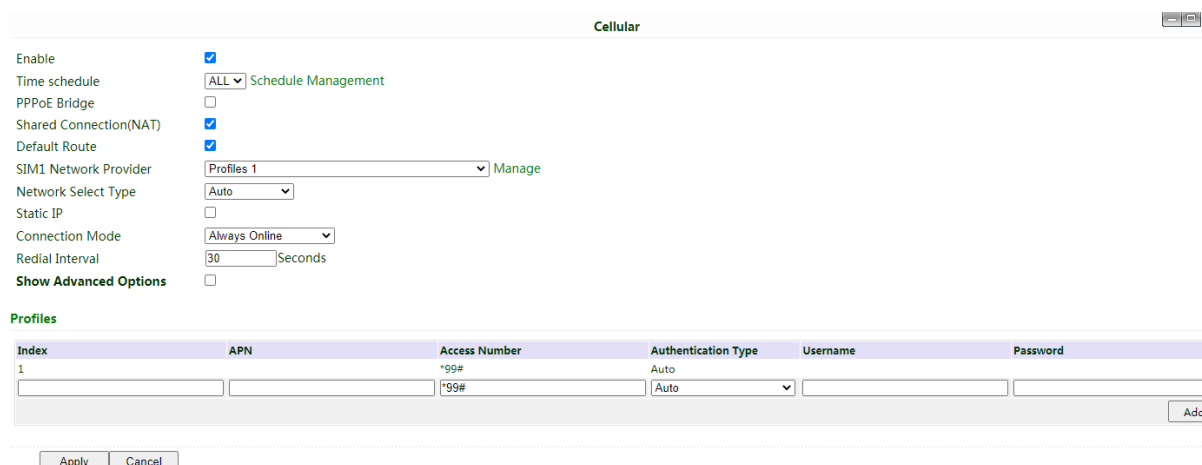
Step 1: Insert the SIM card when device is power off. Connect 4G antenna to the router, and connect PC to router. Then power on.

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 “Network >> Cellular”, set 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)



The screenshot shows the 'Cellular' settings page. The 'Enable' checkbox is checked. 'Time schedule' is set to 'ALL' with a 'Schedule Management' link. 'PPPoE Bridge' is unchecked. 'Shared Connection(NAT)' is checked. 'Default Route' is checked. 'SIM1 Network Provider' is set to 'Profiles 1' with a 'Manage' link. 'Network Select Type' is set to 'Auto'. 'Static IP' is unchecked. 'Connection Mode' is set to 'Always Online'. 'Redial Interval' is set to '30' seconds. 'Show Advanced Options' is unchecked. Below the settings is a table for 'Profiles' with columns: Index, APN, Access Number, Authentication Type, Username, and Password. The table contains one row with Index '1', APN, Access Number '*99#', Authentication Type 'Auto', and empty Username and Password fields. There is an 'Add' button at the bottom right of the table. At the bottom of the page are 'Apply' and 'Cancel' buttons.

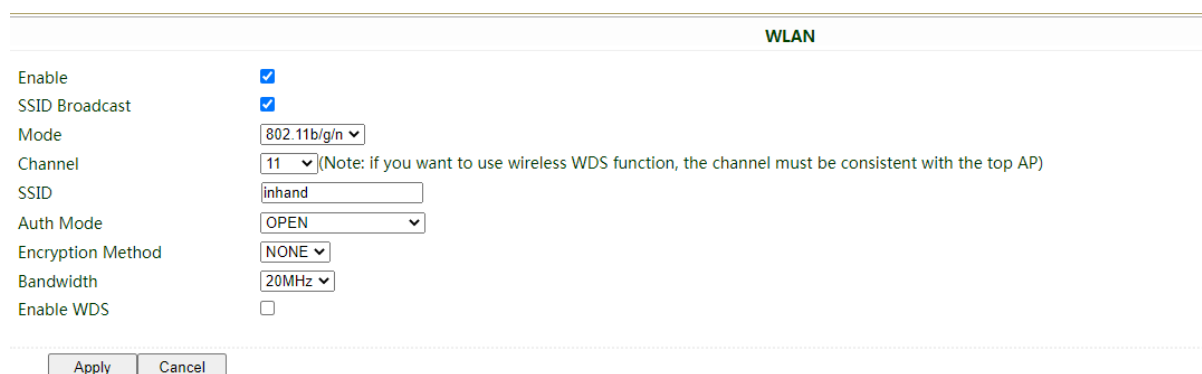
Step 4: Check the dialup status in “Status”, if it shows Connected and there is IP address and other dialup parameters, the router has connect to Internet by SIM card.

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: Set Wi-Fi mode: AP or STA.

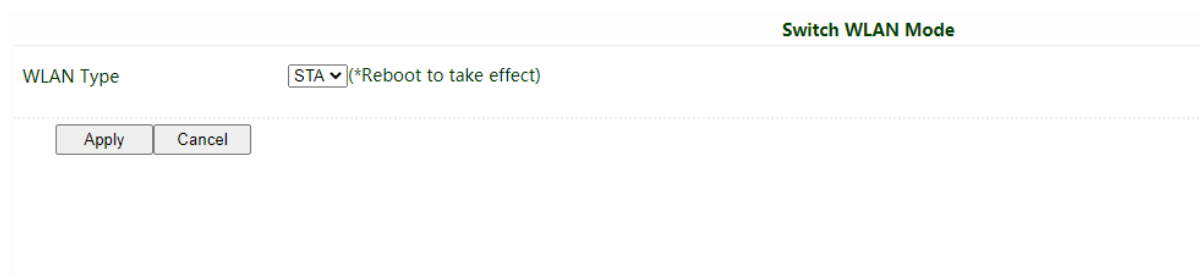
AP mode (default mode): IR305 acts as an access point to radiate wireless signals, and other terminal devices can connect this device to access the Internet. It is necessary to ensure that IR305 itself has been connected to the Internet through wired or cellular. AP mode supports setting SSID name and encryption authentication mode, and terminal devices will need to input password when connecting.



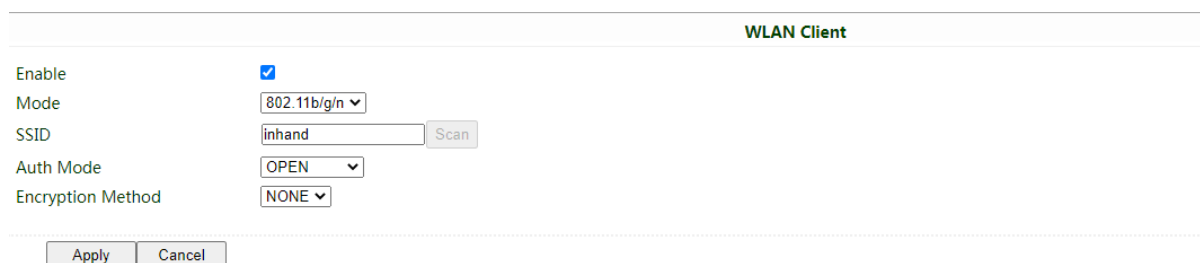
The screenshot shows the 'WLAN' settings page. 'Enable' and 'SSID Broadcast' checkboxes are checked. 'Mode' is set to '802.11b/g/n'. 'Channel' is set to '11' with a note: '(Note: if you want to use wireless WDS function, the channel must be consistent with the top AP)'. 'SSID' is set to 'inhand'. 'Auth Mode' is set to 'OPEN'. 'Encryption Method' is set to 'NONE'. 'Bandwidth' is set to '20MHz'. 'Enable WDS' is unchecked. At the bottom of the page are 'Apply' and 'Cancel' buttons.

STA mode: IR305 connects to other AP Wi-Fi device to access the Internet.

1. Select WLAN Type to STA in “Network>>Switch WLAN Mode” and save. Then reboot the router.



2. Click “Scan” to scan available AP in “Network>>WLAN Client”, and click Connect to choose one of AP.



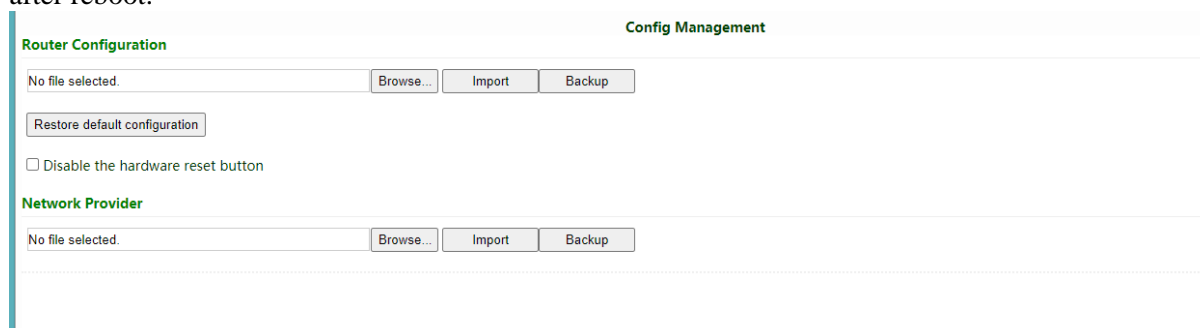
3. Configure Wi-Fi parameters and save. Then check the connection status in “Status”.
4. Configure WAN mode in “Network>>WAN(STA)”, set WAN parameters for Wi-Fi.

5 Quick-Use Guidance

5.1 Restore to Factory Setting

5.1.1 Web Setting

Login to the WEB management page, click on the "System>> Config Management" menu in the navigation tree. Click "Restore default configuration" button, 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 >> Config Management", click "Browse" in Router Configuration, select a configuration file, and click Import to import the configuration file to the router.

Click Backup running-config to export configuration.

5.3 Log and Diagnose Record

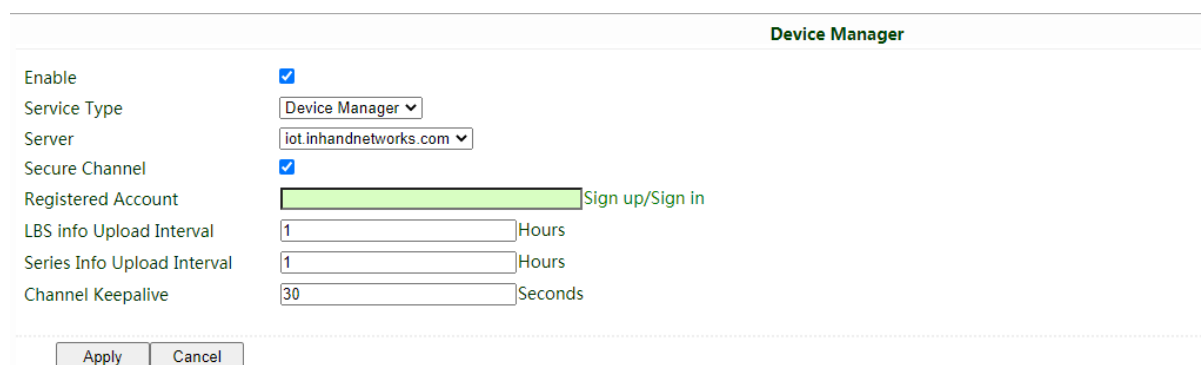
Click "Status >> log" and check the system log in router. Click Download Log File button to download log from router, and click Download System Diagnosing Data to download diagnose record from router.

5.4 Connect to InHand platform

Make sure that router has already connect to Internet. Click "Service>>Device Manager" to set router to connect to DM. iot.inhand.com.cn is the server for China, and iot.inhandnetworks.com is the server for global.

Fill in your DM account in Registered Account then click "Apply" to save the configuration.

If you don't have DM account, please click "Sign up/Sign in" after select server, then you will be directed to InHand Device Manager website, please follow the instruction to register an account.

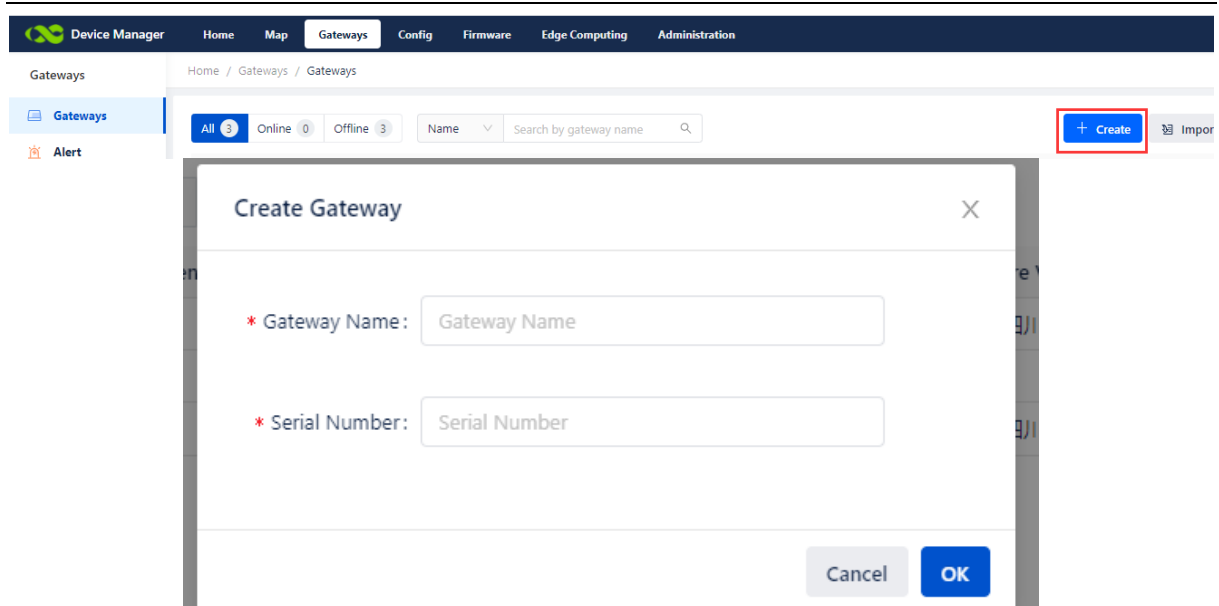


| Device Manager | |
|-----------------------------|--------------------------------------|
| Enable | <input checked="" type="checkbox"/> |
| Service Type | Device Manager |
| Server | iot.inhandnetworks.com |
| Secure Channel | <input checked="" type="checkbox"/> |
| Registered Account | <input type="text"/> Sign up/Sign in |
| LBS info Upload Interval | 1 Hours |
| Series Info Upload Interval | 1 Hours |
| Channel Keepalive | 30 Seconds |

Apply Cancel

Login your account in Device Manager, and add your device in "Gateways", named your device and fill in the serial number from device, then you can manage your router in DM.

You can find the serial number in "Status>>System", or you can find it at the back of the device.



6 Description of Indicator

| ER305 LED | Status |
|-----------|---|
| PWR | Red off ---- Power off Steady in red ---- Power on |
| SYS | Green off ---- System error Blink in Green ---- System upgrading Steady in Green ---- System working |
| Wi-Fi | Green off ---- Wi-Fi disable Blink in Green ---- Wi-Fi connecting Steady in Green ---- Wi-Fi working |
| NET | Green off ---- Network disconnected Blink in Green ---- Network connecting Steady in Green ---- Network connected |