TRENDNET®

User's Guide

TPL-304E
TPL-304E2K
1.01

Table of Contents

Installation

This chapter describes how to set up the TPL-304E / TPL-304E2K200Mbps 200Mbps Powerline AV Adapter with Bonus Outlet with on your local area network (LAN) and connect to the Internet.

Package Contents

The product package should contain the following items:

- TPL-304E or TPL-304E2K
- Multi-Language Quick Installation Guide
- CD-ROM (Utility & User's Guide)
- Cat.5 Ethernet cable

If any of the parts are incorrect, missing, or damaged, contact your dealer. Keep the carton, including the original packing materials, in case you need to return the Powerline adapter for repair.

Status Lights and Label Information

The Powerline adapter has status indicators and a label with important information. Familiarize yourself with these features of your product.

LED Indicators

The front panel of the TPL-304E / TPL-304E2K contains status lights. You can use them to verify connections. The table below describes the lights on the front panel.

Status Lights on Front Panel	Description
Power	✓ Off – Power Off ✓ Solid Green – Power On
Powerline Link/ACT LED	✓ Off – No Link ✓ Solid Green – Link ✓ Blinking Green – Activity
Ethernet Link/ACT LED	✓ Off – No Link ✓ Solid Green – Link ✓ Blinking Green – Activity

How the Powerline Adapter Fits in Your Network

You can use the TPL-304E / TPL-304E2K 200Mbps Powerline AV Adapter with Bonus Outlet to implement or extend an Ethernet local area network (LAN) anywhere in your house using your existing electrical power line in place of a dedicated LAN wiring infrastructure. An example is illustrated in the following diagram:
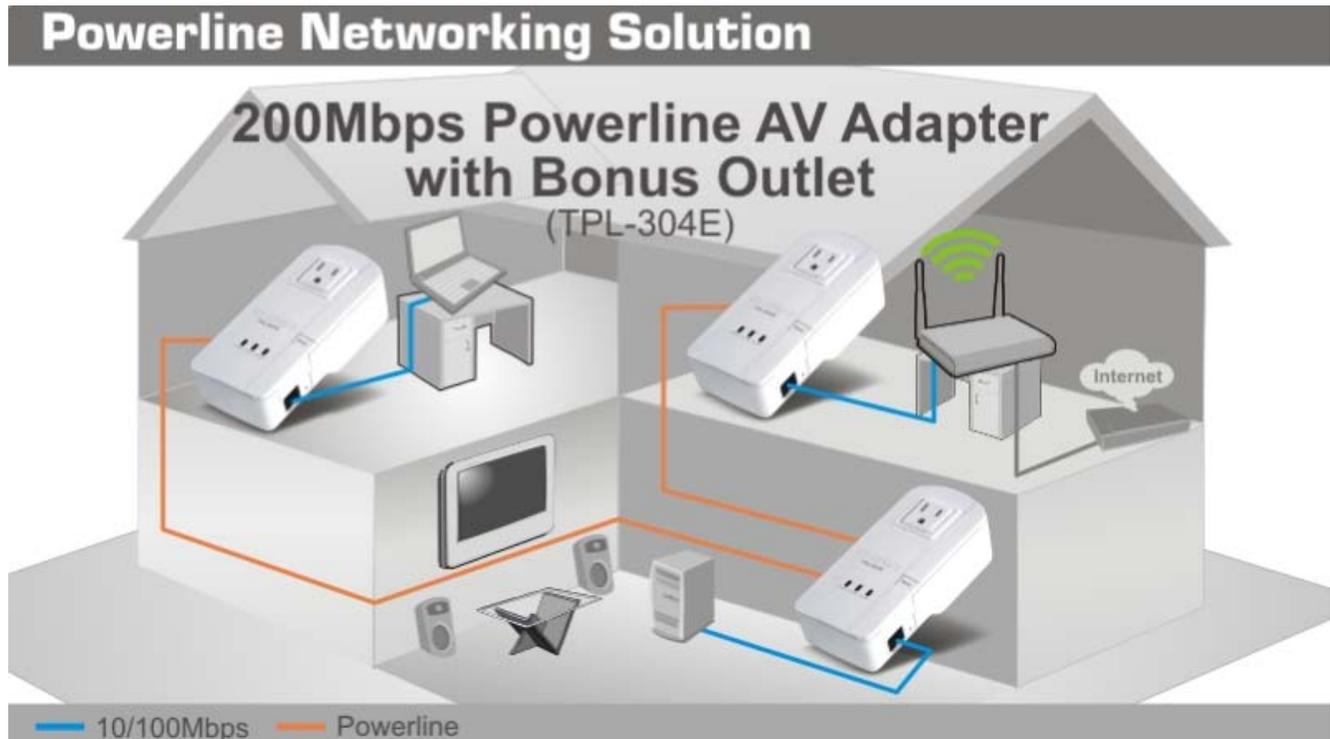
Follow the instructions below to set up your Powerline adapter.

Prepare to Install Your Powerline Adapter

Check that these minimum requirements are met.

- Your Ethernet network is set up and an Ethernet port is available on your router.
- Your Internet connection is working.
- Each computer or device to be used on your network has an Ethernet port.

Connect a TPL-304E to the Router

First, connect a TPL-304E 200Mbps Powerline AV Adapter with Bonus Outlet to a LAN port on the router so that the Powerline network can access the Internet.

NOTE: Do not connect the Powerline adapter to a power strip, extension cord, or surge protector as this may prevent it from working properly or degrade the network performance.

a.   Plug the Ethernet cable that came in the box into a LAN port on your router or switch in your network.

b.   Plug the Powerline adapter into an electrical outlet near the router.

c.   Plug the other end of Ethernet cable that came in the box into the Powerline adapter. Check the status lights:

— Power: The power LED turns solid green. If it does not, see Chapter 2, "Troubleshooting".
— Power Link: The Power Link LED blinks to indicate that the device is connected to the power line, and that no other Powerline devices have been detected at this stage.
— Ethernet Link: The Ethernet LED blinks to indicate activity. If not, make sure that the Ethernet cable on the Powerline adapter that you connected in the previous step is securely attached to the Powerline adapter and the router, that the router is connected to the modem, and the router and modem are powered on.

d.   Make sure that the Internet port of your router is connected to your modem, and that your computer is either connected to a LAN port on the router or to a port on the Powerline adapter.

Connect other Powerline Adapters

1.   Before plugging in your other Powerline devices, take a note of the device password printed on the label on the back of each device. You will need this password later if you want to change the Powerline network password. If you are adding more than one other Powerline adapter, also note the MAC address given on the label, so that you will know which device the password is for.

2.   Plug your other Powerline devices into power outlets in your home near to the other computers and peripherals to be included in your Powerline local area network.

3.   Use an Ethernet cable to connect an Ethernet port on each of the computers and peripherals to the nearest Powerline device.

4.   When you plug in a second Powerline adapter into a power outlet, check the blue HomePlug LEDs. They should turn on and then briefly blink at the same time as the Ethernet activity LED.

This completes the Powerline installation.

Install the Utility

The utility gives you the option of setting a unique encryption Powerline network password. Important features:

- The encryption password is case-sensitive. (located on the device label)

- Each device must be set to exactly the same encryption password—if they are to communicate on the same network. Powerline devices on different networks will not be able to communicate.

- A default button resets the encryption password to the default password (HomePlugAV).

- The encryption password can protect your network from unauthorized access through the Powerline network.

- A device password is printed on each Powerline product. This is not the network password, but you are required to enter it if you are setting the network password with another Powerline adapter device.

To install the Powerline Encryption Utility, follow these steps:

1. Insert the TPL-304E / TPL-304E2K CD-ROM into a CD-ROM drive on the computer that is connected to your router. The CD will start up automatically.

   If the CD does not start automatically:

   — Go to My Computer on the Windows Start menu, and double-click the drive that contains the TPL-304E / TPL-304E2K CD or
   — Select the CD drive and click on the Autorun.exe executable file.

   All devices on a Powerline network can be managed from one computer. If you add another TPL-304E device to an existing Powerline network, you can install the Powerline encryption utility on the computer connected locally to the new TPL-304E device or on the computer originally used to set up the Powerline network password. You can use any computer to manage the network, but this procedure assumes that you are working from the computer that is connected to your router.

2. Click **Install Utility** to start the installation

Prior to the utility installation, it will prompt you to install the WinPcap program. Click **Next** to continue.
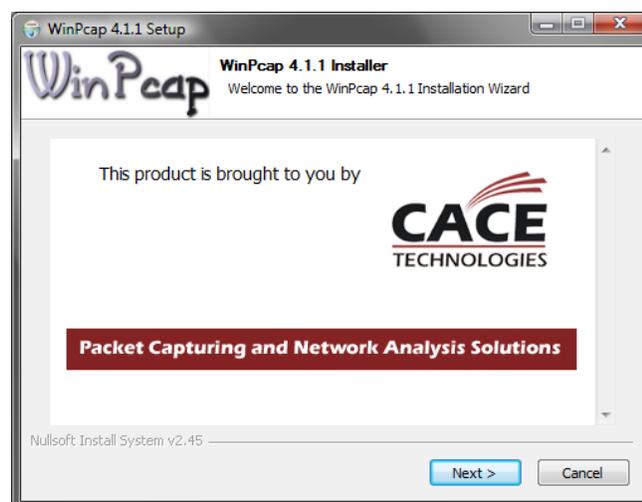
3. Then the powerline utility installation will start, click **Next** to continue
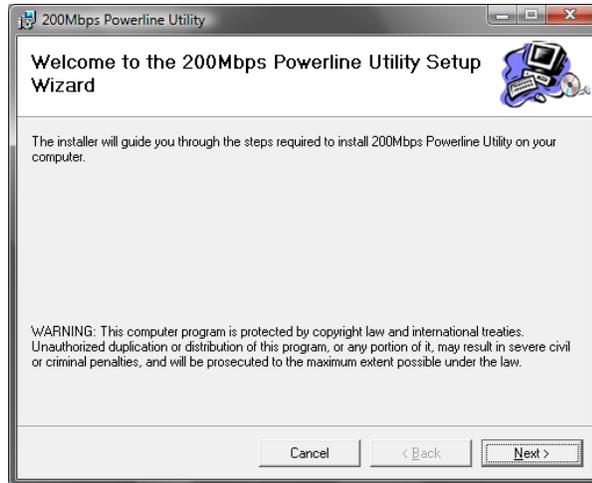
4. Click Next and follow the instructions on the screen.
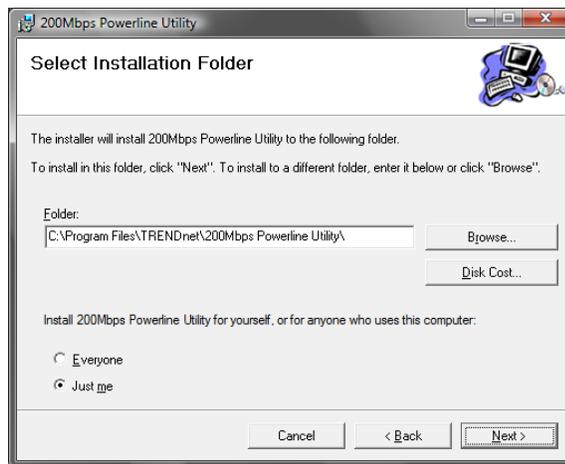
5. The InstallShield Wizard indicates that the installation is complete. Click **Close**.
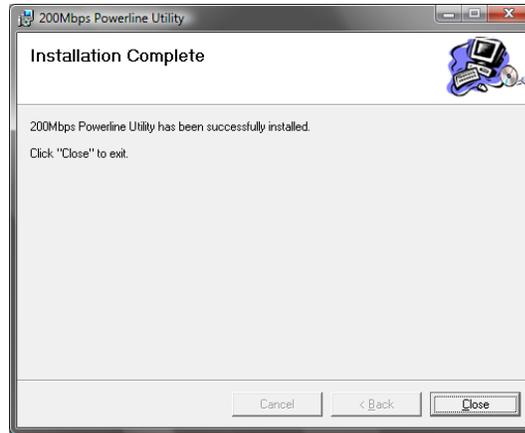
Set Your Private Network Name

The fastest and most reliable way to set the network name is to set the password for all devices at once. To do this, you need the device password on the back label of each Powerline device. There are two steps to setting the network name: first enter the device password for each remote Powerline device, and then set the network name.

1. Enter the device password for each remote Powerline device:

   a. Make sure that all Powerline devices are plugged into 100~240V AC wall sockets.

   b. Start the Powerline encryption utility
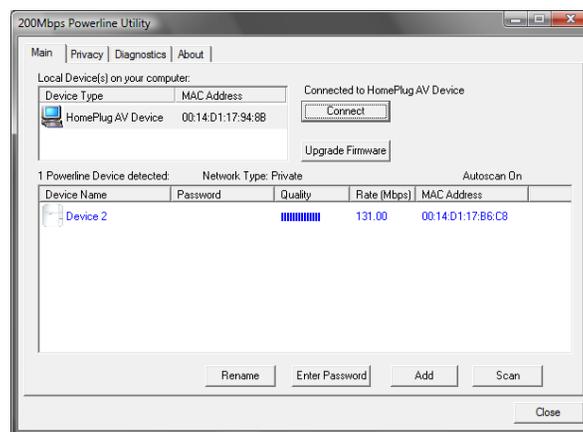
Note: Accessing the utility for the first time, you might receive the following warning message, please connect OK to continue.
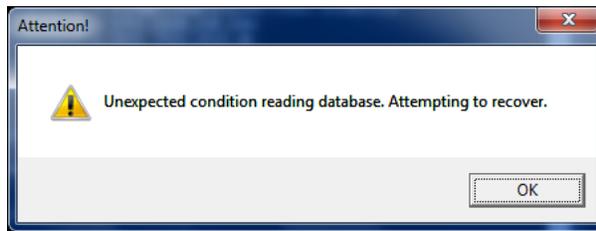
c. Check that the utility lists all the remote Powerline devices.

d. Select a Powerline device and, if more than one remote device is listed, identify it from the MAC address.

e. Click Enter Password.

f. Enter the password recorded from the label on the back of the selected Powerline device.

g. Click OK.

h. Repeat this step for all devices that you want attached to your network.

2. Set the Private Network Name

i. Select the Privacy tab.
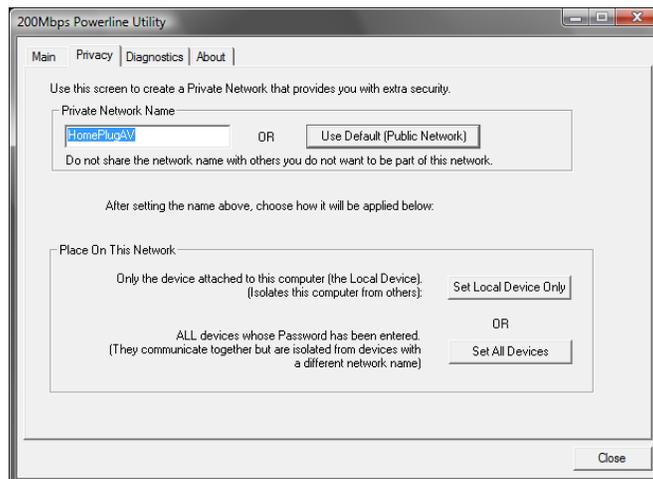
a. Type a Name in the Private Network Name text box.

b. Click Set All Devices. A pop-up window indicates that the operation was successful.

Add a Device to an Existing Powerline Network

To add a device to a Powerline network with the default network password, all you need to do is plug the new device into a power outlet.

If the network name has been set, then you will need to run the Powerline encryption utility to set the new device to the network name. How you do this depends on whether the computer running the Powerline encryption utility is connnected directly to the new Powerline device (local) or is connected to a different device in the Powerline network (remote).

Adding a New Device from a Locally Connected Computer

1. Plug the new Powerline device into an available AC power outlet and connect it to an Ethernet port on the computer.
2. Start the Powerline encryption utility and select the Security tab.
3. Type the network name in the Private Network Name text box and click Set Local Device Only.
4. Select the Main tab and check that the other devices in the Powerline network appear in the device list. It may take a minute or two for all devices in the network to be detected.

Adding a New Device from a Remotely Connected Computer

1. Note the device password given on the label on the back of the new Powerline device.
2. Plug the new Powerline device into an AC power outlet.
3. Start the Powerline encryption utility on the remote computer and select the Security tab.
4. Click Use Default (Public Network). The password in the Private Network Password text box changes to the default password, HomeAVPlug.
5. Click Set All Devices.
6. Select the Main tab and wait for the new Powerline device to be listed.
7. Select the new Powerline device from the device list, and click Enter Password.
8. In the pop-up window, enter the password from the back label of the device and click OK.
9. Select the Privacy tab.
10. Re-enter the network name in the Private Network Name text box, and then click Set All Devices.

Troubleshooting

This chapter gives information about troubleshooting your TPL-304E / TPL-304E2K Mbps Wall-Mount Ethernet Adapter. After each problem description, instructions are provided to help you diagnose and solve the problem.

Basic Functioning

After you plug in the Powerline adapter, the following sequence of events should occur:

1. When power is first applied, verify that the Power light is on.

2. After approximately 10 seconds, check the LEDs on the Powerline adapter. The following should occur:

   c. The power LED is solid green.

   a. The green Power Link LED is lit.

   b. The Ethernet LED blinks.

If any of these conditions does not occur, refer to the appropriate following section.

- Power Light Not On

   Make sure that, if power to the AC power outlet is controlled by a wall switch, the wall switch is in the on position.

   Verify that the wall socket is live. To do this, disconnect the Powerline adapter and plug in another electrical product, such as a lamp or a hairdryer.

   If the Power LED still does not come on, and you have confirmed the power outlet is live, you have a hardware problem and should contact technical support.

- Power Link Light Not On

   If the power light is on but the Power Link light is not, check the following:

   — Make sure that power is being provided to more than one Powerline device. Another Powerline device must be installed for successful communication across the Powerline.
   — Verify that the network password is the same on all devices in the Powerline network.

- Ethernet Light is Off

   — Make sure that the Ethernet cable is plugged in properly at both ends.
   — Be sure that you are using the correct cable on the router that the first Powerline adapter is connected to. When connecting the router's Internet port to a cable or DSL modem, use the cable that was supplied with the cable or DSL modem. This cable could be a standard straight-through Ethernet cable or an Ethernet crossover cable.
   — On the attached Ethernet device or network adapter card, check that the Link light is on.

Sync the device

Press the Sync button for 3 seconds to synchronize the encryption key and connect to the existing network.

Reset the device

Press the Reset or Sync button for 10 seconds, the powerline adapter settings will be reset to factory default value.

Power Saving

The unit will automatically reduce the power usage when the connected device is powered off, unplugged or not active for more than 10 minutes.

Specification

Hardware	
Standards	IEEE 802.3, IEEE 802.3u, IEEE 802.3x, HomePlug AV
Interface	1 x 10/100Mbps Auto-MDIX RJ-45 Port 1 x Electrical power socket 1 x Sync button
Frequency Band	2 ~ 30 MHz
Modulation	OFDM, QAM, QPSK, BPSK, ROBO
Speed	Powerline: Up to 200Mbps LAN: 200Mbps with Full Duplex mode
Utility Compatibility	Windows 7 (32/64-bit), Vista (32/64-bit), XP(32/64-bit)
Nodes	Connect up to 8 adapters
Encryption	128-bit AES
LED	Power, Powerline, Ethernet
Dimension (L x W X H)	148 x 65 x 67 mm (5.8 x 2.6 x 2.6 in.)
Weight	181.4 g (6.4 oz)
Power Source	A: 100~240V/ 5A AC, 50~60Hz EU: 220~240V / 5A AC, 50Hz UK: 230-240V/ 5A AC, 50 Hz FR: 220~240V/ 5A AC, 50Hz
Consumption	Active mode: 3.5 Watts (max.) Standby mode: 0.93 Watts (max.)
Temperature	Operating: 0° ~ 40° C (32° ~ 104° F) Storage: -10° ~ 55° C (14° ~ 131° F)
Humidity	Max. 95% (non-condensing)
Certifications	CE, FCC

Limited Warranty

TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

TPL-304E / TPL-304E2K – 3 Years Warranty

AC/DC Power Adapter, Cooling Fan, and Power Supply carry 1 year warranty.

If a product does not operate as warranted during the applicable warranty period, TRENDnet shall reserve the right, at its expense, to repair or replace the defective product or part and deliver an equivalent product or part to the customer. The repair/replacement unit's warranty continues from the original date of purchase. All products that are replaced become the property of TRENDnet. Replacement products may be new or reconditioned. TRENDnet does not issue refunds or credit. Please contact the point-of-purchase for their return policies.

TRENDnet shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDnet pursuant to any warranty.

There are no user serviceable parts inside the product.   Do not remove or attempt to service the product by any unauthorized service center.   This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDnet within the applicable warranty period and providing a copy of the dated proof of the purchase. Upon proper submission of required documentation a Return Material Authorization (RMA) number will be issued. An RMA number is required in order to initiate warranty service support for all TRENDnet products. Products that are sent to TRENDnet for RMA service must have the RMA number marked on the outside of return packages and sent to TRENDnet prepaid, insured and packaged appropriately for safe shipment. Customers shipping from outside of the USA and Canada are responsible for return shipping fees. Customers shipping from outside of the USA are responsible for custom charges, including but not limited to, duty, tax, and other fees.

WARRANTIES EXCLUSIVE: IF THE TRENDNET PRODUCT DOES NOT OPERATE AS WARRANTED ABOVE, THE CUSTOMER'S SOLE REMEDY SHALL BE, AT TRENDNET'S OPTION, REPAIR OR REPLACE. THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. TRENDNET NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION MAINTENANCE OR USE OF TRENDNET'S PRODUCTS.

TRENDNET SHALL NOT BE LIABLE UNDER THIS WARRANTY IF ITS TESTING AND EXAMINATION DISCLOSE THAT THE ALLEGED DEFECT IN THE PRODUCT DOES NOT EXIST OR WAS CAUSED BY CUSTOMER'S OR ANY THIRD PERSON'S MISUSE, NEGLECT, IMPROPER INSTALLATION OR TESTING, UNAUTHORIZED ATTEMPTS TO REPAIR OR MODIFY, OR ANY OTHER CAUSE BEYOND THE RANGE OF THE INTENDED USE, OR BY ACCIDENT, FIRE, LIGHTNING, OR OTHER HAZARD.

LIMITATION OF LIABILITY: TO THE FULL EXTENT ALLOWED BY LAW TRENDNET ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATE, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT TRENDNET'S OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

Governing Law: This Limited Warranty shall be governed by the laws of the state of California.

Some TRENDnet products include software code written by third party developers. These codes are subject to the GNU General Public License ("GPL") or GNU Lesser General Public License ("LGPL").

Go to http://www.trendnet.com/gpl or http://www.trendnet.com Download section and look for the desired TRENDnet product to access to the GPL Code or LGPL Code. These codes are distributed WITHOUT WARRANTY and are subject to the copyrights of the developers. TRENDnet does not provide technical support for these codes. Please go to http://www.gnu.org/licenses/gpl.txt or http://www.gnu.org/licenses/lgpl.txt for specific terms of each license.

PWP05202009v2

Erp (EuP) operation mode: Standby mode
Remove Ethernet cable from the device and wait for 10 minute, then the unit will go into standby mode.

TRENDNET®

Product Warranty Registration

Please take a moment to register your product online.
Go to TRENDnet's website at http://www.trendnet.com/register