tp-link Business Networking Solution

Installation Guide

Auranet Wireless Controller

AC500/AC50

About this Installation Guide

This Installation Guide describes the hardware characteristics, installation methods and the points that should be attended to during the installation. This Installation Guide is structured as follows:

Chapter 1 Introduction.

This chapter describes the external components of the device.

Chapter 2 Installation.

This chapter illustrates how to install the device.

Chapter 3 Connection.

This chapter illustrates how to do the physical connection of the device.

Appendix A Troubleshooting.

Appendix B Hardware Specifications.

Audience

This Installation Guide is for:

Network Engineer   Network Administrator

Conventions

The figures in Chapter 2 to Chapter 3 are for demonstration purposes only. Your device may differ in appearance from that depicted.

This Guide uses the specific formats to highlight special messages. The following table lists the notice icons that are used throughout this guide.

⚠	Remind to be careful. A caution indicates a potential which may result in device damage.
🗎	Remind to take notice. The note contains the helpful information for a better use of the product.

Related Document

This Installation Guide is also available in PDF on our website. To obtain the latest documentation and product information, please visit the official website:

http://www.tp-link.com

Contents

Chapter 1 Introduction

1.1   Product Overview

The Wireless Controller is a device used for centralized management of Access Points (APs). It allows users to configure APs in batches using a web browser and conduct real-time monitoring of each AP in the network. This device supports AP automatic discovery, AP status monitoring, AP centralized control, MAC filtering, radio management, load balance, dual-link backup and various authentication types.
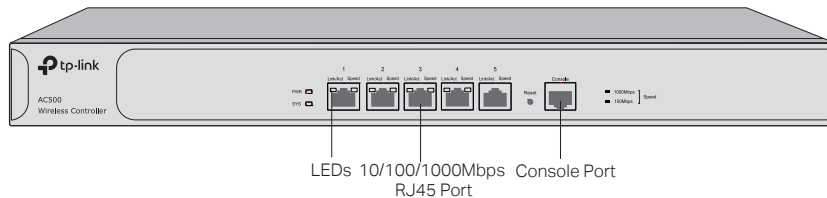
This wireless controller makes it easier to configure and manage dozens or hundreds of APs in a large public environment, such as markets, hotels, companies and campuses, etc. AC500 wireless controller supports to manage 500 APs at the same time and AC50 wireless controller supports 50 APs.

1.2   Appearance

- **Front Panel**

The front panel of AC500 is shown as the following figure.

Figure 1-1   Front Panel of AC500

LEDs 10/100/1000Mbps Console Port
RJ45 Port

LEDs

LED	Indication
PWR	**On**: The device is powered on and works normally.
	Off: The device is powered off or power supply is abnormal.
SYS	**On or Off**: The system is abnormal.
	Flashing: The system is working normally.
Link/Act	**On**: There is a device linked to the corresponding port but no activity.
	Flashing: The corresponding port is transmitting or receiving data.
	Off: There is no device linked to the corresponding port.
Speed	**Green**: The corresponding port is running at 1000Mbps.
	Yellow: The corresponding port is running at 100Mbps.
	Off: The corresponding port is running at 10Mbps or the link is not established.

10/100/1000Mbps RJ45 Port

Designed to connect to the device with a bandwidth of 10Mbps, 100Mbps or 1000Mbps. Each has a corresponding Link/Act LED.

Console Port

Designed to connect with the serial port of a computer or terminal for monitoring and configuring the device.
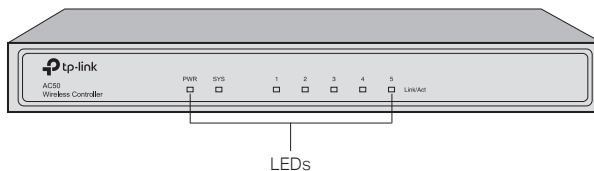
Note:
The console port is only used for debugging by the engineers. Users cannot use the console port to congifure the device at present.

Reset

Use the button to restore the wireless controller to the factory defaults. With the device powered on, use a pin to press and hold the Reset button (more than 5 seconds), then release the button. If the SYS LED is flashing quickly about 1 or 2 seconds, it indicates the device is restored successfully.

The front panel of AC50 is shown as the following figure.

Figure 1-2   Front Panel of AC50

LEDs

LEDs

LED	Indication
PWR	**On**: The device is powered on and works normally.
	Off: The device is powered off or power supply is abnormal.
SYS	**On/Off**: The system is abnormal.
	Flashing: The system is working normally.
Link/Act	**On**: There is a device linked to the corresponding port but no activity.
	Flashing: The corresponding port is transmitting or receiving data.
	Off: There is no device linked to the corresponding port.

- **Rear Panel**

The rear panel of AC500 is shown as the following figure.

Figure 1-3   Rear Panel of AC500

Grounding
Terminal

Power
Socket
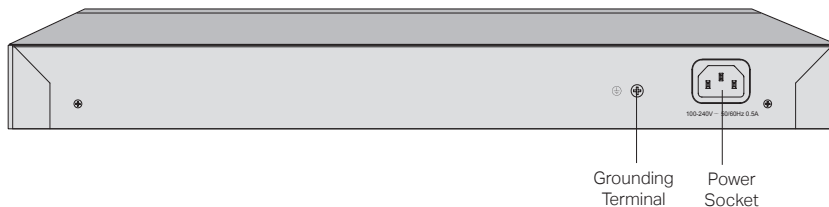
Grounding Terminal

The wireless controller already comes with lightning protection mechanism. You can also ground the

controller through the PE (Protecting Earth) cable of alternating current cord or with Ground Cable. For detailed information, please refer to the **Lightning Protection Guide** from the training center of our website http://www.tp-link.com/en/configuration-guides.html.

Power Socket

Connect the female connector of the power cord here, and the male connector to the AC (Alternating Current) power outlet. Please make sure the voltage of the power supply meets the requirement of the input voltage.

Caution:
Please use the provided power cord.

The rear panel of AC50 is shown as the following figure.

Figure 1-4   Rear Panel of AC50

Power
Socket

10/100Mbps
RJ45 Port

Power Socket

Connect the female connector of the power cord here, and the male connector to the AC (Alternating Current) power outlet. Please make sure the voltage of the power supply meets the requirement of the input voltage.
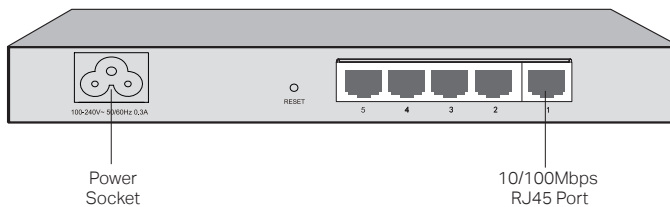
Caution:
Please use the provided power cord.

Reset

Use the button to restore the wireless controller to the factory defaults. With the device powered on, use a pin to press and hold the Reset button (more than 5 seconds), then release the button. If the SYS LED is flashing quickly about 1 or 2 seconds, it indicates the device is restored successfully.

10/100Mbps RJ45 Port

Designed to connect to the device with a bandwidth of 10Mbps or 100Mbps.

Chapter 2 Installation

2.1 Package Contents

Make sure that the package contains the following items. If any of the listed items is damaged or missing, please contact your distributor.

One Wireless Controller	One Power Cord

Two mounting brackets, eight screws and four feet	This Installation Guide
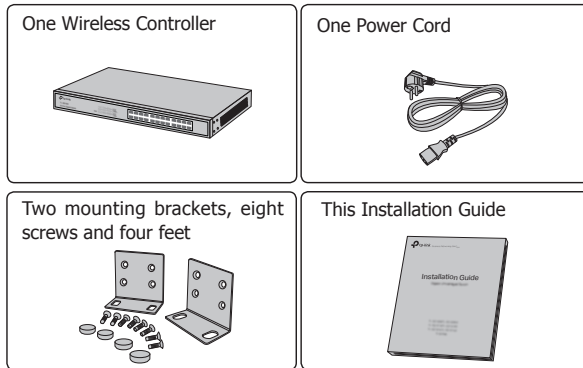
Note:
Here we take AC500 as an example. The package of AC50 doesn't include mounting brackets, screws and feet.

2.2 Safety Precautions

To avoid any device damage and bodily injury caused by improper use, please observe the following rules.

▪ **Safety Precautions**

· Keep the power off during the installation.

· Wear an ESD-preventive wrist strap, and make sure that the wrist strap has a good skin contact and is well grounded.

· Use only the power cord provided with the device.

· Make sure that the supply voltage matches the specifications indicated on the rear panel of the device.

· Ensure the vent hole is well ventilated and unblocked.

· Do not open or remove the cover of the device.

· Before cleaning the device, cut off the power supply. Do not clean it by the waterish cloth, and never use any other liquid cleaning method.

· Place the device with its bottom surface downward.

- **Site Requirements**

Temperature/Humidity
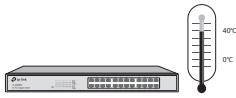
Please keep a proper temperature and humidity in the equipment room. Too high/low humidity may lead to bad insulation, electricity leakage, mechanical property changes and corrosions. Too high temperature may accelerate aging of the insulation materials and can thus significantly shorten the service life of the device. For normal temperature and humidity of the device, please check the following table.

| Environment	Temperature	Humidity
Operating	0℃ to 40℃	10% to 90%RH Non-condensing
Storage	-40℃ to 70℃	5% to 90%RH Non-condensing

Clearness

The dust accumulated on the device can be absorbed by static electricity and result in poor contact of metal contact points. Some measures have been taken for the device to prevent static electricity, but too strong static electricity can cause deadly damage to the electronic elements on the internal circuit board. To avoid the effect of static electricity on the operation of the Switch, please attach much importance to the following items:

· Dust the device regularly, and keep the indoor air clean.

· Keep the device well grounded and ensure static electricity has been transferred.

Electromagnetic Interference
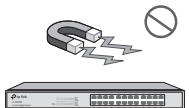
Electronic elements including capacitance and inductance on the device can be affected by external interferences, such as conducted emission by capacitance coupling, inductance coupling, and impedance coupling. To decrease the interferences, please make sure to take the following measures:

· Use the power supply that can effectively filter interference from the power grid.

· Keep the device far from high-frequency, strong-current devices, such as radio transmitting station.

· Use electromagnetic shielding when necessary.

Lightening Protection

Extremely high voltage currents can be produced instantly when lightning occurs and the air in the electric discharge path can be instantly heated up to 20,000℃. As this instant current is strong enough to damage electronic devices, more effective lightning protection measures should be taken.

· Ensure the rack and device are well earthed.

· Make sure the power socket has a good contact with the ground.

· Keep a reasonable cabling system and avoid induced lightning.

· Use the signal SPD (Surge Protective Device) when wiring outdoor.

Note:
For detailed lightning protection measures, please refer to the Lightning Protection Guide from the training center of our website http://www.tp-link.com/en/configuration-guides.html.
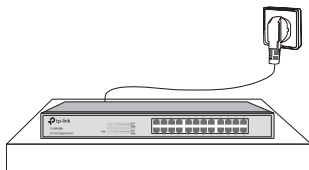
Installation Site

When installing the device on a rack or a flat workbench, please note the following items:

· The rack or workbench is flat and stable, and sturdy enough to support the weight of 5.5kg at least.

· The rack or workbench has a good ventilation system. The equipment room is well ventilated.

· The rack is well grounded. Keep the power socket less than 1.5 meters away from the device.

2.3   Installation Tools

· Phillips screwdriver

· ESD-preventive wrist wrap

· Cables

Note:
These tools are not provided with our product. If needed, please self purchase them.

2.4   Product Installation

▪   Desktop Installation

To install the device on the desktop, please follow the steps:

1. Set the device on a flat surface strong enough to support the entire weight of the device with all fittings.

2. Remove the adhesive backing papers from the rubber feet.

3. Turnover the device and attach the supplied rubber feet to the recessed areas on the bottom at each corner of the device.

Figure 2-5   Desktop Installation

Feet
Bottom of the Device
Notch
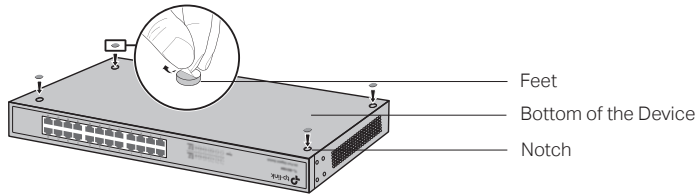
- **Rack Installation (Only for AC500)**

To install the device in an EIA standard-sized, 19-inch rack, follow the instructions described below:

1. Check the grounding and stability of the rack.

2. Secure the supplied rack-mounting brackets to each side of the device with supplied screws, as illustrated in the following figure.

Figure 2-6   Bracket Installation

Rack-mounting Bracket
Screw
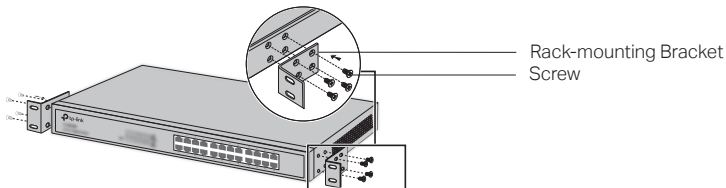
3. After the brackets are attached to the device, use suitable screws (not provided) to secure the brackets to the rack, as illustrated in the following figure.

Figure 2-7   Rack Installation
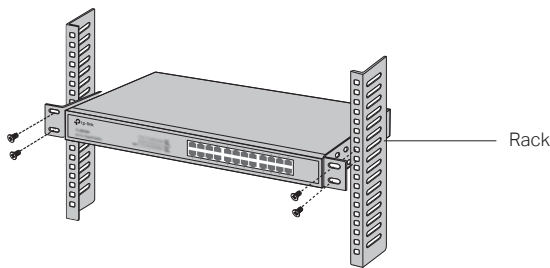
Rack

Caution:
· Please set 5 to 10cm gaps around the device for air circulation.
· Please avoid any heavy thing placed on the device.
· Please mount devices in sequence from the bottom to top of the rack and ensure a certain clearance between devices for the purpose of heat dissipation.

Chapter 3 Connection

3.1   Ethernet Port

Connect a Ethernet port of the device to the computer by RJ45 cable as the following figureshows.

Figure 3-1   Connecting the RJ45 Port
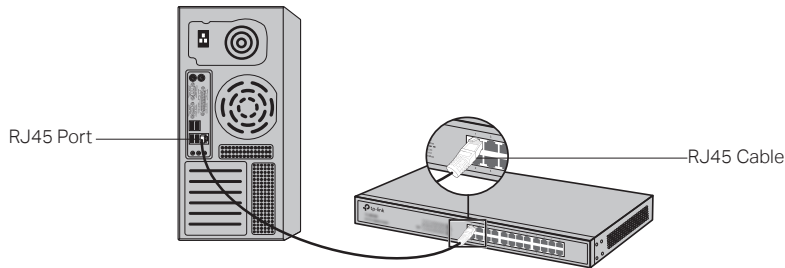

3.2   Verify Installation

After completing the installation, please verify the following items:

·   There are 5 to 10cm of clearance around the sides of the device for ventilation and the air flow is adequate.

·   The voltage of the power supply meets the requirement of the input voltage of the device.

·   The power socket, device and rack are well grounded.

·   The device is correctly connected to other network devices.

3.3   Power On

Plug in the negative connector of the provided power cord into the power socket of the device, and the positive connector into a power outlet as the following figure shows.

Figure 3-2   Connecting to Power Supply
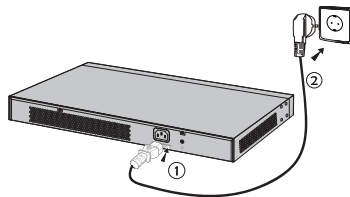
Note:
The figure is to illustrate the application and principle. The power plug you get from the package and the socket in your situation will comply with the regulation in your country, so they may differ from the figure above.

3.4   Initialization

After the device is powered on, it begins the Power-On Self-Test. A series of tests run automatically to ensure the device functions properly. During this time, its LED indicators will respond as follows:

For AC500:

-   The PWR LED remains on all the time.
-   The SYS LED keeps flashing quickly.
-   The Link/Act and Speed LEDs flash momentarily and then turn off.
-   The SYS LED flashes quickly for a while. Then it flashes every second continuously, which represents a successful initialization.

For AC50:

-   The PWR LED remains on all the time.
-   All LEDs except PWR LED flash momentarily, and then turn off.
-   The SYS LED flashes quickly for a while. Then it flashes every second continuously, which represents a successful initialization.

3.5   Accessing the Wireless Controller

After the initializaiton finished, you can access and manage the wireless controller using the GUI (Graphical User Interface). To access the switch using the GUI, open a web browser and type the default management address http://192.168.0.253 in the address field, then press the Enter key. After that, create a username and a password for subsequent login.

For the detailed configurations, please refer to the Configuration Guide. The guide can be found on the download center of our official website: http://www.tp-link.com/en/download-center.html.

Appendix A Troubleshooting

Q1. The Power LED is not lit

The Power LED should be lit up when the power system works normally. If the Power LED worked abnormally, please check as follows:

1. Make sure that the power cable is connected properly, and the power contact is normal.
2. Make sure the voltage of the power supply meets the requirement of the input voltage of the device.

Q2. The Link/Act LED is not lit when a device is connected to the corresponding port

Please check as follows:

1. Make sure that the cable connectors are firmly plugged into the controller and the device.
2. Make sure the connected device is turned on and working well.
3. The cable must be less than 100 meters long (328 feet).

Q3. What could I do if I forgot the username and password of the device?

Furthermore, you can also restore the device to factory defaults, Please refer to 1.2 Appearance of this Installation Guide for further details. The default management address of the device is http://192.168.0.253. All your current settings will be cleared after the device is restored. If you have backup configuration, please import it.

Q4. Why does the PWR LED work abnormally?

The PWR LED should be lit up when the power system works normally. If the PWR LED worked abnormally, please check as follows:

1. Make sure that the power cable is connected properly, and the power contact is normal.
2. Make sure the voltage of the power supply meets the requirement of the input voltage of the device.

Q5. What could I do if I could not access the web-based configuration page?

You are recommended to check the following items:

1. Check every port LED on the device and make sure the cable is installed properly.
2. Try another port on the device and make sure the cable meets the requirement and works normally.
3. Turn off the power. After a while, turn on the power again.
4. Make sure the IP address of your PC is set within the subnet of the device.

5. If you still cannot access the configuration page, please restore the device to its factory defaults. Then the IP address should be set as 192.168.0.x ("x" is any number from 2 to 252) and Subnet Mask as 255.255.255.0.

Q6. Why does the page display abnormally?

Please check as follows:

1. Update your browser or replace it with another browser, and try again.
2. If the pop-up is blocked, please lower the security level of the browser.

Appendix B Hardware Specifications

- **AC500**

Item	Content		
Standards	IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3x		
Transmission Medium	10Base-T	UTP/STP of Cat. 3 or above (maximum 100m)	
	100Base-TX	2-pair UTP/STP of Cat. 5 or above (maximum 100m)	
	1000Base-T	4-pair UTP/STP of Cat. 5e or above (maximum 100m)	
Safety & Emissions	FCC, CE		
LEDs	PWR, SYS, Link/Act, Speed		
Power	100-240V 50/60Hz 0.5A		
Operating Temperature	0℃ to 40℃		
Storage Temperature	-40℃ to 70℃		
Operating Humidity	10% to 90%RH Non-condensing		
Storage Humidity	5% to 90%RH Non-condensing		

- **AC50**

Item	Content	
Standards	IEEE802.3, IEEE802.3i, IEEE802.3u, IEEE802.3x	
Transmission Medium	10Base-T	UTP/STP of Cat. 3 or above (maximum 100m)
	100Base-TX	2-pair UTP/STP of Cat. 5 or above (maximum 100m)
Safety & Emissions	FCC, CE	
LEDs	PWR, SYS, Link/Act	
Power	100-240V 50/60Hz 0.3A	
Operating Temperature	0℃ to 40℃	
Storage Temperature	-40℃ to 70℃	
Operating Humidity	10% to 90%RH Non-condensing	
Storage Humidity	5% to 90%RH Non-condensing	

FCC STATEMENT (AC500)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference.

2) This device must accept any interference received, including interference that may cause undesired operation.

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

FCC STATEMENT (AC50)

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 complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference.

2) This device must accept any interference received, including interference that may cause undesired operation.

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

BSMI Notice (AC500)

安全諮詢及注意事項

1) 請使用原裝電源供應器或只能按照本產品注明的電源類型使用本產品。

2) 清潔本產品之前請先拔掉電源線。請勿使用液體、噴霧清潔劑或濕布進行清潔。

3) 注意防潮，請勿將水或其他液體潑灑到本產品上。

4) 插槽與開口供通風使用，以確保本產品的操作可靠並防止過熱，請勿堵塞或覆蓋開口。

5) 請勿將本產品置放於靠近熱源的地方。除非有正常的通風，否則不可放在密閉位置中。

6) 請不要私自打開機殼，不要嘗試自行維修本產品，請由授權的專業人士進行此項工作。

7) 此為甲類資訊技術設備，于居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

限用物質含有情況標示聲明書

產品元件名稱	限用物質及其化學符號					
	鉛 Pb	鎘 Cd	汞 Hg	六價鉻 CrVI	多溴聯苯 PBB	多溴二苯醚 PBDE
PCB	○	○	○	○	○	○
外殼	○	○	○	○	○	○
備考1. "超出0.1 wt %" 及 "超出0.01 wt %" 系指限用物質之百分比含量超出百分比含量基準值。 備考2. "○"系指該項限用物質之百分比含量未超出百分比含量基準值。 備考3. " – " 系指該項限用物質為排除項目。						

BSMI Notice (AC50)

安全諮詢及注意事項

1) 請使用原裝電源供應器或只能按照本產品注明的電源類型使用本產品。

2) 清潔本產品之前請先拔掉電源線。請勿使用液體、噴霧清潔劑或濕布進行清潔。

3) 注意防潮，請勿將水或其他液體潑灑到本產品上。

4) 插槽與開口供通風使用，以確保本產品的操作可靠並防止過熱，請勿堵塞或覆蓋開口。

5) 請勿將本產品置放於靠近熱源的地方。除非有正常的通風，否則不可放在密閉位置中。

6) 請不要私自打開機殼，不要嘗試自行維修本產品，請由授權的專業人士進行此項工作。

限用物質含有情況標示聲明書

產品元件名稱	限用物質及其化學符號					
	鉛 Pb	鎘 Cd	汞 Hg	六價鉻 CrVI	多溴聯苯 PBB	多溴二苯醚 PBDE
PCB	○	○	○	○	○	○
外殼	○	○	○	○	○	○

備考1. "超出0.1 wt %" 及 "超出0.01 wt %" 系指限用物質之百分比含量超出百分比含量基準值。
備考2. "○"系指該項限用物質之百分比含量未超出百分比含量基準值。
備考3. " - " 系指該項限用物質為排除項目。

Industry Canada Statement (AC500)

CAN ICES-3 (A)/NMB-3(A)

Industry Canada Statement (AC50)

CAN ICES-3 (B)/NMB-3(B)

CE Mark Warning (AC500)

$C\epsilon$

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

CE Mark Warning (AC50)

$C\epsilon$

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.

EAC

Продукт сертифіковано згідно с правилами системи УкрСЕПРО на відповідність вимогам нормативних документів та вимогам, що передбачені чинними законодавчими актами України.

Safety Information

- When product has power button, the power button is one of the way to shut off the product; when there is no power button, the only way to completely shut off power is to disconnect the product or the power adapter from the power source.

- Don't disassemble the product, or make repairs yourself. You run the risk of electric shock and voiding the limited warranty. If you need service, please contact us.

- Avoid water and wet locations.

Explanation of the symbols on the product label

Symbol	Explanation
$\sim$	AC voltage
	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 technical support and other information, please visit
http://www.tp-link.com/support, or simply scan the QR code.