AV1000 AC Wi-Fi Powerline Extender Kit

Model: PH10

User Guide

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Preface

Thank you for choosing Tenda! Please read this user guide before you start with PH10.

Conventions

The typographical elements that may be found in this document are defined as follows.

Item	Presentation	Example
Cascading menus	>	**System** > **Live Users**
Parameter and value	Bold	Set **User Name** to **Tom**.
Variable	Italic	Format: *XX*:*XX*:*XX*:*XX*:*XX*:*XX*
UI control	Bold	On the **Policy** page, click the **OK** button.
Message	“ ”	The “Success” message appears.

The symbols that may be found in this document are defined as follows.

Symbol	Meaning
NOTE	This format is used to highlight information of importance or special interest. Ignoring this type of note may result in ineffective configurations, loss of data or damage to device.
TIP	This format is used to highlight a procedure that will save time or resources.

Acronyms and Abbreviations

Acronym or Abbreviation	Full Spelling
ISP	Internet Service Provider
IPTV	Internet Protocol Television
PLC	Powerline Communication
STB	Set Top Box

Additional Information

For more information, search this product model on our website at http://www.tendacn.com.

Technical Support

If you need more help, contact us by any of the following means. We will be glad to assist you as soon as possible.

Hotline	USA hotline: 1-800-570-5892 Canada hotline: 1-888-998-8966 HongKong Hotline: 00852-81931998	**Email**	support@tenda.com.cn
Website	http://www.tendacn.com	**Skype**	tendasz

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1 Introduction

1.1 Overview

AV1000 AC Wi-Fi Powerline Extender Kit extends 650 Mbps dual band WiFi to any room in your house using existing electrical wiring. With 1000 Mbps Homeplug AV2 powerline technology and gigabit Etherner port, PH10 can offer better HD/UHD IPTV and online gaming experiences.

1.2 Features

- Extending WiFi using your home's existing electrical wiring
- Up to 1000 Mbps powerline transmission speed
- AC650 dual band WiFi technology
- Gigabit Ethernet port for wired device
- Compliant with HomePlug AV, HomePlug AV2 and IEEE 1901 standards
- Wi-Fi Clone for copying WiFi configuration of your router using one button

1.3 LED Indicators, Port and Buttons

LED Indicator

LED	Color	Status	Description
*Available only on PA7	Green	Solid on	The WiFi is enabled.
		Blinking	The device is performing WiFi cloning.
	/	Off	The WiFi is disabled.
	Green	Solid on	The device is connected to a powerline network, and in good condition.
		Blinking	The device is pairing with another powerline device.
	Red	Solid on	The powerline network connection is poor. Try changing another wall receptacle until the light turns green.
	/	Off	• The device fails to pair with another powerline device. • The device works in power saving mode.
	Green	Solid on	The device is powered on, and works properly.
		Blinking	The device works in power saving mode.
	/	Off	The device is not powered on, or cannot be started.

Port & Button

Button	Description
Wi-Fi *Available only on PA7	• When the LED indicator is on, press it (within 3 seconds) to perform WiFi cloning. • If the LED indicator is off after the device is powered on for about 20 seconds, pressing it (within 3 seconds) can enable WiFi. • When the LED indicator is on, hold it down for 6 seconds to disable WiFi.
Pair	• After the device is powered on for about 20 seconds, press it (within 3 seconds) to pair with another powerline device. • After the device is powered on for about 20 seconds, hold down this button for 6 seconds to restore factory settings.

2 Hardware Installation

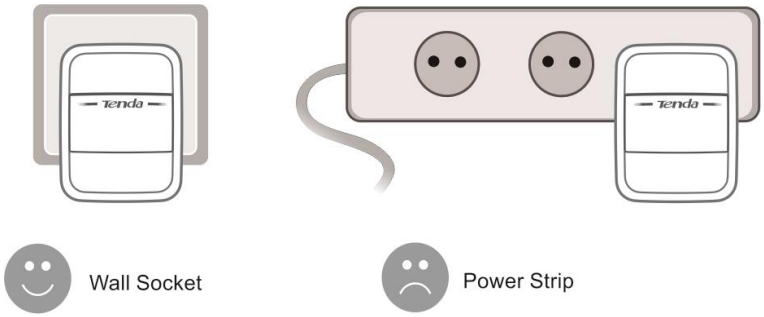
2.1 Installation Instruction

To ensure optimum performance of PH10 and significantly improve the transmission capacity of the network, use PH10 in the following environment:

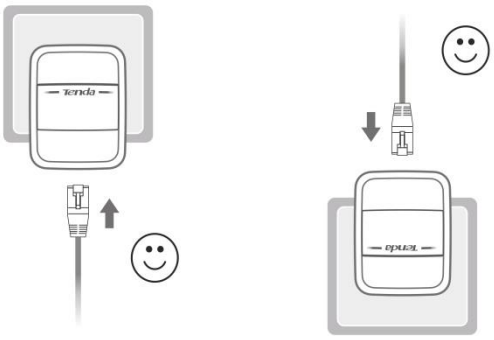
Operating Temperature: 0 °C - 40°C

Operating Humidity: (10% - 90%) RH, non-condensing

- Plug P3 and PA7 directly into wall receptacles.



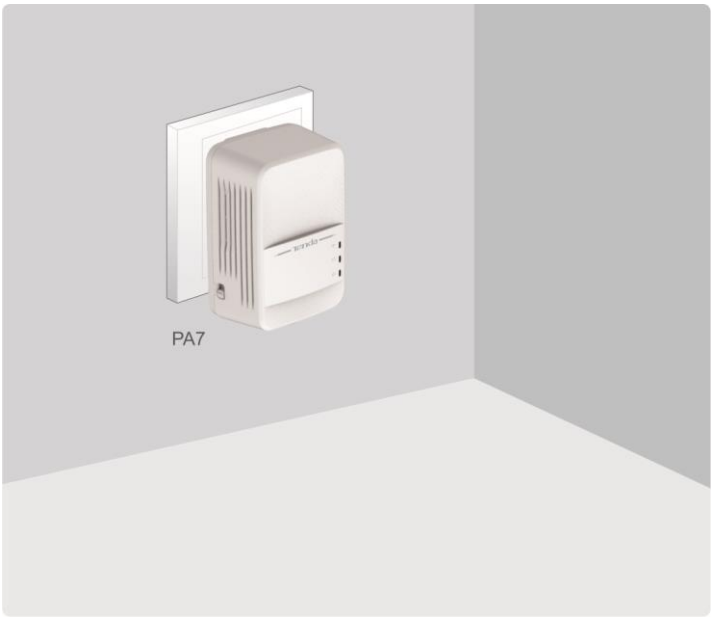
- Ensure that PA7 is vertical to the ground.



- Ensure that all powerline adapters you want to add to the same network should be in the same electrical circuit.

2.2 Plug and Play

Step 1 Connect P3 to a LAN port of your router, and plug it into a wall receptacle nearby.



Step 2 Connect PA7 to your wired device, such as a set-top box of a TV, and plug it to a wall receptacle nearby.

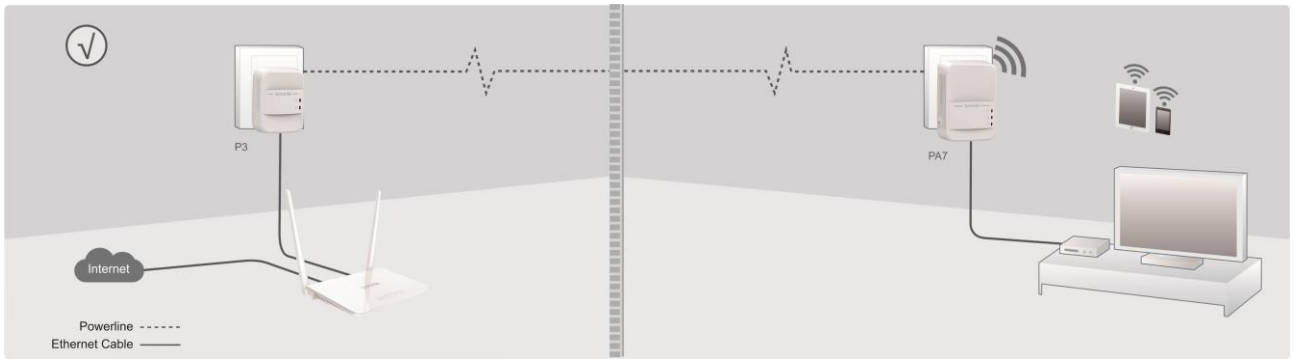
After the LED indicator turns solid on, connect your wireless devices to the WiFi networks of PA7 using WiFi names and password on the included label in the box.

2.4G SSID: *Tenda_XXXXXX*

5G SSID: *Tenda_XXXXXX_5G*

Wi-Fi Password: ********

Wait until the LED indicators on both P3 and PA7 turn solid on. Then your wired and wireless devices can access the internet.

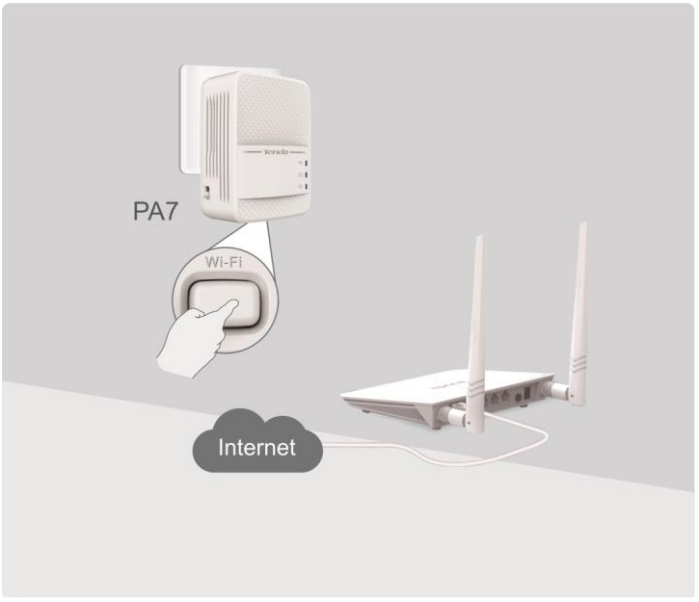


--End

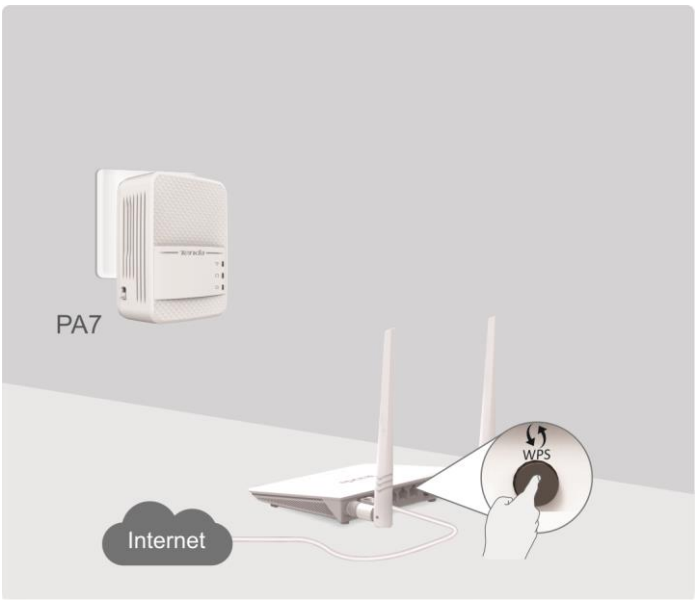
2.3 WiFi Clone (Optional)

If your router has no WPS button, this function is not available.

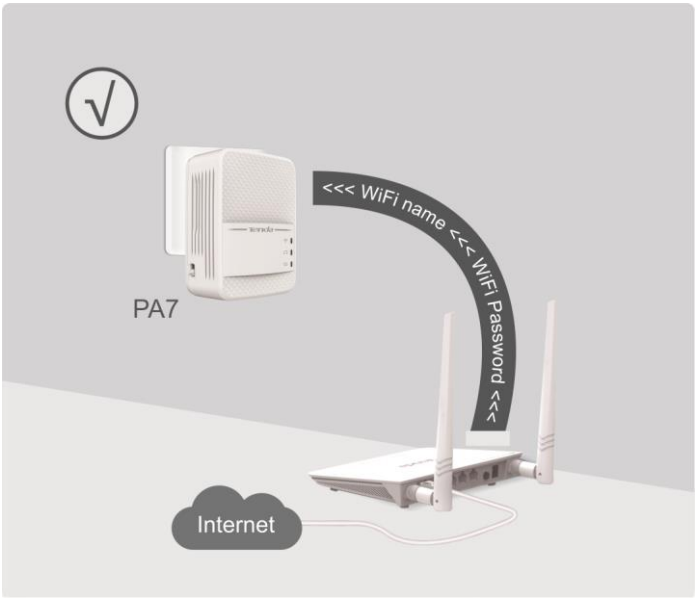
If you want to set only one WiFi signal in your house, perform the following procedure:



Step 1 Plug PA7 into a wall receptacle near your wireless router, wait until the LED lights up, then press the Wi-Fi button on PA7.
The LED blinks.



Step 2 Press the WPS button on your wireless router.



When the LED on PA7 turns solid on again, the WiFi name and password of PA7 have been changed to the same as those of your wireless router.

Then move PA7 to a place where you need WiFi coverage.

Now, you can connect to the WiFi network using the WiFi name and password of your wireless router for internet access.

--End

TIP

If your wireless router has no WPS button, but you want to change the WiFi name and password of PA7, refer to **4.3.1 Changing WiFi Name and Password**.

3 Pairing the Devices

PH10 can automatically set up a powerline network with other HomePlug AV/Homeplug AV2 compliant powerline adapters in the same electrical circuit. If you only want specified powerline adapters to set up a secure powerline network, or set up several different powerline networks under the same electrical circuit, you can use the **Pair** button.

3.1 Setting up a Secure Powerline Network.

You can pair P3 and PA7 using the **Pair** button to set up a secure powerline network.

Step 1 Press the **Pair** button on P3, and the LED starts blinking.

Step 2 Within two minutes after step 1, press the **Pair** button on PA7, and the LED starts blinking.

Step 3 Wait until the LEDs on both P3 and PA7 turn solid on.

It indicates that P3 and PA7 have paired with each other successfully.

--End

3.2 Adding More Powerline Adapters to a Secure Powerline Network

You can add more powerline adapters to an existing powerline network, only two powerline adapters can pair with each other at a time.

Step 1 Press the **Pair** button on the newly added powerline adapter, and the LED starts blinking.

Step 2 Within two minutes after step 1, press the **Pair** button on P3 or PA7, and the LED starts blinking.

Step 3 Wait until the LEDs on both the new added powerline adapter and P3 or PA7 turn solid on.

It indicates that the new added powerline adapter have added to the powerline network successfully.

4 Configuring via Web UI

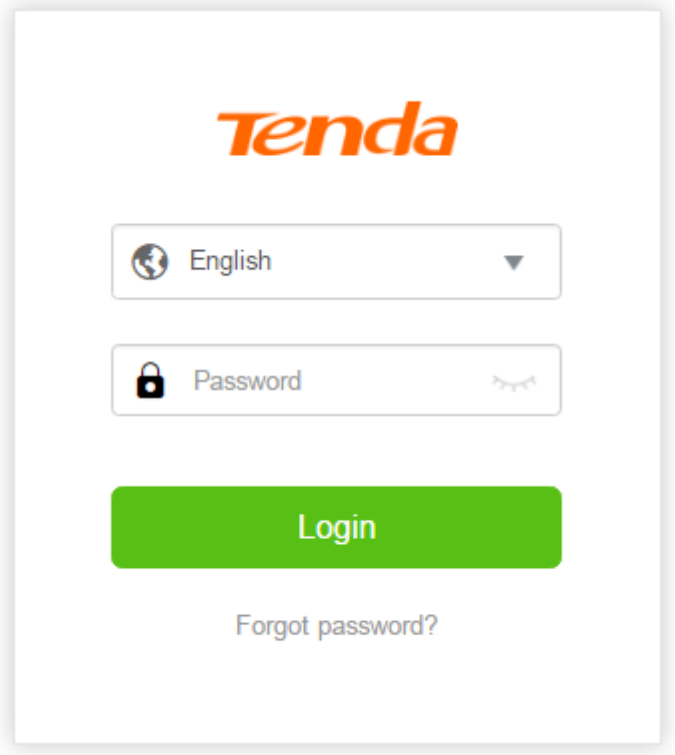
You can manage WiFi network of PA7 and powerline network including PA7 using the web UI. Or you can download Tenda PLC utility (and User Guide of Tenda PLC Utility if necessary) from http://www.tendacn.com to manage PH10.

4.1 Login

Step 1 Connect your computer to PA7 using an Ethernet cable, or connect your computer or mobile device to the WiFi network of PA7 (the default WiFi name and password are on the included label).

Step 2 Start a web browser, enter **plc.tendawifi.com** in the address bar, and press **Enter**.

Step 3 Enter the login password (**admin** by default), and click **Login**.

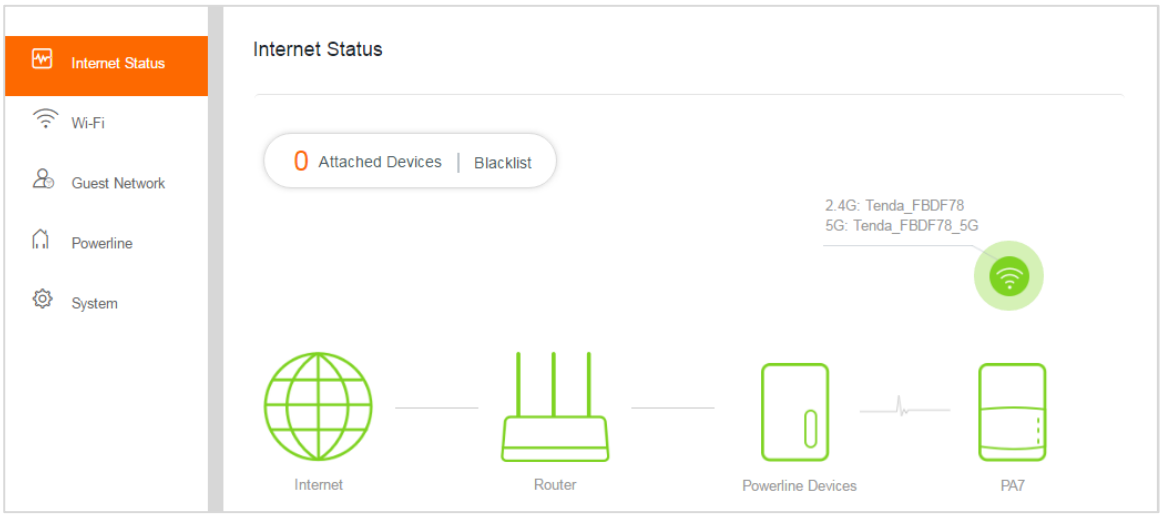


--End

4.2 Internet Status

You can check internet status, WiFi network name and password, wireless devices connected to PA7, and powerline devices including to the current powerline network here. Meanwhile, you can also blacklist the unknown devices connected to the WiFi network of PA7, change WiFi name or password, and log in to the web UI of your wireless router.

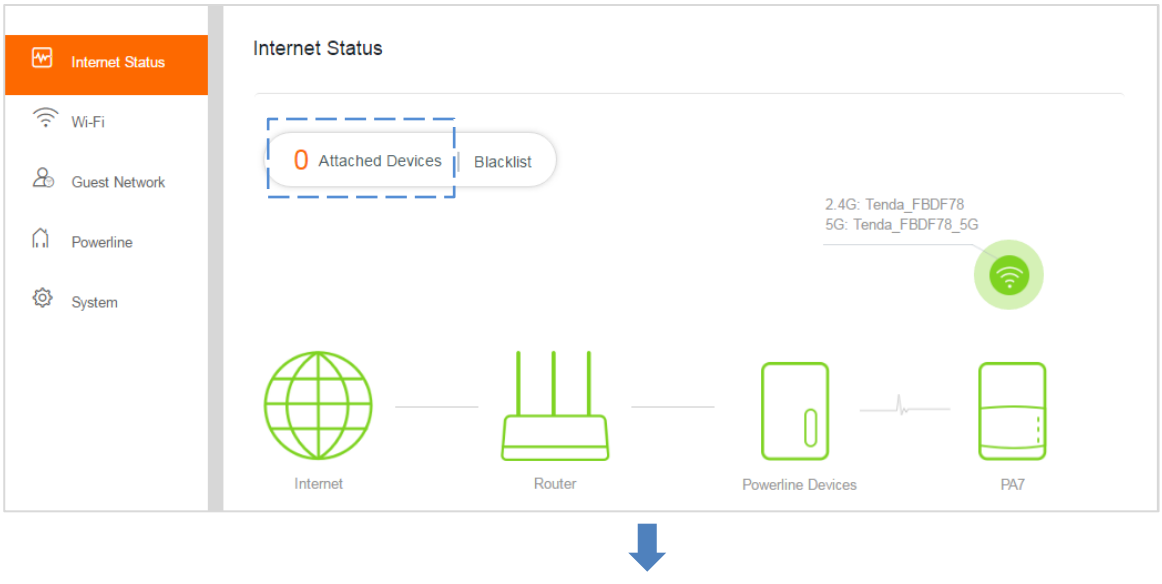
Choose **Internet Status** to enter this page.



4.2.1 Checking or Blacklisting the Attached Wireless Devices

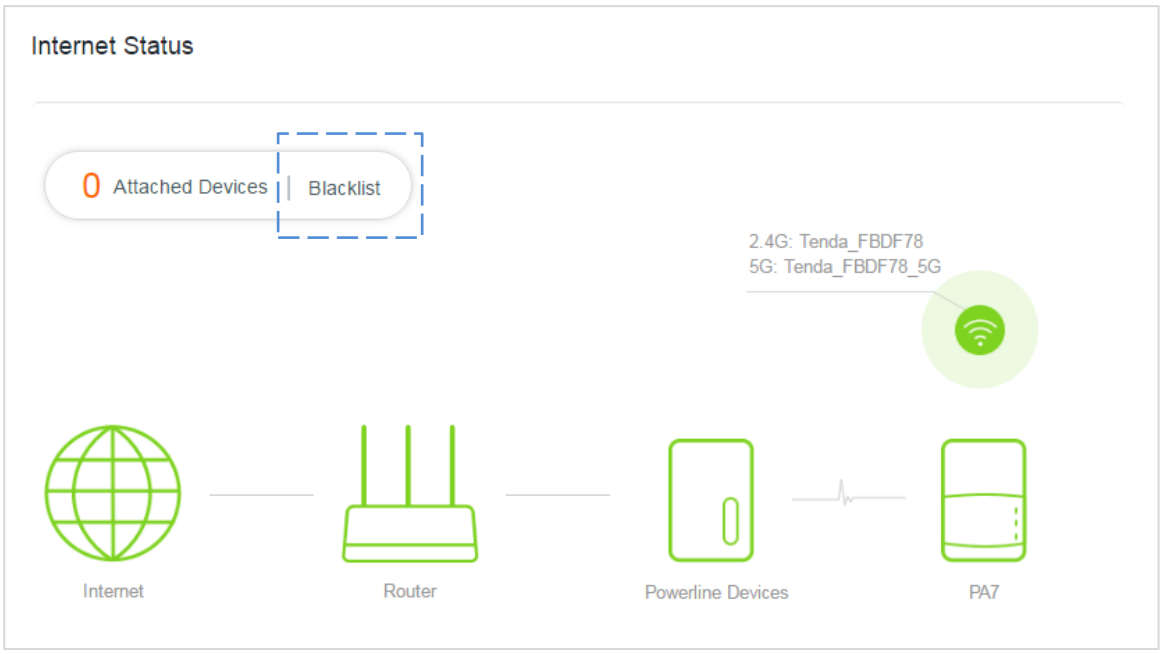
If you want to check whether there are unknown devices connected to your wireless network, you can choose **Internet Status** > **Attached Devices** to check the wireless devices list.

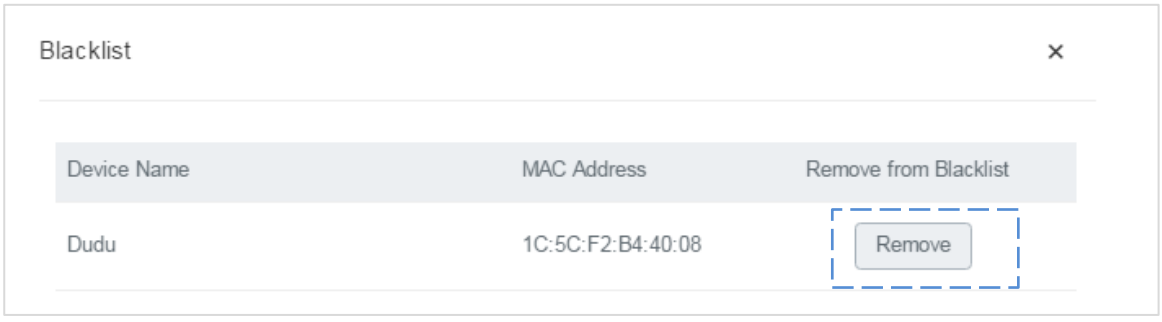
Click **Add** to add the unknown devices to blacklist if necessary. Wireless devices in blacklist cannot connect to the WiFi network of PA7.



4.2.2 Removing a Device from Blacklist

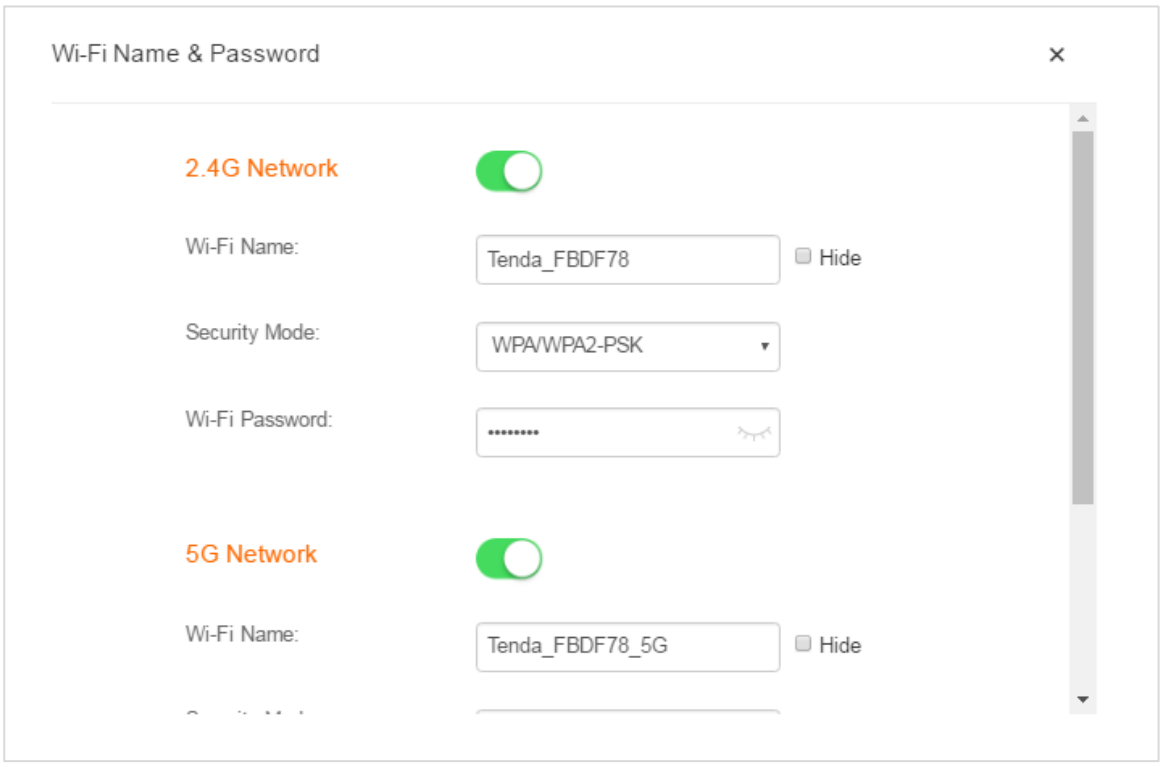
If you want a wireless device in blacklist to access the internet via the WiFi network of PA7, choose **Internet Status** > **Blacklist**, and click **Remove**.





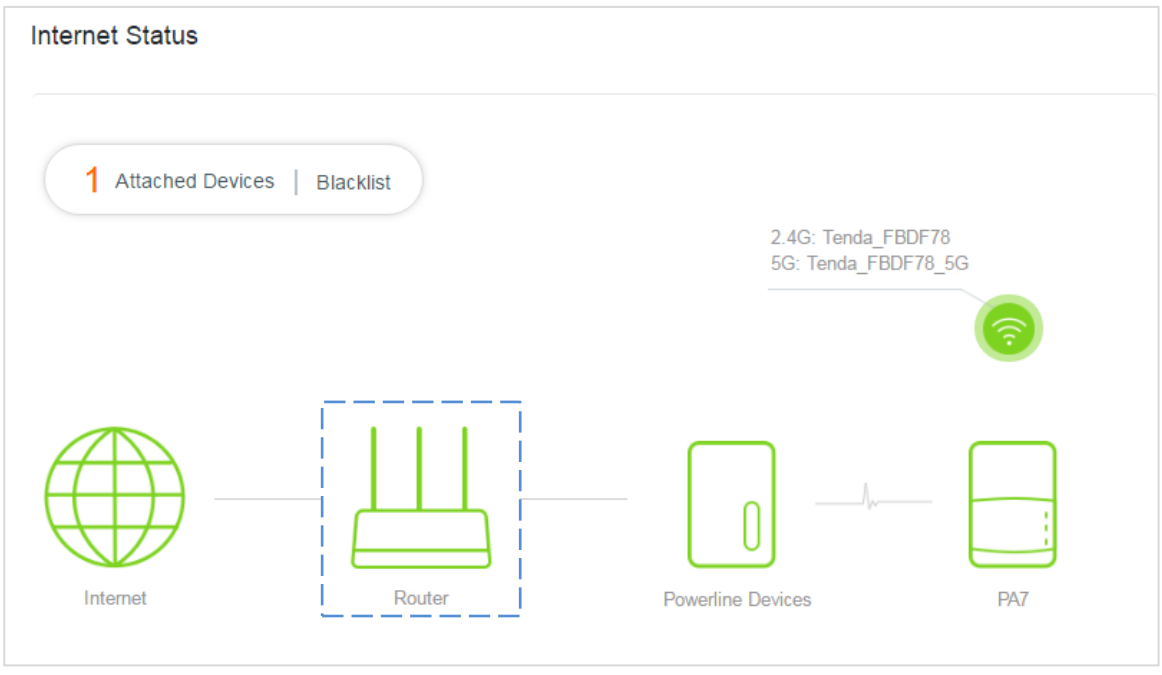
4.2.3 Changing the WiFi Settings of PA7

Choose **Internet Status** and click to enter the WiFi settings page. Refer to 4.3.1 Changing WiFi Name and Password for configuration procedure.



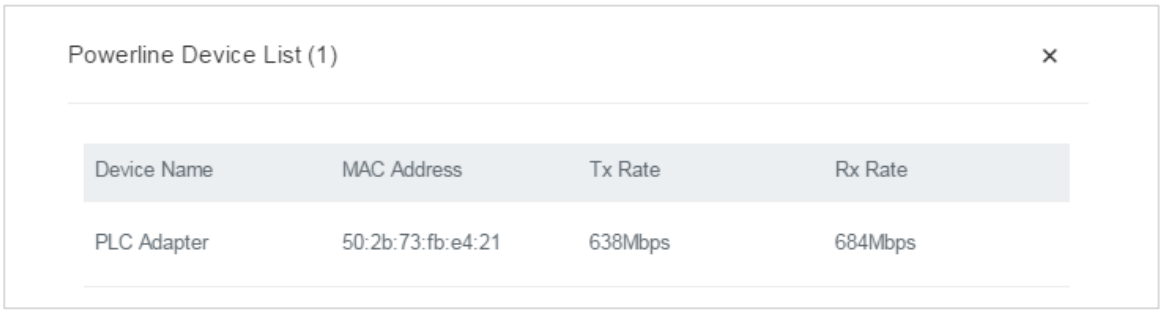
4.2.4 Logging in to the Wireless Router

You can log in to the wireless router by clicking the icon of Router on the page.



4.2.5 Powerline Devices

Choose **Internet Status** and click the icon of Powerline Devices . You can check the information of powerline devices belonging to the same network as PA7.

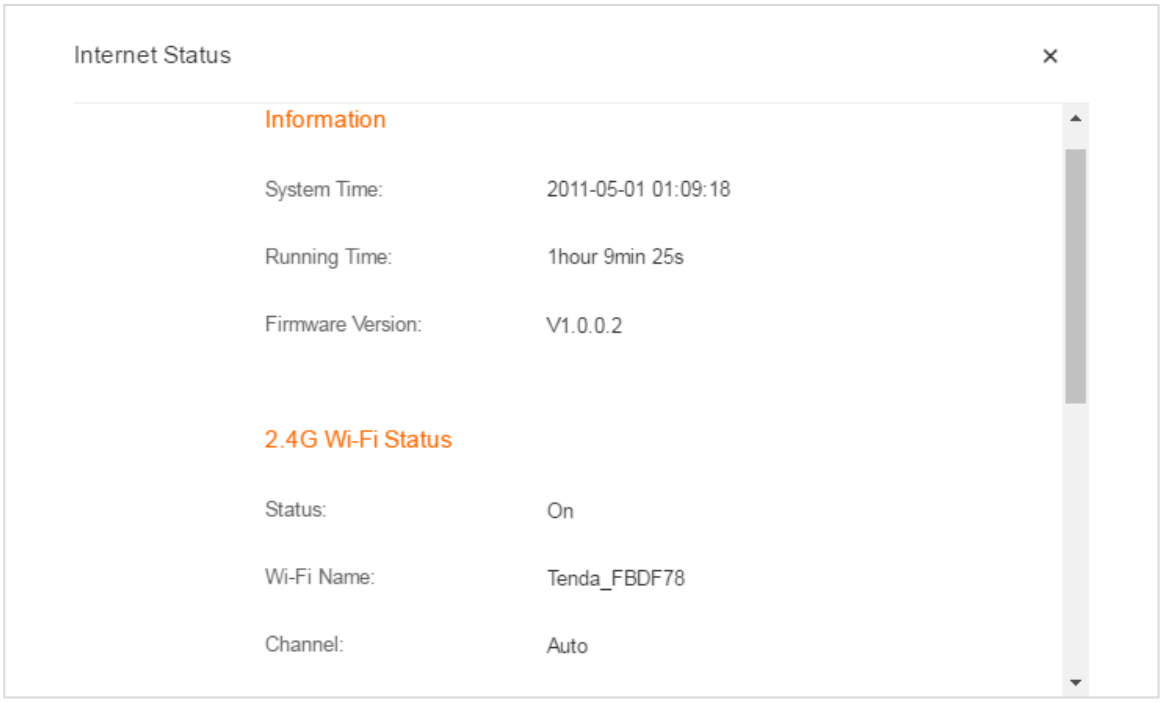


Parameters Description

Parameter	Description
Device Name	It specifies the name of the powerline device.
MAC Address	It specifies the MAC address of the powerline device.
Tx Rate	It specifies the transmit rate of the powerline device.
Rx Rate	It specifies the receive rate of the powerline device.

4.2.6 Basic Information of PA7

Choose **Internet Status** and click the icon of PA7 . The following page appears:



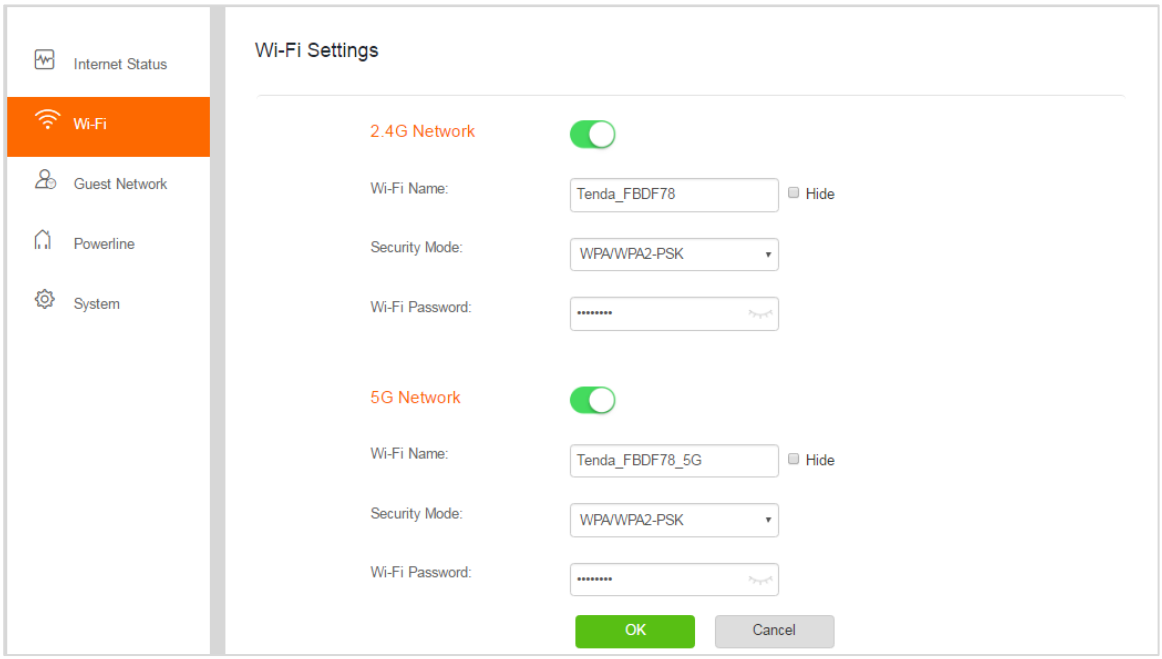
Parameters Description

Parameter	Description
Information	It displays the basic information of PA7 including system time, running time and firmware version.
2.4G Wi-Fi Status	It displays the basic information of 2.4 GHz WiFi network.
5G Wi-Fi Status	It displays the basic information of 5 GHz WiFi network.

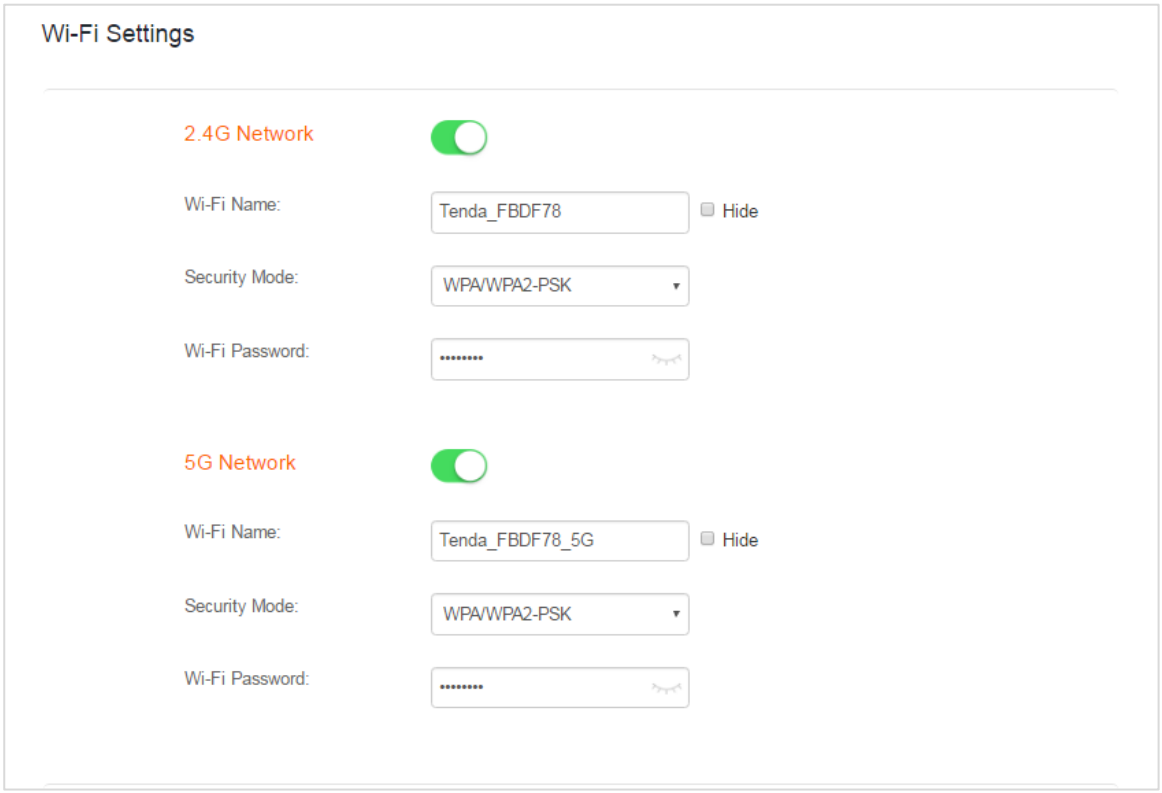
4.3 Wi-Fi

Wi-Fi page allows you to change 2.4 GHz and 5GHz WiFi names and passwords, and set a WiFi schedule and other wireless parameters.

Choose **Wi-Fi** to enter this page.



4.3.1 Changing WiFi Name and Password



Step 1 Choose **Wi-Fi** to enter the configuration page.

Step 2 Customize your 2.4 GHz or 5 GHz WiFi name and WiFi password.

Step 3 Click **OK** on the bottom of this page to apply the settings.

--End

TIP

You need to reconnect your wireless device to the WiFi network of PA7 after you change the WiFi settings.

Parameters Description

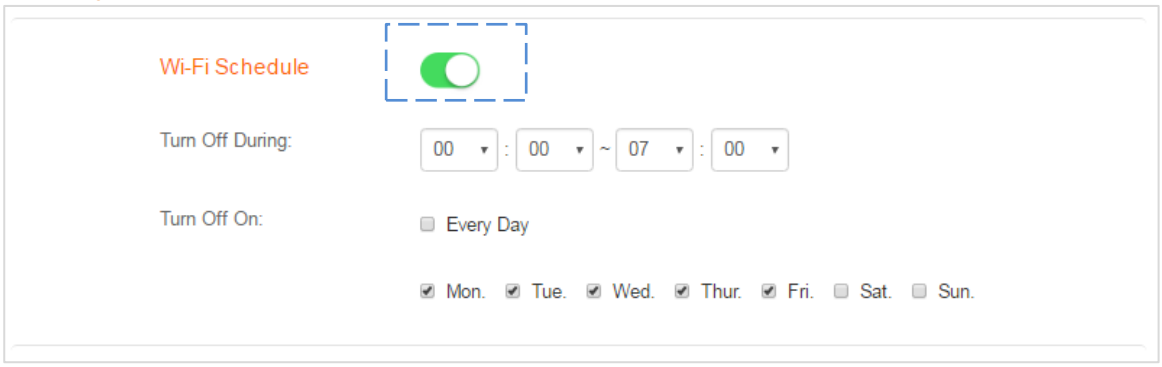
Parameter	Description
WiFi Name	It specifies the wireless network name of PA7.
Security Mode	It specifies the security mode of the WiFi network of PA7. The device supports none, WPA2-PSK and WPA/WPA2/PSK. We recommend you to keep the default settings unless necessary.
WiFi Password	It specifies the wireless network password of PA7.
Hide	If this option is selected, wireless clients cannot search the wireless network of PA7 on their WiFi list. You must manually enter the WiFi name on your wireless clients to connect them to the WiFi network.

4.3.2 Setting a WiFi Schedule

You can use the Wi-Fi Schedule function to specify when to disable the WiFi network.

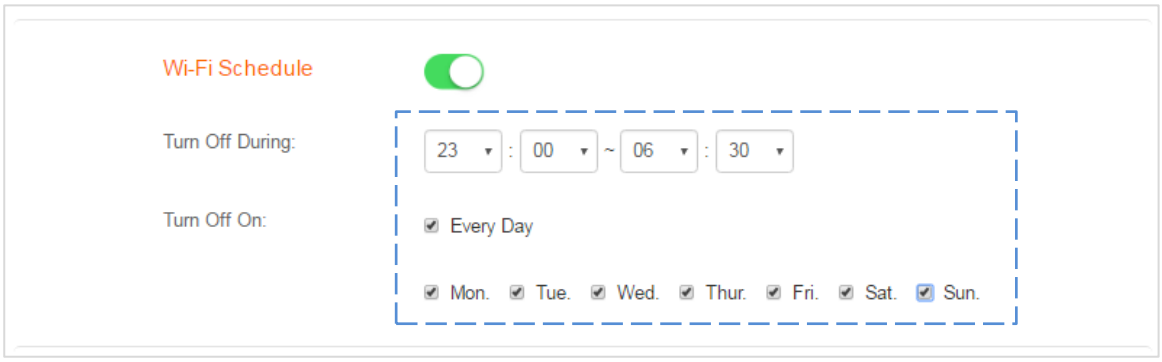
Step 1 Choose **Wi-Fi**, and locate the **Wi-Fi Schedule** part.

Step 2 Click the button.



Step 3 Specify a period when you want to disable the WiFi, which is 11:00 pm - 06:30 am in this example.

Step 4 Select the days to which this rule applies, which are Sunday to Saturday in this example.

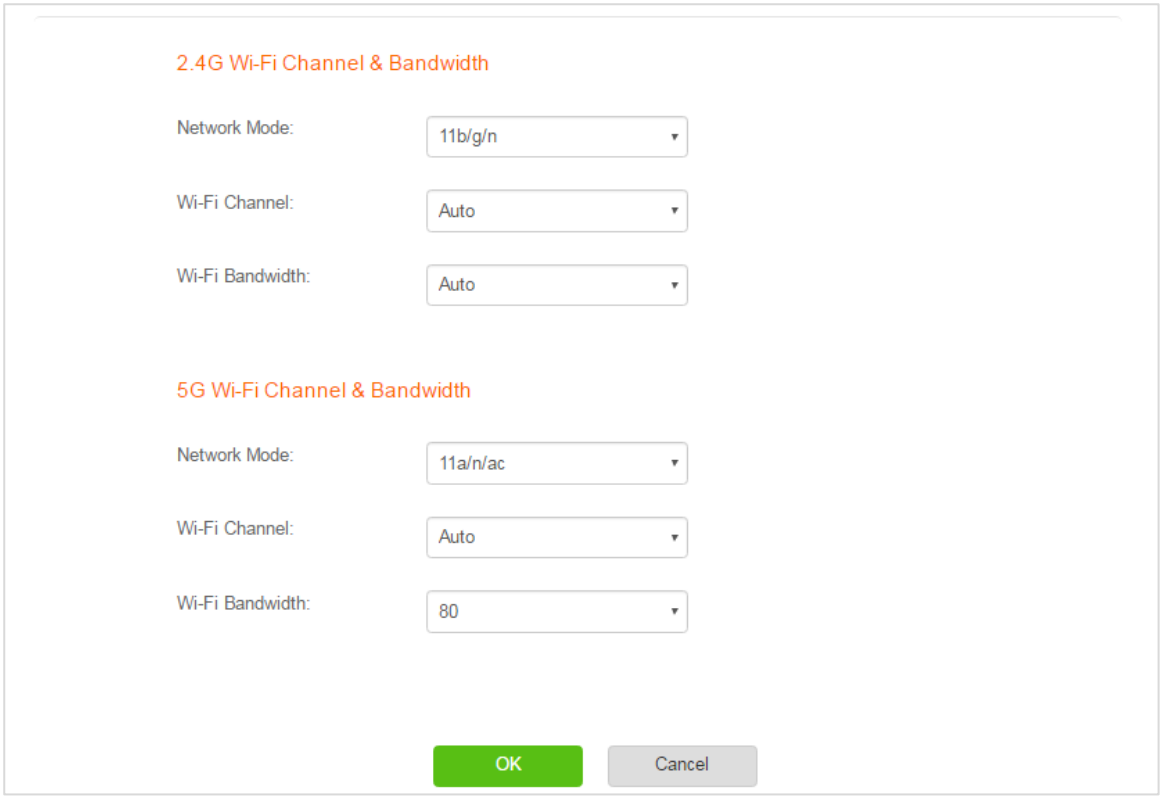


Step 5 Click **OK** on the bottom of this page to apply the settings.

--End

4.3.3 Wireless Parameters

You can try changing other wireless parameters according to the description in the following form if necessary.



Parameters Description

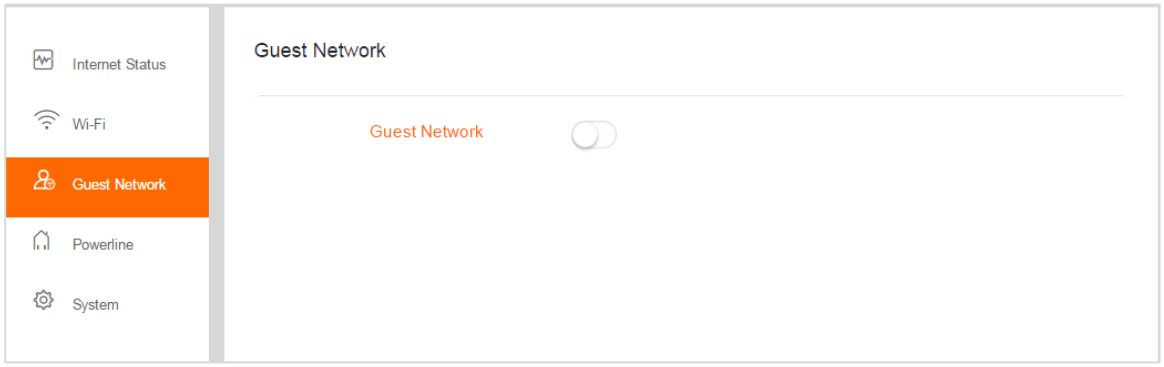
Parameter	Description
Mode	**11b/g/n**: Only 802.11b, 802.11g, and 802.11n devices are allowed to connect the WiFi.
	11b/g: Only 802.11b and 802.11g devices are allowed to connect the WiFi.
	11b: Only 802.11b devices are allowed to connect the WiFi.
	11g: Only 802.11g devices are allowed to connect the WiFi.
	11ac: Only 802.11ac devices are allowed to connect the WiFi.
	11a/n/ac: Only 802.11a, 802.11n, 802.11ac devices are allowed to connect the WiFi.
Wi-Fi Channel	Do not change the channel unless you experience wireless connection failures or slow data transmission. If this happens, try different channels to identify the optimal channel.
Wi-Fi Bandwidth	**Auto**: This is the default channel bandwidth. Keep the default value.
	20: Select this bandwidth if you experience wireless connection failures.
	40: Select this bandwidth to maximize the wireless throughput at 2.4 GHz.
	80: Select this bandwidth to maximize the wireless throughput at 5 GHz.

4.4 Guest Network

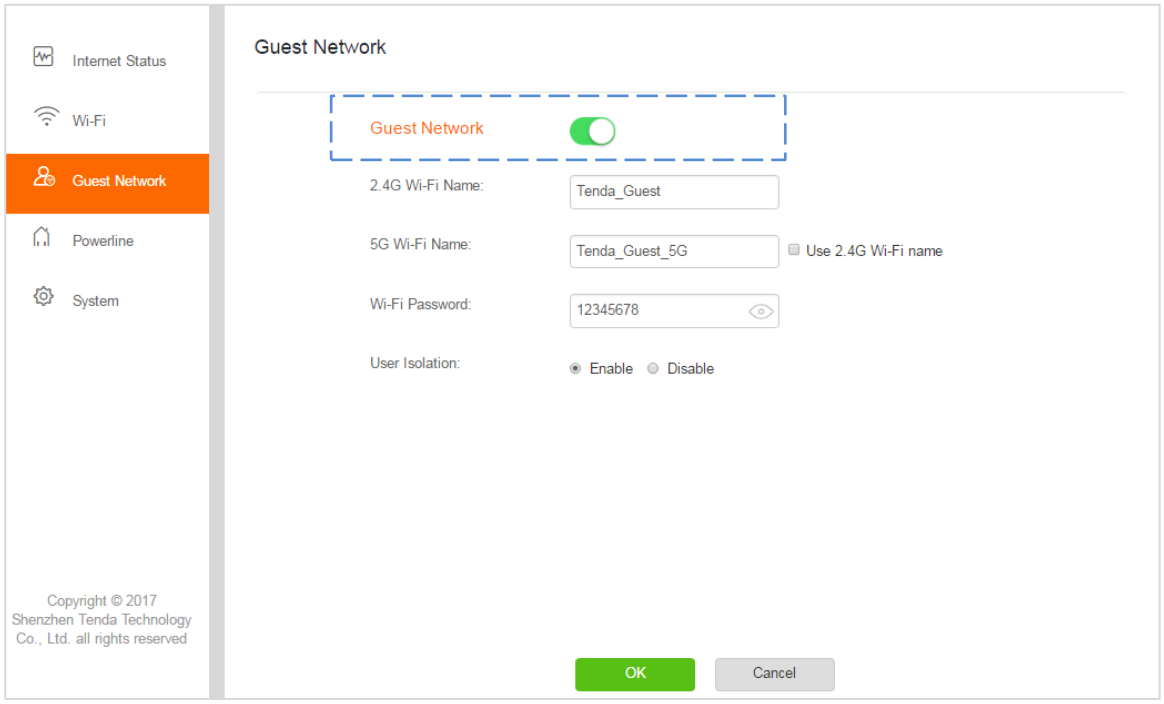
A guest network is a network dedicated to guests. Clients connected to a guest network can access the internet, but cannot access the router web UI or the non-guest network. This enables guests to access the internet and meanwhile ensures security of the non-guest network.

You can set a WiFi name for the 2.4 GHz network and 5 GHz network each. These networks share the same password. To distinguish between the non-guest WiFi networks of the router and the guest WiFi networks of the router, do not adopt the same name for the networks.

Choose **Guest Network** to enter the configuration page.



Click the button to enable this function.



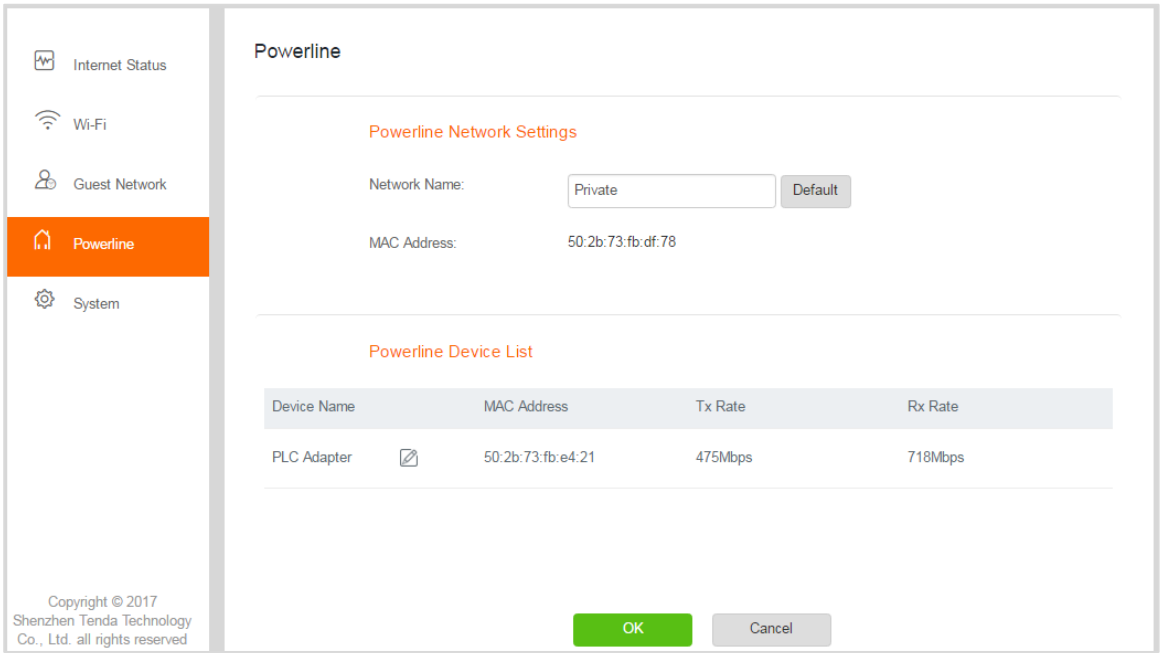
Parameters Description

Parameter	Description
Guest Network	Click this button to enable/disable the guest network.
2.4G Wi-Fi Name/5G Wi-Fi Name	It specifies the wireless network name at 2.4 GHz/5 GHz.
Wi-Fi Password	It specifies the wireless password for 2.4 GHz wireless network and 5 GHz wireless network.
Use 2.4G Wi-Fi name	Select this option to change 5 GHz wireless network to the same as that of 2.4 GHz wireless network.
User Isolation	**Enable**: if the "Enable" option is selected, wireless devices connected to the guest network cannot communicate with each other. **Disable**: if the "Disable" option is selected, wireless devices connected to the guest network can communicate with each other.

4.5 Powerline

The Powerline page allows you to check or change powerline network parameters.

Choose **Powerline** to enter the configuration page.



Parameters Description

◆ **Powerline Network Settings**

Parameter	Description
Network Name	It specifies the name of the powerline network where PA7 resides. The default powerline network name is **HomePlugAV** which indicates an unencrypted powerline network. • The powerline devices that share a same network name belong to a same powerline network. And the powerline devices in different powerline networks cannot communicate with each other. • Powerline devices which are compliant with HomePlugAV standard can establish an unencrypted powerline network named **HomePlugAV**.
Default	Clicking **Default** button restores the default powerline network name.
MAC Address	It specifies the MAC address of this PA7.

◆ **Powerline Device List**

Parameter	Description
Device Name	It specifies the name of the powerline device. You can change this name if there are multiple powerline devices in the powerline network for easy recognition.
MAC Address	It specifies the MAC address of the powerline device.
Tx Rate	It specifies the transmission rate of the powerline device.
Rx Rate	It specifies the receiving rate of the powerline device.

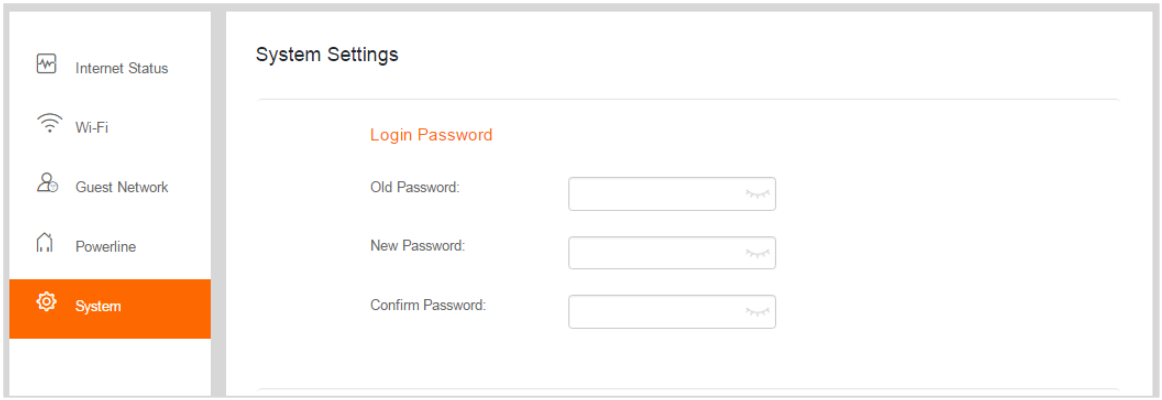
4.6 System Settings

4.6.1 Changing the Login Password

The Login password is used to log in to the web UI of PA7. The default one is **admin**.

Perform the following steps if you want to change it.

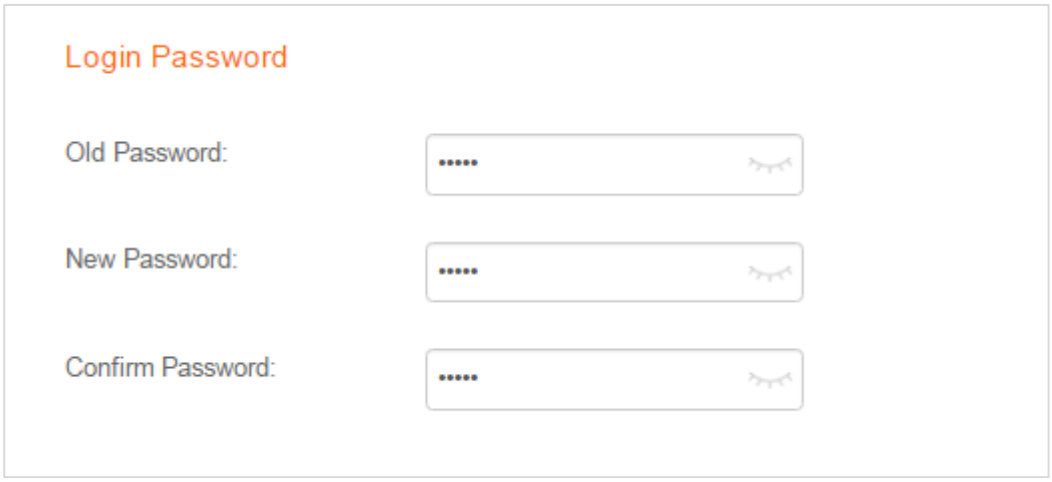
Step 1 Choose **System**, and move to the **Login Password** part.



Step 2 Set Old Password to the current password admin.

Step 3 Set New Password to a new password.

Step 4 Set Confirm Password to the new password again.



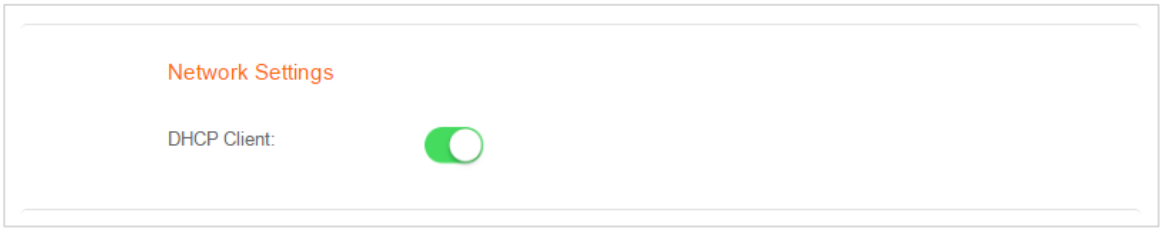
Step 5 Click **OK** on the bottom of this page to apply the settings.

--End

4.6.2 Configuring Network Settings

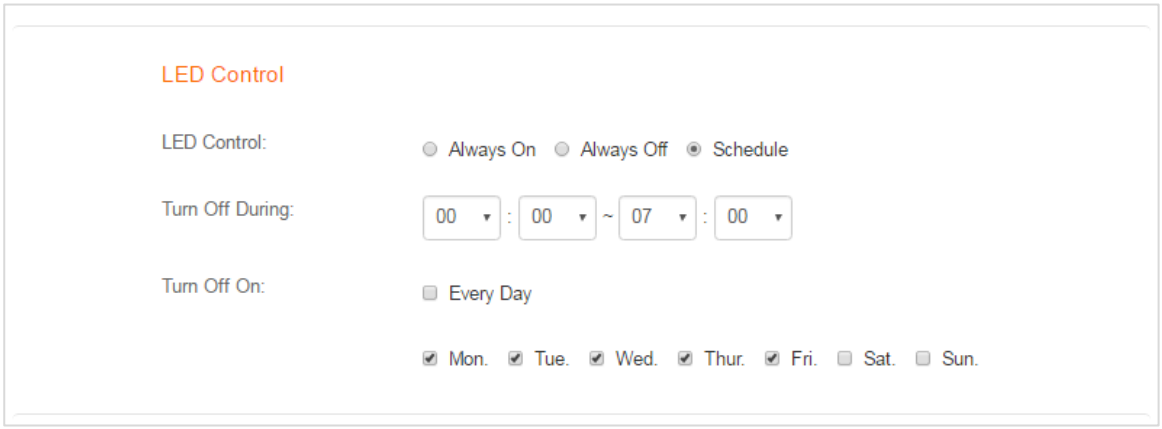
If P3 is connected to a router that can access the internet properly, and PA7 has paired with P3, PA7 obtains an IP address from the router. Then you can access the internet after connecting to PA7. In this case, you do not need to configure the network settings of PA7.

If the router cannot assign IP addresses to its clients, you need to enable the DHCP Client function of PA7 to assign IP addresses to its clients.



4.6.3 LED Control

The following figure shows the available LED indicator control modes. Select one of the modes as required and click **OK**.



Parameters Description

Parameter	Description
Always On	It indicates that all the LED indicators of PA7 are in ordinary states.
Always Off	It indicates that all the LED indicators of PA7 are turned off.
Schedule	It indicates that all the LED indicators of PA7 are turned off in specified periods and return to their ordinary states when the periods expire.
Turn Off During	It allows you to specify a period to turn off the LED indicators of PA7.
Turn Off On	It allows you to specify days to turn off the LED indicators of PA7.

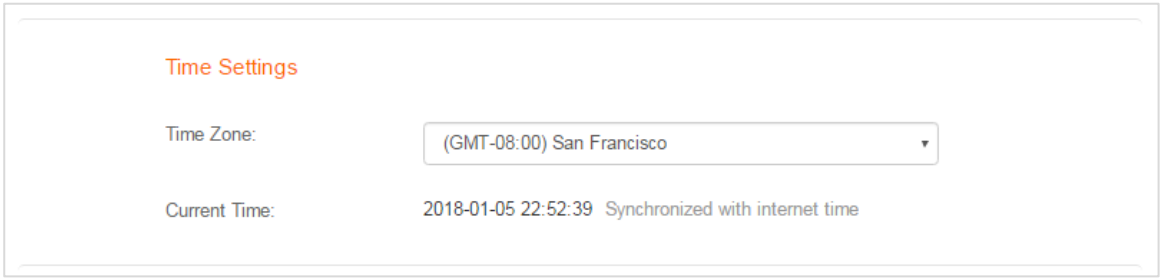
4.6.4 Time Settings

Time-based functions, such as Wi-Fi Schedule and LED Control, require correct time zone settings.

To set the time zone of PA7, perform the following steps:

Step 1 Choose **System**, and move to the Time Settings part.

Step 2 Select your time zone, and click **OK** on the bottom of this page to apply the settings.



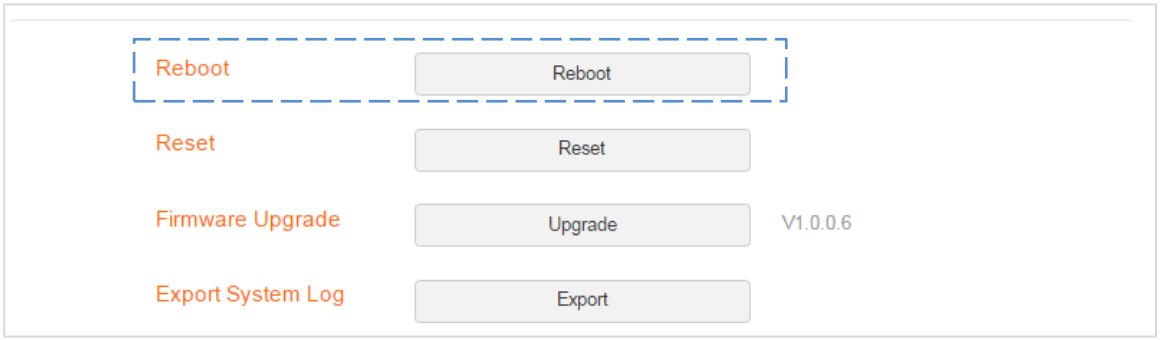
After the settings are saved, check whether the time displayed in **Current Time** is correct.

4.6.5 Rebooting PA7

When the parameters you set cannot take effect or PA7 cannot be used normally, please try rebooting it to solve these problems. Note that when PA7 is rebooting, do not unplug it.

Step 1 Choose **System** and move to the **Reboot** part.

Step 2 Click **Reboot**.



Step 3 Click **Reboot** on the pop-up window.

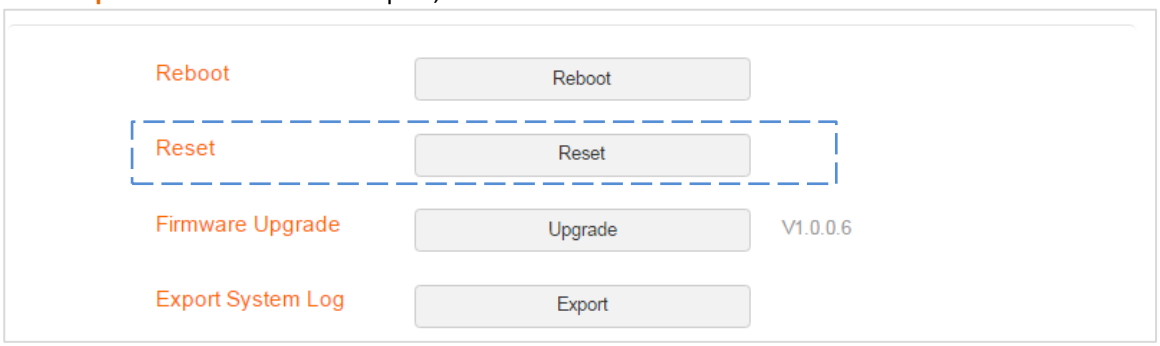
--End

4.6.6 Resetting PA7

Hold down the **Pair** hardware button for 6 seconds to reset PA7, or perform the following steps to reset it:

Step 1 Choose **System**.

Step 2 Move to the Reset part, and click **Reset**.



Step 3 Click **Reset** on the pop-up window.

--End

NOTE

You are recommended not to reset PA7 unless:

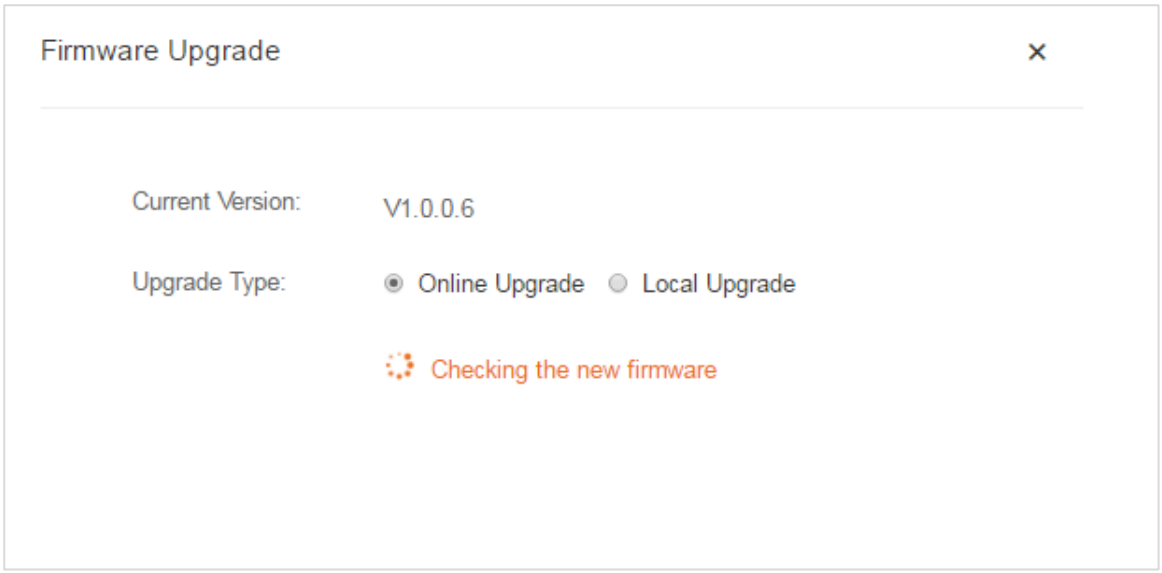
- You forget the login password of the web UI of PA7.
- PA7 does not work well, and you want to reconfigure it.
- You cannot access the internet, and Tenda technical support recommends you to restore factory default settings.

4.6.7 Upgrading PA7

Tenda website offers the latest firmware version for PA7. Perform the following steps to upgrade PA7:

Online Upgrade:

The device is set to online upgrade by default. The device will detect whether your firmware is latest. If not, you can update it to the latest.



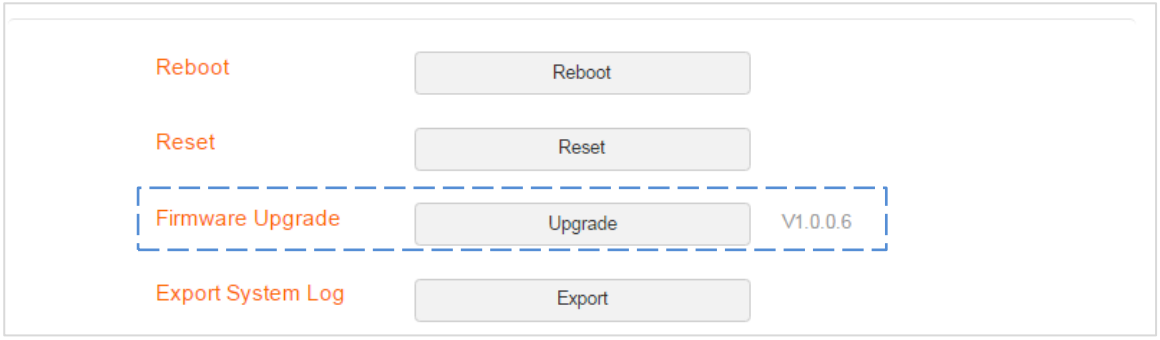
Local Upgrade:

Step 1 Start a web browser, and visit *www.tendacn.com*.

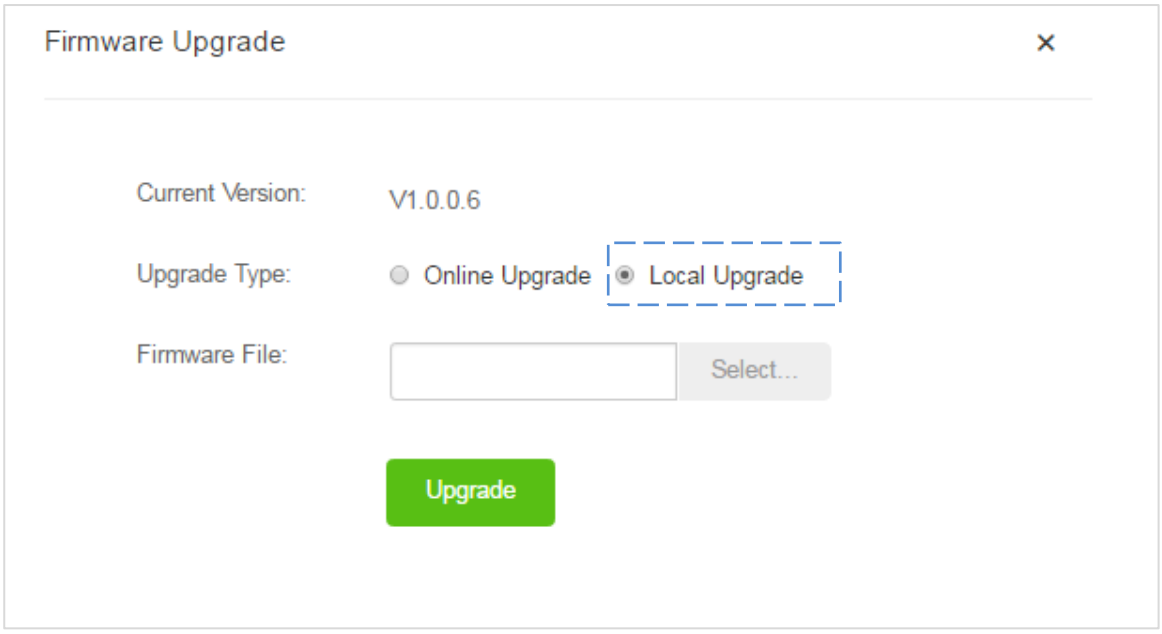
Step 2 Enter PA7 in the search box, and download the latest firmware to your local host.

Step 3 Log in to the web UI of PA7, and choose **System**.

Step 4 Move to the **Firmware Upgrade** part, and click **Upgrade**.



Step 5 Select **Local Upgrade**.



Step 6 Select the firmware you saved, and click **Upgrade**.

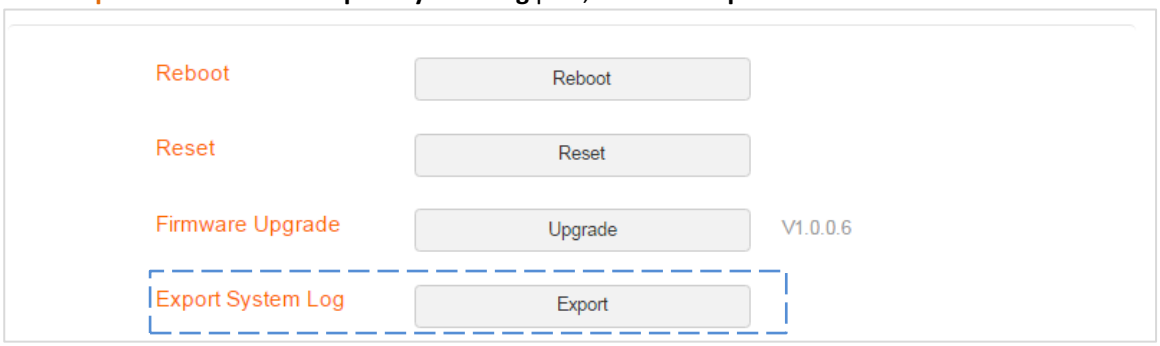
--End

4.6.8 Exporting System Logs

When encountering a problem, you can export the system logs and send them to Tenda technical support for troubleshooting.

Step 1 Choose **System**.

Step 2 Move to the **Export System Log** part, and click **Export**.



--End

Appendix

FAQ

Q1: The LEDs are off when both P3 and PA7 are powered on. What should I do?

A1: Try the following methods:

- Verify that P3 and PA7 use a same electric meter.
- Press the **Pair** button on P3, and its LED blinks. Within 2 minutes after pressing **Pair** button on P3, press the **Pair** button on PA7, and its LED blinks. Wait until both LEDs turn solid on.
- Reset P3 and PA7. Method: hold down the **Pair/Reset** button for 6 seconds to restore factory settings.

Q2: My wireless router does not support WPS, or WiFi clone fails. What should I do if I want to change the WiFi name and password of PA7?

A2: You can log in to the web UI of PA7 to change the WiFi name and password.

Method:

① Connect your computer to PA7 wirelessly or via an Ethernet cable.

② Start a web browser, and visit *http://plc.tendawifi.com*.

③ Log in to the web UI with default login password **admin**, and go to **Wi-Fi Settings** page to change the WiFi name and password.

Q3: I cannot access the internet, but the internet status on web UI of PA7 is normal. What should I do?

A3: Check whether your wireless router enables some restriction function, such as MAC address filtering, parental control, PPPoE server, and so on.

Q4: How to reset P3 or PA7

A4: After the device is powered on for about 20 seconds, hold down the **Pair** button for 6 seconds. When the LED indicator turns off, P3 or PA7 restores to factory settings successfully.

CE

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Operations in the 5.15-5.25GHz band are restricted to indoor use only.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

NOTE: (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

Declaration of Conformity

Hereby, SHENZHEN TENDA TECHNOLOGY CO. LTD. declares that the radio equipment type PA7 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:

http://www.tendacn.com/en/service/download-cata-101.html

Operate Frequency:

2.4 GHz: EU/2400-2483.5 MHz (CH1-CH13)

5 GHz: 5150-5250 MHz

EIRP Power (Max.):

2.4 GHz: 19.3 dBm

5 GHz: 22.1 dBm

Software Version: V1.0.0.5

 RECYCLING

This product bears the selective sorting symbol for Waste electrical and electronic equipment (WEEE). This means that this product must be handled pursuant to European directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment.

User has the choice to give his product to a competent recycling organization or to the retailer when he buys a new electrical or electronic equipment.

-for PLUGGABLE EQUIPMENT , the socket-socket shall be installed near the equipment and Shall be easily accessible.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

— Reorient or relocate the receiving antenna.

— Increase the separation between the equipment and receiver.

— Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

— Consult the dealer or an experienced radio/TV technician for help.

This device is restricted to be used in the indoor.

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.

Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

NOTE: (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.