Edge Computing Gateway
Quick Installation Manual

InHand Networks
www.inhandnetworks.com

Version: v1.0
September 2019

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1. Preface

This document describes how to install and operate the edge computing gateway IG900 series products (IG902-B and IG902-H) of Beijing InHand Networks Technology. Before using these products, confirm the product model and the number of accessories inside the package, and purchase a SIM card from the local network operator.

IG902-B is used as an example. Refer to the actual product during operation.

2. Packing List

Each edge computing gateway product is delivered with accessories (such as standard accessories) frequently used at the customer site. Check the received product against the packing list carefully. If any accessory is missing or damaged, contact the InHand sales personnel promptly.

InHand provides customers with optional accessories based on the characteristics of different sites. For details, see the optional accessories list.

Standard accessories:

Accessory	Quantity	Description
Gateway	1	Edge computing gateway
Product document	1	Quick installation manual and user manual (Obtained by scanning a QR code)
Guide rail installation accessory	1	Used to fix the gateway
Power terminal	1	7-pin industrial terminal
Network cable	1	1.5 m long
Antenna	1	3G or 4G specification
Product warranty card	1	Warranty period: 1 year
Certificate of conformance	1	Certificate of conformance for the edge computing gateway

Optional accessories:

Accessory	Quantity	Description
AC power cord	1	Power cord for American English Australian or European Standard
Power Adapter	1	VDC Power Adapter
Antenna	1	Wi-Fi Antenna
	1	GPS Antenna
Serial Port	1	Gateway serial port line for debugging

The following sections describe the panel, structure, and dimensions of the edge computing gateway.

2.1. Panel

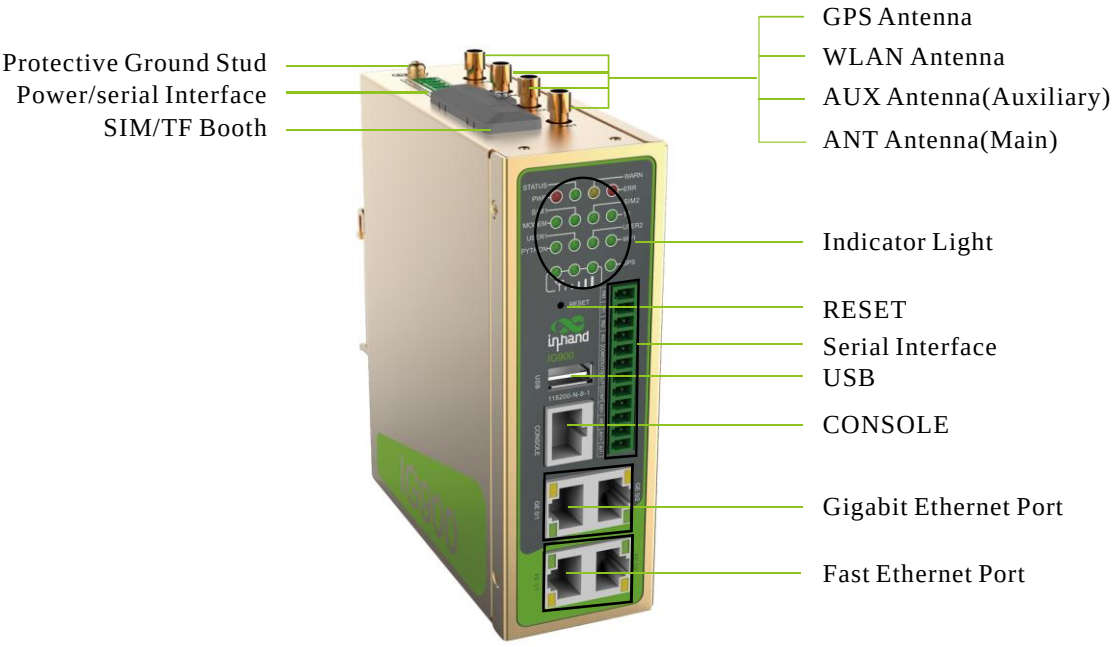


Figure 2-1 IG902

Caution

The IG900 series product is applicable to multiple panel appearances, as they have the same installation method. Refer to the actual product during operation.

2.2. Structure and Dimensions

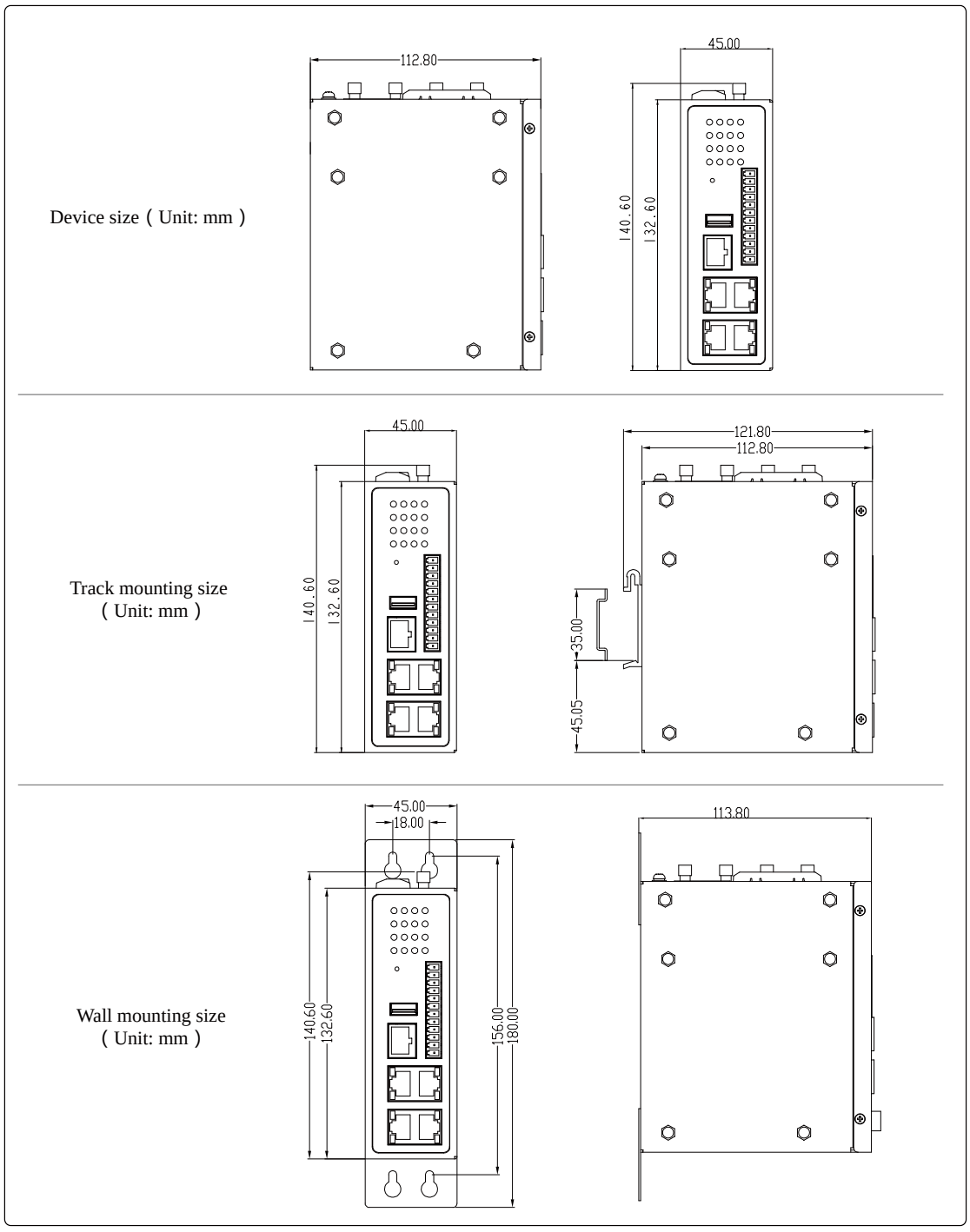


Figure 2-2 Structure size

3. Installation

Precautions:

- Power supply requirements: 24 V DC (12–48 V DC). Pay attention to the voltage class. The rated current is 0.6 A (1.2–0.3 A).
- Environment requirements: operating temperature –25°C to 75°C; storage temperature –40°C to 85°C; relative humidity 5% to 95% (non-condensing). The temperature on the device surface may be high. Install the device in a restricted area and assess the surrounding environment.
- Avoid direct sunlight and keep away from thermal sources or areas with strong electromagnetic interferences.
- Install the gateway product on an industrial DIN-rail.
- Check whether the required cables and connectors are installed.

3.1. Installing and Uninstalling the Device on a DIN-Rail

3.1.1. Installing with a DIN-Rail

Procedure:

Step 1: Select an installation place and reserve enough space for installation.

Step 2: Insert the upper part of the DIN rail seat onto the DIN rail. Grab the lower end of the device and revolve it upward in the direction indicated by arrow 2 with gentle force, to insert the DIN rail seat onto the DIN rail. Check that the device is installed reliably on the DIN rail, as shown in Figure 3-1 on the right.

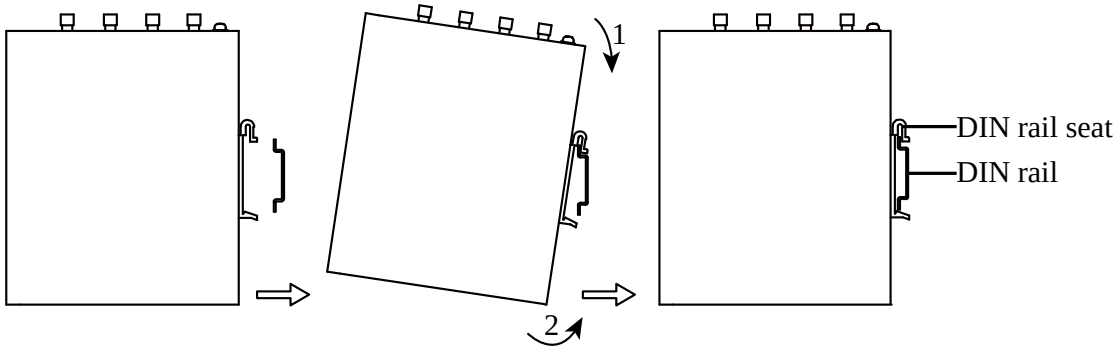


Figure 3-1 DIN rail installation schematic diagram

3.1.2. Uninstalling with a DIN-Rail

Procedure:

Step 1: Press the device downward in the direction indicated by arrow 1 in Figure 3-2 to create a gap near the lower end of the device so that the device isolates from the DIN rail.

Step 2: Revolve the device in the direction indicated by arrow 2, and grab the lower end of the device and move the device outward. Lift the device when its lower end isolates from the DIN rail. Then, take off the device from the DIN rail.

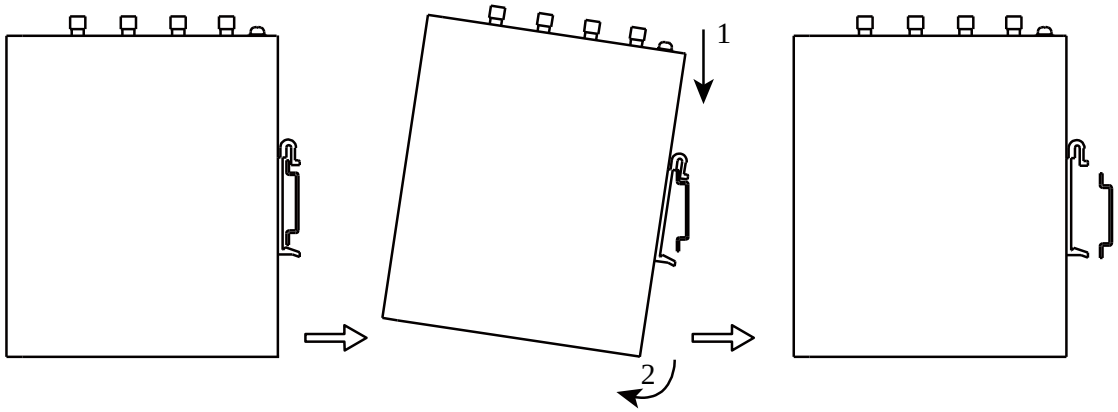


Figure 3-2 DIN rail disassembly schematic diagram

3.2. Installing and Uninstalling the Device in Wall-mounted Mode

3.2.1. Installing in Wall-mounted Mode

Procedure:

Step 1: Select an installation place and reserve enough space for installation.

Step 2: Install the wall mounting bracket on the back of the device by using a screwdriver, as shown in Figure 3-3.

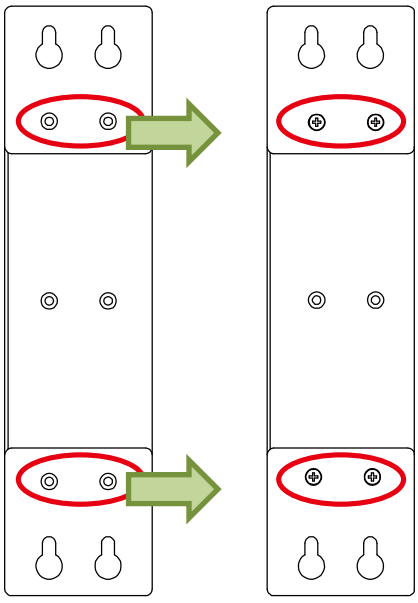


Figure 3-3 Wall mounted installation diagram

Step 3: Take out the screws (packaged with the wall mounting bracket), fasten the screws in the installation positions by using the screwdriver, and pull down the device to make it secure, as shown in Figure 3-4.

Figure 3-4 Wall mounted installation diagram

3.2.2. Uninstalling in Wall-mounted Mode

Procedure:

Hold the device with one hand and unfasten the screws that fix the upper end of the device with the other hand, to remove the device from the installation place.

3.3. Installing a SIM Card

IG902 supports Dual SIM card. Unfasten the screws on the cover of the SIM card holder by using a screwdriver and insert a SIM card.

Figure 3-5 Install SIM card

3.4. Installing an Antenna

Revolve the movable part of the metal SMAJ interface with gentle force until it cannot be revolved, in which state the outer thread of the antenna connection cable is invisible. Do not wring the antenna with force by grabbing the black plastic cover.

Figure 3-6 Installing an Antenna

Note

- IG900 supports dual antenna: ANT antenna and AUX antenna. The ANT antenna sends and receives data. The AUX antenna only increases the antenna signal strength and cannot be used independently for data transmission.
- Only the ANT antenna is used in normal cases. It is used with the AUX antenna only when signal is poor and signal strength must be improved.

3.5. Installing the Power Supply

Procedure:

Step 1: Remove the terminal from the gateway.

Step 2: Unfasten the locking screw on the terminal.

Step 3: Connect the power cable to the terminal and fasten the locking screw.

Figure 3-7 Installing the Power Supply

3.6. Installing the Ground Protection

Procedure:

Step 1: Unfasten the ground screw cap.

Step 2: Put the ground loop of the cabinet ground cable onto the ground post.

Step 3: Fasten the ground screw cap.

Caution

Ground the gateway to improve its interference resistance. Connect the ground cable to the ground post of the gateway based on the operation environment.

3.7. Connecting the Network Cable

Connect the gateway to a PC directly by using the Ethernet cable.

Figure 3-8 Network connection

3.8. Connecting Terminals

Terminals provide the RS232 and RS485 interface modes. Connect cables to the corresponding terminals before using the interfaces. During installation, remove the terminals from the device, unfasten the locking screws on the terminals, connect cables to the corresponding terminals, and fasten the screws. Sort the cables in order.

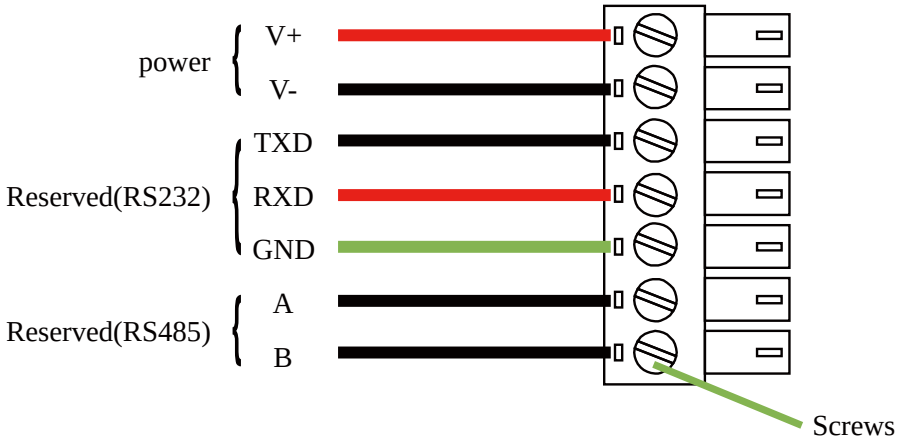


Figure 3-9 Terminal line

Note

This section is only applicable to IG900 with industrial interfaces.

4. Configuring Network Connection for a Wireless Gateway

4.1. Connecting to the Gateway

Set the IP address of the management PC and the IP addresses of the GE interfaces of the gateway to be in the same network segment. The gateway has two GE interfaces: GE0/1 and GE0/2. The initial IP address of GE0/1 is 192.168.1.1, and that of GE0/2 is 192.168.2.1. Both interfaces have the same subnet mask 255.255.255.0. The following describes how to connect GE0/2 to the management PC in the Windows operating system.

(**>Network and Sharing Center>Local Connections>Property>TCP/IPv4>Advanced> IP Address>Add**)

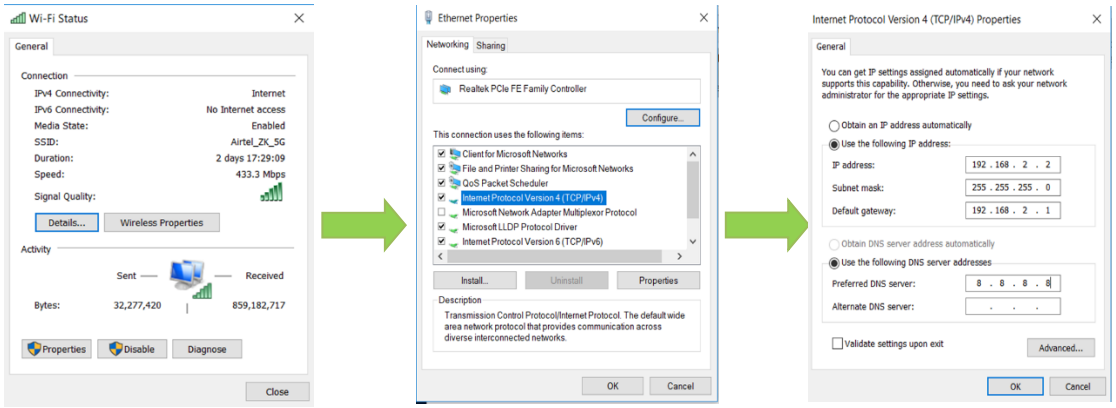


Figure 4-1 Gateway Settings

4.2. Logging in to the Gateway

Connect the PC to the gateway directly by using the network cable, start the web browser, enter **https://192.168.2.1** in the address bar, and press **Enter** to jump to the web login page. Enter the user name (default: **adm**) and password (default: **123456**), and click **OK** or press **Enter** to access the web configuration page.

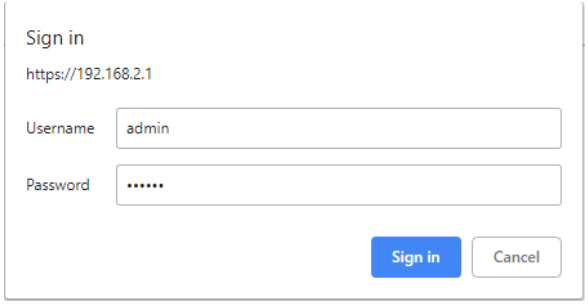


Figure 4-2 Login gateway Web management interface

4.3. Performing Dial-up on the Gateway

4.3.1. Configuring Gateway Dial-up

IG902 supports two dial-up modes: single card and dual card. The single card mode is used by default, in which only SIM card 1 is used.

To use the dual card mode, you need to set related parameters. On the page shown in the following figure, choose **Show Advanced Options**>**Dual SIM Enable**, select the primary card, and save the settings.

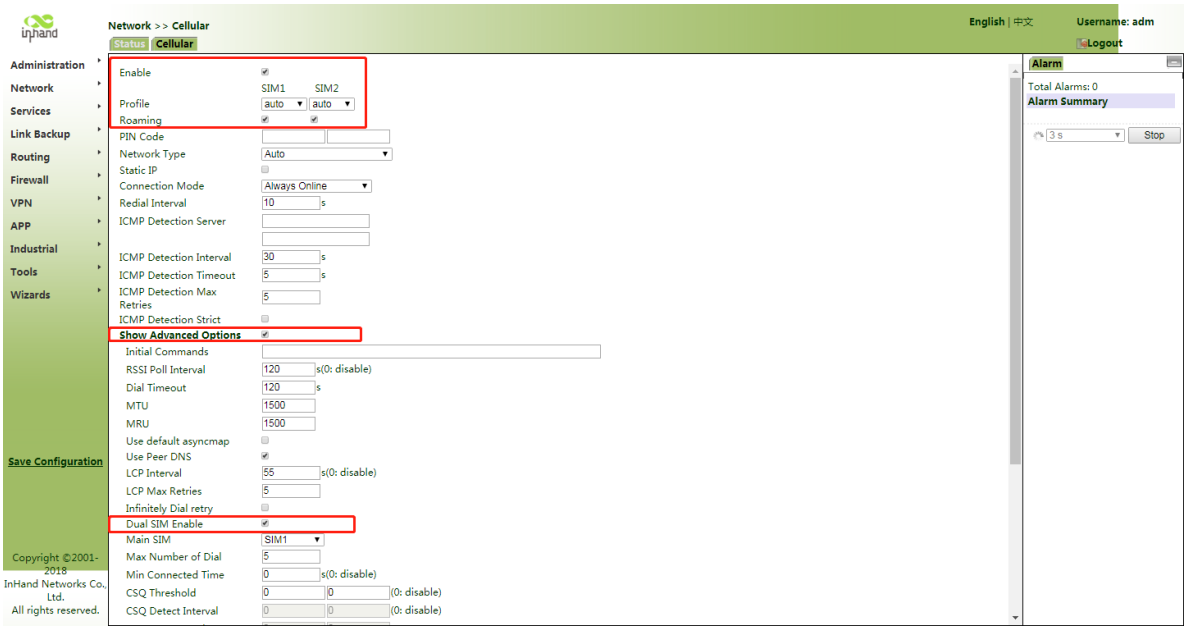


Figure 4-2 Dial interface advanced options

4.3.2. Verifying the Gateway Dial-up Status

Choose **Network**>**Cellular** in the navigation tree to access the **Status** page. The page displays the network connection status, that is, the IP address obtained by the gateway. You can also verify the dial-up status on a web page.

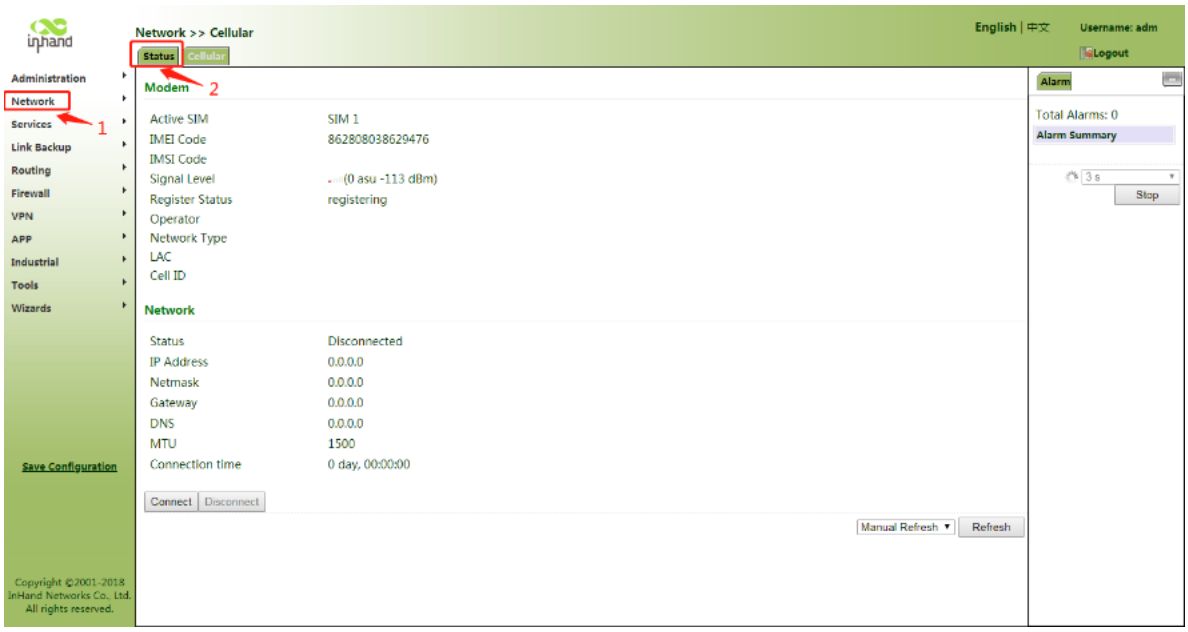


Figure 4-4 the Gateway Dial-up Status

Caution

By default, the DNS of the PC connected to GE0/1 cannot use the IP address of GE0/1; otherwise, public domain names cannot be accessed. You can enable the DHCP server or configure another DNS for public domain name access.

5. Quick Start Guide

5.1. Restoring the Default Settings

5.1.1. Web Page Mode

Log in to the web page and choose **Administration**>**Config Management** in the navigation tree to access the **Config Management** page. Click **Restore default configuration**and click **OK**. Then, restart the system to restore the default settings.

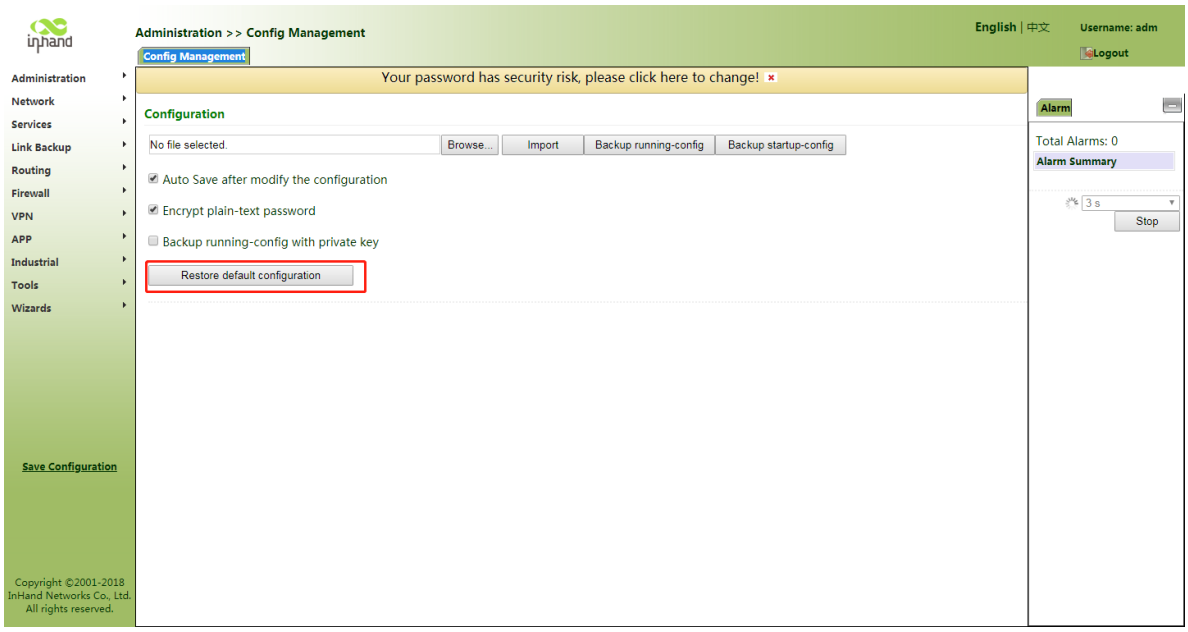


Figure 5-1 Restore default configuration

5.1.2. Hardware Mode

Restore the default settings in hardware mode as follows:

Step 1: Find the **Reset** button on the device panel. For details, see section 2.1 "Panel."

Step 2: Press and hold the **Reset** button with a fine pin within 10 seconds after the device is powered on.

Step 3: Release the **Reset** button after the ERR indicator is turned on.

Step 4: Press and hold the **Reset** button again when the ERR indicator is turned off several seconds later.

Step 5: Release the **Reset** button when the ERR indicator blinks. The default settings are restored successfully if the ERR indicatoris turned off later.

5.2. Importing and Exporting Configuration

Log in to the web page and choose **Administration**>**Config Management** in the navigation tree to access the **Config Management** page.

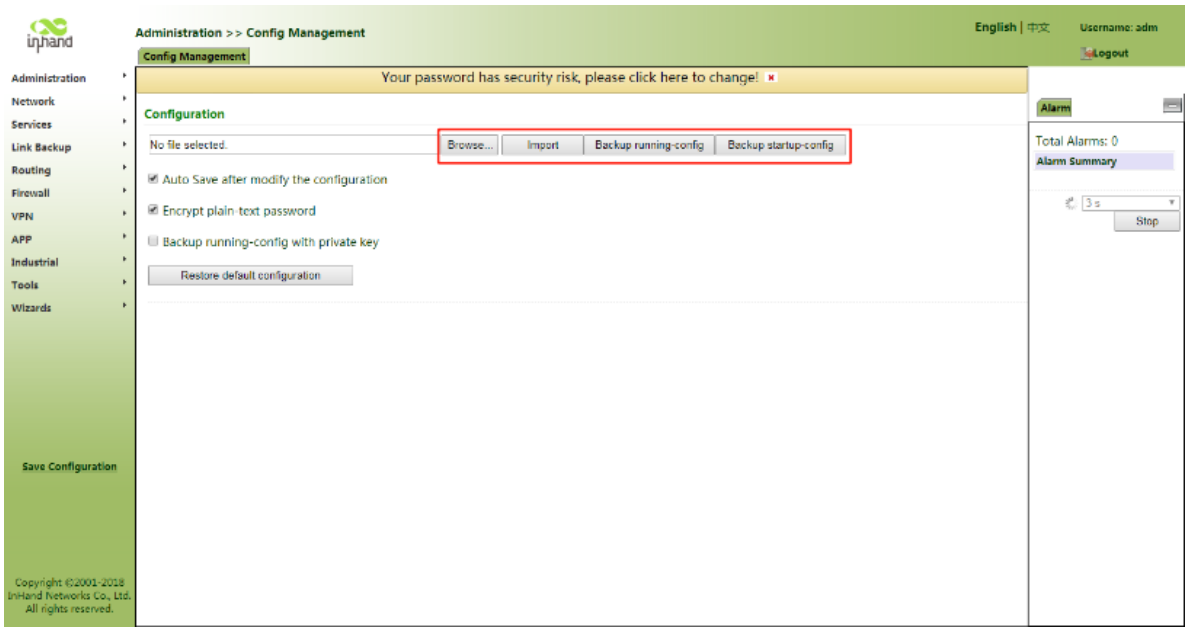


Figure 5-2 Config Management

- Click **Browse** to select the configuration file. Then, click **Import**. After the configuration file is imported, restart the system (**Administration**>**Reboot**) to make the configuration take effect.
- Click **Back Up running-config** to export the currently applied configuration parameter file. Save the file. The exported file is in the **.cnf** format, and the default file name is **running-config.cnf**.
- Click **Back Up startup-config** to back up the configuration parameter file that is applied upon device startup. The exported file is in the **.cnf** format, and the default file name is **startup-config.cnf**.

5.3. Logs and Diagnosis Records

Log in to the web page and choose**Administration**>**Log** in the navigation tree to access the **Log** page. Click the corresponding buttons to download logs and diagnosis records.

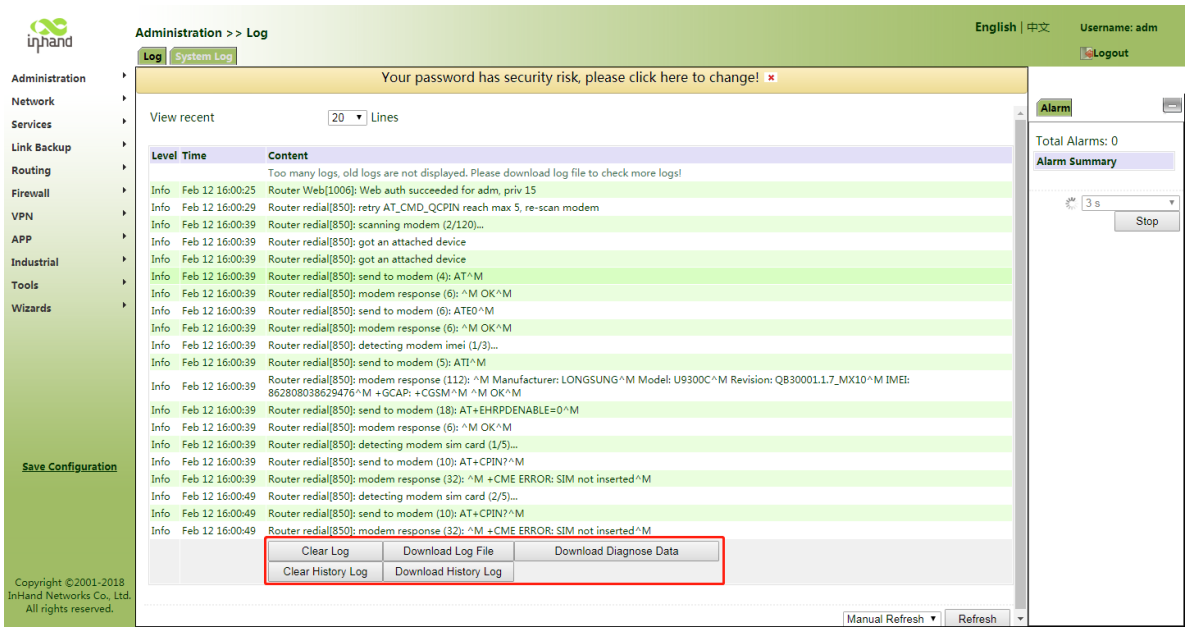
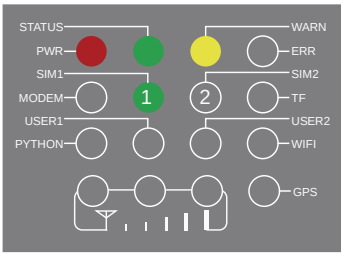


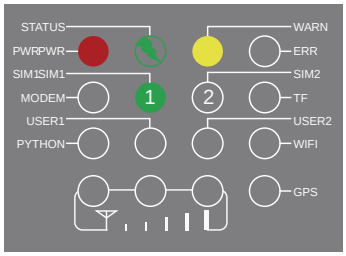
Figure 5-3 System log

6. Panel Indicators

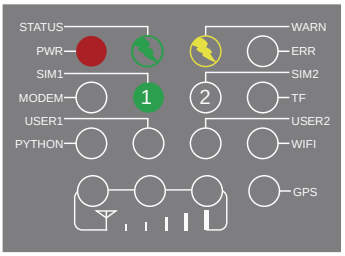
6.1. LED Indicator



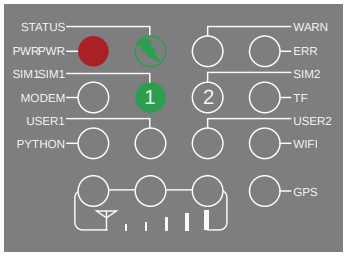
Booting up



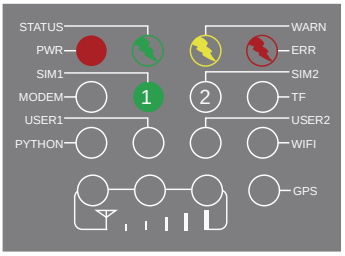
Boot up successfully



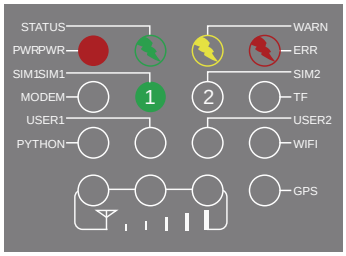
Dialing



Dial-up successfully



Reset successfully



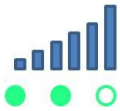
Upgrading

Note

Two SIM card indicators are provided. The indicator for SIM card 1 is turned on during the startup process and when startup is successful. In the last four situations, the indicator for the used SIM card is turned on. The following figure shows the indicator for SIM card 1.

6.2. Signal Status Indicator

Signal: 1–9, there might be a signal problem. Check whether the antenna is installed properly and whether the signal quality in the operating area is good.



Signal: 10–19, indicating that signal and device operation are normal.

Signal: 20–31, indicating good signal.

FCC warning:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment .This equipment should be installed and operated with minimum distance 40cm between the radiator& your body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.