

IPLoA-MESH-PLC-W

User Guide



DKT COMEGA

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Introduction

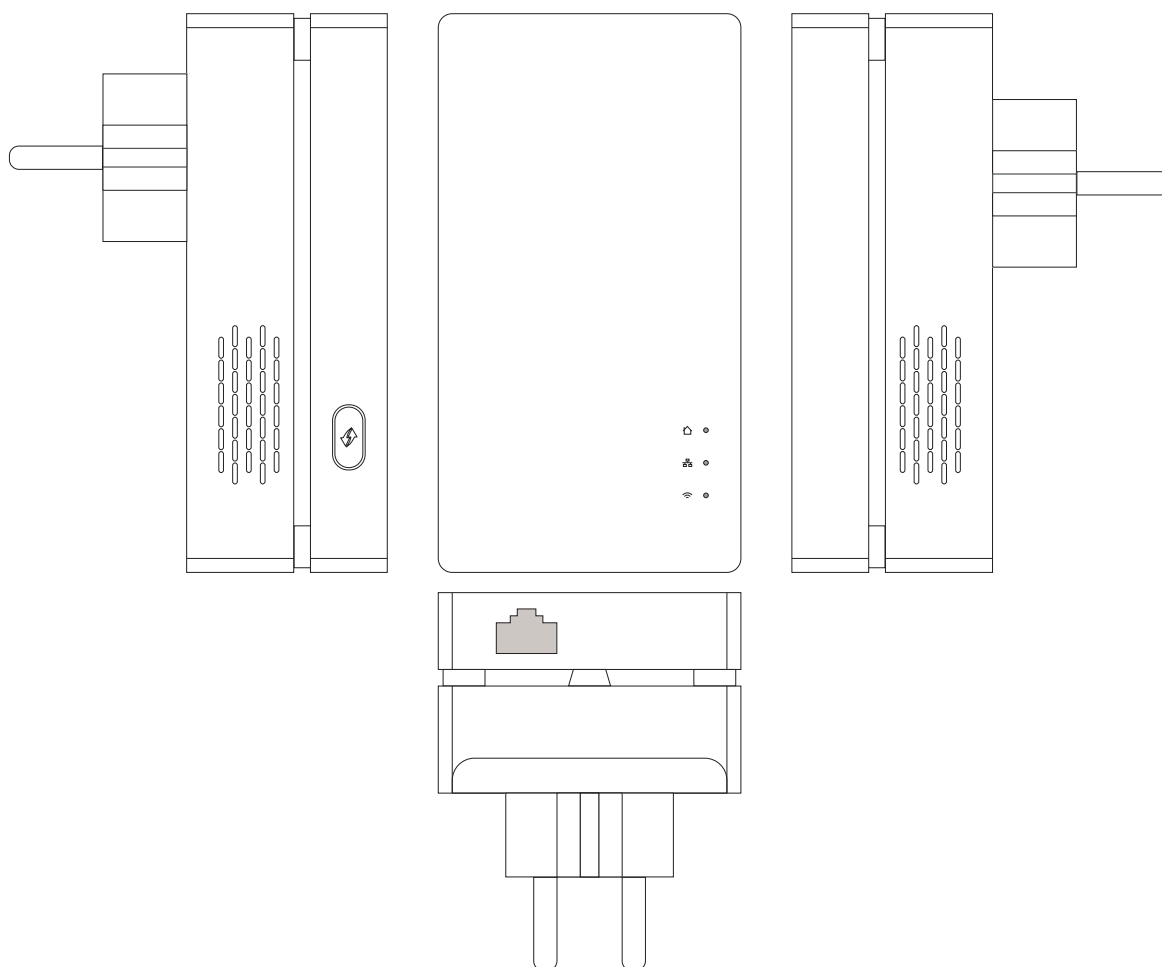
IPLoA-MESH-PLC-W, it is one product of the DKT HomeMesh family. It works in bridge mode. After connection to the 3rd residential gateway, it can establish a new home Wi-Fi network. In order to do so you need to first setup the SSID and password via web browser. Additional devices can be added to the network easily, by connecting to the unit to the powerline outlet or press the pairing button. Within the home network, the user can utilize the Wi-Fi service offering high throughput, stable- and seamless roaming between rooms.

The IPLoA-MESH-PLC-W is a combined wired/wireless network expansion device. With the help of your home's existing electrical power outlets, it can extend your Wi-Fi to wherever you want in your house.

Hardware specification

IPLoA-MESH-PLC-W

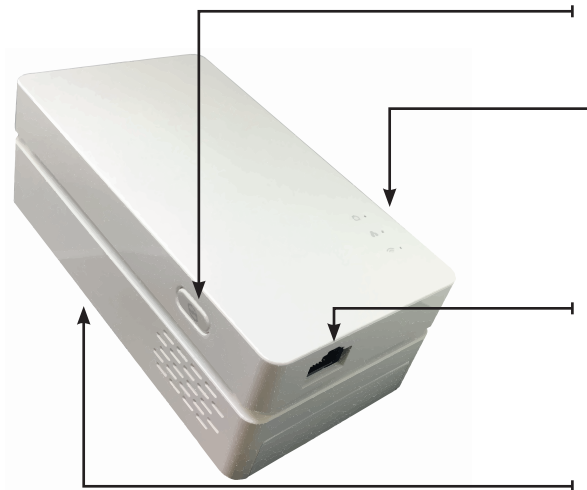
- 1 x Gigabit Ethernet interface
- 3 x LEDs, POWER LINE/LAN/Wi-Fi
- 1 x pairing button
- 2x2 2.4GHz 802.11b/g/n
- 2x2 5GHz 802.11a/n/ac
- Dual band internal antennas
- Powerline outlet mounting



Software feature

Subset	Feature
Ethernet	
	GE interface
	MDI/MDIX auto-sensing
Wi-Fi	
	2x2 2.4GHz 802.11b/g/n, 256QAM, up to 400Mbps
	2x2 5GHz 802.11a/n/ac, up to 867Mbps
	802.11ac MU-MIMO
	802.11k/v/r
	Single AP band steering
	Multi-AP coordinated steering
	After boot up, auto-channel selecting
	Video over wireless
	WPS
	Beamforming
	Multi-Country code
Network	
	Cooperate with existing home gateway
	All the devices work in L2 forwarding mode
	Central AP auto selection
	Guide SSID/web for initialize the central AP
	Setup the SSID/password of the home network via guide web
	Build home network via Wi-Fi interconnect
	Auto-sync configuration from central AP to other devices
LED	
	Power Line status LED
	LAN status LED
	Wi-Fi status LED
Upgrade	
	Local debugging upgrade for each device
Misc	
	Dual image
	SNTP client
	Factory reset by pressing button
App	
	Android
	iOS
	Display network topology
	Display devices in the home network
	Display clients in the home network
	Update SSID/password of home network

Interface



Pairing button:

- Pairing/Reset

LED:

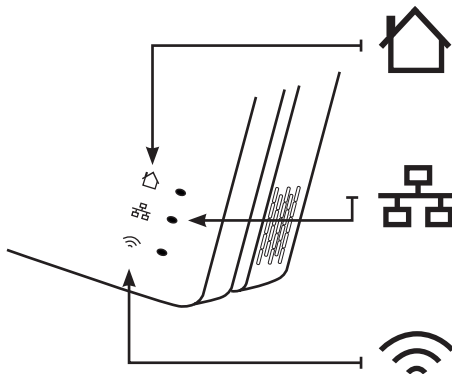
- Power Line
- LAN
- Wi-Fi

RJ 45 Connector x1:

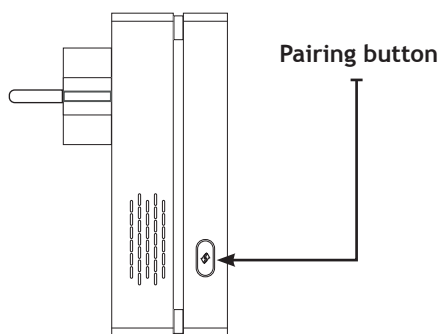
- Input/Output for Ethernet signal (LAN)

Power Plugg:

- Power Plug which can connect to any (100V-240V~, 50/60Hz) power socket

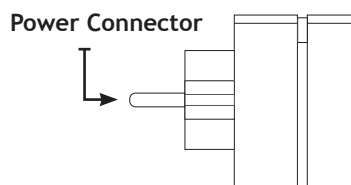


Symbol:	LED:	Indication:
Power line	Off	The unit is not connected to any powerline or broken
	Amber	The unit is ready for paring
	Amber blinking	The unit try to connect a second unit
	Green	Connection established
	Green blinking	Connection lost
LAN	Green off	No network.
	Green on	Ethernet is linked up at any port
	Green Slow blinking (95% on/5% off)	Ethernet linked up and activated as uplink
Wi-Fi	Amber On	Guide SSID enabled
	Green on	Home network SSID enabled
	Green Slow blinking (95% on/5% off)	Wi-Fi linked up



Pairing button

- Pressing the button more than 1s, less than 10 seconds (Amber Power LED starts blinking (50% on/off), then release it: Starts the power line pairing procedure and opens the configuration period.
- Pressing the button more than 10 seconds, All LEDs are ON, and then release it: Performs a factory reset.

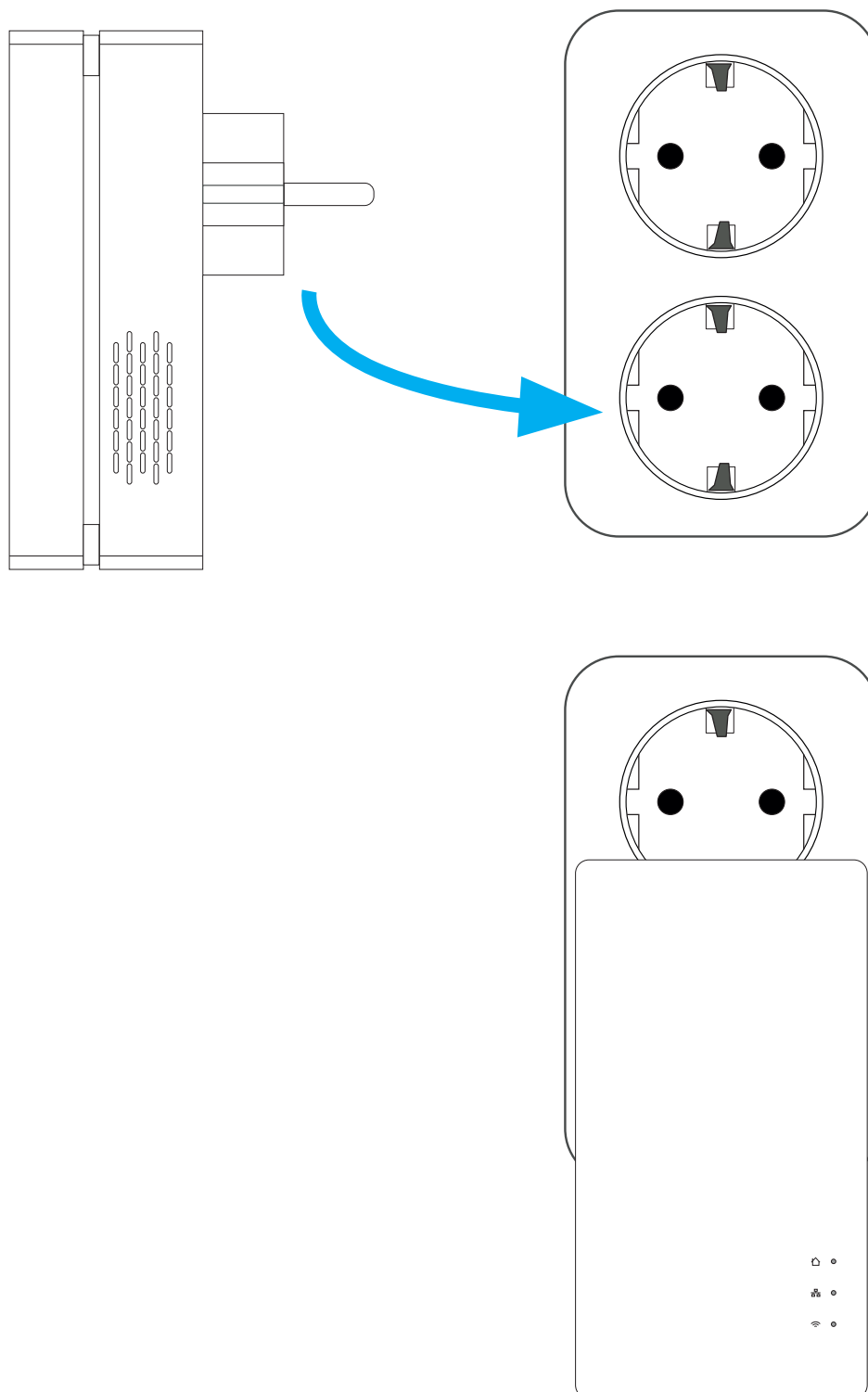


Power Supply

- Integrated power supply
- Input 100-240VAC, 0,2A max

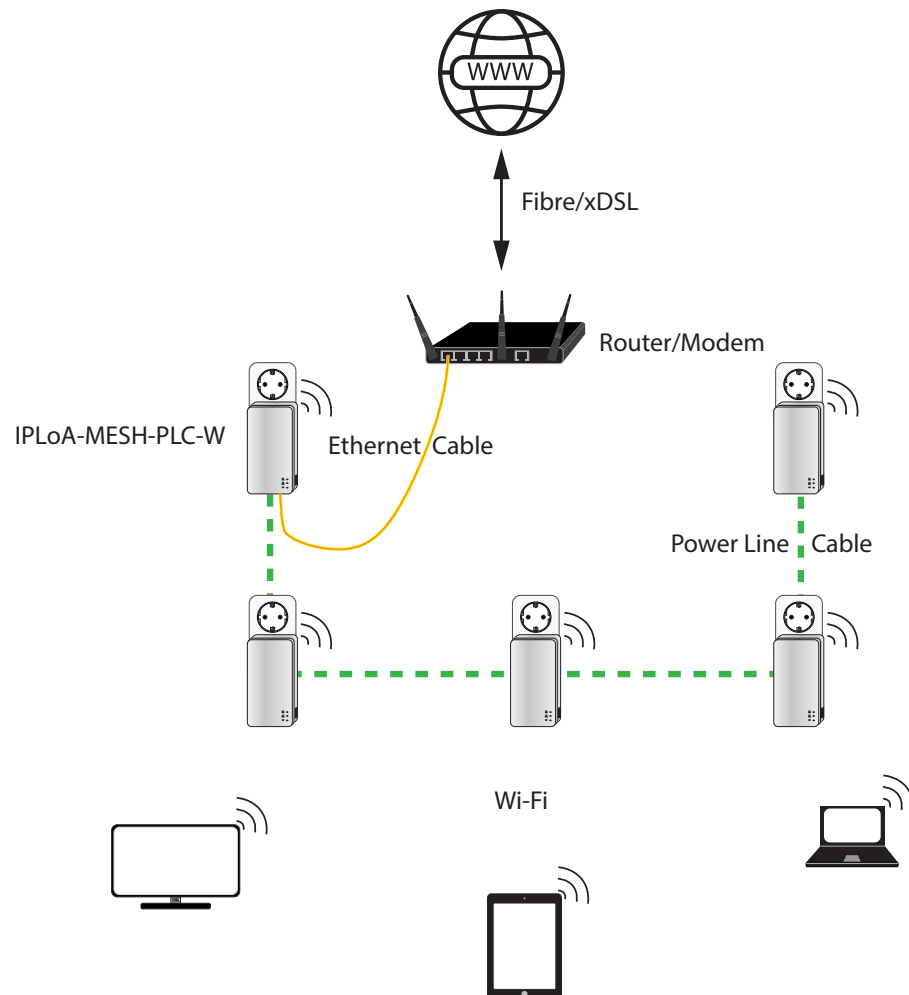
Mounting

IPLoA-MESH-PLC-W supports only power outlet mounting. The connector in this guide is a EU variant



Installation of the HomeMesh Network

The current IPLoA-MESH-PLC-W can support the following topology:



One IPLoA-MESH-PLC-W is connected to the 3rd party gateway via Ethernet cable and acts as the HomeMesh controller. Additional IPLoA-MESH-PLC-Ws can be connected to the central IPLoA-MESH-PLC-W via Wi-Fi or via the PDS.

All of these IPLoA-MESH-PLC-W build the HomeMesh Wi-Fi network and they share the same SSID and password.

The Wi-Fi devices can join the Wi-Fi network, connect to any of the IPLoA-MESH-PLC-W and roaming seamlessly among them.

Mesh installation via Power Grid

To achieve the best performance, you use a wired infrastructure as backbone such as:

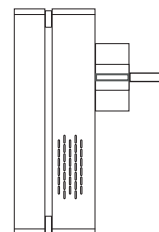
- Power grid (Power Line Communication, PLC)(not applicable to IPLoA-MESH-AC-W model)
- PDS cabling (RJ-45)
- Coax/MoCA (used for Cable-TV or broadband services) (not applicable to IPLoA-MESH-AC-W model)

In this guide we use Power grid (Power Line Communication, PLC) with all the IPLoA-MESH-PLC-W units.

Step 1: Install the first IPLoA-MESH-PLC-W

The following items should be found in your package:

1 pcs
IPLoA-MESH-
PLC-W



Check that the 3rd party gateway works normally and you are able to connect to it.

Gateway, delivery point
3rd party gateway



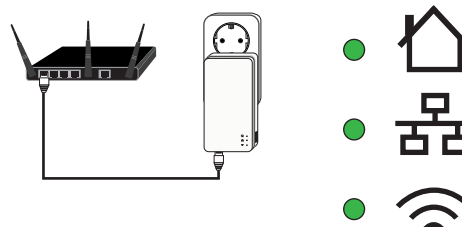
Cable or Wi-Fi



Plug in IPLoA-MESH-PLC-W to the existing ADSL / Broadband Gateway or your home Router with an Ethernet cable in LAN socket.

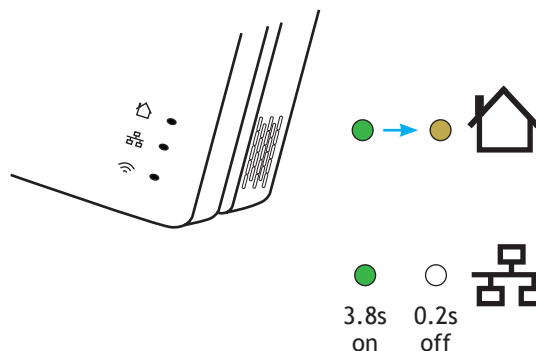


Plug in the IPLoA-MESH-PLC-W in a main power outlet. All diodes will light up in green for about 1 minute.



The Power line diode will go green first and then shift to Amber. That means that the unit is ready for pairing with other units.

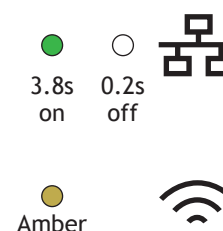
If the IPLoA-MESH-PLC-W can access 3rd party gateway or your Router then the LAN LED will be Green slow blinking (95% on/5% off).



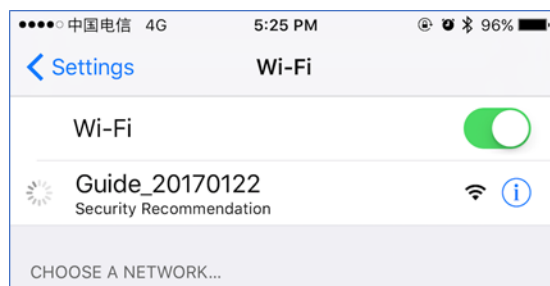
The Wi-Fi LED should be Amber. That means the Guide SSID is enabled.



If the IPLoA-MESH-PLC-W can NOT access 3rd party gateway or your Router then you are not able to access the unit to complete the installation. Please see Troubleshooting guide.

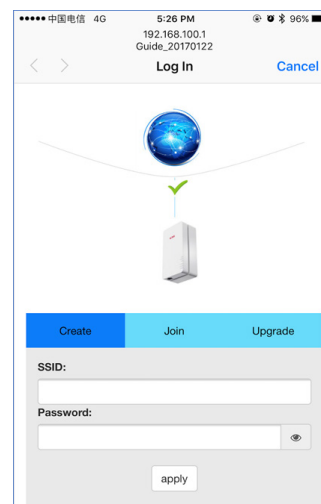


You can now scan and connect to the Guide SSID, the default Guide SSID is printed on the label of each IPLoA-MESH-PLC-W.



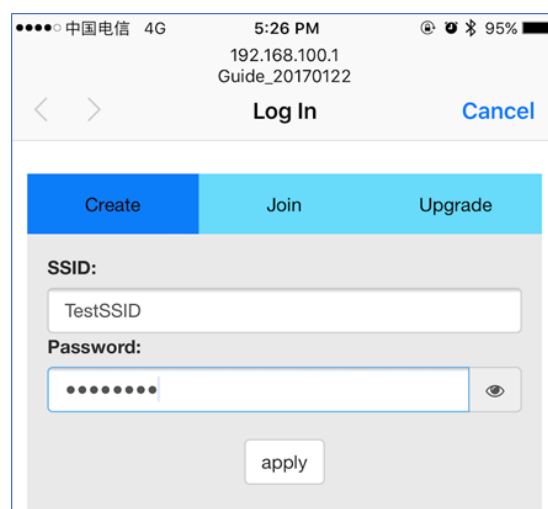
After connected to the IPLoA-MESH-PLC-W, your computer or smartphone will pop up a new browser window. It is the web guide for Wi-Fi configuration.

If there is no pop-up window then please open your web browser and try to visit any website, you will get the web guide.

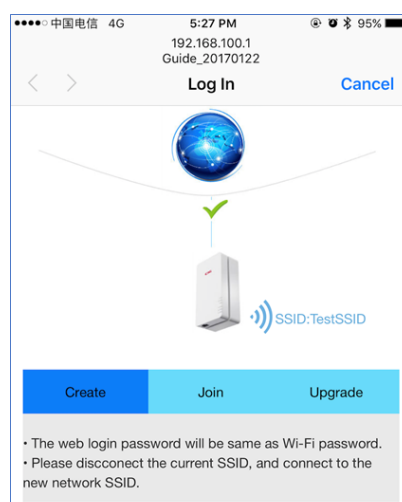


Please select 'Create new home network' to setup Wi-Fi SSID and password.

If you already have a Wi-Fi router in your home installation, it is recommended that you use an alternative SSID/Password for the new home mesh network.



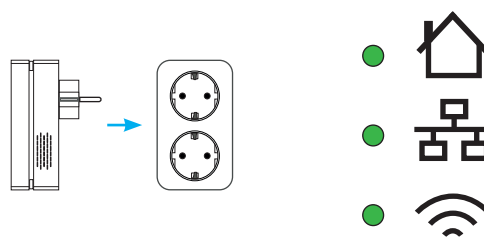
After that, please follow the instructions on the login screen.



Step 2: Add the second IPLoA-MESH-PLC-W

Plug in the second IPLoA-MESH-PLC-W in a main power outlet.

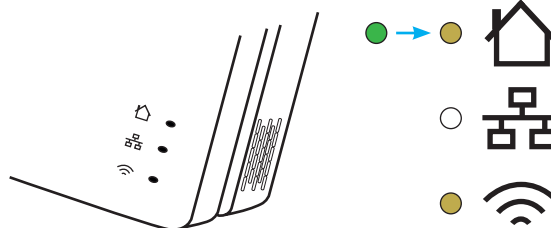
All diodes will light up in green for about 1 minute



The Power line diode will go green first and then shift to Amber. That means that the unit is ready for pairing with other units.

The LAN diode will be OFF

The Wi-Fi LED should be Amber.



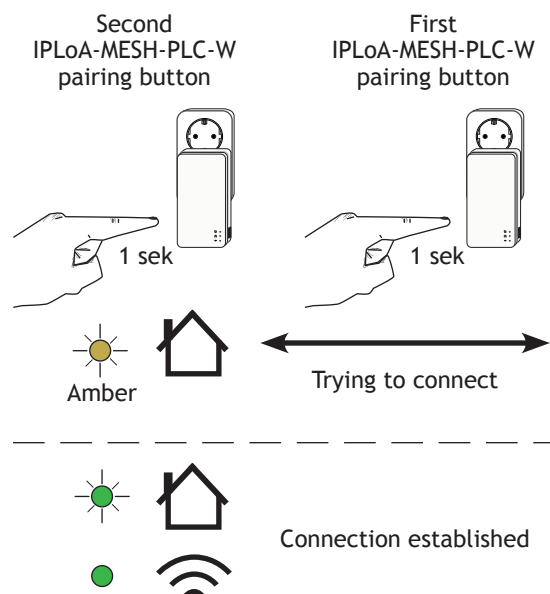
Press the pairing button more than 1 second and less than 10 seconds.

Thereafter, press the pairing button on the first IPLoA-MESH-AC-W more than 1 second.

The second IPLoA-MESH-PLC-W will try to connect to the first IPLoA-MESH-PLC-W, and the power line LED will be Amber blinking (50% on/off).

If the connection is completely set up then the power line LED will be green slow blinking (95% on/5% off) and the Wi-Fi LED will be Green.

The addition is successful.



Step 3: Add more IPLoA-MESH-PLC-W units

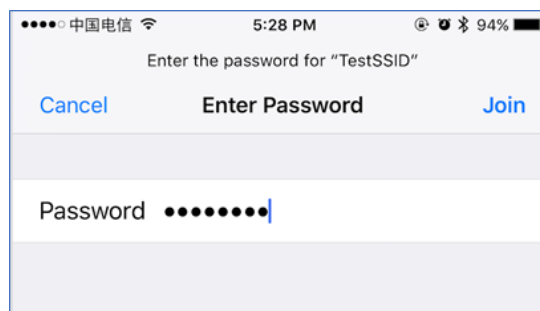
Please repeat Step 2 to add more IPLoA-MESH-PLC-W.

Step 4: Scan and join the Wi-Fi network

Use your laptop or smartphone to scan available Wi-Fi networks.

Select the HomeMesh Wi-Fi network and input password.

You will connect to the Wi-Fi network.



Troubleshooting guide

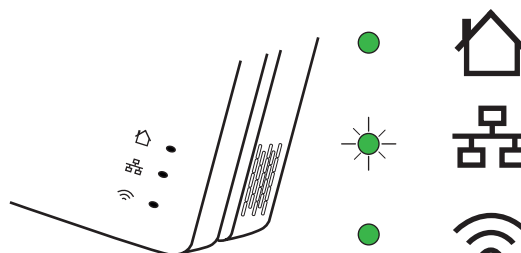
A: If you find your Wi-Fi network works abnormally.
Please do the following check.

Step 1:

Check the status of central IPLoA-MESH-PLC-W

The normal LED behavior should be:

- Power Line LED: Green on
- LAN LED: Green slow blinking (95% on/5% off)
- Wi-Fi LED: Green on



If Power Line LED is off then the hardware is broken, please use one of the other IPLoA-MESH-PLC-W as the central controller, connect it to 3rd party gateway via Ethernet cable.

If Power Line LED is blinking green fast, the unit has no connection to other units.

If LAN LED is not correct then please check the 3rd party gateway and the Ethernet cable.

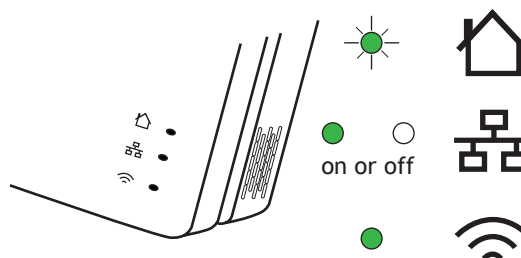
If Wi-Fi LED is not correct then please press the pairing button more 10s to do factory reset and after the device boot up, re-initialize the whole network.

Step 2:

Check the status of other IPLoA-MESH-PLC-W

The normal LED behavior should be:

- Power Line LED: Green slow blinking (95% on/5% off)
- LAN LED: Green on (Ethernet port connect to some device, such as a PC), or Off (no Ethernet link)
- Wi-Fi LED: Green on



If Power LED is off then the hardware is broken. Please replace the hardware and do pairing with central IPLoA-MESH-PLC-W again.

If Wi-Fi LED is not correct then please press the pairing button more 1s to do pairing with central IPLoA-MESH-PLC-W again.

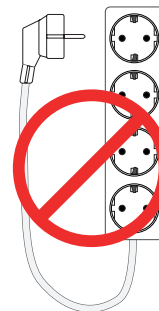
B: If your IPLoA-MESH-PLC-W can not communicate over the power line outlet, the Power line diode on the main unit will blink green fast.

Please do the following check:

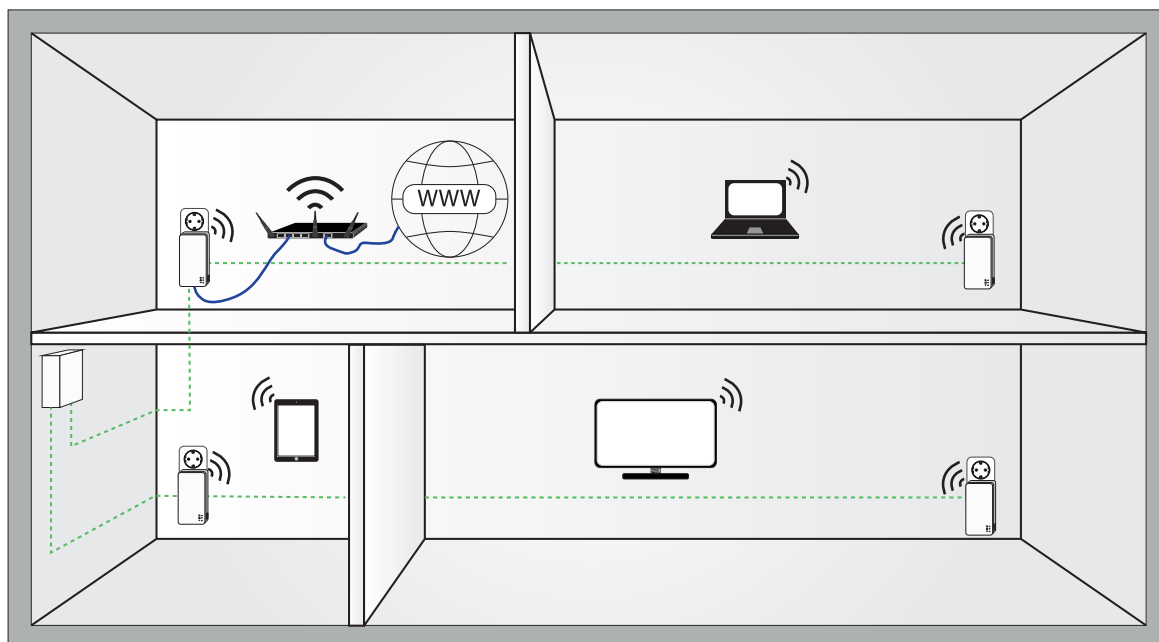
Try to plug the unit into a nearby power outlet and check whether the Power line LED lights up or not.

Make sure that the unit is plugged into a wall socket and not a power strip.

Reset the device to its factory default values.



Installation examples

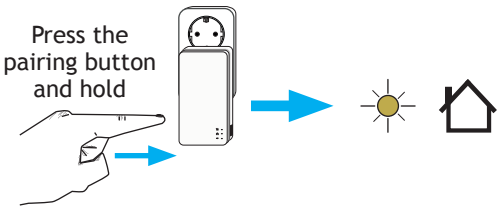


Factory reset

A factory reset of the unit will clear all settings and load default values. This means that the unit will be as "out of the box" and you have to do a new installation.

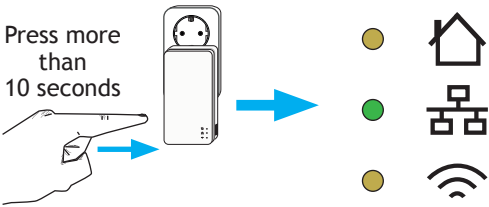
During factory reset the unit shall be plugged into a power outlet.

Press the pairing button and the power line diode start blinking.



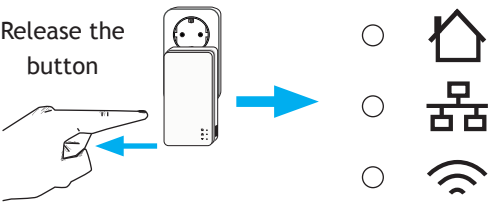
Hold it untill:

- Power line diode turn amber
 - LAN diode turn green
 - Wi-Fi diode turn amber
- (takes approximately 10 seconds)

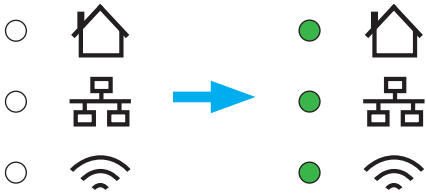


Then release the button.

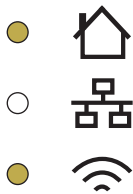
All the diodes turns off



After approximately 10 seconds all the diodes turns green and stays so for approximately 1 minute.



Then Power line diode turn amber first and after a few seconds Wi-Fi diode turn amber



The unit is now reset and you can do a new installation