



InHand IR305 LTE Router

Quick Installation Manual

V1.2—2022.7

InHand Networks
Global Leader in Industrial IoT

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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

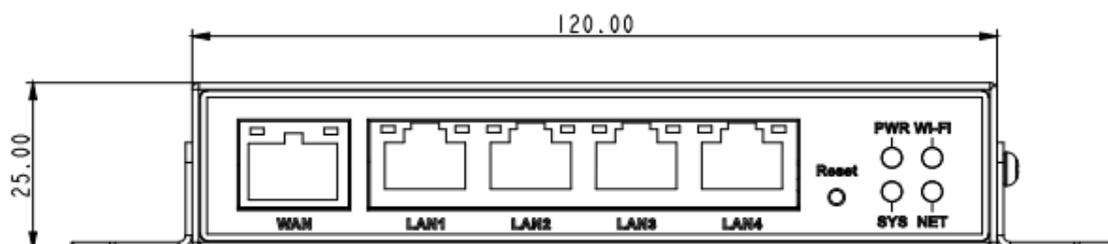
Each IR305 product includes common accessories, please check carefully when you receive our products. If there is any missing or damage, please contact InHand sales staff.

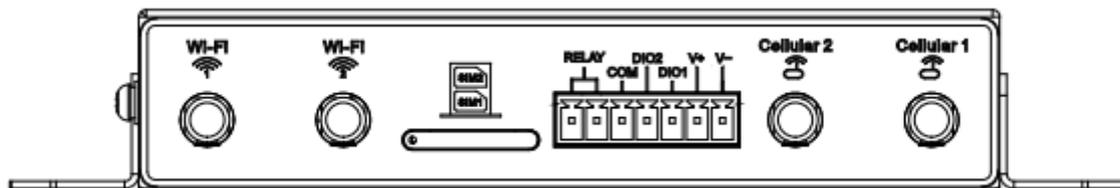
InHand can provide customers with optional accessories according to different field. Please refer to the list of optional accessories for detailed information.

Packing list

	Unit	Remarks
IR305	1	
Panel mounting lug	2	Can be replaced to DIN rail mounting when place the order
4G antenna	1	North America models have 2 antennas
Wi-Fi antenna	2	
Ethernet cable	1	
Power adaptor	1	
Certificate and product warrant card	1	IR305 has 3 years of warranty period

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.

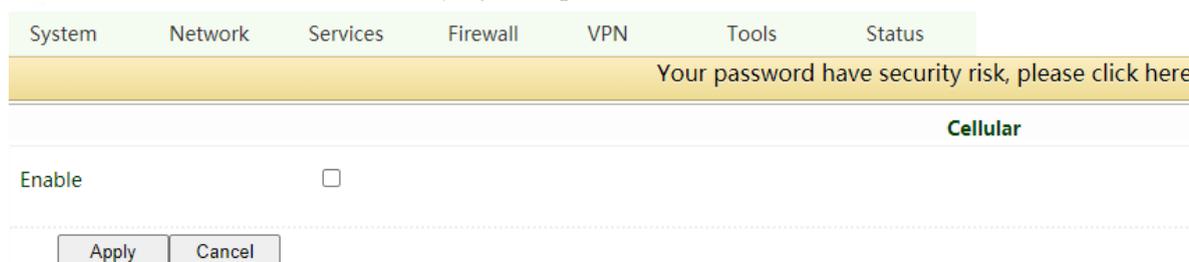
3.2 Antenna Installation

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.



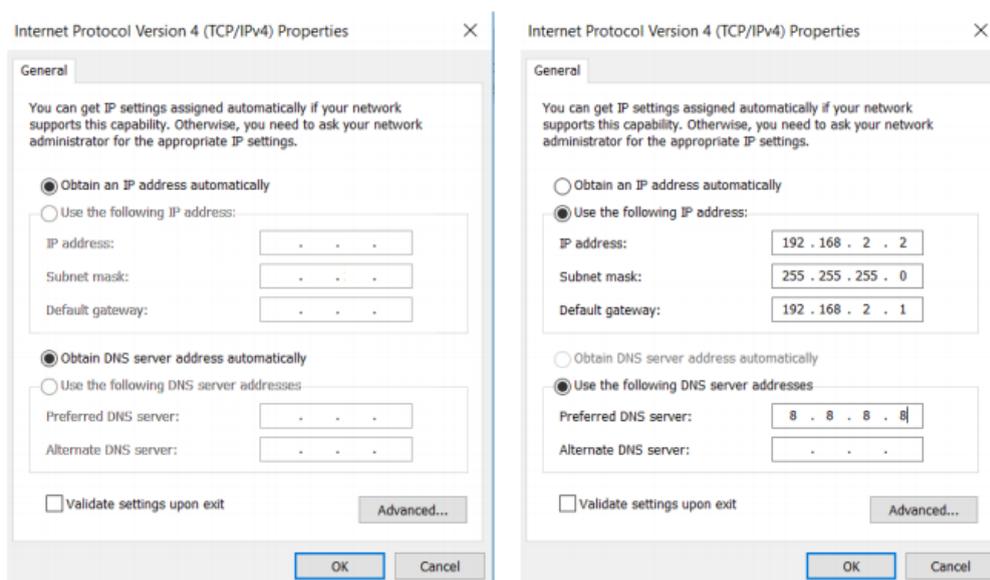
4.1 Wired to Internet

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

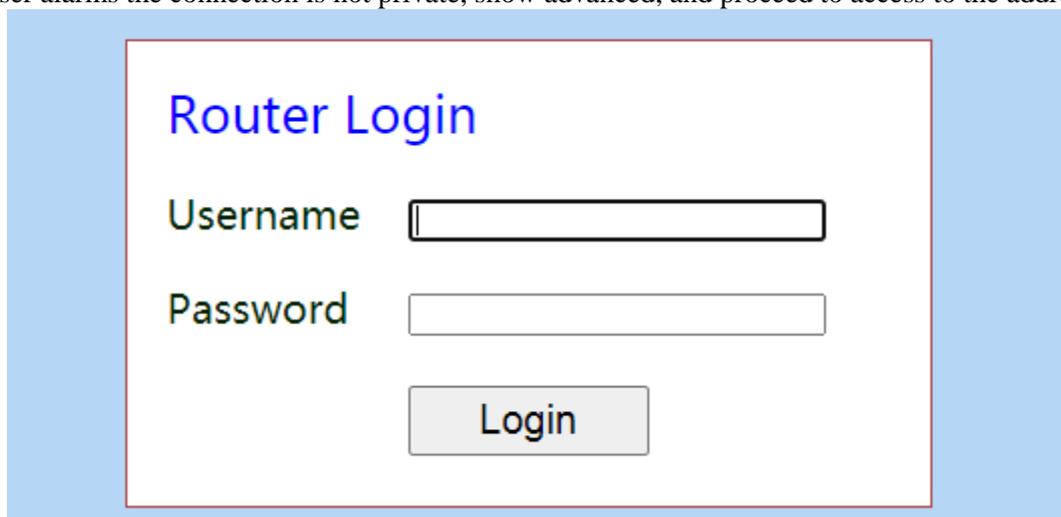
Step 2: Configure PC to be in the same network segment as the IP address of the router.

(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.



The image shows a 'Router Login' dialog box with a blue background. It contains the following elements:

- Router Login** (Title)
- Username** (Label) followed by a text input field.
- Password** (Label) followed by a text input field.
- Login** (Button)

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 ADSL 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:

Shared Connection(NAT):

Default Route:

MAC Address:

MTU:

ADSL Dialup (PPPoE) Settings

Username:

Password:

Static IP:

Connection Mode:

Show Advanced Options:

Obtain IP address by ADSL Dialup

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

PING

Host

Ping Count

Packet Size 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)

Cellular

Enable

Time schedule Schedule Management

PPPoE Bridge

Shared Connection(NAT)

Default Route

SIM1 Network Provider Manage

Network Select Type

Static IP

Connection Mode

Redial Interval Seconds

Show Advanced Options

Profiles

Index	APN	Access Number	Authentication Type	Username	Password
1	<input type="text"/>	*99#	Auto	<input type="text"/>	<input type="text"/>
	<input type="text"/>	*99#	<input type="text" value="Auto"/>	<input type="text"/>	<input type="text"/>

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.

WLAN	
Enable	<input checked="" type="checkbox"/>
SSID Broadcast	<input checked="" type="checkbox"/>
Mode	802.11b/g/n
Channel	11 (Note: if you want to use wireless WDS function, the channel must be consistent with the top AP)
SSID	inhand
Auth Mode	OPEN
Encryption Method	NONE
Bandwidth	20MHz
Enable WDS	<input type="checkbox"/>
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

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.

Switch WLAN Mode	
WLAN Type	STA (*Reboot to take effect)
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

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

WLAN Client	
Enable	<input checked="" type="checkbox"/>
Mode	802.11b/g/n
SSID	inhand <input type="button" value="Scan"/>
Auth Mode	OPEN
Encryption Method	NONE
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>	

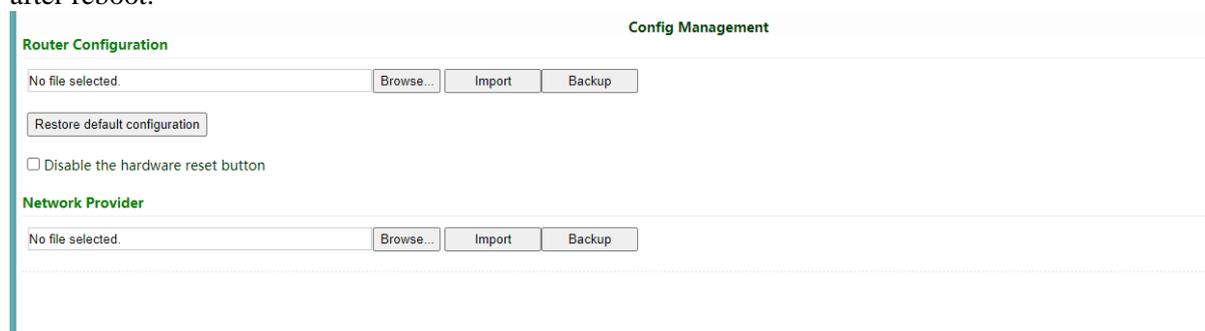
3. Configure Wi-Fi parameters and save. Then check the connection status in "Status".
4. Configure WAN mode in "Network>>WAN(STA)", set WAN parameters for Wi-Fi.

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.

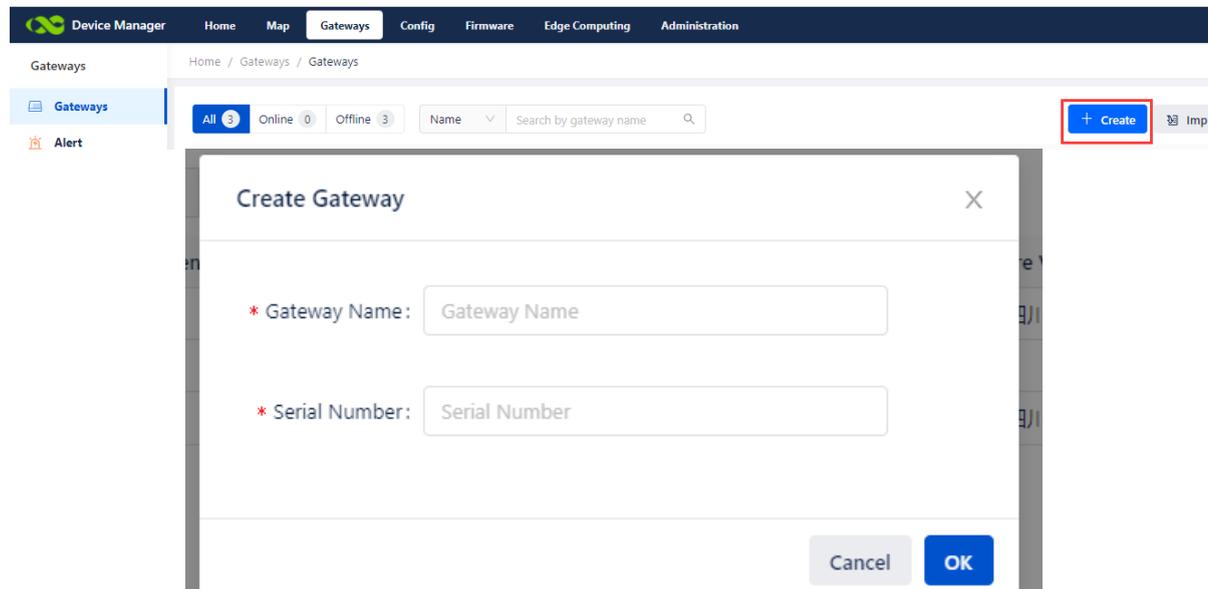
Fill in your DM account in Registered Account then click "Apply" to save the configuration.

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.



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

IR305 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