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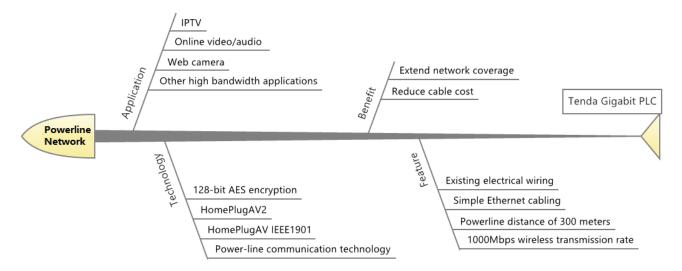
Contents

1 Know the Adapter	1
Package Contents	1
LED, Button and Interface	
2 Access the Internet	4
Step 1: Position Adapter 1 and 2	4
Step 2: Connect Adapter 1	5
Step 3: Connect Adapter 2	6
Step 4: Verify the Connection	14
Step 5: Access the Internet	14
3 Extend & Encrypt Powerline Network	15
To Secure Powerline Network	15
To Extend Powerline Network	17
To Disconnect a Powerline Adapter	18
4 Manage the Adapter If Necessary	19
Step 1: Install PLC-Config Wizard	19
Step 2: Manage the Adapter As Needed	24
5 Appendix	36
Configure Your PC	36
FAQs	42
Technical Support	43
Technical Specifications.	44
CE Mark Warning	15



1 Know the Adapter

Tenda Gigabit Powerline Adapter ensures a fast Powerline network. Read the figure below to know your Powerline Adapter.



Package Contents

P1001P

- ➤ AV1000 Gigabit Powerline Adapter with AC PassThrough *2
- ➤ Ethernet Cable*2
- ➤ Install Guide

P1002P

- > AV1000 Gigabit Powerline Adapter with AC PassThrough *2
- ➤ Ethernet Cable*2
- ➤ Install Guide

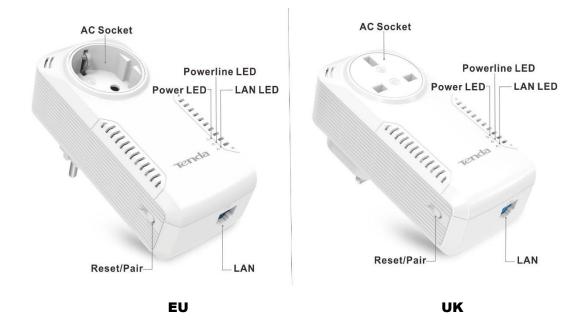
If any item is incorrect, missing, or damaged, please contact your dealer for immediate replacement.

LED, Button and Interface

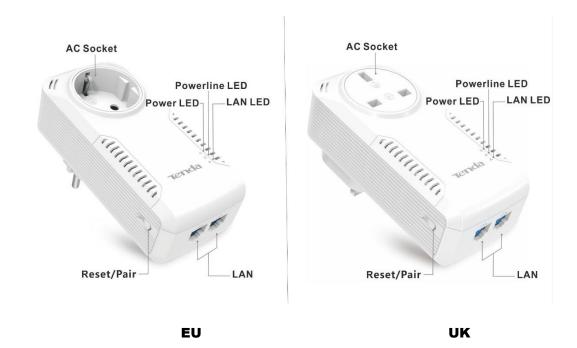
AV1000 Gigabit Powerline Adapters vary by region.



P1001P



P1002P



LED

LED	Status	Description
	Off	There is no electrical power.
Power	Solid	The electrical power is on.

2



LED	Status	Description
	Blinking	The device is under Power Saving Mode when powered on for about 300 seconds, and there is no link on the LAN port.
Powerline	Off	The adapter has not paired with other Powerline adapter(s).
	Solid	The adapter is connected to a Powerline network.
	Blinking	The adapter is sending or receiving data.
LAN	Off	There is no Ethernet connection.
	Solid	The LAN port is well connected, but no data is being transmitted.
	Blinking	Data is being transmitted.

Button & Interface

LAN: For connecting to the Internet, a PC, or other network devices via an Ethernet cable.

Reset/Pair: Two buttons in one, the Pair button and the Reset button.

Pair—Press and hold it for about 1 second (LED indicator starts blinking) to pair with other Powerline adapters.

Reset—Press and hold it for about 8 seconds and then release it, LED indicator will blink 3 times regularly and the adapter will be restored to factory default.

AC Socket: The AC Socket can reduce the electrical noise that might affect the Powerline performance. Plugging a nearby PC or other device into the AC Socket improves performance.



2 Access the Internet

This section explains how to access the Internet via a pair of Powerline Adapters, including how to position and maintain your Powerline Adapters, how to connect them and access the Internet. Here's an example for you.

Scene Reconstruction:

You live in a two-story house. And you have a networked router which is placed on the first floor, and two Powerline adapters ready for use. You want to access the Internet on the second floor without long and complex cabling. Now you can set up your network as the following steps.

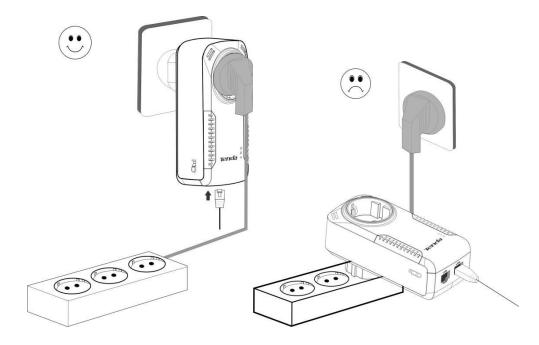
Things you'll need:

- Two AV1000 Gigabit Powerline adapters: Adapter 1 and Adapter 2.
- More than four Ethernet cables for connecting to the Internet, or PC, etc.
- ➤ Network device for enjoying the Internet, like a desktop, laptop, or set-top box, not included in the package.

Step 1: Position Adapter 1 and 2

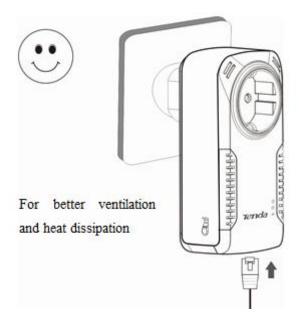
Take a moment to plan a clean and ventilated location for Adapter 1 and 2 for optimum performance. You shall take the two notes below.

Note 1: Plug the Powerline adapter directly into a wall socket but not the multiple sockets.



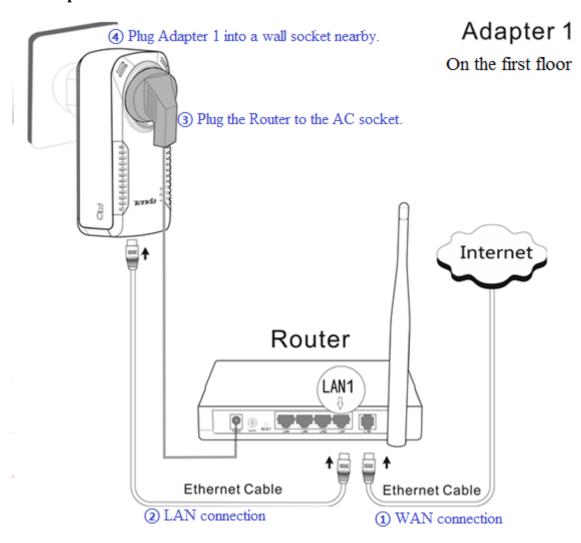


Note 2: The Powerline adapter can only be used in direction below.



Step 2: Connect Adapter 1

Connect Adapter 1 to a networked router

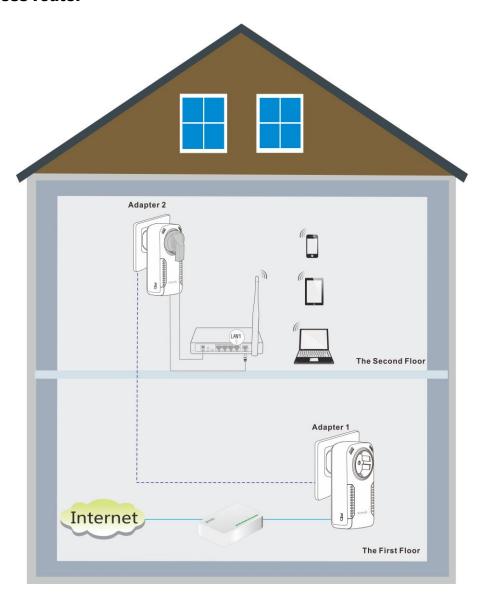




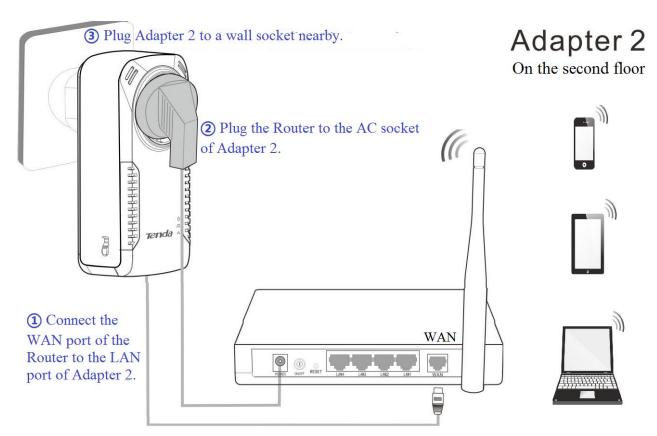
Step 3: Connect Adapter 2

Connect Adapter 2 to a network device according to your needs.

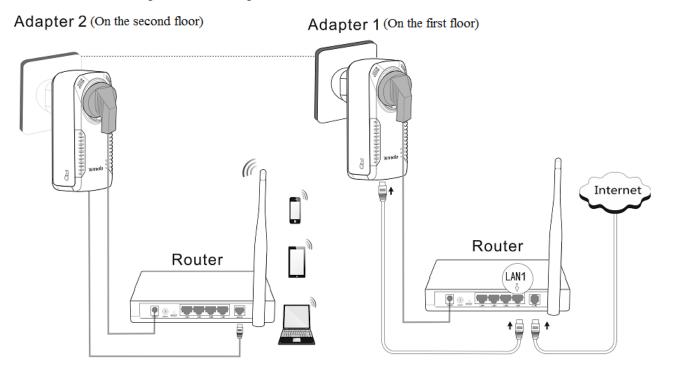
To a Wireless router





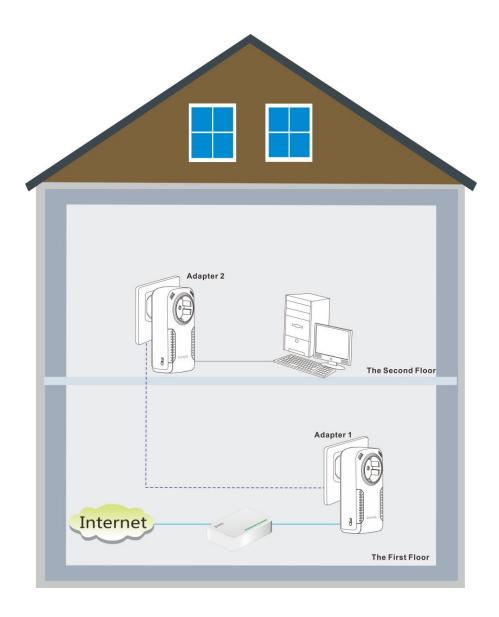


The whole schematic diagram is like the figure below:



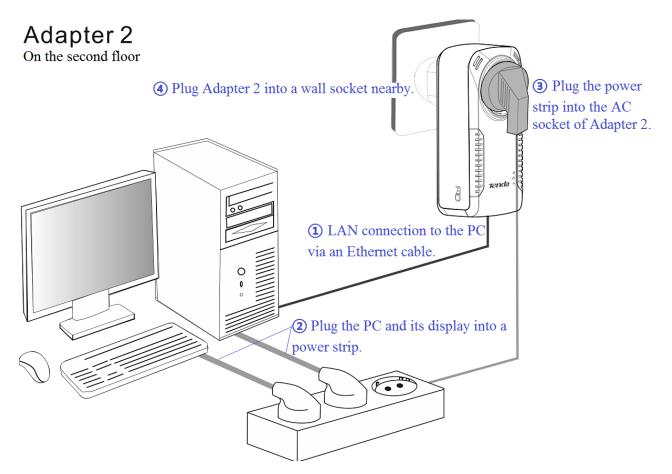


To a PC

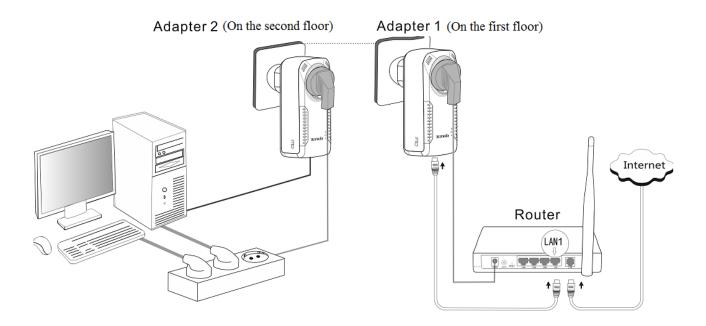


8



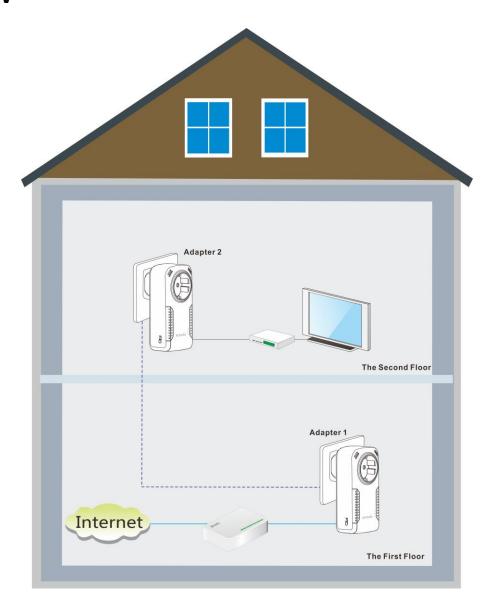


The whole schematic diagram is like the figure below:

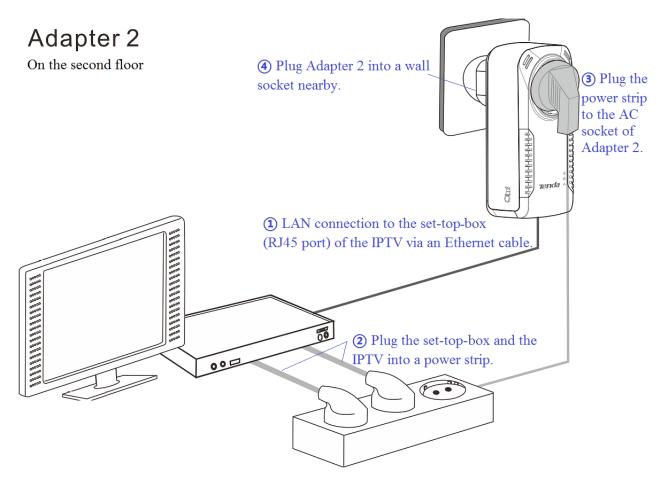




To an IPTV

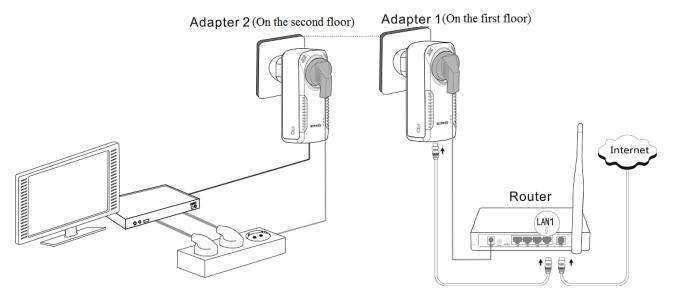






After the cable connection, you need to configure your set-top box for the specific application. Please refer to your manual guide of set-top box.

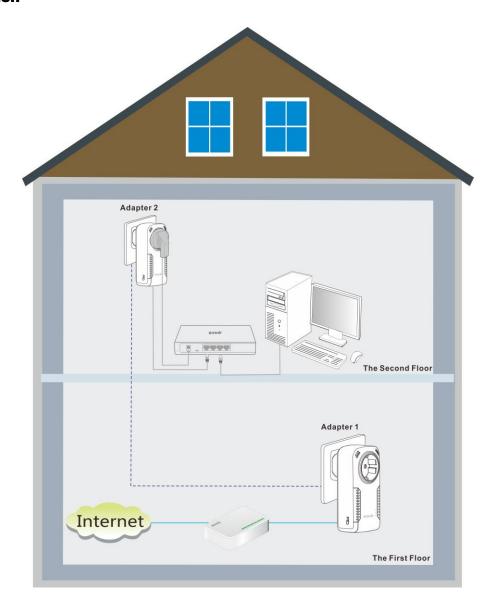
The whole schematic diagram is like the figure below:



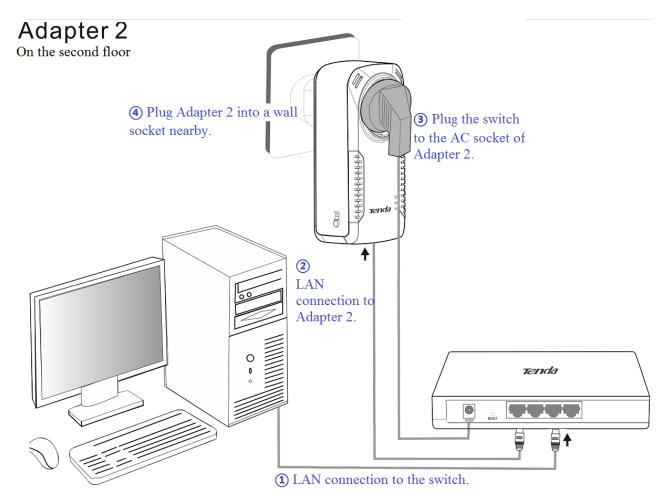
Tips



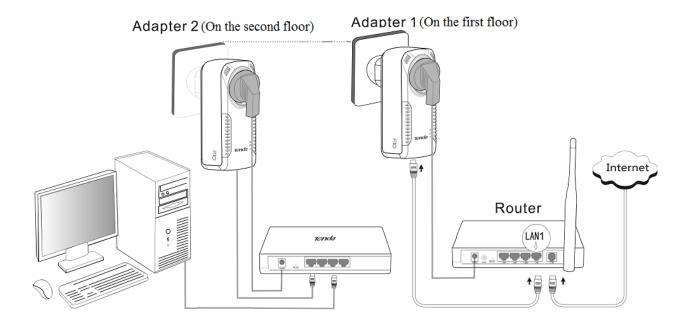
To a Switch







The whole schematic diagram is like the figure below:





Step 4: Verify the Connection

Observe the status of LED indicators on your Powerline adapters to verify hardware connection.

1. Verify Power connection

When the LED is illuminated, power connection is OK.

If not, check the power supply.

2. Verify LAN connection

When the LED is illuminated, LAN connection is OK. Namely other network devices (such as PC, Modem or Router, etc.) are connected to the device.

If not, you need to check the connection between the adapter and the connected device.

3. Verify Powerline connection

When the LED is illuminated, two or more adapters have paired with each other successfully.

If not, pair the Powerline adapters manually. Consult **Procedure** to know how to pair your adapters.

Or you can press and hold the **Reset/Pair** buttons on both adapter respectively for about 8 seconds to restore the Powerline adapters to factory default after you power them. Then they will automatically negotiate with each other.

Step 5: Access the Internet

If all the steps above go well, your wireless router, PC, IPTV, or switch will connect to the Internet successfully. Go ahead to enjoy your Powerline network.

Note that the network created at the moment are not encrypted. To secure your Powerline network, consult to secure Powerline network.



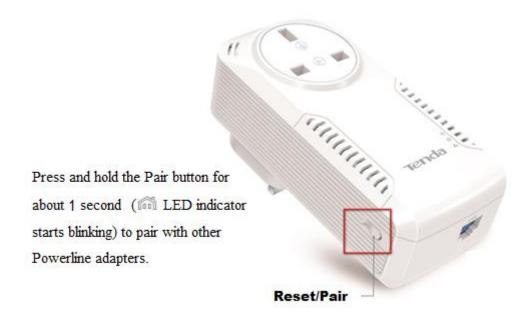
When Adapter 2 connects to your PC directly and your PC cannot access the Internet after above connection, you can try to configure your PC to **Obtain an IP address automatically** and **Obtain DNS server automatically**. Please refer to **Configure Your PC** for details if you don't know how to configure your PC.



3 Extend & Encrypt Powerline Network

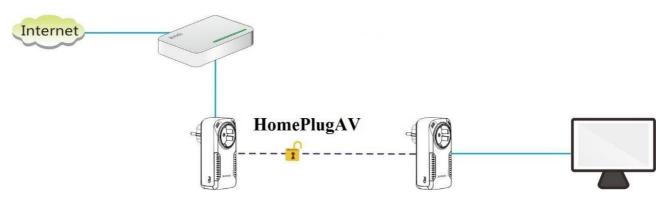
This section presents how to use the Pair hardware button to secure your Powerline network, and add more adapters to extend your Powerline network.

Pair Button

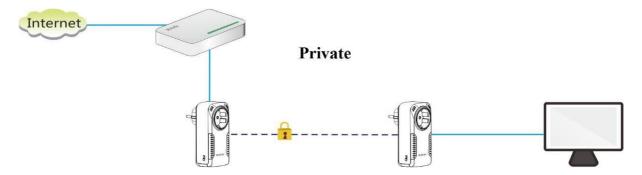


To Secure Powerline Network

Two or more unpaired Powerline adapters under the same electrical circuit will automatically interconnect to create an unencrypted public network named HomePlugAV, which will become encrypted after the following settings.







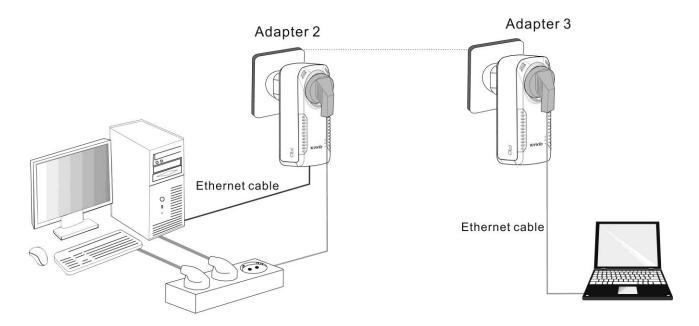
Procedure:

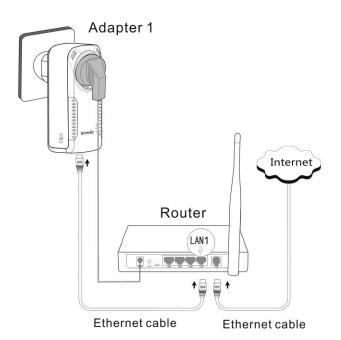
- 1. Press and hold the **Pair** button on Adapter 1 for 1 second and then release it. The LED on Adapter 1 will start blinking.
- 2. Within 2 minutes upon releasing Adapter 1's **Pair** button, press and hold the **Pair** button on Adapter 2 for 1 second and then release it. The LED on Adapter 2 will start blinking.
- 3. Observe the two adapters' LED status. If both LEDs on the two adapters display solid, it indicates that an encrypted private Powerline network is successfully created between Adapter 1 and Adapter 2.

When the two adapters create an encrypted private Powerline network, their network name will be changed into a same one, which is not HomePlugAV, and if you want to add more Powerline adapters into your Powerline network, you need to use pair button.



To Extend Powerline Network





For example in the figure above, Adapter 1 and Adapter 2 have formed a network, say Network1, and you're trying to add Adapter 3 to this network, do as follows:

- Press the Pair button on Adapter 1 (or Adapter 2) for 1 second and then release it. The LED starts blinking, which indicates that it is waiting for another Powerline adapter to join Network1.
- Within 2 minutes upon releasing Adapter 1's (or Adapter 2's) Pair button, press the Pair button on Adapter 3 for 1 second and then release it. The LED on Adapter 3 starts blinking, which indicates that it is negotiating with another adapter.



6 Observe the three adapters' LED status. If all LEDs on three adapters display solid, it indicates Adapter 3 has connected to Network1 successfully.

To Disconnect a Powerline Adapter

To remove one Powerline Adapter from one Powerline Network, what you need to do is to reset the Powerline Adapter to factory default.

As displayed above, Adapter 1, 2 and 3 have formed a private Powerline network (Network1). And now you want to disconnect Adapter 3 from Network1. Do as follows.

Press the Pair button on Adapter 3 for at least 6 seconds and then release it. The LED on Adapter 3 will blink three times, which indicates Adapter 3 will exit from Network 1.



4 Manage the Adapter If Necessary

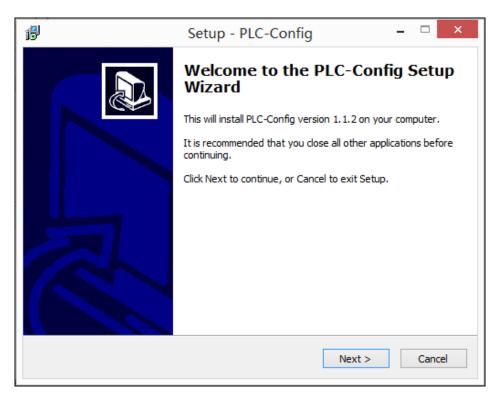
This section introduces how to manage your Powerline adapters using the **PLC-Config**, including changing your Powerline adapters' device name/network name, resetting your Powerline adapters, setting up QoS, and etc.

Step 1: Install PLC-Config Wizard

Before managing your Powerline network, you need to install the **PLC-Config** first. And then you can go ahead. Here we take Windows 7 as an example to explain how to install the **PLC-Config**. If you are a Windows 7 user, simply follow steps below. If you are using other operation systems, instructions here are also good for your references.

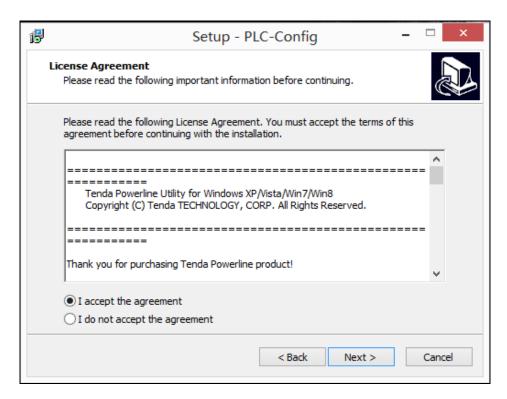
Go to Tenda official website http://www.tendacn.com to download the management software. Save it to your local host, and unzip to folder.

1. Find the setup icon setup from the folder and double click it to run the management software, and click **Next** when you see the screen below.

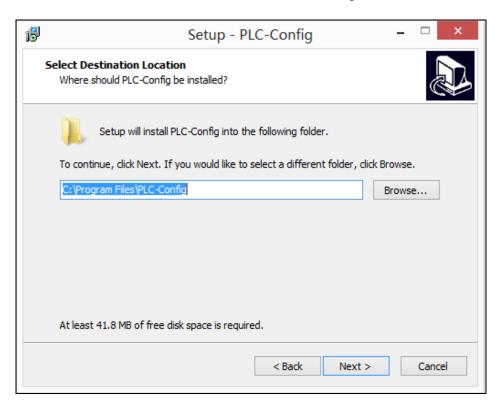


2. After you read the license agreement shown as below, select "I accept the agreement" and click Next.



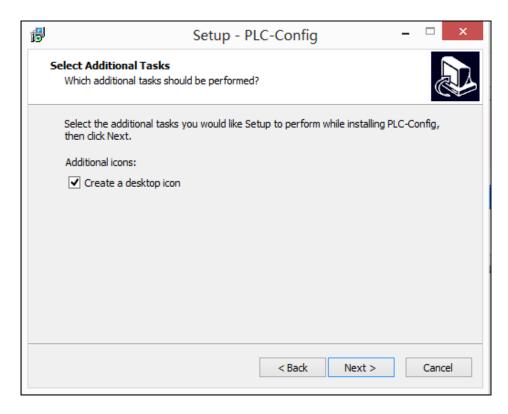


3. Click **Browse...**to locate where to install the software and click **Next** to go forward.

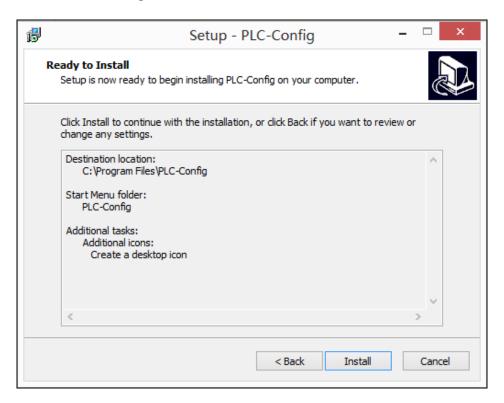


4. Keep clicking Next till the screen below displays. Then check Create a desktop icon option and click Next.





5. Click **Install** to install **PLC-Config**.

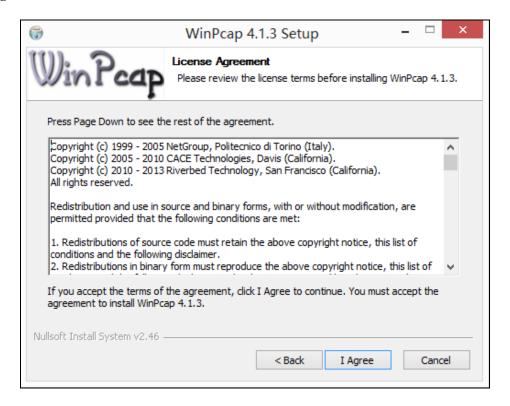


6. WinPcap Setup Wizard will be displayed as below. Click Next to go forward.





7. Click I Agree.

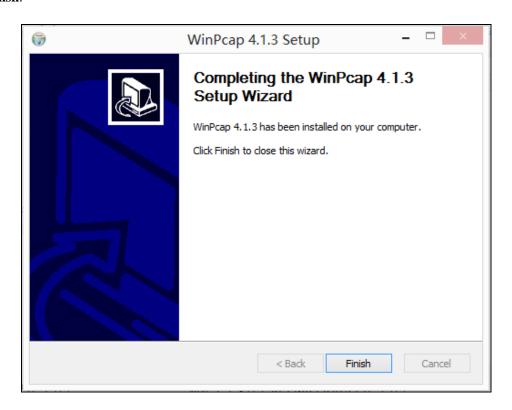


8. Click Install.



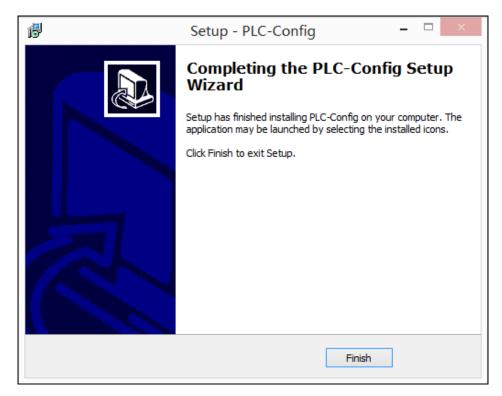


9. Click Finish.



10. Click **Finish** to complete the **PLC-Config** setup wizard.







11. To run the **PLC-Config**, simply double click

on your desktop.

Step 2: Manage the Adapter As Needed

This section instructs you how to manage your Powerline adapters on the **PLC-Config**.

Device List



PLC(PassThr





On the List, you can view adapters' info under the same electrical circuit which have negotiated with each other.

ссо	This adapter will be regarded as a station, to which other adapters will attempt to connect.
Local	This adapter is connected to the PC with the PLC-Config setup wizard installed.
Device Info	The Device Info of a currently selected adapter.
HomePlugAV	It is the local Powerline network name if you do not customize a Powerline network name. Powerline adapters MUST share an identical network name to establish a Powerline network. Based on the network name, the Powerline network is classified into 2 types: a Powerline network named "HomePlugAV" is considered a public network; a Powerline network named "Private" is considered a private network.
MAC Address	The MAC address of a currently selected adapter.
?	Click to see the User Guide.

Change Device Name

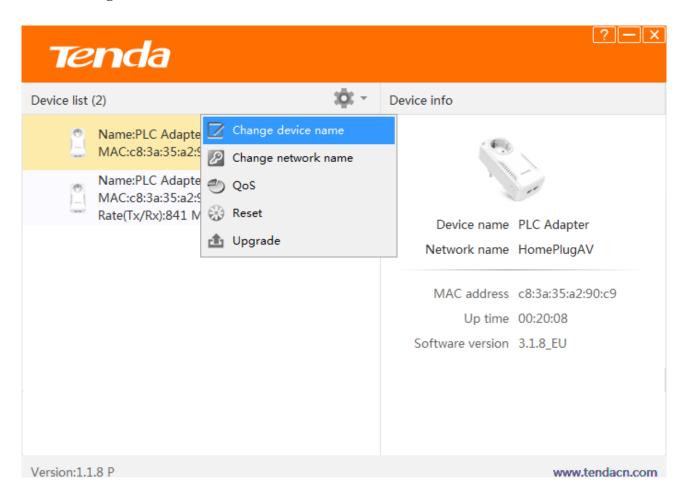
For easy recognition and convenient management, you can change the adapter's name if there are multiple adapters managed by **PLC-Config**.



Procedure:

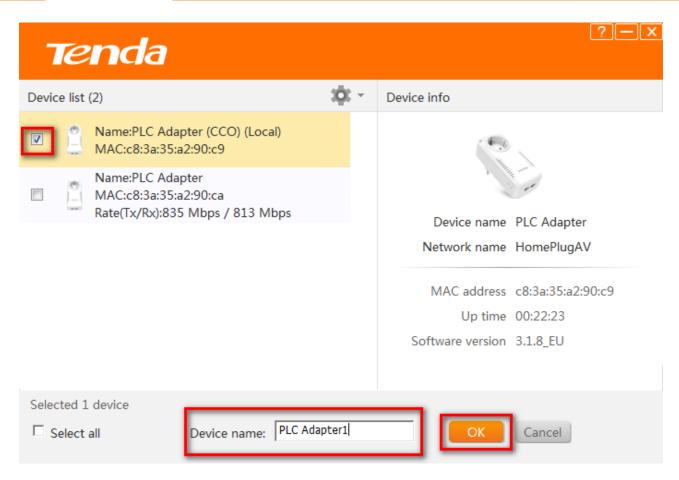
1. Click to start configuration.

2. Select Change device name.

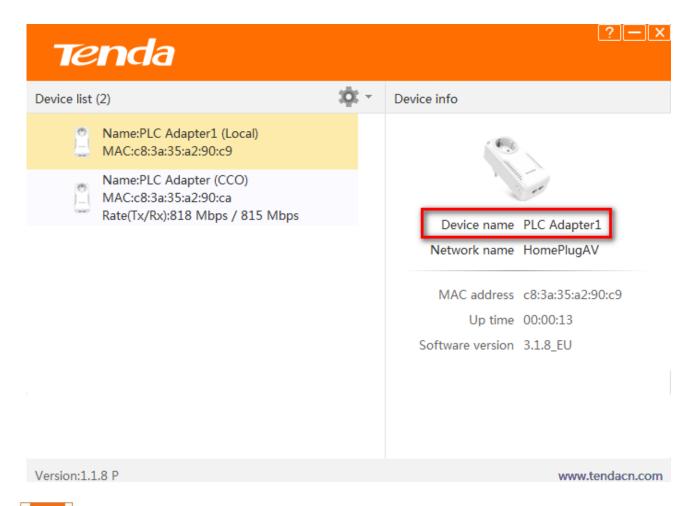


3. Select the adapter whose name you want to change, and specify a new name in the **Device name** edit box, and click **OK**.

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After it saved successfully, you'll find that the **Device name** displays the new name.



27

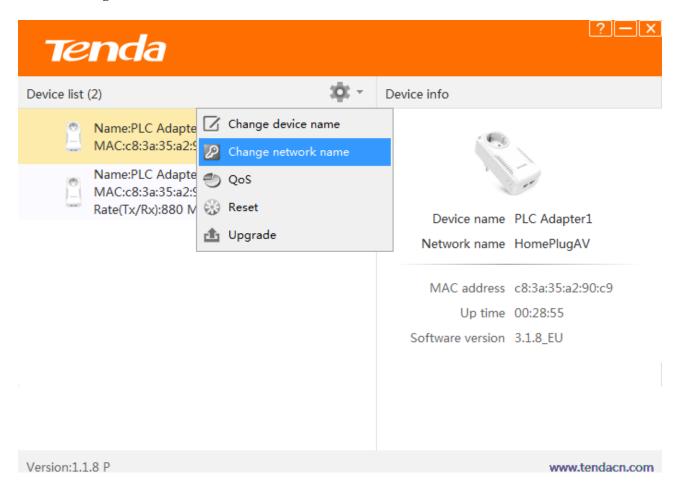


Change Network Name

Only adapters with the same network name can form a same network. Keep all adapters with the same network name if you want to form a same network.

Procedure:

- 1. Click to start configuration.
- 2. Select Change network name.

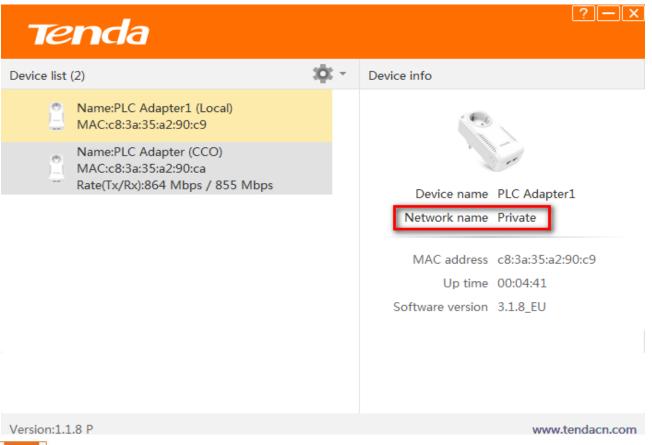


3. Specify a new network name in **Network name** edit box. Keep adapters you want to form a network with the same network name, and click **OK**.





After successful network name configuration, the Network Name will be changed from "HomPlugAV" into "Private", which means it is a private and encrypted network.



29

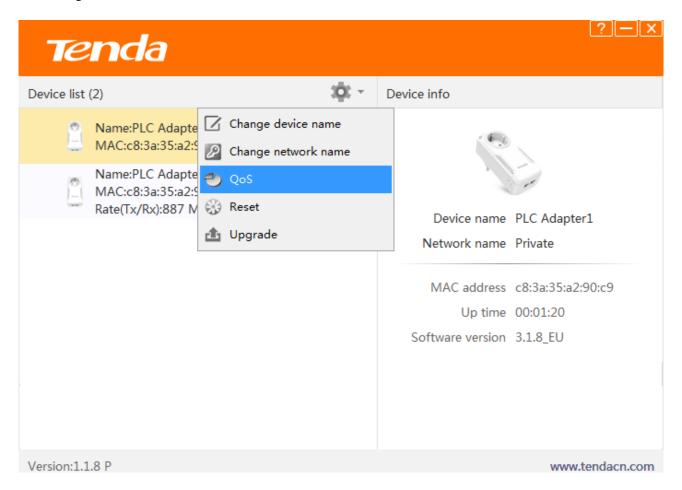


QoS

QoS prioritizes bandwidth-intensive and latency-sensitive applications and services such as Internet/IPTV/audio/video/VoIP/online game services, guaranteeing high reliability and least latency in real-time transmission of such data.

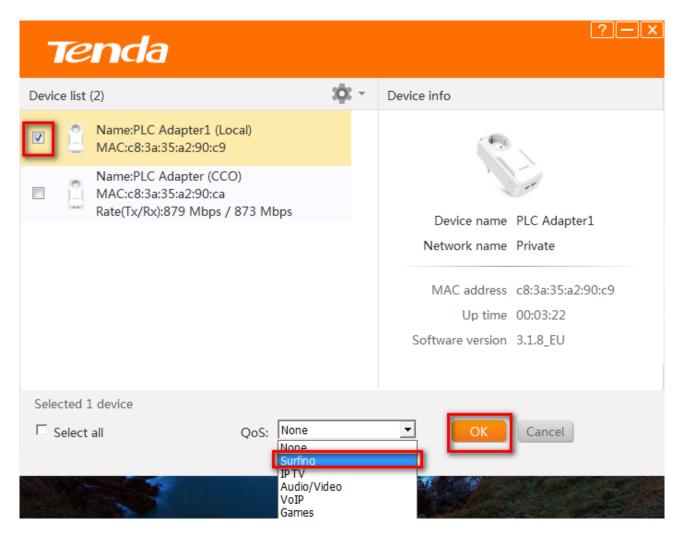
Procedure:

- 1. Click to start configuration.
- 2. Select **QoS**.



- 3. Select an adapter you want to give a priority to, or you can check the **Select all** box to apply to all adapters in **Device list**.
- 4. Click the down-arrow key of drop-down list and select the application you want to give a priority to, like Surfing. And then click OK.





Applications:

- > Surfing: Select it to prioritize HTTP data and improve Internet surfing experience. (Note: Applications/services such as web video and web gaming, etc., which using HTTP protocol will also be prioritized.
- ➤ IPTV: Select it to prioritize IPTV data. The device supports RTSP-compliant IPTV data prioritization. However, some IPTV set-top box from other manufacturers may not adopt the RTSP protocol. So if the set-top box does not prioritize IPTV data from your IPTV device, consult your manufacturer for the protocol and port info and send it to our technical staff so that we can include it in later version for better compatibility.
- ➤ Video/Audio: Select it to prioritize video/audio data streaming.
- ➤ VoIP: Select it to prioritize VoIP data. The device supports SIP-compliant and H.32 3-compliant data prioritization. However, some VoIP devices from other manufacturers may use different protocols other than the above two. So if the device does not prioritize VoIP data from your VoIP device, consult your manufacturer for the protocol and port info and send it to our technical staff so that we can include it in later version for better compatibility.
- ➤ Games: Select it to prioritize and smooth gaming traffic. Please be noted that not all gaming traffic can be prioritized due to limited QoS entries.

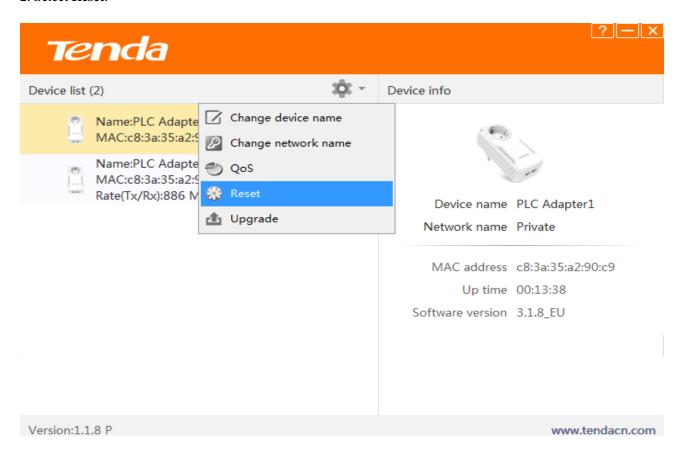


Reset

Device name will be PLC Adapter, and network name will be HomeplugAV once the device resets to factory default.

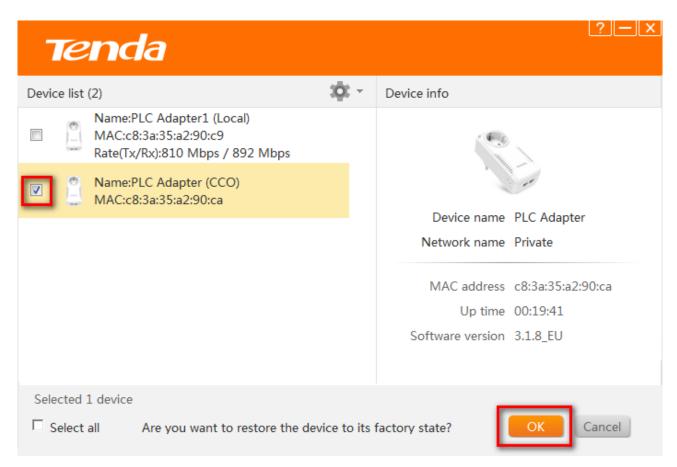
Reset configuration:

- 1. **Click** to start configuration.
- 2. Select **Reset**.



3. Select the adapter you want to reset or you can click **Select all** to reset all the adapters in **Device list**. And click **OK**.







If it is a private network before, the adapter you select to restore to factory default won't display in **Device list**. But if the adapter you reset is connected to the configuration PC via an Ethernet cable, other adapters with different network name will disappear from the list. If you want to add the adapter which you reset to the Powerline network again, you need to use the pair button, or reset all of other adapters to factory default.

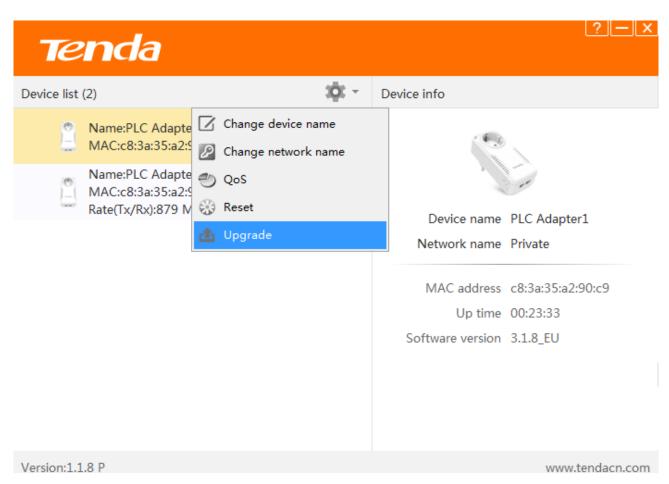
Upgrade

Upgrading the management software may get new functions. Please go to Tenda website (http://www.tendacn.com) to download upgrade file to local host.

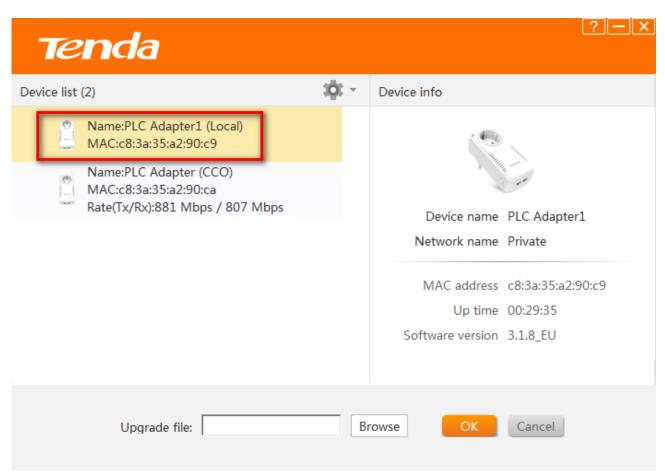
Upgrade Procedure:

- 1. Click to start configuration.
- 2. Select Upgrade.



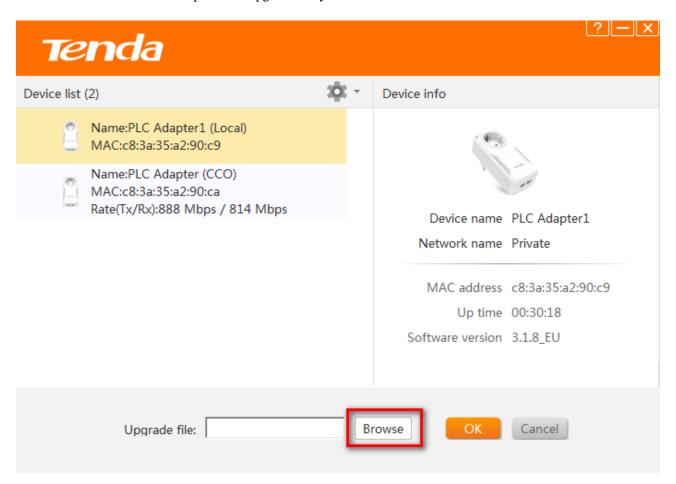


3. Select an adapter that you want to upgrade.



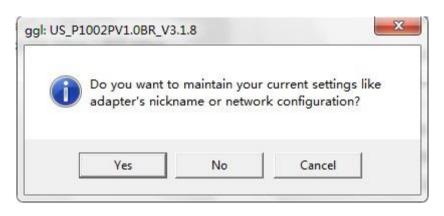


4. Click **Browse** to locate and upload the upgrade file you have downloaded.



- 5. Click **OK** to start upgrading.
- 6. Click Yes if you want to maintain your current settings.

But if you want to create a new powerline network, you can click No.



▲ Note

Do not remove the power supply or Ethernet cable before you finish upgrade.



5 Appendix

Configure Your PC

According to your computer operation system (we take Windows Operating System as examples), choose the corresponding configuration steps: Windows 8, Windows 7, Windows XP.

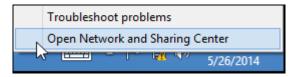
Windows 8

1. Right click the icon on the bottom right corner of your desktop.

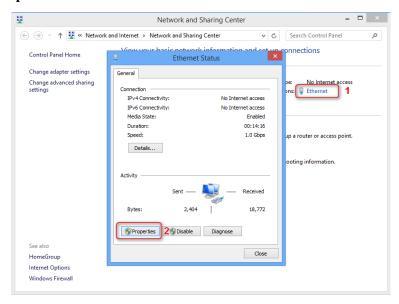




- 1. If you cannot find the icon please move your cursor to the top right corner of your desktop, select Settings > Control Panel > Network and Internet > Network and Sharing Center.
- 2. If you cannot find your wireless network from the list, ensure the Airplane Mode is not enabled on your PC.
- 2. Click Open Network and Sharing Center.

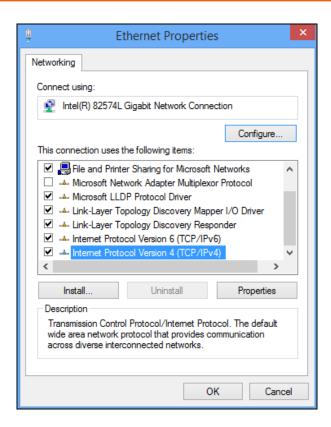


3. Click **Ethernet > Properties**.

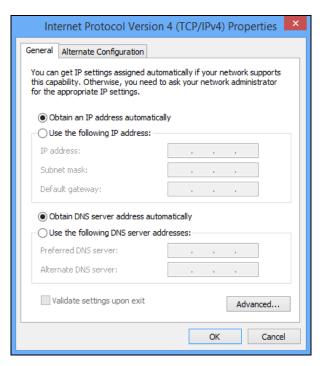


4. Find and double click Internet Protocol Version 4(TCP/IPv4).

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5. Select Obtain an IP address automatically and Obtain DNS server address automatically and click OK.



6. Click **OK** on the **Ethernet Properties** window (see 4 for the screenshot).

Windows 7

1. Click the icon on the bottom right corner of your desktop.

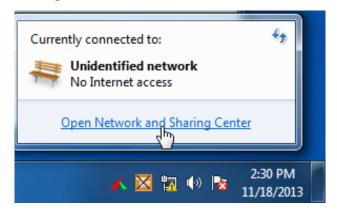




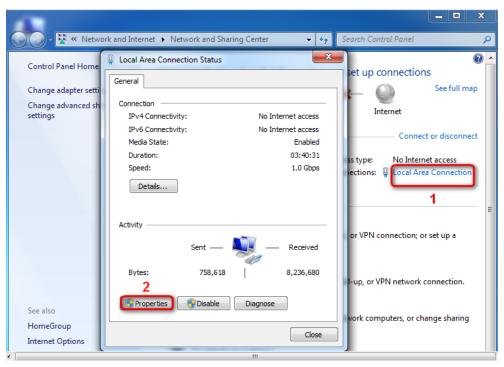


If you cannot find the icon on the bottom right corner of your desktop, follow steps below: Click Start > Control Panel > Network and Internet > Network and Sharing Center.

2. Click Open Network and Sharing Center.

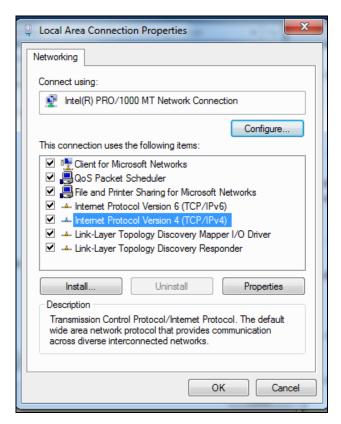


3. Click Local Area Connection > Properties.

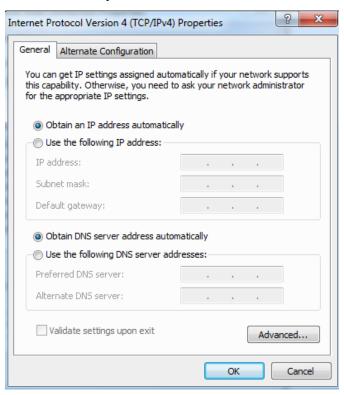


4. Find and double click Internet Protocol Version 4(TCP/IPv4).





5. Select Obtain an IP address automatically and Obtain DNS server address automatically and click OK.



6. Click **OK** on the **Local Area Connection Properties** window (see 4 for the screenshot).

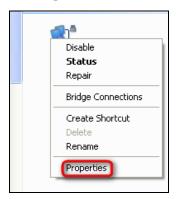
Windows XP

1. Right click My Network Places on your desktop and select Properties.

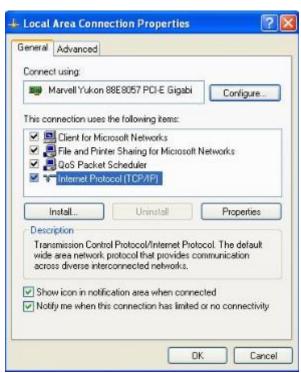




2. Right click Local Area Connection and select Properties.

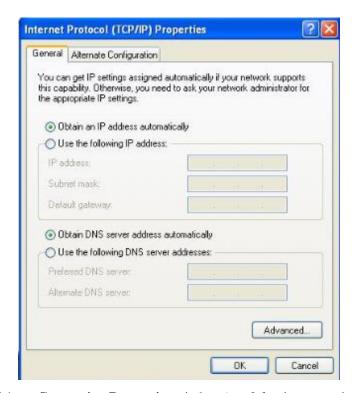


3. Scroll down to find and double click Internet Protocol (TCP/IP).



4. Select Obtain an IP address automatically and Obtain DNS server address automatically and click OK.





5. Click **OK** on the **Local Area Connection Properties** window (see 3 for the screenshot).



FAQs

Here some questions come with solutions.

Q1: What is Powerline networking?

A1: Powerline network technology upgrades your existing electric wiring, enabling transmission of both network data and electric power in a single Powerline at a high speed of up to 1000Mbps. It characterizes low cost, high-speed and better stability without new network cables required.

Q2: Can a single Powerline adapter establish a Powerline network?

A2: No, it cannot. A minimum of two Powerline adapters are required. One adapter is just used as a cable.

Q3: Can I just plug one Powerline adapter into a wall outlet to access the Internet?

A3: No, you cannot. You must connect one more such an adapter to an Internet-enabled ADSL Modem or Router, and another one to a PC. When the two adapters interconnect successfully, you can access the Internet.

Q4: Do I have to install a PLC-Config to use the device?

A4: No. The device is plug-and-play Powerline adapter. Two such devices under the same electricity meter are able to interconnect automatically, no configuration required except hardware installation. Yet, there is still a **PLC-Config** for advanced features such as QoS, private network, etc. See <u>Manage Your Powerline Adapters</u> for details.

Q5: What is the maximum distance of transmission between two Powerline adapters?

A5: Up to 300meters can be reached with least interference. However transmission rate decreases gradually beyond 100meters.

Q6: What main advantages does a Powerline adapter have over a wireless device?

A6: The Powerline adapter is a plug-and-play device, requiring no configuration. While, wireless signal not only is easily to be affected adversely by obstacles like walls and ceilings but also delivers harmful electromagnetic wave.

Q7: Can this Powerline device communicate with other adapters of different manufacturers or types?



A7: This Tenda Powerline adapter complies with HomePlugAV standard and thus can communicate with other manufacturers' HomePlugAV- compliant Powerline devices.

Q8: Will the Powerline network get disconnected upon blackout?

A8: Yes. The Powerline network delivers data over electric wiring via electricity. Without presence of electricity, data transmission by Powerline adapters is impossible.

Q9: Would it be dangerous to use the Powerline adapter in a lightning and storm weather?

A9: No. The adapter's internal thunder-/lightning-proof facility protects PC or other devices connected from any potential and harmful thunder or lightning attacks. However, you'd better unplug them in a thunderstorm.

Technical Support





Tel: (86 755) 2765 7180

E-mail: sales@tenda.com.cn support@tenda.com.cn

Website: www.tendacn.com

Skype: tendasz



Technical Specifications

Hardware Specifications		
Standards		RJ45: IEEE1901, IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.1p, IEEE802.3x. PLC: HomePlugAV2
Max Transmission Distance		300meters Powerline
Compatibility		HomePlugAV IEEE1901
Transmission Rate		PLC:1000Mbps; RJ45:10/100/1000Mbps
Button		1*Pair/Reset
LEDs		1*Power LED 1*PLC LED 1*LAN LED
Input Power		AC 100V-240V 50/60Hz
Dimensions	L (mm)	130
	W (mm)	60
	H (mm)	42
Security		128-bit AES encryption
Operating Temperature		0°C~40°C
Storage Temperature		-40°C~70°C
Operating Humidity		10%~90%RH Non-condensing
Storage Humidity		10%~90%RH Non-condensing



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.

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.

For PLUGGABLE EQUIPMENT, the socket-outlet shall be installed near the equipment and shall be easily accessible.