UR51

Industrial Cellular Router

Quick Start Guide

Ursalink Technology Co., Ltd.

Welcome

Thank you for choosing Ursalink UR51 industrial cellular router.

This guide describes how to install the UR51 and how to log in the Web GUI to configure the device. Once you complete the installation, refer to the Ursalink UR51 User Manual for instructions on how to perform configurations on the device.

Related Documents

This Start Guide only explains the installation of Ursalink UR51 router. For more functionality and advanced settings, please refer to the relevant documents as below.

Document	Description
Ursalink UR51 Datasheet	Datasheet for the Ursalink UR51 industrial cellular router.
Ursalink UR51 User Guide	Users could refer to the guide for instruction on how to log in the Web GUI, and how to configure all the settings.

The related documents are available on Ursalink website: http://www.ursalink.com.

Declaration of Conformity

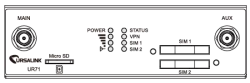
Ursalink UR51 is in conformity with the essential requirements and other relevant provisions of the CE, FCC, and RoHS.

For assistance, please contact
Ursalink technical support:
Email: support@ursalink.com
Tel: 86-592-5023060
Fax: 86-592-5023065

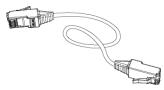
1. Packing List

Before you begin to install the UR51 router, please check the package contents to verify that you have received the items below.

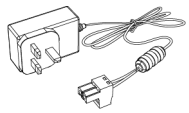
1.1 Package Contents



1 × UR51 Router



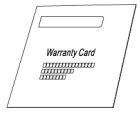
1 × Ethernet Cable



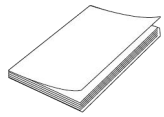
1 × Power Adapter

2 × SIM Card Slots

1 × 2-Pin Pluggable Terminal



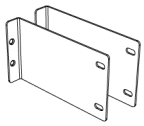
1 × Warranty Card



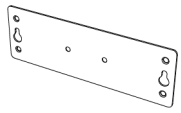
1 × Quick Start Guide

2 × Magnetic Mount Cellular Antennas (Default)

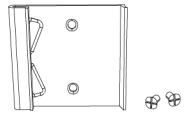
2 × Stubby Cellular Antennas (Optional)



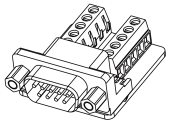
2 × Rack Mount Kits (Default)



1 × Wall Mounting Bracket (Optional)



1 × DIN Rail Kit (Optional)



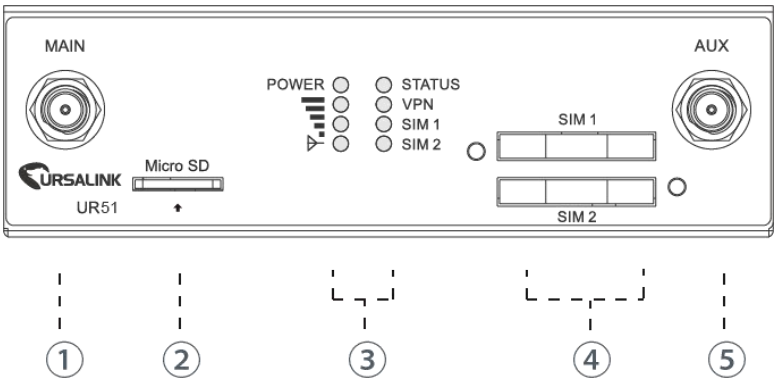
1 × Terminal Block with a DB9 Male Connector for Serial Port Connection(Optional)

If any of the above items is missing or damaged, please contact your Ursalink sales Representative.

2. Hardware Introduction

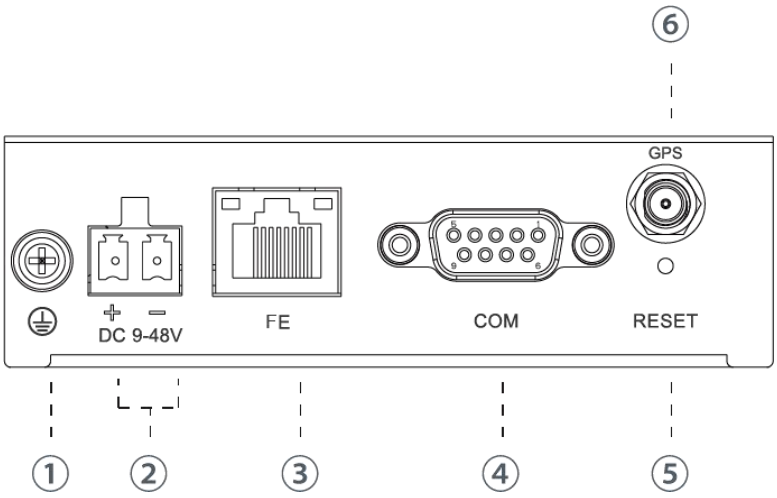
2.1 Overview

A. Front Panel



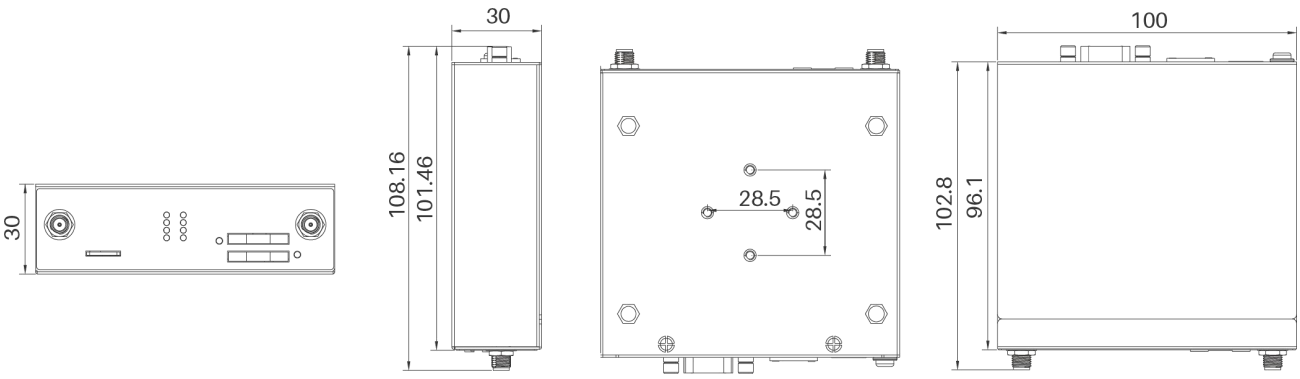
① Main Cellular Antenna Connector
② Micro SD Card Interface
③ LED Indicator Area
POWER: Power Indicator
STATUS: Status Indicator
: Signal Strength Indicator
VPN: VPN Indicator
SIM1: SIM1 Status Indicator
SIM2: SIM2 Status Indicator
④ SIM Card Slot 1 & SIM Card Slot 2
⑤ AUX Cellular Antenna Connector

B. Rear Panel

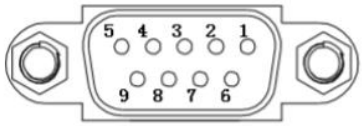


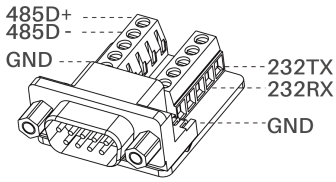
① Grounding Stud
② Power Connector
③ Ethernet Port Indicator:
Orange for data transmission;
Green for network rate
④ Serial Port: RS232 or RS485
⑤ Reset Button
⑥ GPS Antenna Connector

2.2 Dimensions (mm)



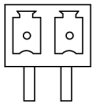
2.3 Pinouts





PIN	RS232	RS485	Description
1	---	A	Data +
2	RXD	---	Receive Data
3	TXD	---	Transmit Data
4	---	---	---
5	GND	---	Ground
6	---	B	Data -
7	---	---	---
8	---	---	---
9	---	---	---

V+ V-



PIN	Description
10	Positive
11	Negative

2.4 LED Indicators

LED	Indication	Status	Description
POWER	Power Status	On	The power is switched on
		Off	The power is switched off
STATUS	System Status	Green Light	Static: Start-up
			Blinking slowly: the system is running properly
		Off	The system goes wrong
VPN	VPN Status	Green Light	VPN is connected
		Off	VPN is disconnected
SIM1/SIM2	SIM Card Status	Off	SIM1 or SIM2 is registering or fails to register (or there are no SIM cards inserted)
		Green Light	Blinking slowly: SIM1 or SIM2 has been registered and is ready for dial-up
			Blinking rapidly: SIM1 or SIM2 has been registered and is dialing up now
			Static: SIM1 or SIM2 has been registered and dialed up successfully
Signal strength	Signal 1/2/3	Off	No signal
		Green Light	Static/Off/Off: weak signals with 1-10 ASU (please check if the antenna is installed correctly, or move the antenna to a suitable location to get better signal)
			Static/Static/Off: normal signals with 11-20 ASU (average signal strength)
			Static/Static/Static: strong signals with 21-31 ASU (signal is good)

2.5 Reset Button

Function	Description	
	STATUS LED	Action
Reboot	Blinking	Press and hold the reset button for about 5-15 seconds.
	Static Green	Release the button and wait for system to reboot.
Reset	Blinking	Press and hold the reset button for more than 15 seconds.
	Static Green → Rapidly Blinking	Release the button and wait.
	Off → Blinking	The router is now reset to factory defaults.

2.6 Ethernet Port Indicator

Indicator	Status	Description
Link Indicator (Orange)	On	Connected
	Blinking	Transmitting data
	Off	Disconnected
Rate Indicator (Green)	On	1000 Mbps mode
	Off	100 Mbps mode

3. Hardware Installation

Environmental Requirements

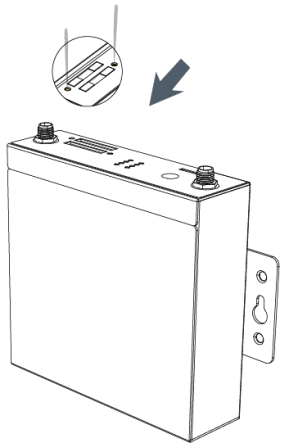
- Power Input: 9-48 VDC (48 V Power Input is Needed for 802.3af PoE Output)
- Power Consumption: Typical 1.8 W (Max 2.7 W)
- Operating Temperature: -20°C to 70°C (4°F -158°F)
- Relative Humidity: 0% to 95% (non-condensing) at 25°C/77°F

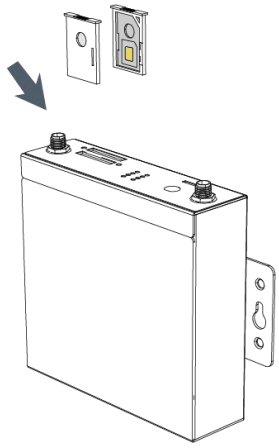
3.1 SIM Card/Micro SD Card Installation

3.1.1 SIM Card Installation

A. Push the yellow button on the left panel of the slot router, and then you will see the SIM card slot popping out directly.

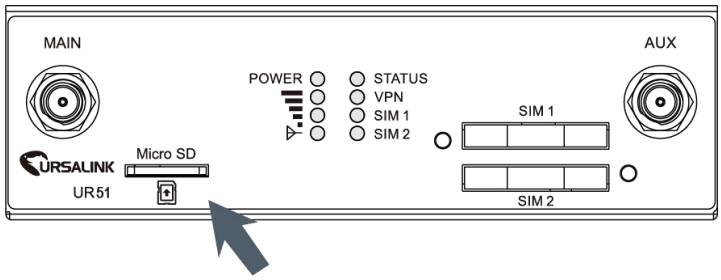
B. Put SIM card onto the slot then insert the back into the hole.





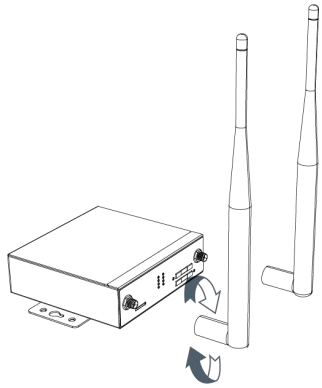
3.1.2 Micro SD Card Installation

Insert Micro SD card

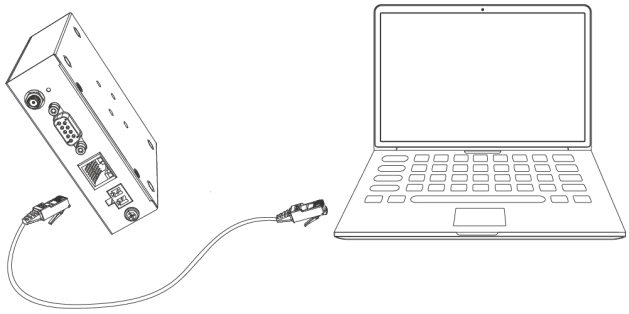


3.2 Rotate the Antenna into the Antenna Connector

The external antenna should be installed vertically always on a site with a good cellular signal.



3.3 Connect the Router to a Computer



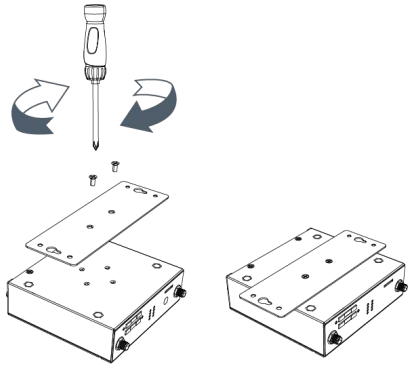
3.4 Mount the Router

The router can be placed on a desktop or mounted to a wall or a DIN rail.

3.4.1 Wall Mounting (Measured in mm)

Use 4 pcs of M3 × 6 flat head Phillips screws to fix the wall mounting kit to the router, and then use 2 pcs of M3 drywall screws to mount the router associated with the wall mounting kit on the wall.

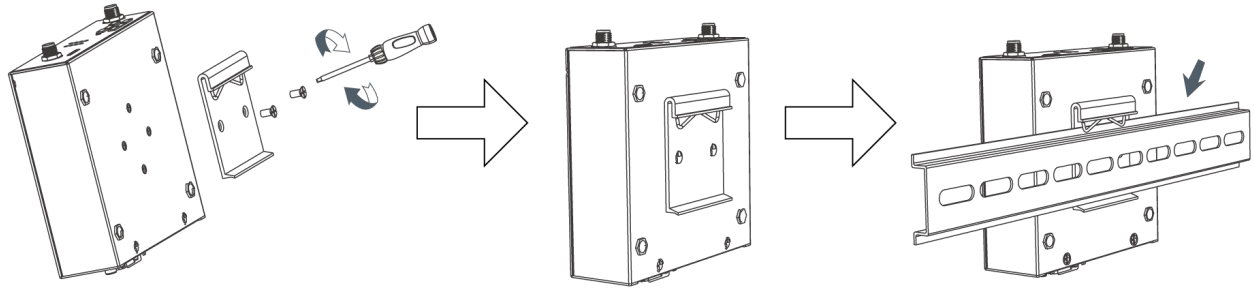
Recommended torque for mounting is 1.0 N·m, and the maximum allowed is 1.2 N·m.



3.4.2 DIN Rail Mounting (Measured in mm)

Use 2 pcs of M3 × 6 flat head Phillips screws to fix the DIN rail to the router, and then hang the DIN rail on the mounting bracket. It is necessary to choose a standard bracket.

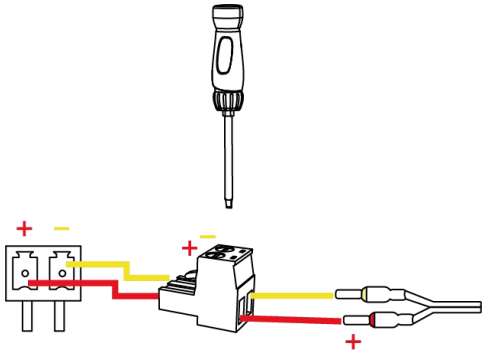
Recommended torque for mounting is 1.0 N·m, and the maximum allowed is 1.2 N·m.



3.5 Power Supply Installation

A. Take out the terminal from the router and unscrew the bolt on terminal

B. Screw down the bolt after inserting power cable into the terminal



Connecting the Power Cable

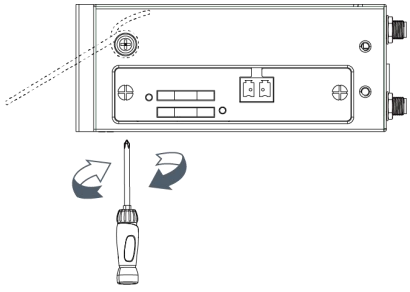
Color	Polarity
Red	+
Yellow	-

If the wires are inserted into the reverse holes, the router will not start and the user must switch the wires into the correct holes.

3.6 Protective Grounding Installation

A. Remove the grounding nut.

B. Connect the grounding ring of the cabinet's grounding wire onto the grounding stud and screw up the grounding nut.

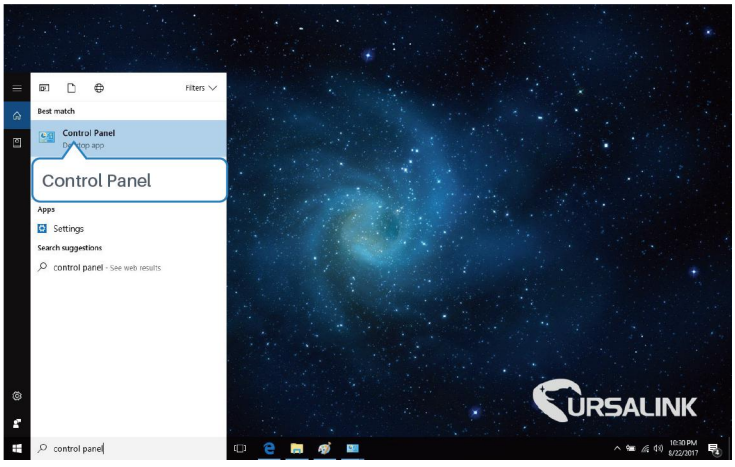


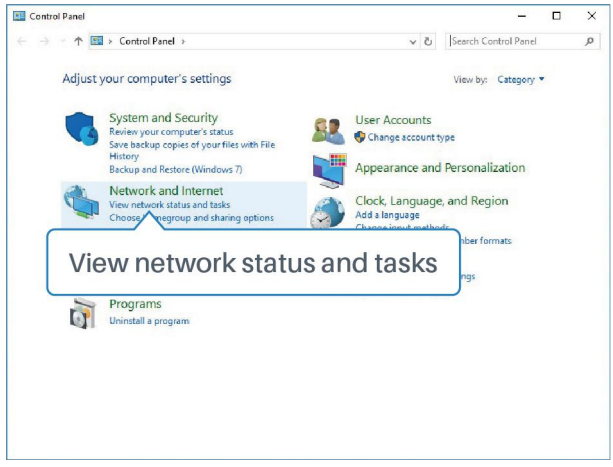
The router must be grounded when deployed. According to operating environment, the ground wire should be connected with grounding stud of router.

Getting Started

4. PC Configuration for Web GUI Accessing to Router

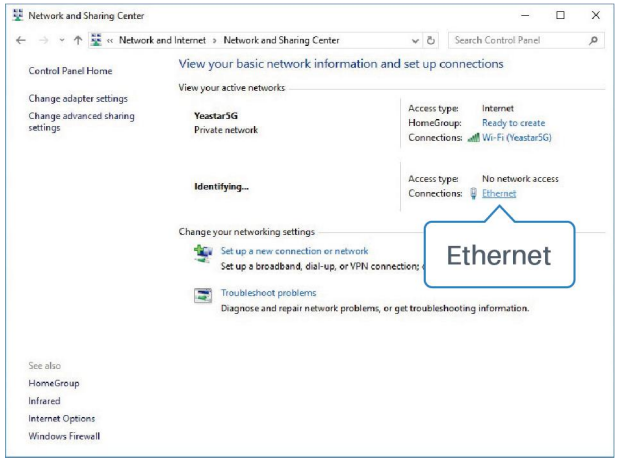
Please connect PC to GE port of UR51 router directly. PC can obtain an IP address, or you can configure a static IP address manually. The following steps are based on Windows 10 operating system for your reference.

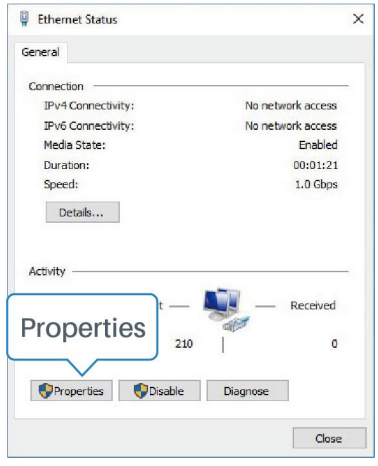




① Click “Search Box” to search “Control Panel” on the Windows 10 taskbar.

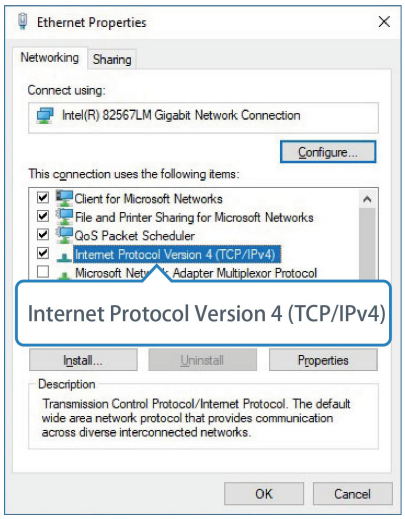
② Click “Control Panel” to open it, and then click “View network status and tasks”.

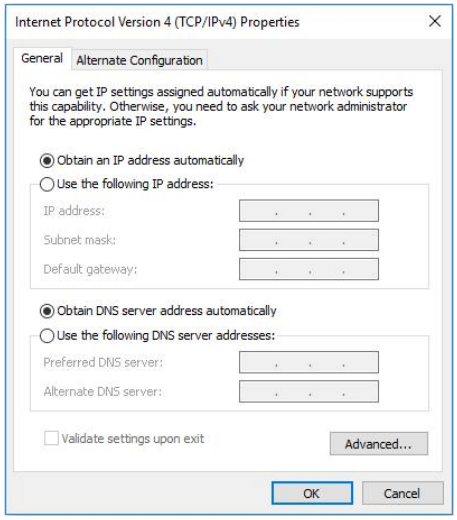


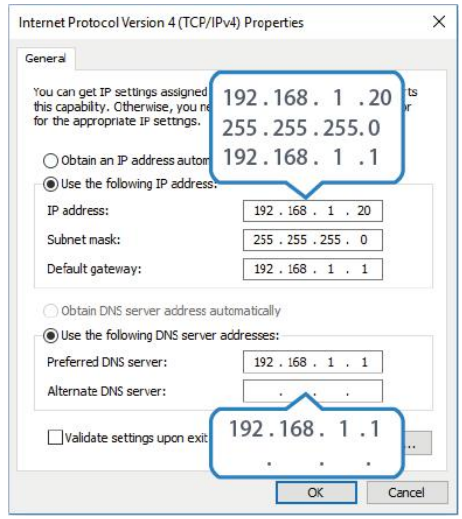


③ Click “Ethernet” (May have different names).

④ Click “Properties”.







⑤ Double Click “Internet Protocol Version 4 (TCP/IPv4)” to configure IP address and DNS server.

⑥ Method 1: click “Obtain an IP address automatically”;

Method 2: click “Use the following IP address” to assign a static IP manually within the same subnet of the router.

(Note: Remember to click “OK” to finish configuration.)

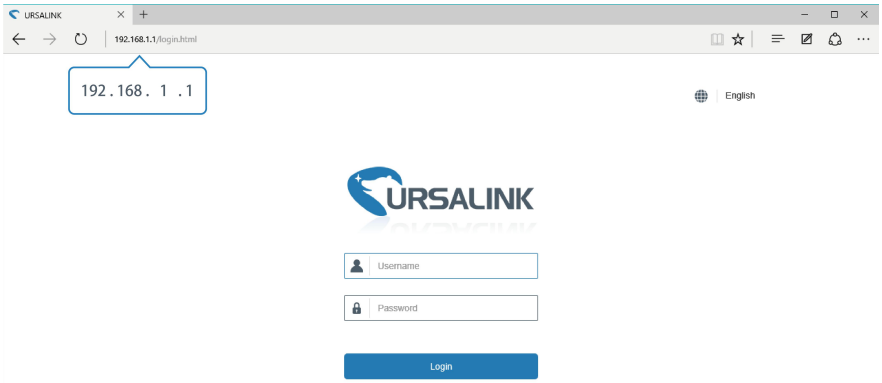
5. Access to Web GUI of Router for Cellular Connection

This chapter explains how to log in UR51 router's Web GUI, and connect the router to cellular network.
Ursalink router provides web-based configuration interface for management. If this is the first time you configure the router, please use the default settings below:
IP Address: **192.168.1.1**
Username: **admin**
Password: **password**

5.1 To Log in the Router:

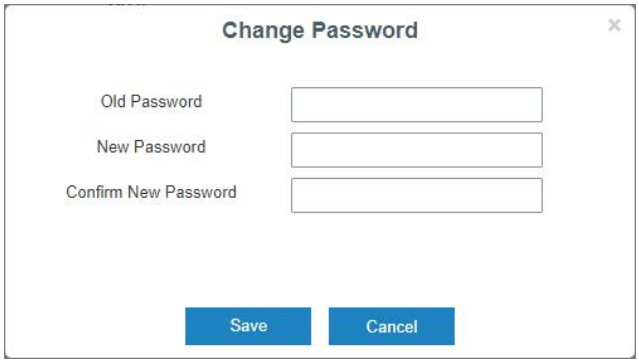
Make sure your PC is connected to the same network as the router as per Section 4.

A. Start a Web browser on your PC (Chrome and IE are recommended), type in the IP address, and press Enter on your keyboard.
B. Enter the username and password, click "Login".

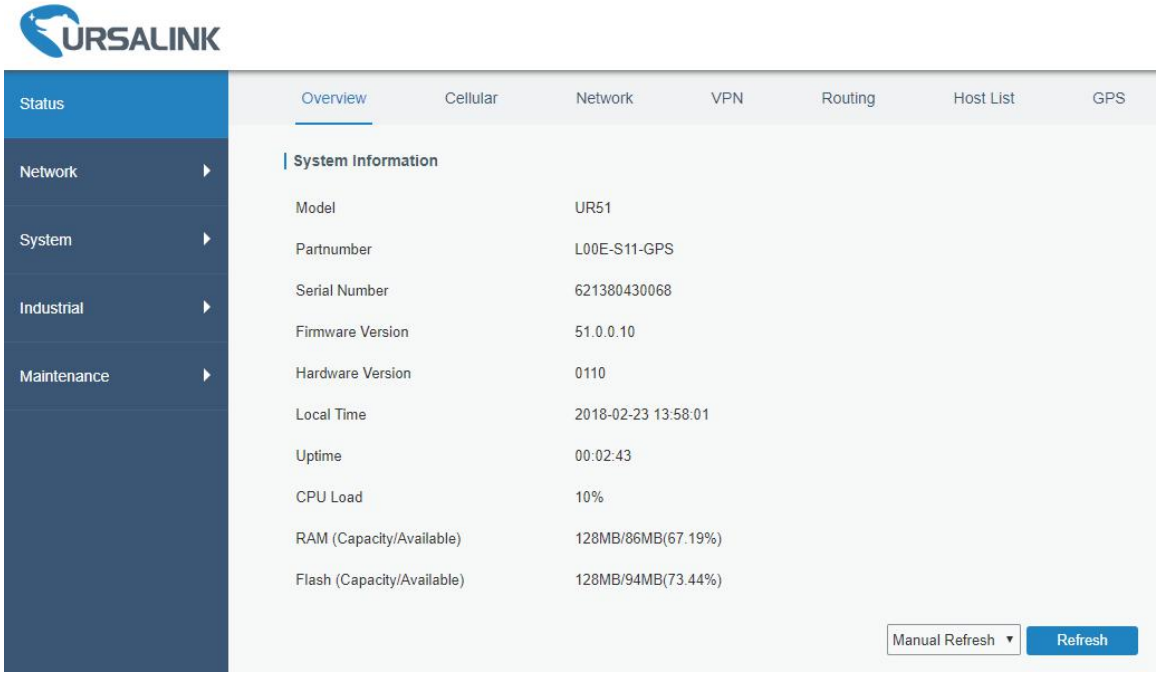


If you enter the username or password incorrectly more than 5 times, the login page will be locked for 10 minutes.

C. When you login with the default username and password, you will be asked to modify the password. It's suggested that you change the password for the sake of security. Click "Cancel" button if you want to modify it later.



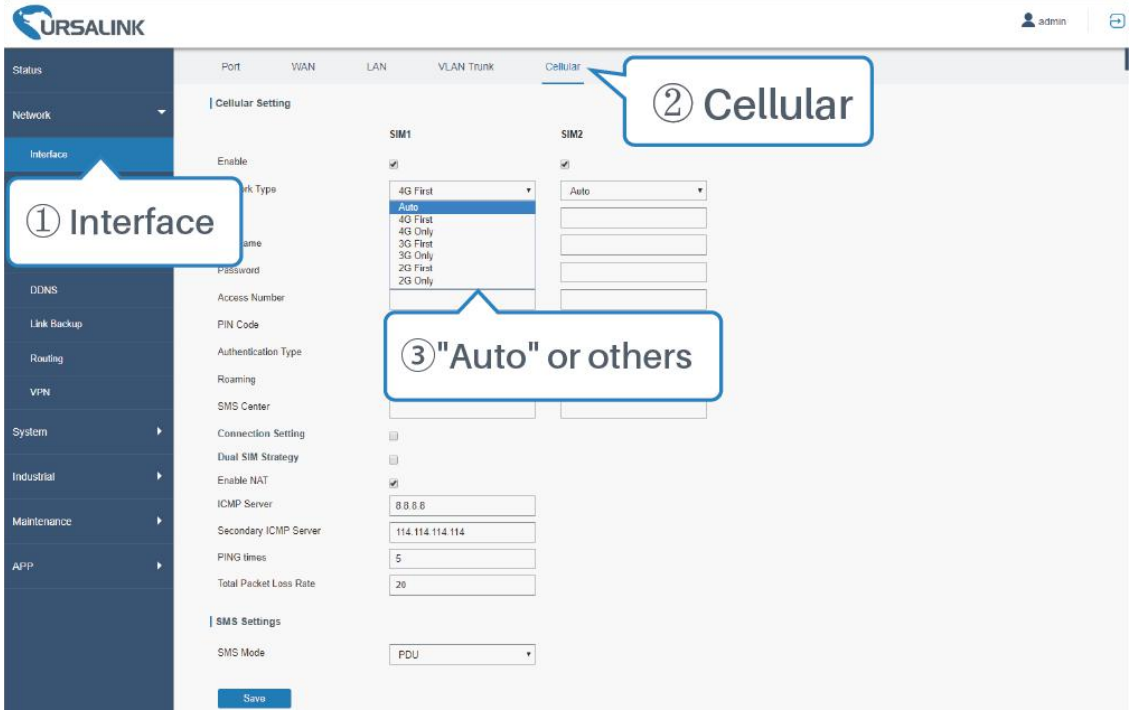
D. After you log in the Web GUI, you can view system information and perform configuration on the router.

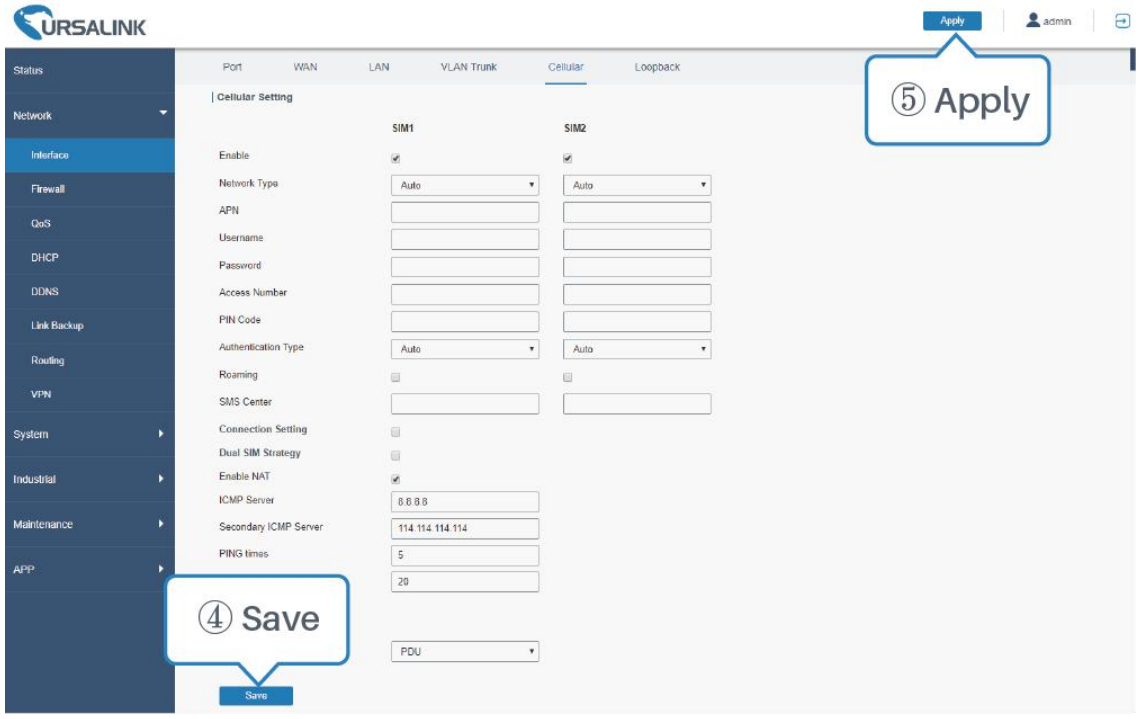


5.2 Configure the Cellular Connection

Take inserting SIM card into SIM1 slot as an example; please refer to the following detailed operations.

A. Click “Network” → “Interface” → “Cellular” → “Cellular Setting” to configure the cellular info.
B. Enable SIM1.
C. Choose relevant network type. “Auto”, “4G First”, “4G Only”, “3G First”, “3G Only”, “2G First” and “2G Only” are optional.
D. Click “Save” and “Apply” for configuration to take effect.





If you select “Auto”, the router will obtain ISP information from SIM card to set APN, Username, and Password automatically. This option will only be taken effect when the SIM card is issued from a well-known ISP.

If you select “4G First” or “4G Only”, you can click “Save” to finish the configuration directly.

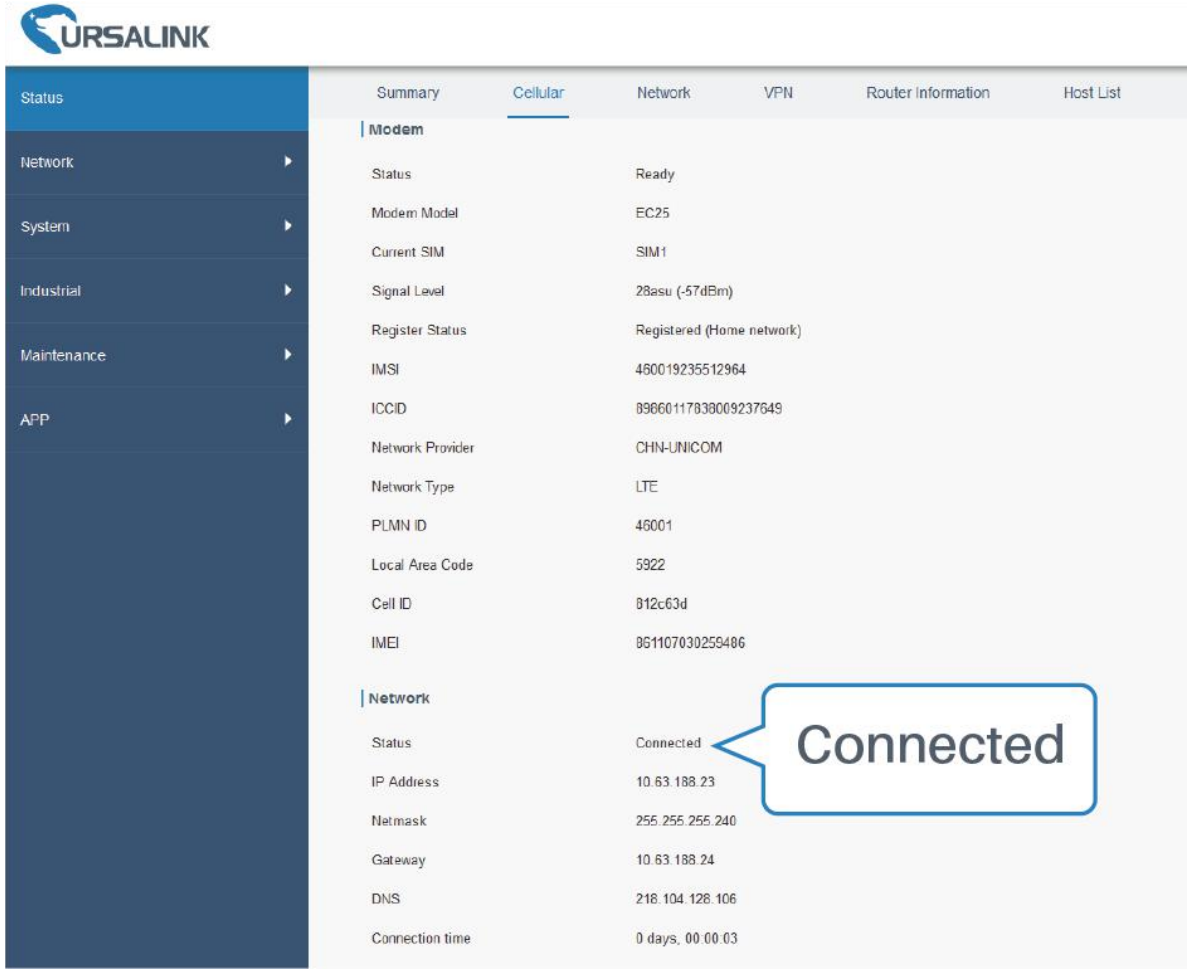
If you select “3G First”, “3G Only”, “2G First” or “2G Only”, you should manually configure APN, Username, Password, and Access Number.

UR51 router has two cellular interfaces, named SIM1 & SIM2. Only one cellular interface is active at one time. If both cellular interfaces are enabled, SIM1 interface takes precedence by default.

5.3 Check the Cellular Connection Status

5.3.1. Check the Cellular Connection Status by WEB GUI of Router

Click “Status” → “Cellular” to view the status of the cellular connection. If it shows “Connected”, it means SIM1 has dialed up successfully.



5.3.2. Check the Cellular Connection Status by Hardware

On the other hand, you can check the status of SIM1 indicator. If it keeps on green light statically, it means SIM1 has dialed up successfully.

5.4 Check out if Network Works Properly by Browser on PC

Open your preferred browser on PC, then type any available web address into address bar and see if it is able to visit Internet via UR51 router.

[END]