



InHand CR202 Portable 4G Router

Quick Installation Manual

V1.1—2023.5

InHand Networks
Global Leader in Industrial IoT

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Overview

This manual is a guide for the installation and operation of CR202 routers from InHand Networks. Please confirm the product model and packaging accessories (cable, 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

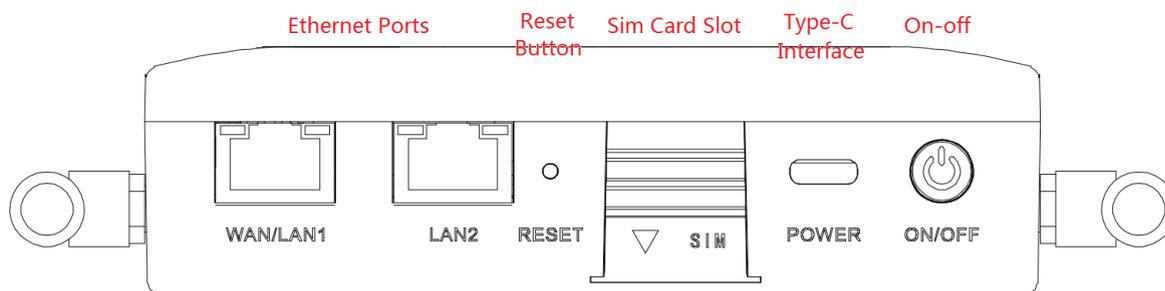
Each CR202 product includes common accessories, please check carefully when you receive our products. If there is any missing or damage, please contact InHand sales staff.

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
CR202	1	CR202 mobile 4G router
Ethernet cable	1	1 meter cable
Power adaptor	1	5V/2A Type-C interface
4G antenna	2	North America models have 2 antennas
Certificate and product warrant card	1	CR202 has 3 years of warranty period Battery has 1 year of warranty period
QSG	1	Quick installation guide
Wall mounting lug	1	Support wall mounting

2 Panel Introduction



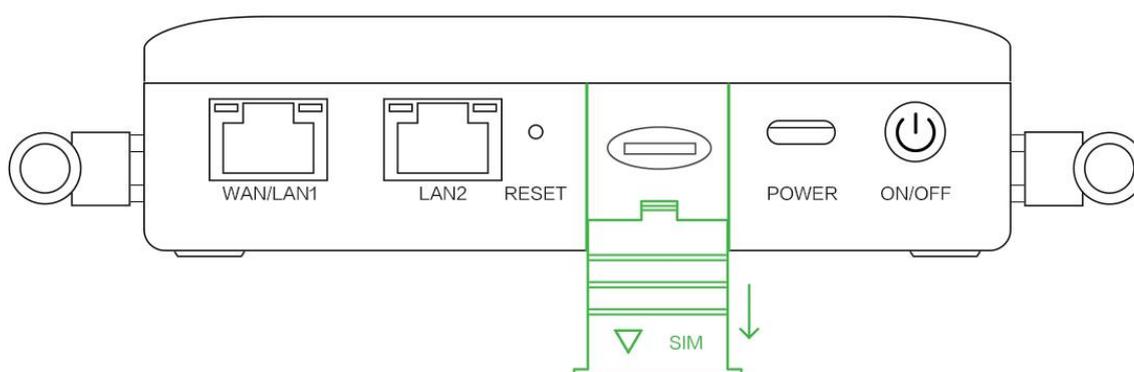
3 Installation

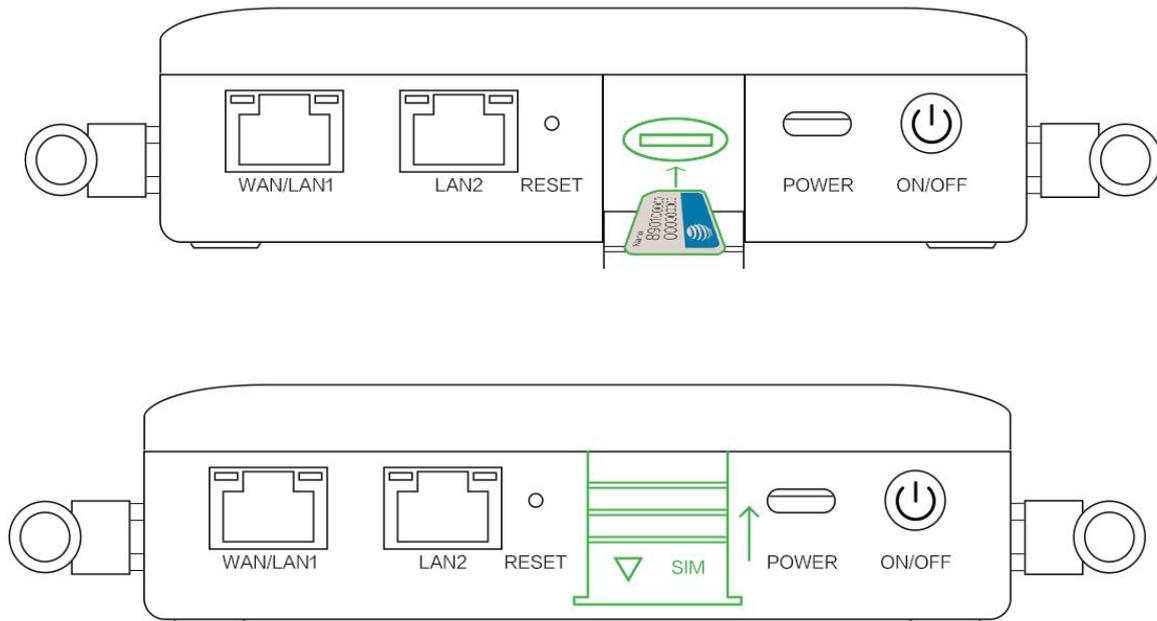
Precautions for installation:

- Power supply: Internal battery or Type-C interface (5V/2A), please pay attention to the power voltage level.
- Environment: Working temperature: $-10^{\circ}\text{C} \sim 50^{\circ}\text{C}$, storage temperature: $-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$, equipment surface may be high temperature, please consider the surrounding environment before installation.
- Support to be mounted with bracket. Avoid direct sunlight, away from heat source or strong electromagnetic interference
- Check for cables and connectors required for installation.

3.1 SIM card Installation

CR202 supports single nano SIM card or eSIM. Please install the SIM card like below if use nano SIM card.





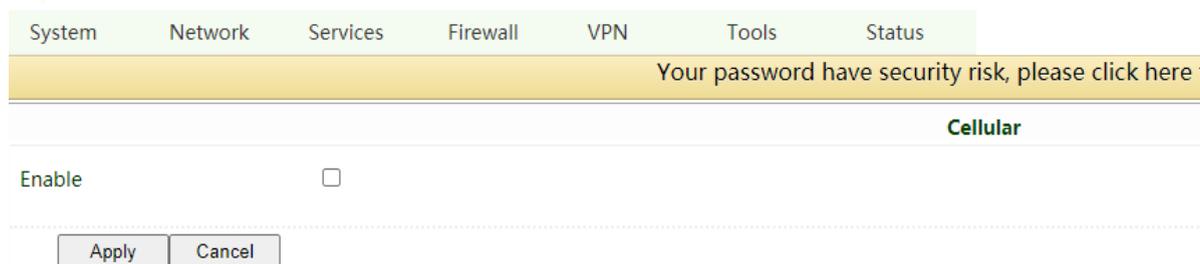
3.2 Antenna Installation

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

CR202 supports three ways of accessing to Internet: wired, cellular and Wi-Fi.

When CR202 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.



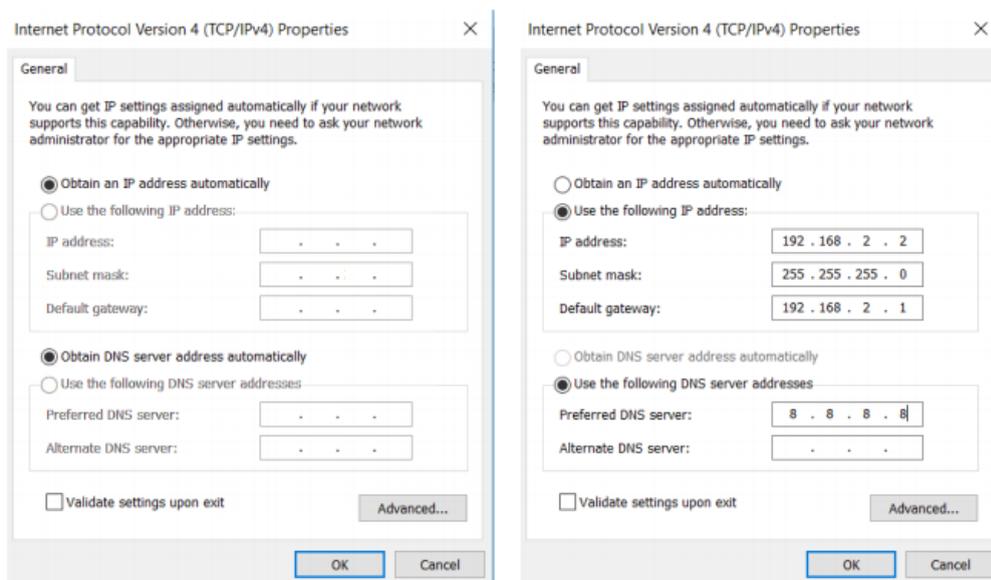
4.1 Wired to Internet

Step 1: Connect power and Ethernet cable to CR202, connect WAN/LAN1 port to public network, and LAN2 to PC.

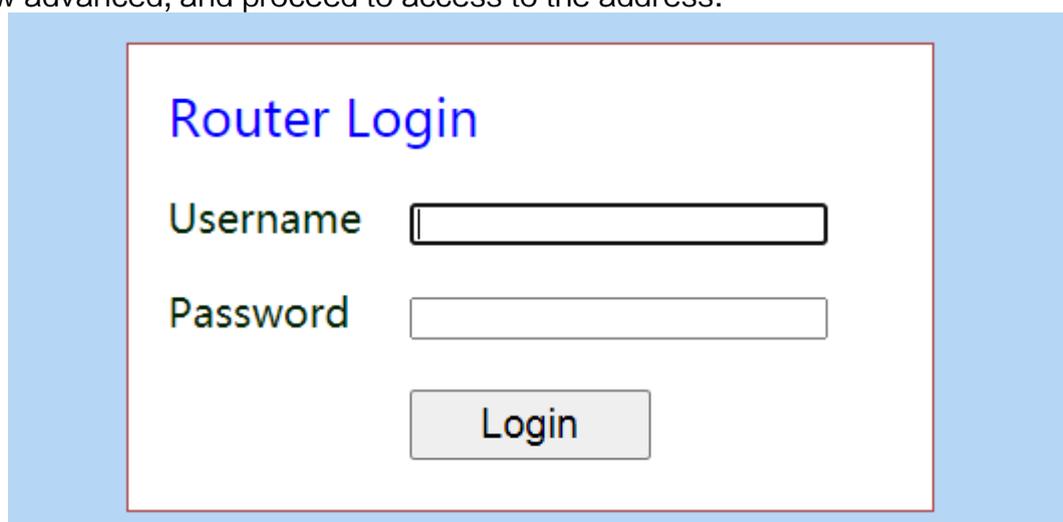
Step 2: Configure PC to be in the same network segment as the IP address of the router.

(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

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 power off the device to prevent data loss or damage to 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 ALL ▾ Schedule Management
 PPPoE Bridge
 Shared Connection(NAT)
 Default Route
 SIM1 Network Provider Profiles 1 ▾ Manage
 Network Select Type Auto ▾
 Static IP
 Connection Mode Always Online ▾
 Redial Interval 30 Seconds
 Show Advanced Options

Profiles

Index	APN	Access Number	Authentication Type	Username	Password
1		*99#	Auto		
		*99#	Auto ▾		

Add

Apply Cancel

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): CR202 acts as an access point to radiate wireless signals, and other terminal devices can connect CR202 to access the Internet. It is necessary to ensure that CR202 itself has been connected to the Internet through wired or cellular. AP mode supports setting SSID name and encryption method, and terminal devices will need to input password when connecting.

WLAN
⌵ ⌵

Enable
 SSID Broadcast
 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

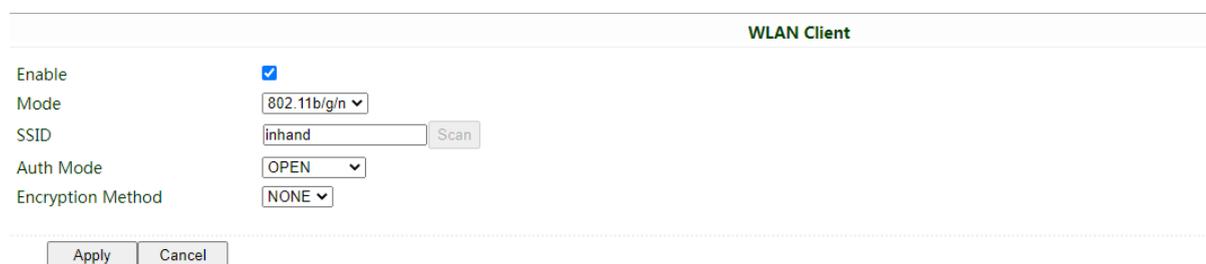
Apply Cancel

STA mode: CR202 connects to other AP Wi-Fi device to access the Internet.

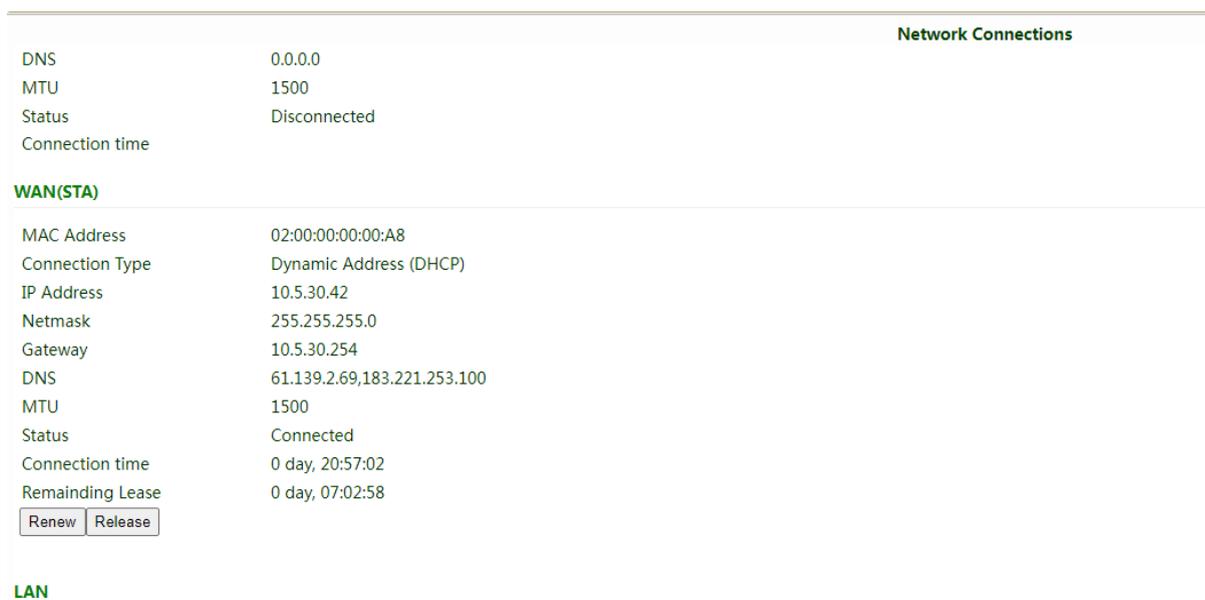
1. Select WLAN Type to STA in “Network>>Switch WLAN Mode” and save. Then reboot the router.



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>>Network Connection” .



Network Connections	
DNS	0.0.0.0
MTU	1500
Status	Disconnected
Connection time	
WAN(STA)	
MAC Address	02:00:00:00:A8
Connection Type	Dynamic Address (DHCP)
IP Address	10.5.30.42
Netmask	255.255.255.0
Gateway	10.5.30.254
DNS	61.139.2.69,183.221.253.100
MTU	1500
Status	Connected
Connection time	0 day, 20:57:02
Remaining Lease	0 day, 07:02:58
<input type="button" value="Renew"/> <input type="button" value="Release"/>	
LAN	

4. Configure WAN mode in “Network>>WAN(STA)” , set WAN parameters for Wi-Fi.

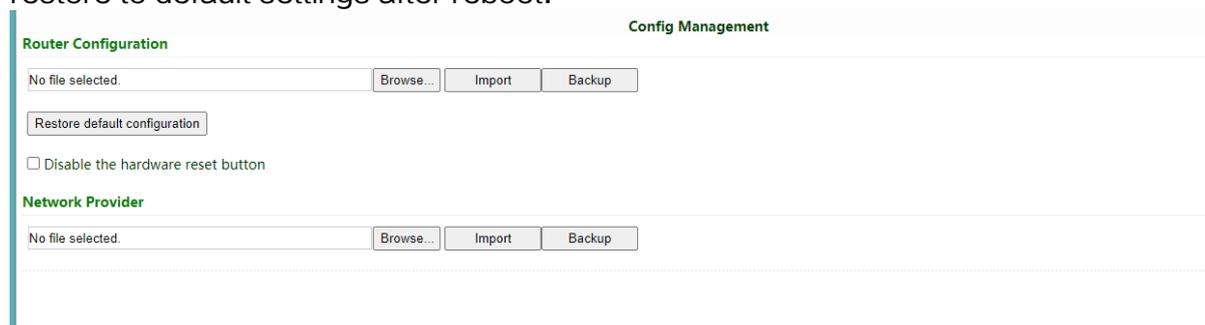
Type	<input type="text" value="Dynamic Address (DHCP)"/>
Shared Connection(NAT)	<input checked="" type="checkbox"/>
Default Route	<input checked="" type="checkbox"/>
MAC Address	<input type="text" value="02:00:00:00:00:A8"/>
MTU	<input type="text" value="Default"/> <input type="text" value="1500"/>

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.



The screenshot shows the 'Config Management' page. Under the 'Router Configuration' section, there is a 'No file selected.' label, a 'Browse...' button, and 'Import' and 'Backup' buttons. Below this, there is a 'Restore default configuration' button and a checkbox labeled 'Disable the hardware reset button' which is currently unchecked. The 'Network Provider' section below also has a 'No file selected.' label and 'Browse...', 'Import', and 'Backup' buttons.

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. When System LED is steady on, release RESET button, system LED will blink, and press the RESET button again.
3. When System LED 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.

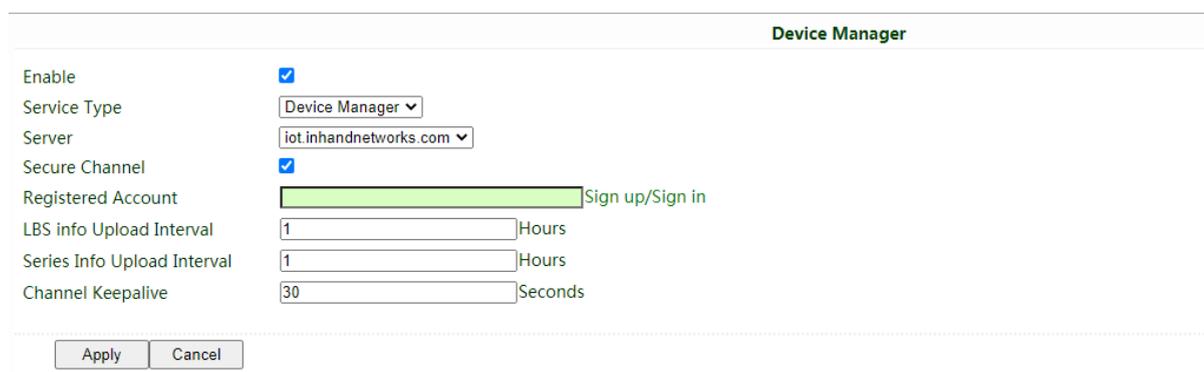
5.4 Connect to InHand platform

Make sure that router has already connect to Internet. Click "Service>>Device Manager" to set router to connect to InHand DM platform.

<https://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.

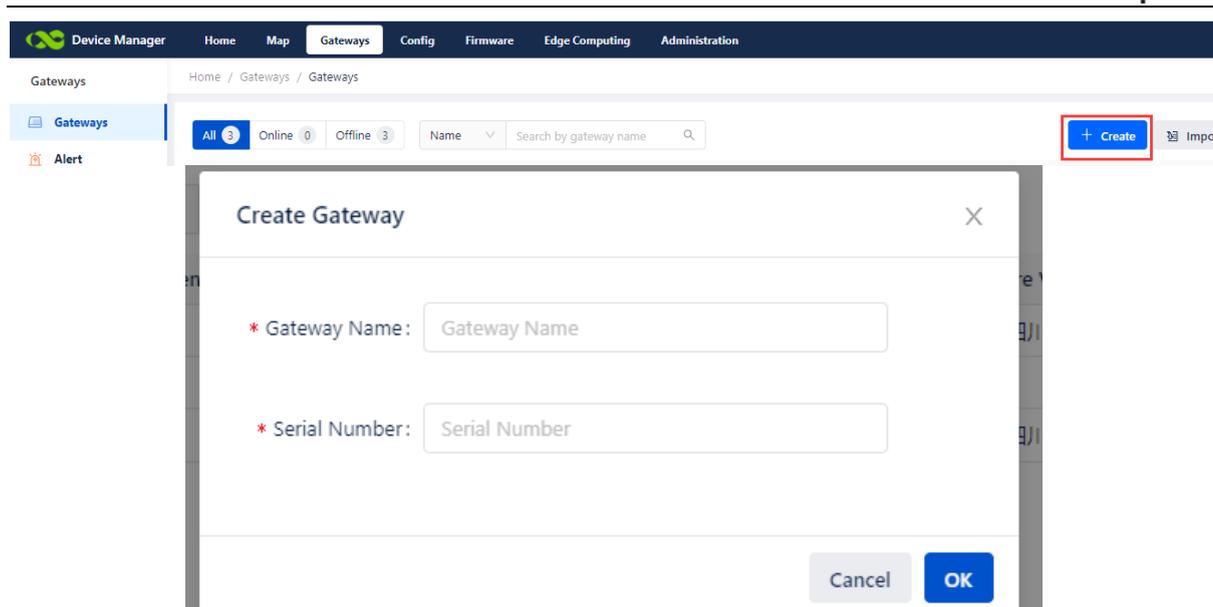


Device Manager	
Enable	<input checked="" type="checkbox"/>
Service Type	Device Manager
Server	iot.inhandnetworks.com
Secure Channel	<input checked="" type="checkbox"/>
Registered Account	<input type="text"/> Sign up/Sign in
LBS info Upload Interval	1 Hours
Series Info Upload Interval	1 Hours
Channel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

CR202(with battery)

LED	Status
System	Off ---- Power off Blink in green ---- Device starting Steady in green ---- Device working Blink in yellow ---- Upgrading
Network	Off ---- Cellular disable Blink in green ---- Dialing up Blink in yellow ---- Dialing abnormal Blink in red ---- No SIM card, cannot read SIM card or modem abnormal Steady in green ---- Dialed up, signal level ≥ 20 Steady in yellow ---- Dialed up, $19 \geq$ signal level ≥ 10 Steady in red ---- Dialed up, $9 \geq$ signal level
Wi-Fi	Off ---- Wi-Fi disable Blink in green ---- Wi-Fi connected, data transmitting Steady in green ---- Wi-Fi enable

Battery	<p>Blink --- Battery charging</p> <p>Steady --- Battery discharging</p> <p>Green --- 80% < battery level ≤100%</p> <p>Yellow --- 20% < battery level ≤80%</p> <p>Red --- 0 < battery level ≤20%</p>
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CR202(no battery)

LED	Status
System	<p>Off --- Power off</p> <p>Blink in green --- Device starting</p> <p>Steady in green --- Device working</p> <p>Blink in yellow --- Upgrading</p>
Network	<p>Off --- Cellular disable</p> <p>Blink in green --- Dialing up</p> <p>Steady in green --- Dialing successful</p> <p>Blink in yellow --- Dialing abnormal</p> <p>Blink in red --- No SIM card, cannot read SIM card or modem abnormal</p>
Wi-Fi	<p>Off --- Wi-Fi disable</p> <p>Blink in green --- Wi-Fi connected, data transmitting</p> <p>Steady in green --- Wi-Fi enable</p>
Singal	<p>Off --- Wi-Fi disable</p> <p>Steady in green --- Dialed up, signal level ≥20</p> <p>Steady in yellow --- Dialed up, 19 ≥ signal level ≥ 10</p> <p>Steady in red --- Dialed up, 9 ≥ signal level</p>