

# IR302

## Quick Start Guide

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### IR302 Certifications



## Introduction

The IR302 is a cost-effective, compact, industrial 4G LTE router for flexible IoT connectivity. It's equipped with two Ethernet ports, dual SIM holders, and a Wi-Fi interface. It provides easy, flexible, and secure connectivity to our meters in nearly any situation.

The IR302 is small and lightweight; it comes with a variety of mounting options (DIN rail and Panel) and can even be powered directly from the PS12HD, PS24HD, or the PS48HD's 12V output. It's compatible with all major cellular SIMs (AT&T, Verizon, T-Mobile, Bell, Free Mobile, O2, and many more) so finding the right cell carrier is easy.

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## **Applications**

### ***Wi-Fi Adapter***

Installations where a physical network connection to the meter is difficult or impossible, the IR302 can add Wi-Fi capabilities to any DENT meter.

### ***Remote Site Location***

Connecting to a network or RTU can be impossible for remote loads such as EV charging stations or remote solar installations. The IR302, with cellular connectivity and a DENTCloud-enabled meter, makes data instantly accessible on the network.

### ***High-Security Areas (Closed Networks)***

For high-security networks, using the IR302 can create a layer of isolation between Dent meters and devices on the local network. This setup ensures that our meters can access the internet and cloud services while remaining inaccessible to local network devices.

### ***Essential Connection (Fail-Over)***

When reliability is a must, the IR302 can be set up to fail-over to cellular networks when the local network is unreliable. This ensures there are no gaps in data.

### ***VPN Access***

The IR302 supports various VPN protocols (including OpenVPN), allowing remote meter administration using ViewPoint software from any location. This secures flexible access for managing meters remotely.

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# Installation

## SIM Card Installation

IR302 supports dual SIM cards. Pressing the SIM pop-up button will pop up the card holder. Load the SIM card(s).



SIM Card Installation

## 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.



Glue Stick Antenna Installation



Chuck Antenna Installation

IR302 supports dual antennas, ANT antenna and AUX antenna. The ANT antenna is the antenna which receives and transmits data, AUX antenna can only enhance the antenna signal degree and cannot receive and send data, so it can't be used alone. Generally, only use ANT antenna.

## Power Installation

The steps are as follows:

- Step 1:** Remove power terminal from router;
- Step 2:** Unscrew the locking screw on the power terminal;
- Step 3:** Insert the power cable into the terminal and lock the screws.



## Ground Installation

The steps are as follows:

**Step 1:** Unscrew the ground nut;

**Step 2:** Put the grounding ring of the cabinet ground wire into the ground stud;

**Step 3:** Tighten the ground nut.

*Attention:* in order to improve the anti-jamming ability of the router, the router must be grounded when it is used, and the ground wire is connected to the grounding stud of the router according to the actual use environment.

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# Quick access to Internet

## Access Configuration Utility

**Step 1:** Ensure that the device is powered, then connect **LAN2** on the IR302 to your computer via an ethernet cable.

**Step 2:** On your computer, open a web browser and go to **192.168.2.1**. The Web Configuration utility should load.

**Step 3:** Login using the following credentials

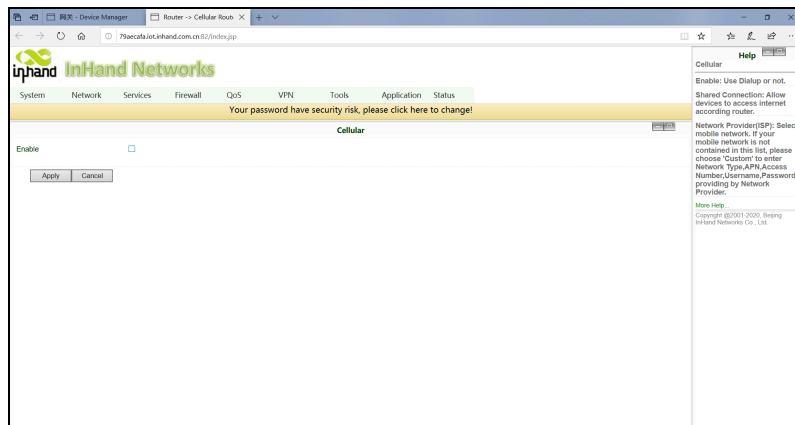
**User:** adm

**Password:** 123456 (Update this to a more secure password)

Now, it should display the homepage for the Web Configuration utility.

The device supports three ways of accessing the Internet: Wired, Cellular Dial-Up, Wi-Fi

**Note:** when the device does not use Cellular Dial-up access, the "dial-up interface" must be disabled, otherwise the device cycle dial-up to the maximum number, it will lead to device restart, network business interruption.



*Disable Cellular Dial-Up*

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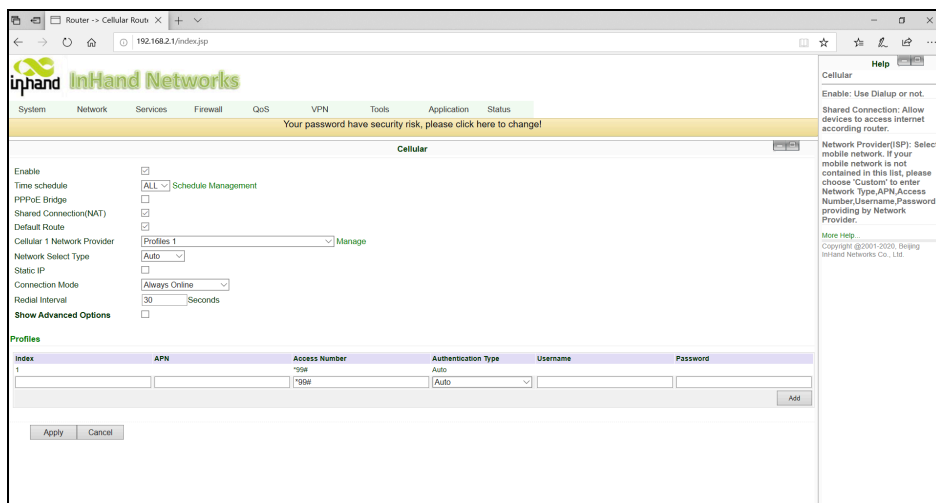
## Cellular setup

**Step 1:** With the IR302 **powered off**, insert SIM card into slot 1

**Step 2:** Power up the IR302 and go to **(Status) > Modem**

**Step 3:** Wait until it connects and **Status** displays “**modem is ready**”

**Step 4:** Go to **(Status) > Network Connections** and confirm **Cellular 1** has been assigned an IP address and gateway



## Wi-Fi Setup

*\*Note: Antenna must be connected.*

**Step 1:** From the tabs along the top, hover over **(Network) > Switch WLAN Mode**

**Step 2:** Change WLAN Type to **STA**. Hit **Apply**.

**Step 3:** From the tabs along the top, go to **(System) > Reboot**

**Step 4:** After reboot, go to **(Network) -> WLAN Client**

**Step 5:** Click Enable checkbox and Apply

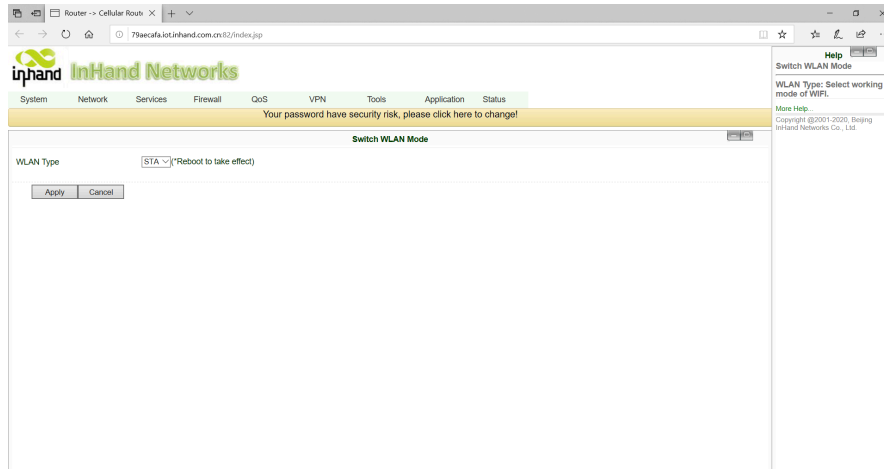
**Step 6:** Press **Scan** and then select your SSID from the list

**Step 7:** Enter the SSID password in the **WPA/WPA2 PSK**, then click **Apply**

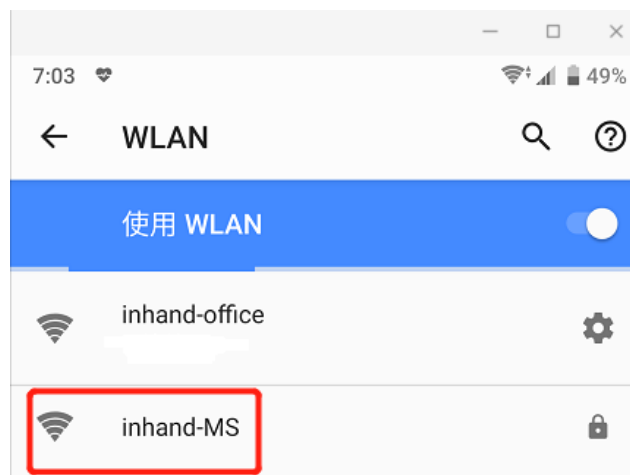
**Step 8:** Go to **(Status) > WLAN** and wait for the status to change to **Connected**

**Step 9:** Go to **(Network) > WAN(STA)** and change **Type** to **DHCP**, then click **Apply**

**Step 10:** Go to **(Status) > Network Connections** and confirm **WAN(STA)** has been assigned an IP address and gateway



*WLAN Mode Switch*



*Selecting SSID from the List*

## WAN setup

**Step 1:** Connect Ethernet cable from network router/switch to the **WAN/LAN1 Port**

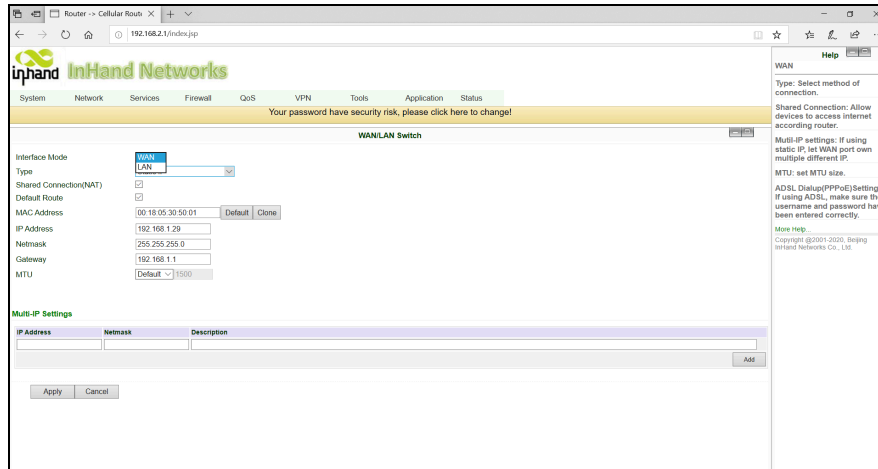
**Step 2:** Go to **(Network) -> WAN/LAN Switch**

**Step 3:** Change **Interface Mode** to **WAN**

**Step 4:** Change **Type** to **DHCP** to get an address from the local network DHCP server and click **Apply**

**Step 5:** Go to **(Status) -> Network Connections** and confirm **WAN** has been assigned an IP address and gateway





WAN Port Setup

## Wi-Fi adapter mode

*\*Note: Expect to lose communication during this process.*

**Step 1:** Setup Wi-Fi as described in "Wi-Fi" Setup" above

**Step 2:** Go to (Network) -> IP Passthrough

**Step 3:** **Enable** the **IP Passthrough** checkbox, keep the DHCP Dynamic setting, then click **Apply**

**Step 4:** Power cycle IR302, then plug your DENT Meter enabled for DHCP into **LAN2**

## Link Backup (failover)

**Step 1:** Go to (Network) -> Link Backup

**Step 2:** Choose **Enable** checkbox

**Step 3:** Choose **Main Link (WAN or Wi-Fi (WAN(STA)))**

**Step 4:** Set **ICMP Detection Server** to IP address of **8.8.8.8**

**Step 5:** Set the **Backup Link** to **Cellular 1**, then click **Apply**

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# Resetting and Operating

## Resetting the Device

This will reset the device to the factory defaults.

**Step 1:** With the IR302 powered on, use a paper clip to press and hold the reset button for approximately 20 seconds. During this time, the Status light will go off (for 6-10 seconds), then come back on (for another 10 seconds), then turn off and back on.

**Step 2:** Release the reset button. Then, press the reset button for five seconds.

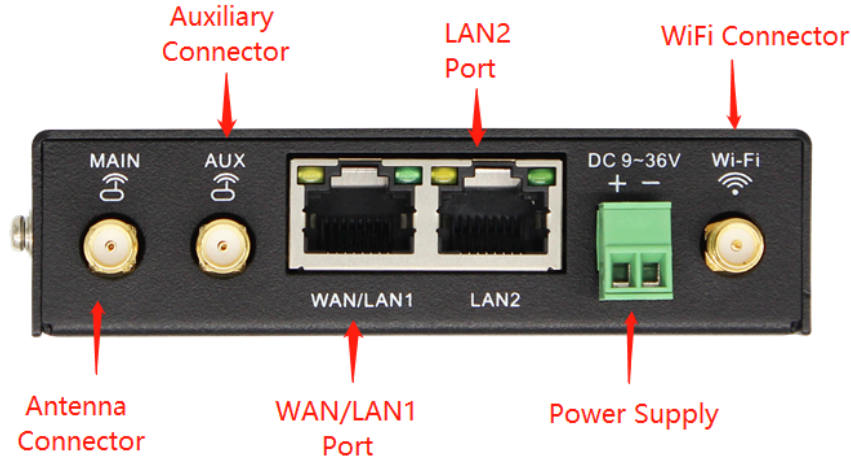
**Step 3:** The device will reboot to factory defaults.

## Operating conditions

- Operating temperature: -20°C to +70°C.
- Humidity should be in the range of 5% to 95% (non-condensing).
- Only use the device in dry environments.
- Out of direct sunlight.
- Away from heat source, corrosive substances, salts, and flammable gases.

*Attention: Operation outside the permissible range can considerably shorten the service life of the device.*

# Panel Introduction and Mounting



*Equipment Panel*

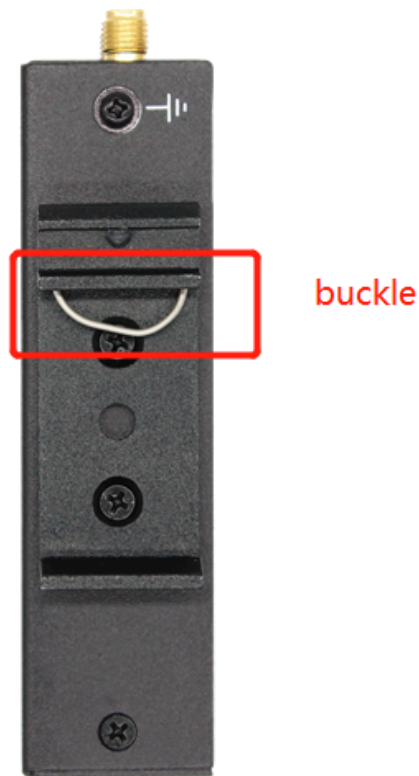
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## DIN-Rail Installation

The steps are as follows:

**Step 1:** Select the installation location of the device and make sure there is enough space.

**Step 2:** Tilt the equipment to the right 45°, so that the upper part of the DIN-rail seat is stuck on the DIN-rail, holding the lower end of the equipment, up slightly to rotate the equipment, the DIN-rail seat can be stuck on the DIN-rail. Verify that the equipment is fixed on DIN-rail.



Slippery Course Installation

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## Wall Hanging Installation

The steps are as follows:

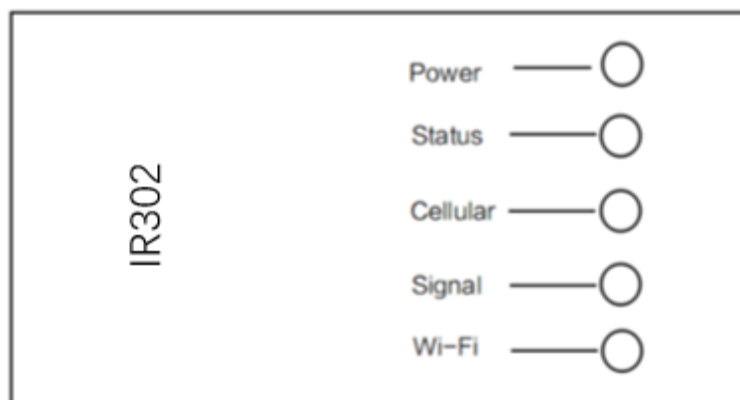
**Step 1:** Fix the hanging ear to both sides of the device with screws

**Step 2:** Fix the hanging ear to the wall with screws.



Wall Hanging Installation

## LED Indicator / Troubleshooting



Led Indicator Description

### Equipment LED Light Description Table:

Power( red)	Status( Green)	Cellular( Wong)	Definition
Off	Off	Off	No Power
On	Off	Off	System Fault
On	On	Off	Module or SIM Card not identified
On	On	Flash	Dialing
On	On	On	Dialing Success
On	Flash	On	System Upgrade
On	Flash -> On	Off	Finalized Writing -> Finalized Writing
<p><i>reset key description (both start-up and run support to restore factory):</i>            1. device, press reset button immediately, hold for 10 seconds until Status is on            2. release the Reset, Status destroy            3. immediately hold down Reset, then Status flicker, release the Reset button, restore factory success</p>			

Signal	Red	Signal values 0~10
	Yellow	Signal value 11~20
	Green	Signal value 21~30
Wi-Fi( Green)	Not enabled	Destruction
	AP	Flash
	STA	Data flash
Lamps	Driven Control	Yellow green, data flash