

# OUTDOORROUTER

SKU: EZR30 Series

## OUTDOOR MIMO ROUTER Users Manual



### 1. Introduction

Integrated 3G/4G mobile modem, EZR30 outdoor router connect your smartphone, tablet, computer, camera, etc. to the internet via the 3G/4G mobile networks. Comes with dual 4G MIMO antennas, the router receive signals at a high sensitivity.

Complying with the IEEE 802.11b/g/n standard, the outdoor router output Wi-Fi signals at max 27dBm power with transmission speeds of up to 300Mbps. You can control the Wi-Fi and LAN networks with OpenWrt enabled firmware, such as SSID, SSL, DNS, encryption, firewall, port forwarding, Wi-Fi relay, and so on.

IP67 hardened industrial-grade aluminum alloy case enclosure the outdoor router to withstand extreme weather conditions and rugged deployments. The built-in smart PoE module allows using the router on a wide-range PoE power 12~24~48Volt.





## Warnings

PLEASE READ THE MANUAL AND FOLLOW THE STEPS CAREFULLY. THIS MANUAL WILL HELP YOU INSTALL THE DEVICE PROPERLY AND AVOID IMPROPER USAGE. IF YOU NEED MORE INFORMATION ON, PLEASE CONTACT US.

- Do not install with live electricity.
- Avoid your gas lines when grounding your wires.
- Tampering with your router will void your warranty.

## 2. Hardware overview

### 2.1 Package contents

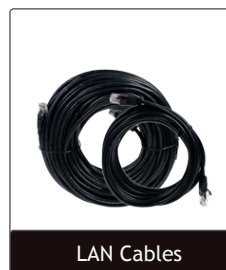
- 1 x 3G/4G outdoor router
- 4 x Omni aerials
- 1 x 10-Meter LAN cable
- 1 x 3-Meter LAN cable
- 1 x PoE injector
- 1 x Cable gland
- 1 x Mounting set and tool
- 1 x SIM card adapter



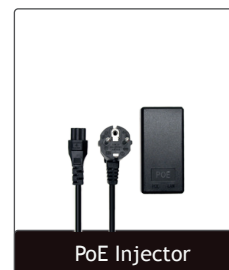
Outdoor Router



Aerials



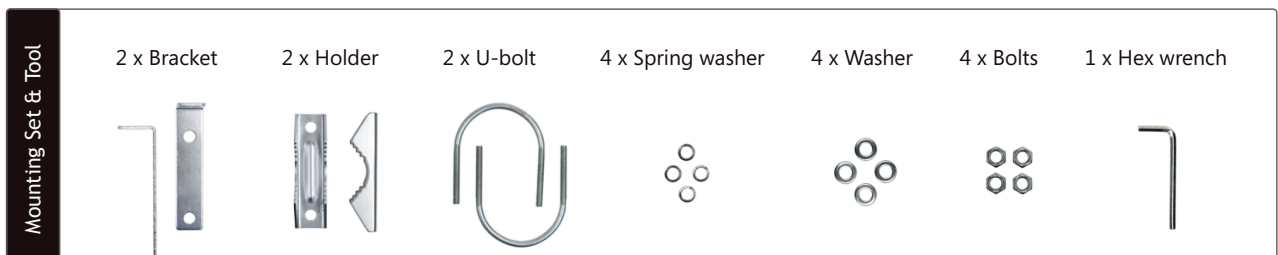
LAN Cables



PoE Injector



Cable Gland



### 2.2 Port, switch and indicator

2xN-female connectors to 2.4G Wi-Fi aerials

2xN-female connectors to 4G mobile aerials

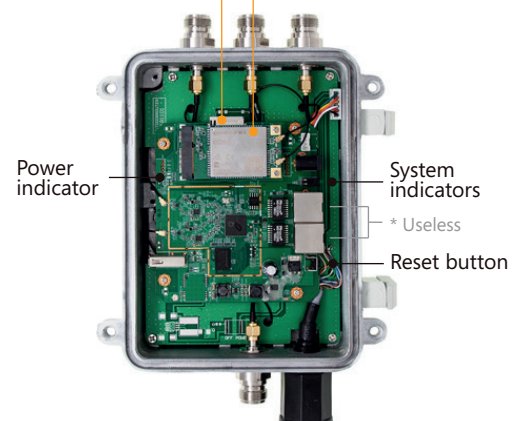


RJ45 socket to PoE injector via LAN cable

\* For 48V DC power only. Support PoE switch.

Mobile modem (with IMEI number)

Standard SIM card slot



## 2.3 Indicator description

Indicator	Status	Description
PoE power	Red Off	Connected to PoE power source No input PoE power
System	Green Off	System is turn on Router is power off
Signal	Green flash Off	Has data flow through 3G/4G or Wi-Fi No data flow

## 3. Installation

### 3.1 Choose the outdoor location

#### 3G/4G Signal reception

Using your mobile phone, walk around and look for a location that gets a good signal. The suggested signal strength is at least 3 bars (-90dBm).



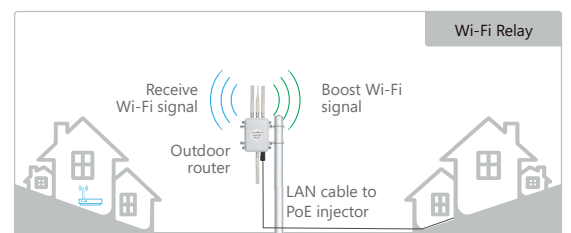
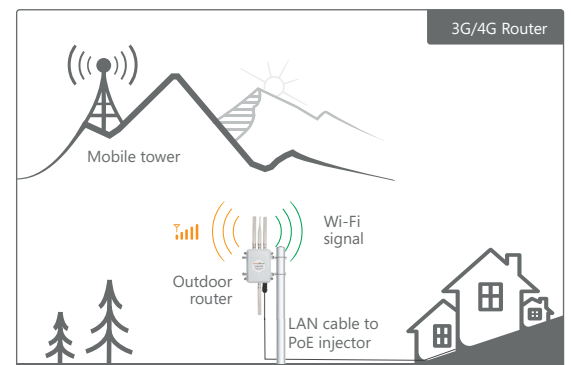
If you have a weak signal reception, please upgrade the mobile aerial with higher gain and directional MIMO panel aerial.

#### Distance to PoE injector

A 10-meter LAN cable is included. You can use max 50-meter LAN cable on the default PoE injector, or use less than 100-meter LAN cable while connect to 48V PoE injector.

#### Wi-Fi AP mode

In the Wi-Fi AP mode, outdoor router could replay and boost the Wi-Fi signal received from another router or access point (AP). Make sure in the location of outdoor router could receive at least 2 bars of the Wi-Fi signals.



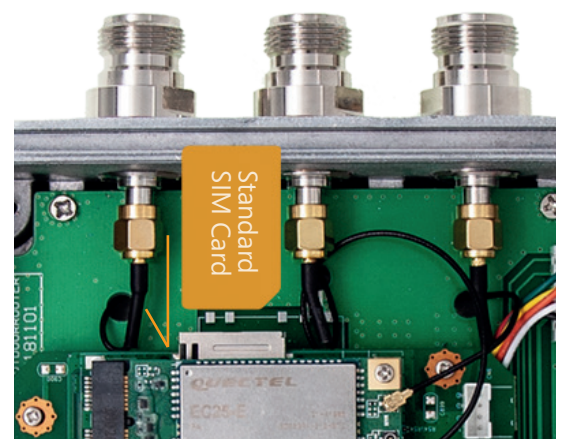
### 3.2 Insert the micro SIM card

Use the hex wrench to lose 4pcs of hexagon bolts and open the metallic case.

Insert Standard USIM card (25x15mm) into the SIM card slot. Make sure SIM card pins are facing up and notch is inside.



A full set of SIM card adapter is included in the package.



## 3. Installation

### 3.3 Install the aerials

The outdoor MIMO router uses 4pcs whip aerials. Install "4G" mobile aerials on the left & right N-female base connectors, and install the "2.4G" Wi-Fi aerial on the middle and bottom base connectors.

Twist the connector on aerial in clockwise direction to fix them on the router.

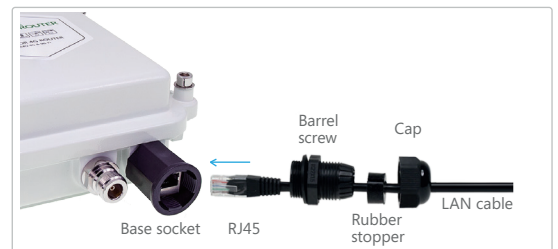


### 3.4 Connect LAN cable to router

- Take apart the cable gland, and through the LAN cable.
- Plug the RJ45 connector into RJ45 port in the base socket.
- Screw on the barrel screw on the base socket.
- Insert rubber stopper into barrel screw, and screw down the cap.



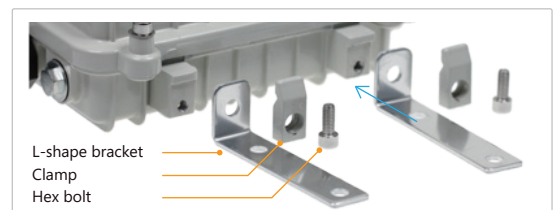
Take off the cap then unscrew the barrel screw before disconnect the LAN cable with the router.



### 3.5 Mounting set installation

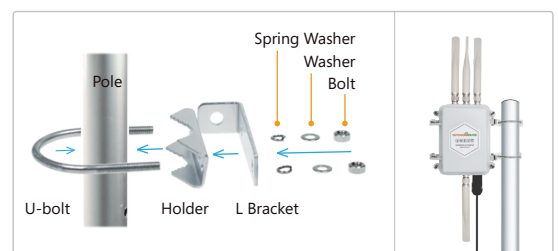
#### 3.5.1 L-shape bracket

- Use the hex wrench to take off the clamp from the router.
- Install the L-shape brackets between the router and clamps.
- Use the hex wrench to tighten the hex bolts.



#### 3.5.2 Install on a pole

- Clasp the pole with U-bolts and holders.
- Attach the L-shape brackets (installed on the router) on the holders.
- Put spring washers, washers, and bolts on U-bolts then tighten the bolts with a spanner (not included).

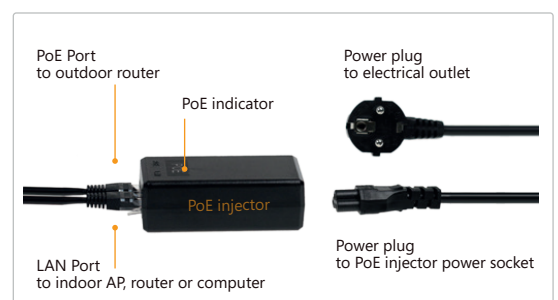


### 3.6 PoE injector

Connect another RJ45 connector on the 10-meter LAN cable to PoE port on the PoE injector.

**\*\*Not required\*\*** Connect indoor router or computer to Lan port on the PoE injector. A 3-meter LAN cable is included.

Use the power cord to connect PoE injector to the electrical outlet. The green indicator on PoE injector will turn on after connected to electrical outlet.





## 4. Configuration

### 4.1 Connect to outdoor router

#### 4.1.1 Wi-Fi / Ethernet connection

After connected to the electrical outlet, a Wi-Fi hotspot named “OpenWrt\_hl9531” will be created within 20 seconds. The default SSID is without encryption.

Connect to this hotspot on a computer, laptop or smartphone. You can also connect the router to your indoor Wi-Fi router or computer via the 5-meter LAN cable.

#### 4.1.2 TCP/IP setting

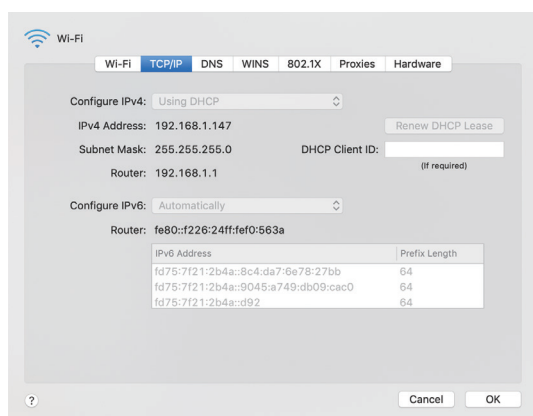
Configure TCP/IP on your connected devices, make sure IP address is within 192.168.1.100~250. The subnet mask should be 255.255.255.0. The router address should be **192.168.1.1**.

If DHCP function is activated on your device, it will setup automatically. Otherwise, you need to configure IP manually.

**On iPhone:** Goes to Settings / Wi-Fi / Advanced

**On Android phone:** Goes to Settings / WLAN / Advanced

**On Mac:** Goes to System preferences / Network / Wi-Fi / Advanced / TCP/IP



**On Windows:**

Goes to Start / Control panel / Network and internet / Change adapter setting (on left window panel) /

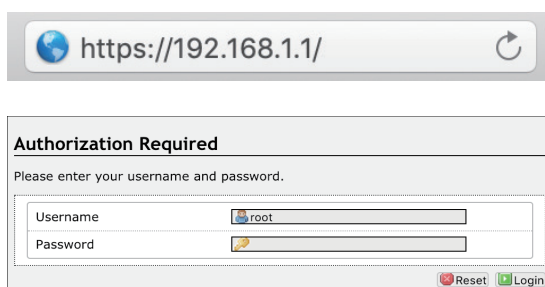
Local area connection / Properties (right click) / TCP/IPv4 (Internet protocol version 4) / Properties / General

Choose “Obtain an IP address automatically” and “Obtain DNS server address automatically”

Click “OK” to exit setting. Click “OK” again in the “Local area connection properties” to apply the new configuration.

### 4.2 Login your outdoor router

The default IP address of the outdoor router is **192.168.1.1** with subnet 255.255.255.0. Make sure your smartphone or computer is connected to the router via Wi-Fi or LAN cable. Open a web browser and type **http://192.168.1.1** in the URL address bar. Use default password **root** to login.



#### Language

If the default language is not English, follow the steps in right side, make sure choose “auto” in step 3, and refresh the page after finished step 4. You will back to the English language interface.



## 4. Configuration

### 4.3 Network interfaces

After login in the router, click [Network / Interfaces](#) to view or manage both physical and virtual network interfaces.

The necessary information of each interface is listed under the column of *Status*, including MAC address, Rx (Download), Tx (Upload), and IP addresses. You can [Connect / Stop](#) the interface connection by clicking the button on the row of each interface.

[Connect](#) [Stop](#) [Edit](#) [Delete](#)

#### 4.3.1 LAN

This is for the local networks including LAN ports and the Wi-Fi.

To use the LAN internet export from the outdoor router, please choose (Ethernet Adapter: "eth0") on the Physical Settings of the LAN interface. Refer to the image in the right hand.

#### 4.3.2 PPP0

This is the physical interface of the 3G/4G mobile modem. If unable to connect to the cellular network or have a slow speed, please click [Edit](#) on the PPP0 interface to modify the APN setting.

The APN settings usually including APN address, Username, and the Password. You can contact the mobile carrier to get their most updated APN settings.

#### 4.3.3 WAN

When connecting your existing internet router to the LAN port on the PoE injector (or WAN port on the PoE switch), the WAN interface will be activated. It allows the outdoor router to connect to the internet rather than using the mobile network.

#### 4.3.4 WAN6

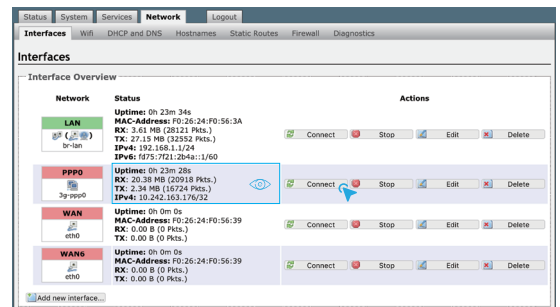
This is a virtual interface for Wi-Fi relay function. It allows you to connect the outdoor router to an existing Wi-Fi network. Please refer to section 4.4.2 to set up the Wi-Fi relay function.

### 4.4 Wi-Fi settings

Click [Network / Wifi](#) to view or manage Wi-Fi networks.

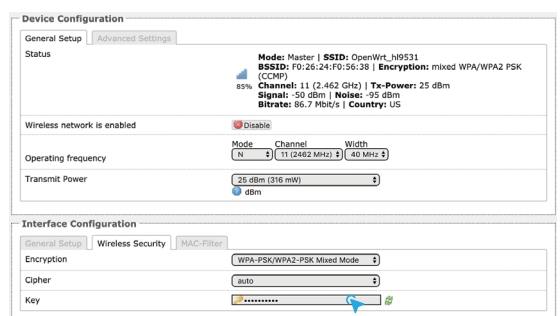
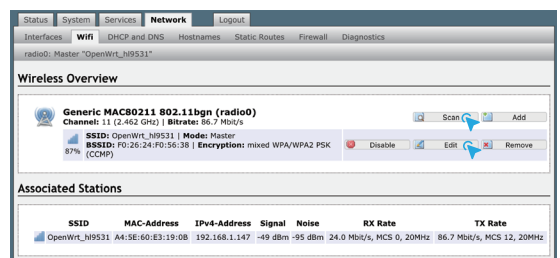
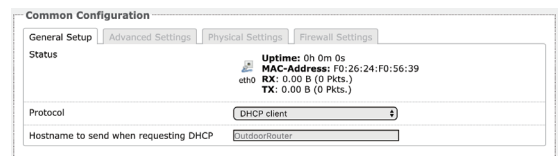
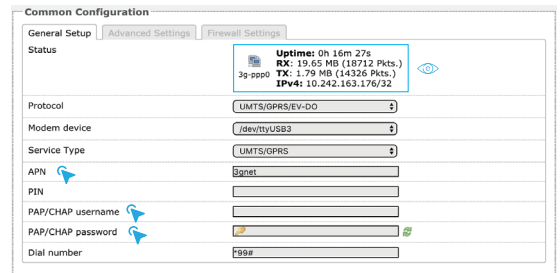
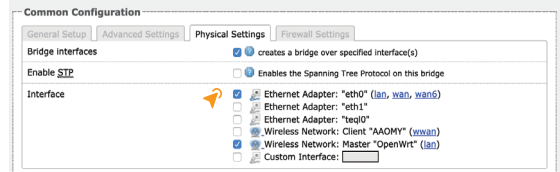
#### 4.4.1 Wi-Fi settings

Click [Edit](#) to modify for the the Wi-Fi frequency and Transmit power. Under the tab of [Interface Configuration / General Setup](#), you can change the Wi-Fi SSID, and under the tab of [Wireless Security](#), you can change the Wi-Fi encryption method and the Wi-Fi password.



#### Interfaces - LAN

On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can also use VLAN notation INTERFACE.VLANID (e.g.: eth0.1).



## 4. Configuration

### 4.4 Wi-Fi settings

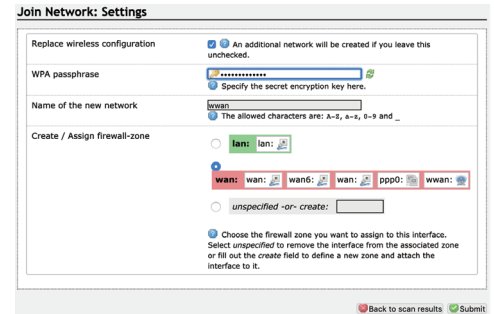
#### 4.4.2 Wi-Fi relay

- Click [Scan](#) on the Wireless Overview section, the router will start to scan for nearby Wi-Fi networks (2.4G only).
- Input WiFi password in the "WPA passphrase". Choose default settings in the other sections. Then click [Submit](#).

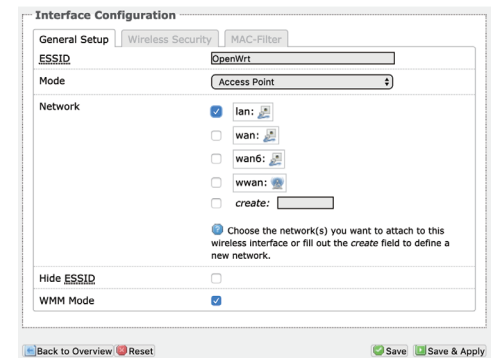
*\* Make sure input the correct password, otherwise both WiFi and LAN connections will fall down. Then you need to reset the router.*

- Back to [Network / Wifi](#) to add a WiFi master SSID. Because the default WiFi master SSID has been removed after added a WiFi relay hotspot.

Enter your WiFi SSID name on the *ESSID*, and choose [Access Point](#) mode. Make sure choose [LAN](#) on the Network section. Then click [Save & Apply](#).



The 'Join Network: Settings' form includes fields for 'Replace wireless configuration' (checked), 'WPA passphrase' (password field), 'Name of the new network' (text field), and 'Create / Assign firewall-zone' (radio buttons for 'lan', 'wan', 'wan6', 'ppp0', 'wwan', and 'unspecified -or- create:'). A note at the bottom states: 'Choose the firewall zone you want to assign to this interface. Select unspecified to remove the interface from the associated zone or fill out the create field to define a new zone and attach the interface to it.'



The 'Interface Configuration' form has tabs for 'General Setup', 'Wireless Security', and 'MAC-Filter'. Under 'General Setup', there are fields for 'ESSID' (text), 'Mode' (dropdown set to 'Access Point'), and 'Network' (radio buttons for 'lan', 'wan', 'wan6', 'wwan', and 'create:'). A note says: 'Choose the network(s) you want to attach to this wireless interface or fill out the create field to define a new network.' There are also checkboxes for 'Hide ESSID' and 'WMM Mode' (checked).

### 4.5 System settings

Click [System](#) on the top bar to access the system settings.

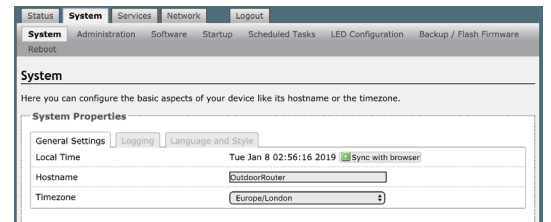
#### 4.5.1 System properties

##### General settings

Set up the device name (hostname), time zone and time sync server.

##### Language and style

Change the system language and web interface design for the router.



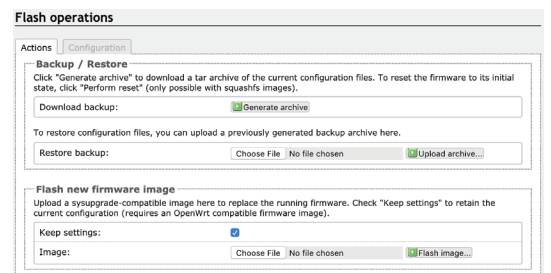
The 'System Properties' form has tabs for 'General Settings', 'Logging', and 'Language and Style'. Under 'General Settings', there are fields for 'Local Time' (Tue Jan 8 02:56:16 2019), 'Hostname' (OutdoorRouter), and 'Timezone' (Europe/London). A 'Sync with browser' checkbox is checked.

#### 4.5.2 Administration

Under the tab of [System / Administration](#), you can change the router administration password, and set up the SSL access.

#### 4.5.3 Backup / flash firmware

Under the tab of [System / Backup firmware](#), you can backup or restore the router settings. You can also flash a new firmware in the section of [Flash new firmware image](#).



The 'Flash operations' form has tabs for 'Actions' and 'Configuration'. Under 'Actions', there are sections for 'Backup / Restore' (with 'Generate archive' and 'Upload archive...' buttons) and 'Flash new firmware image' (with 'Flash image...' button).



A button labeled 'Reboot' with a sub-label 'System' and a description 'Reboots the operating system of your device'. Below it is a link 'Perform reboot'.

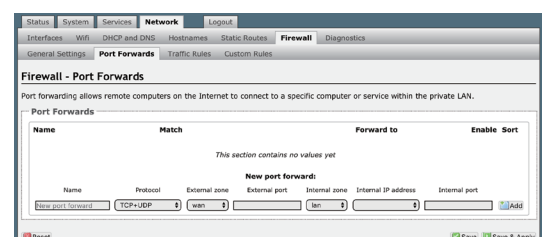
#### 4.5.4 Reboot

Under the section of [System / Reboot](#), you can perform a soft reboot on the outdoor router. If need to hardly reboot the router, please disconnect and reconnect the power supply.

### 4.6 Firewall settings

Surf to [Network / Firewall](#) to configure the firewall settings.

You can set up SYN-flood protection, port forwarding, and traffic rules in the firewall settings.



The 'Firewall - Port Forwards' form has tabs for 'General Settings', 'Port Forwards', 'Traffic Rules', and 'Custom Rules'. Under 'Port Forwards', there is a table for 'New port forward' with columns for Name, Protocol, External zone, External port, Internal zone, Internal IP address, and Internal port. A 'New port forward' button is at the bottom.

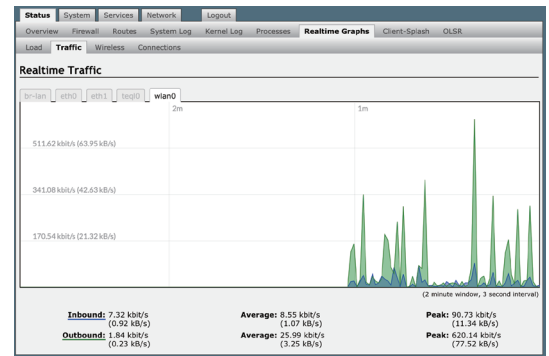
## 4. Configuration

### 4.7 Status

Click [Status](#) on the top menu to monitor the outdoor router status. Including firewall status, routes status, system log, kernel log, processes, realtime graphs status, and so on.

### 4.8 Reset factory settings

When the router is turned on, click and hold "Reset" button for 5 seconds, then release the button to restore the factory settings.



## 5. Troubleshooting

### 5.1 Can't find Wi-Fi hotspot

#### Check the PoE injector

Make sure PoE injector is connected to the electrical outlet, the green indicator on PoE injector will turn on after connected to the electrical outlet. The PoE power indicator on the outdoor router will turn on Red after have PoE power input to the router. If PoE power indicator is off, check and ensure RJ45 connector on LAN cable connected to "PoE" port on the PoE injector.

### 5.2 Forgotten password

#### Reset router login password

Default login password is "root". If you changed login password and forgotten it, please use one of below methods to reset the outdoor router to factory settings. Open the outdoor router case, click and hold the "Reset" button for 6 seconds then release the reset button.

### 5.3 No internet connection

#### In 3G/4G router mode

Login router web interface, under Network / Interface, click "Connect" in the row of PPP0.

- Check if the cellular signal reception is good. Refer to chapter 3.1.
- Check if the inserted SIM card has money.

#### In Wi-Fi relay mode

Check the interface connection status of the "Interface / WAN6" under "Network / Interface".

Make sure the IP address of Wi-Fi hotspot is not involved in the IP address pool of the outdoor router.

The default IP pool of router is 192.168.1.101~250.

## 6. Contacts

If you have any question or suggestion about the outdoor router, please contact us.

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