



Industrial Router Pro Series

UR32

Quick Start Guide



Safety Precautions

Milesight will not shoulder responsibility for any loss or damage resulting from not following the instructions of this operating guide.

- The device must not be modified in any way.
- Do not place the device close to objects with naked flames.
- Do not place the device where the temperature is below/above the operating range.
- Do not power on the device or connect it to other electrical device when installing.
- Check lightning and water protection when used outdoors.
- Do not connect or power the equipment using cables that have been damaged.

Related Documents

This Start Guide only explains the installation of Milesight UR32 router. For more functionality and advanced settings, please refer to the relevant documents as below.

| Document | Description |
|-----------------|---|
| UR32 Datasheet | Datasheet for UR32 industrial cellular router. |
| UR32 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 Milesight website: <https://www.milesight-iot.com>

Declaration of Conformity

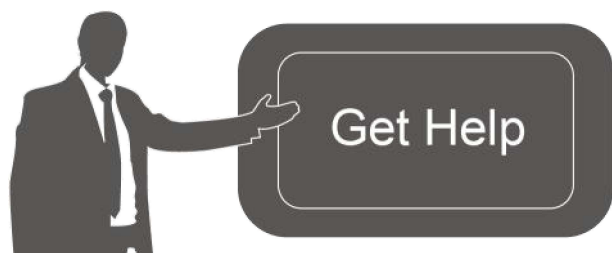
UR32 are in conformity with the essential requirements and other relevant provisions of the CE, FCC, and RoHS.



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Revision History

| Date | Doc Version | Description |
|---------------|-------------|---|
| Apr. 26, 2019 | V 1.0 | Initial version |
| May 11, 2020 | V 1.1 | Web interfaces upgrade |
| Nov. 25, 2020 | V 2.0 | Layout Replace |
| Dec. 1, 2021 | V 2.1 | 1. DI matches to GND 2. Update cellular pictures |
| Oct. 31, 2022 | V 2.2 | 1. Delete Ethernet cable 2. Loggin page update |

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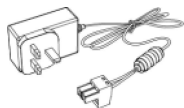
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1. Packing List

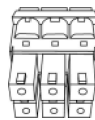
Before you begin to install the UR32 router, please check the package contents to verify that you have received the items below.



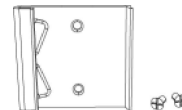
1 × UR32



1 × Power Adapter



1 × 6-Pin Pluggable
Terminal



1 × DIN Rail Kit



4 × Wall Mounting Kits



2 × Magnetic Cellular
Antennas



1 × Warranty Card



1 × Quick Start Guide



1 × Wi-Fi
Antenna
(Wi-Fi Version Only)



1 × GPS Antenna
(GPS Version Only)



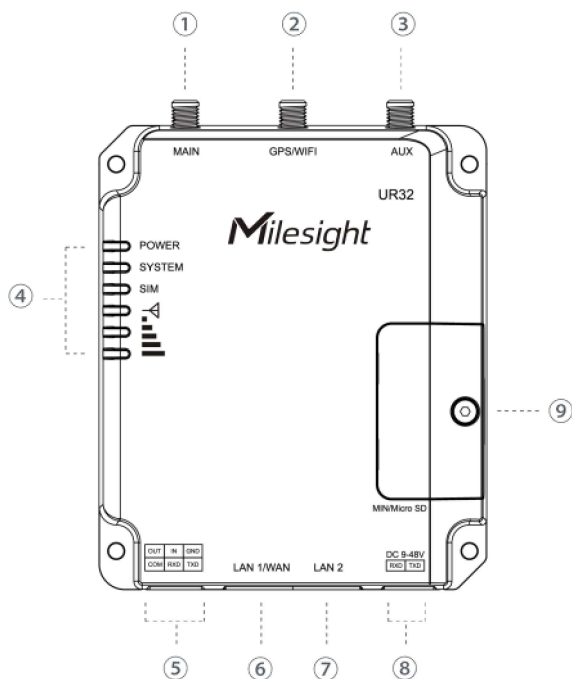
2 × Stubby Cellular
Antennas
(Optional)



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

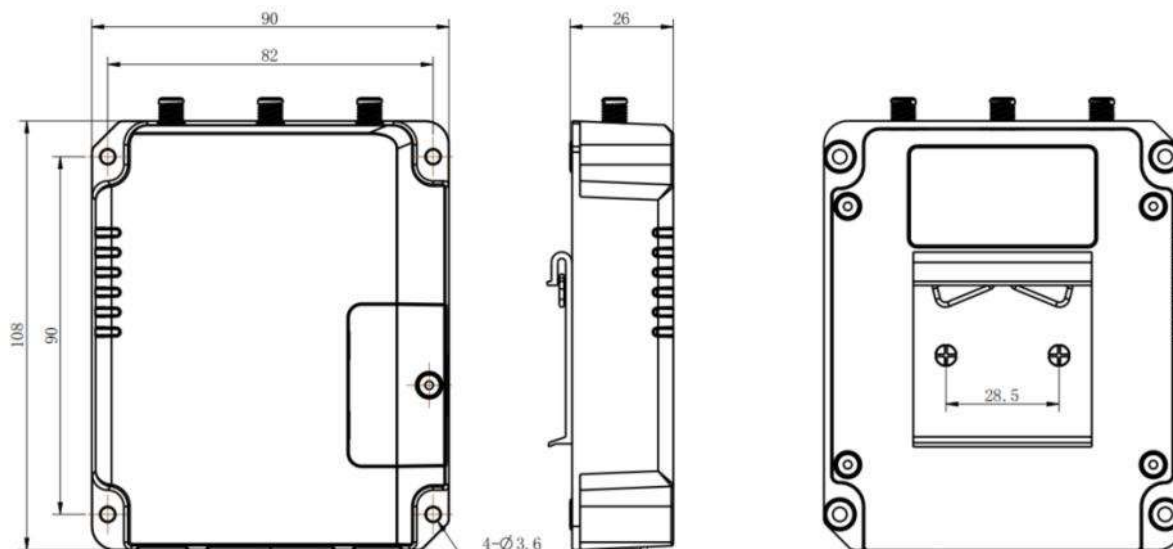
2. Hardware Introduction

2.1 Overview

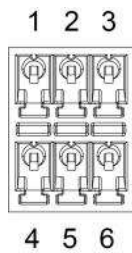


- ① Main Cellular Antenna Connector
- ② GPS/WIFI Antenna Connector
- ③ AUX Cellular Antenna
- ④ LED Indicator Area
POWER: Power Indicator
SYSTEM: Status Indicator
SIM : Status Indicator
▽ : Signal Strength Indicator
- ⑤ Serial Port & I/O
- ⑥ Ethernet LAN1/WAN Port
- ⑦ Ethernet LAN2 Port
- ⑧ Power Connector
- ⑨ SIM and Reset Button Holder

2.2 Dimensions (mm)



2.3 Serial & IO & Power Pinouts



| PIN | RS232 /RS485* | DI | DO | Description |
|-----|---------------|-----|-----|----------------|
| 1 | --- | --- | OUT | Digital Output |
| 2 | --- | IN | --- | Digital Input |
| 3 | GND | GND | --- | Ground |
| 4 | --- | | COM | Common Ground |
| 5 | RXD/B | --- | --- | Receive Data |
| 6 | TXD/A | --- | --- | Transmit Data |



7 8

| PIN | Description | Wire Color |
|-----|-------------|------------|
| 7 | Positive | Red |
| 8 | Negative | Black |

*: Only for -485 model.

2.4 LED Indicators

| LED | Indication | Status | Description |
|-----------------|-----------------|--------------|---|
| POWER | Power Status | Off | The power is switched off |
| | | On | The power is switched on |
| SYSTEM | System Status | Green Light | Static: Start-up Blinking slowly: the system is running properly |
| | | Red Light | The system goes wrong |
| | | Off | SIM1 or SIM2 is registering or fails to register (or there are no SIM cards inserted) |
| SIM | SIM Card Status | Green Light | Blinking slowly: SIM1 has been registered and is ready for dial-up |
| | | | Blinking rapidly: SIM1 has been registered and is dialing up now |
| | | | Static: SIM1 has been registered and dialed up successfully |
| | | Orange Light | Blinking slowly: SIM2 has been registered and is ready for dial-up |
| | | | Blinking rapidly: SIM2 has been registered and is dialing up now |
| | | | Static: 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

Reset button is under the SIM slots.

| Function | Description | |
|----------|---------------------------------|--|
| | SYSTEM LED | Action |
| Reset | Blinking | Press and hold the reset button for more than 5 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 |

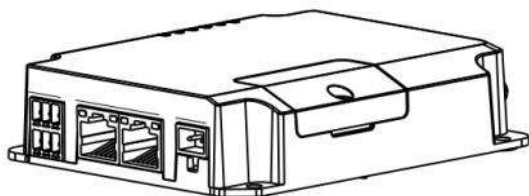
3. Hardware Installation

Environmental Requirements

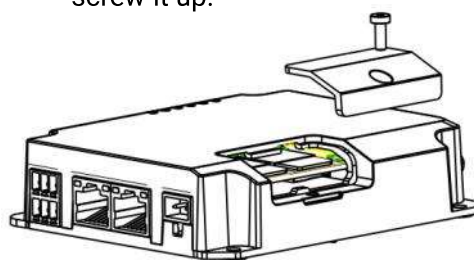
- Power Input: 9-48 VDC (48 VDC is needed for PoE output)
- Power Consumption: Typical 1.9 W (Max 2.4 W)
- Operating Temperature: -40°C to 70°C (-40°F -158°F)
- Relative Humidity: 0% to 95% (non-condensing) at 25°C/77°F

3.1 SIM Card/Micro SD Card Installation

A. Unscrew the cover of the SIM card then take it off.



B. Put SIM card/Micro SD into the slot and screw it up.

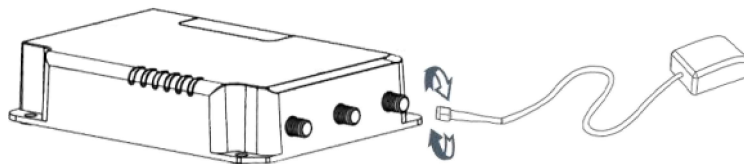
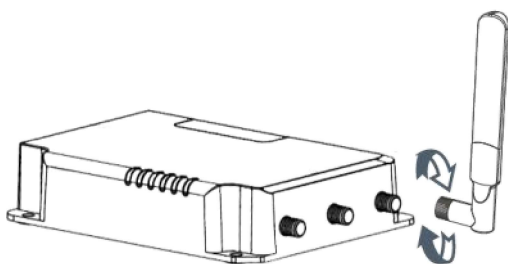


Note: UR32 does not support hot plugging (also called hot swapping). please turn off the power before you insert or take off cards.

3.2 Antenna Installation

Rotate the antenna into the antenna connector accordingly.

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



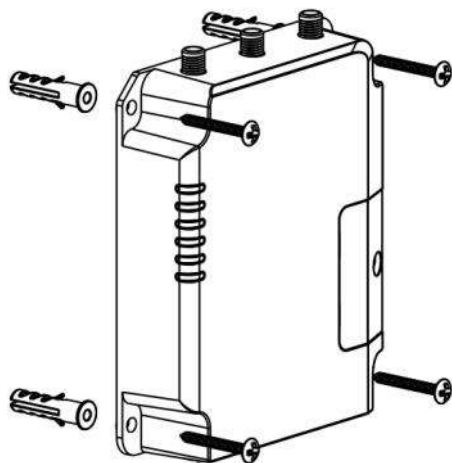
3.3 Router Installation

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

3.3.1 Wall Mounting (Measured in mm)

Use 4 pcs of M3 × 6 flat head Phillips screws to fix the router on the wall.

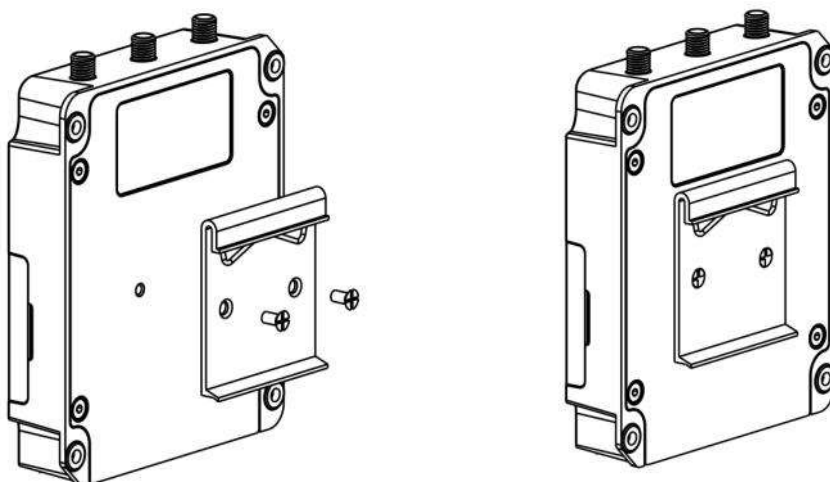
⚠ Recommended torque for mounting is 1.0 N·m, and the maximum allowed is 1.2 N·m.



3.3.2 DIN Rail Mounting (Measured in mm)

Use 2 pcs of M3 × 6 flat head Phillips screws to fix the mount clip to the router, and then hang the device to the DIN rail. The width of DIN rail is 3.5 cm.

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



4. Log in the Web GUI

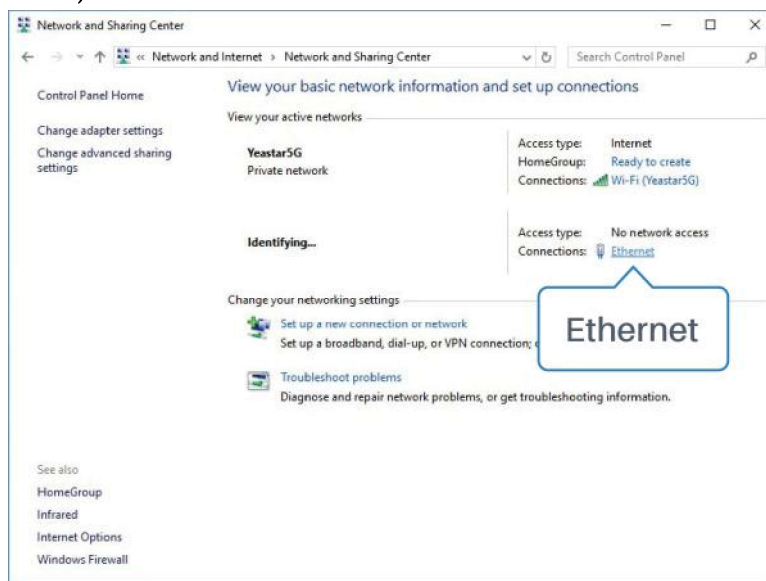
Please connect PC to LAN port of UR32 router. PC can obtain an IP address, or you can configure a static IP address manually. The following steps are based on Windows 10 operating system for your reference.

IP Address: **192.168.1.1**

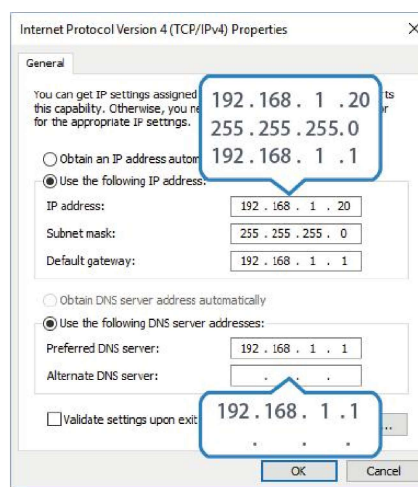
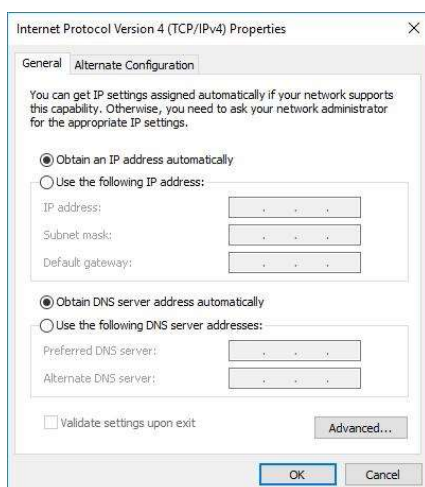
Username: **admin**

Password: **password**

A. Go to “Control Panel” → “Network and Internet” → “Network and Sharing Center”, then click “Ethernet” (May have different names).

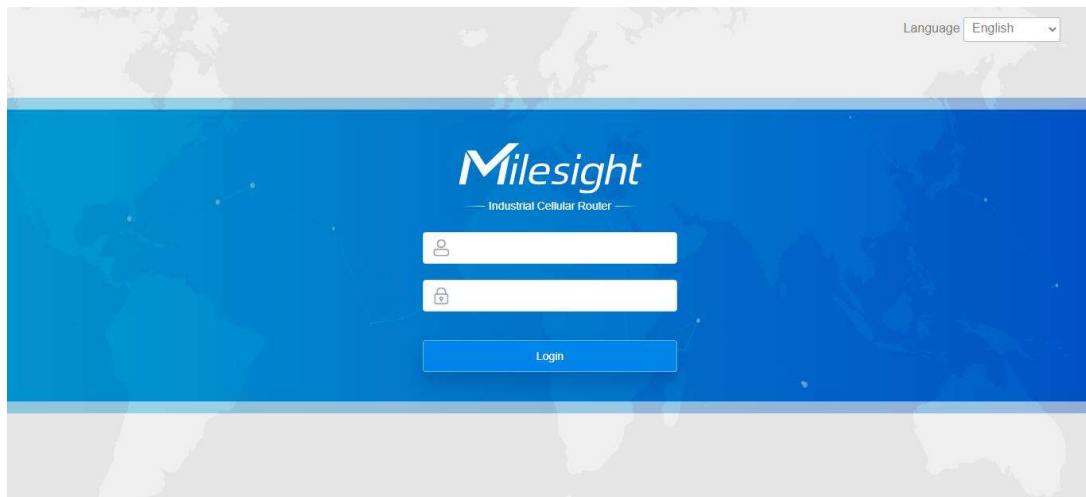


B. Go to “Properties” → “Internet Protocol Version 4(TCP/IPv4)”, select “Obtain an IP address automatically” or “Use the following IP address”, then assign a static IP manually within the same subnet of the device.



C. Open a Web browser on your PC (Chrome is recommended), type in the IP address **192.168.1.1** to access the web GUI.

D. Enter the username, password, and click "Login".



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

E. 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.

Change Password

Old Password

New Password

Confirm New Password

Save
Cancel

F. After you login the Web GUI, you can view system information and perform configuration on the router.

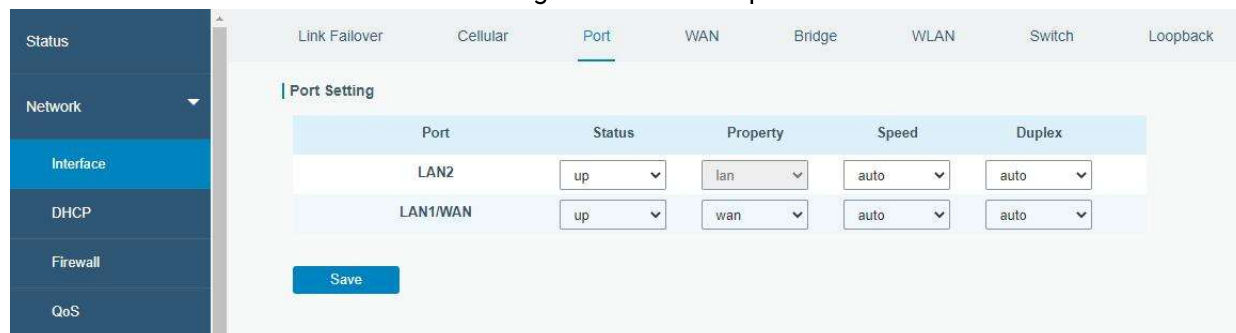
| Category | Item | Value |
|--------------------|--------------------------|-------------------------------|
| System Information | Model | UR32L-01AU-485 |
| | Serial Number | E215A7157731 |
| | Firmware Version | 32.3.0.2 |
| | Hardware Version | V2.0 |
| System Status | Local Time | 2021-05-22 17:47:31 Wednesday |
| | Update | 00:07:23 |
| | CPU Load | 13% |
| | RAM (Available/Capacity) | 37MB/128MB(28.91%) |
| Cellular | Status | No SIM Card |
| | Current SIM | SIM2 |
| WAN | Status | Offline |
| | IPV4 | 192.168.22.10524 |
| | IPV6 | fe80:264:1:248:hd6:b71454 |
| | MAC | 28:61:24:83:b7:15 |
| LAN | IPV4 | 192.168.0.104 |
| | IPV6 | fe80:5496:7ff:fe:c2b4:54 |
| | Connection Duration | 0 days, 00:00:00 |
| | Data Usage Monthly | 0.0 MB |

5. Network Configuration

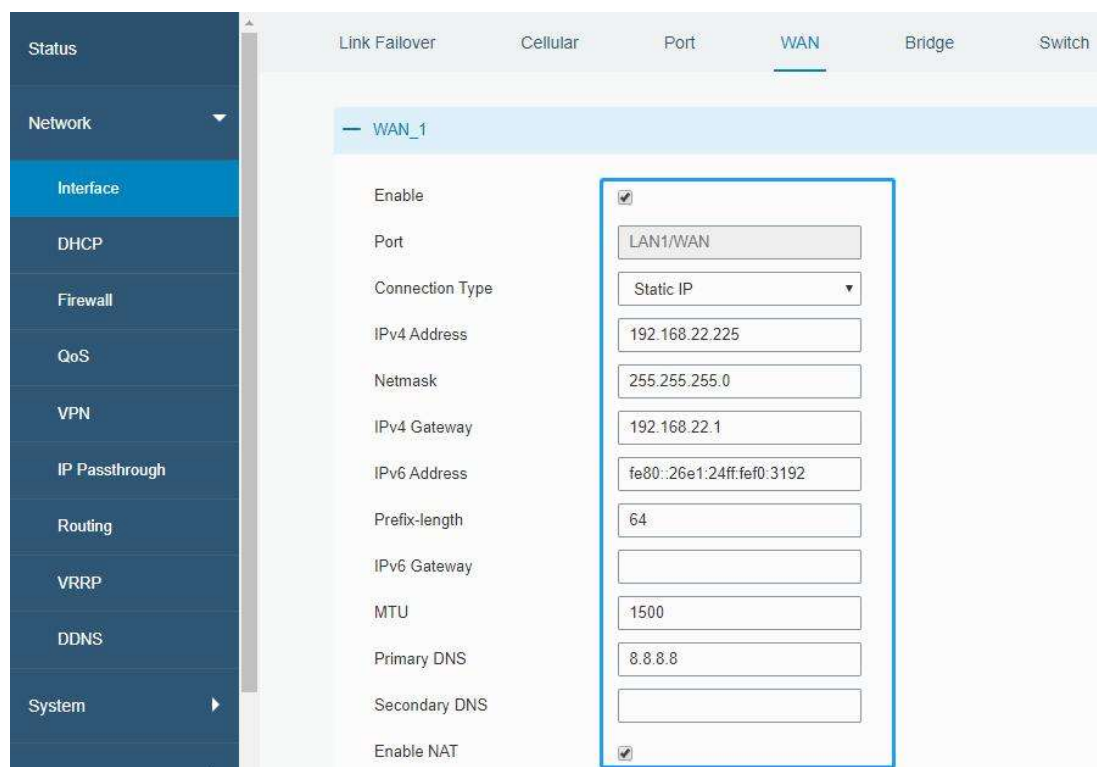
This chapter explains how to connect UR32 to network via WAN connection or cellular.

5.1 Ethernet WAN Configuration

A. Go to “Network > Interface > Port” to change LAN1 to WAN port.



B. Go to “Network > Interface > WAN” to select connection type and configure WAN parameters, click “Save & Apply” button to make the changes take effect.



C. Connect WAN port to another network devices like modem.

D. Go to “Network > Interface > Link Failover” to rise the WAN priority to 1.

E. 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 UR32 router.

| Priority | Enable Rule | Link in use | Interface | Connection Type | IP | Operation |
|----------|-------------------------------------|--------------------------------------|---------------|-----------------|----------------|-----------|
| 1 | <input checked="" type="checkbox"/> | ● | WAN | Static IP | 192.168.22.225 | |
| 2 | <input checked="" type="checkbox"/> | ● | Cellular-SIM1 | DHCP | - | |
| 3 | <input checked="" type="checkbox"/> | ● | Cellular-SIM2 | - | - | |

5.2 Cellular Connection Configuration

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

A. Go to “Network > Interface > Cellular > Cellular Setting” to configure APN, PIN code or other cellular info, click “Save” and “Apply” to save the configuration.

| | SIM1 | SIM2 |
|---------------------|-------------------------------------|-------------------------------------|
| Protocol Type | IPv4 | IPv4 |
| APN | | |
| Username | | |
| Password | | |
| PIN Code | | |
| Access Number | | |
| Authentication Type | Auto | Auto |
| Network Type | Auto | Auto |
| PPP Preferred | <input type="checkbox"/> | <input type="checkbox"/> |
| SMS Center | | |
| Enable NAT | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

B. Go to “Network > Interface > Link Failover” to enable SIM1 and rise link priority of SIM1.

| Priority | Enable Rule | Link in use | Interface | Connection Type | IP | Operation |
|----------|-------------------------------------|--------------------------------------|---------------|-----------------|----------------|-----------|
| 1 | <input checked="" type="checkbox"/> | ● | Cellular-SIM1 | - | - | |
| 2 | <input checked="" type="checkbox"/> | ● | Cellular-SIM2 | DHCP | - | |
| 3 | <input checked="" type="checkbox"/> | ● | WAN | Static IP | 192.168.22.225 | |

C. Click to configure ICMP ping detection information.

Ping Detection

| | |
|-----------------------|---|
| Enable | <input checked="" type="checkbox"/> |
| IPv4 Primary Server | <input type="text" value="8.8.8.8"/> |
| IPv4 Secondary Server | <input type="text" value="114.114.114.114"/> |
| IPv6 Primary Server | <input type="text" value="2001:4860:4860::8888"/> |
| IPv6 Secondary Server | <input type="text" value="2400:3200::1"/> |
| Interval | <input type="text" value="300"/> s |
| Retry Interval | <input type="text" value="5"/> s |
| Timeout | <input type="text" value="3"/> s |
| Max Ping Retries | <input type="text" value="3"/> |

OK Cancel

D. Click “Status > Cellular” to view the status of the cellular connection. If it shows “Connected”, it means SIM1 has dialed up successfully. On the other hand, you can check the status of SIM indicator. If it keeps on green light statically, it means SIM1 has dialed up successfully.

| Overview | Cellular | Network | VPN | Routing | Host List | GPS | |
|-----------------|---------------------------|---------------------------|-----|--------------------------------------|-----------|-----|--|
| Modem | | Network | | | | | |
| Status | Ready | Status | | Connected | | | |
| Model | EC25 | IP Address | | 10.2.25.74 | | | |
| Current SIM | SIM1 | Netmask | | 255.255.255.240 | | | |
| Signal Level | 29asu (-55dBm) | Gateway | | 10.2.25.73 | | | |
| Register Status | Registered (Home network) | DNS | | 211.136.17.107 | | | |
| IMEI | 861585042050250 | Connection Duration | | 0 days, 00:00:34 | | | |
| IMSI | 460045927703654 | Data Usage Monthly | | | | | |
| ICCID | 89860439101880723654 | SIM-1 | | RX: 0.0 MIB TX: 0.0 MIB ALL: 0.0 MIB | | | |
| ISP | CHINA MOBILE | SIM-2 | | RX: 0.0 MIB TX: 0.0 MIB ALL: 0.0 MIB | | | |
| Network Type | FDD LTE | | | | | | |
| PLMN ID | 46000 | | | | | | |
| LAC | 592f | | | | | | |
| Cell ID | 271f848 | | | | | | |

E. 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 UR32 router.

[END]