



ALL168500

500 Mbps PLC Ethernet Bridge



QUICK INSTALLATION GUIDE

PREFACE

This document describes installation of the 500Mbps PLC Ethernet Bridge Network products.
Please read this document before installing the product.

To THE INSTALLER

This publication contains the following sections:

- **Important safety instructions**
- **The first thing you need to know before you begin to install**
- **Product installation guide**
- **Specification**

IMPORTANT SAFETY INSTRUCTIONS

This product is intended for connection to the AC power line. For installation instructions, refer to the Installation section. For removing the device, refer to the Unplug section. The following precautions should be taken when using this product.

- Please read all instructions before installing and operating this product.
- Please keep all instructions for later reference.
- Please follow all warnings and instructions marked on the product.
- **Unplug the AC coupler from the wall outlet before cleaning. Use a damp cloth for cleaning.**

DO NOT use liquid cleaners or aerosol cleaners.

- **DO NOT** operate this product near water.
 - **The opening of enclosure near AC plug to face up or frontal, the connector face bottom or rear.**
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- This product should **never** be placed near or over a radiator, or heat register.
- This product relies on the building's electrical installation for short-circuit (over current) protection.
- Ensure that a fuse or circuit breaker **no larger than 120 VAC 20A or 240 VAC 16A** is used on the phase conductors (all current-carrying conductors).
- **DO NOT** allow anything to rest on the product interconnect cords.
- **DO NOT** locate this product where people may walk on the cords.
- Because the 200Mbps PLC Ethernet Bridge product sends data over the powerline, it is recommended that you plug directly into a power outlet. Do not plug the device into a UPS or power strip with surge protection. The 200Mbps PLC Ethernet Bridge product has its own power filter for protection against surges.
- The product can be operated at an ambient temperature of 40°C.
- For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.
- **Only** a qualified technician should service this product. Opening or removing covers may result in exposure to dangerous voltage points or other risks.
- Unplug the AC coupler from the wall outlet and refer the product to qualified service personnel for the following conditions:
 - When the interconnect cords are damaged or frayed.
 - If liquid has been spilled into the product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally when the operating instructions are followed.
 - If the product exhibits a distinct change in performance.

THE FIRST THING YOU NEED TO KNOW BEFORE YOU BEGIN TO INSTALL...

1. Before installing, make sure your PC meets these requirements for hardware installation:

- Microsoft Windows® 98SE, ME, 2000, XP, Vista, Windows 7, Mac OS or linux OS
 - Pentium® III or better, clock rate faster than 2.0GHz recommended
 - At least one free Ethernet port for ALL168500 500Mbps PLC-Ethernet Bridge
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2. Your PC must not be configured for another network. This means that:

- **No network clients** except for Microsoft Network*, Client for Netware* Networks, or Microsoft Family Logon* are installed
 - **No network services** except file and printer sharing for Microsoft Networks or Personal Web Server* are installed
 - **No network protocols** except Microsoft's TCP/IP, IPX/SPX, NetBEUI, or Net BIOS support for IPX/SPX are installed
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3. Network installation requires two steps:

1. Install the 500Mbps PLC Ethernet Bridge
 2. For each PC to be added to the network, repeat the process
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4. Check that you have the following parts for each PC on the network:

Product installation guide for ALL168500 500Mbps PLC-Ethernet Bridge:

1. ALL168500 500Mbps PLC Ethernet Bridge
 2. Ethernet Cable (CAT 5)
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5. Familiarize yourself with the Powerline device connections:

There is only one Ethernet port. This is used for the connection with PC, xDSL/Router, Cable Modem, or Wireless AP.

6. Limitation of the PLC device:

To meet the safety regulation, the longest distance between powerline carrier devices will be limited at 200 meter and for in-house use only. More than 200 meter will cause the signal reduction or data loss.

Product installation guide

Important:

Do not plug the device into a power strip or surge protector because these devices may consist of filter and impair signal. Also avoid plugging the device right next to noisy sources such as cell phone charger, Halogen light, Energy saving bulb, noisy desktop computer, vacuum cleaner, etc. Both cases result in poor transmission speed.

To install for the PC local Powerline network

1. Use the supplied Category 5 Ethernet cable to connect Ethernet Bridge and your PC's Ethernet port.
2. Plug the Ethernet Bridge to outlet.
3. The PWR LED indicator will light on after plugging.
4. You can repeat steps 1 and 2 for connecting the others.
5. The PL-ACT LED indicator starts blinking when the data communication proceeds on Powerline.
6. The ETH-ACT LED indicator starts blinking when the data communication proceeds on Ethernet.

To share a xDSL or cable modem with Internet access service

1. Connect one Ethernet Bridge to the broadband router
 - Plug the Ethernet Bridge into an AC outlet.
 - Plug the provided Ethernet cable into the RJ45 connector of the Bridge and plug the other end of the cable into an available Ethernet port of the Router.
2. Connect the other Ethernet Bridge(s) to the PC(s) to share the Internet access
 - Plug the Bridge into an AC outlet.
 - Plug the provided Ethernet cable into the RJ45 connector of the Bridge and plug the other end of the cable into Ethernet port on the PC.

As wireless AP (Access Point) Extender

1. Connect one Ethernet Bridge to the broadband router
 - Plug the Bridge into an AC outlet.
 - Plug the provided Ethernet cable into the RJ45 connector of the Bridge and plug the other end of the cable into an available Ethernet port of the broadband router.
2. Connect the other Ethernet Bridge to the wireless AP
 - Plug the Bridge into an AC outlet.
 - Plug the provided Ethernet cable into the RJ45 connector of the Bridge and plug the other end of the cable into the Ethernet port on the wireless AP.

Specification

Items	Description	
PHY Rate	500Mbps (IEEE 1901 and HomePlug® AV compliant)	
Effect Data Rate	TCP: Up to 210 Mbps effective throughput ,250 Mbps with multiple sessions UDP: Up to 250 Mbps effective throughput	
Frequency Band	2~68 MHz (With Mask)	
Access Methods	priority-based CSMA/CA channel access schemes maximize efficiency and throughput	
Qos	<ul style="list-style-type: none"> ● – Integrated Quality of Service (QoS) Enhancements ● – Hardware Packet Classifiers for ToS, CoS and IP Port Number ● – Supports IGMP managed multicast sessions 	
Modulation	OFDM (QAM 8/16/64/256/1024/4096, QPSK, BPSK, ROBO)	
Standards	IEEE 802.3, IEEE 802.3U, HomePlug AV Protocol Compliance with HomePlug 1.0 coexistence capability	
OS	Microsoft Windows® 2000, XP, Vista ,Windows 7 (for utility-program only)	
Nodes	Up to 15 total devices	
IGMP	IGMP snooping with multicast to multiple unicast support in CSMA <ul style="list-style-type: none"> o Enhanced IPv4/IGMPv1-3 snooping support o Enhanced Support for IPv6 and MLDv1-2 snooping 	
Encryption	128-bit AES Link Encryption with key management	
Push button	SETUP button RESET button	
Port	One 10/100/1000 Mbps Ethernet port	
Distance	AC Wire : 200 meters	
LEDs	PWR (Red) PLC(Green/Orange/Red throughput indicator) ETH (Green)	
Environment	Temperature	Operating : 0~40 °C
		Storage : -20~60 °C
	Relative Humidity	Operating : 10~85% Non-Condensing
		Storage : 5~90% Non-Condensing
Power Source	100 ~ 240 VAC 50/60Hz	
Power Consumption	5W Max (Normal mode) Below 2W (Standby mode)	
Certification	CE	

LEDs

PWR (Red)	On: Power on Blinking: Standby mode (*1) Off: Power off
PLC (Green/Orange/Red)	On: Powerline Link detected and no traffic Blinking: Powerline traffic detected <ul style="list-style-type: none"> ■ Green: The Powerline connection quality is good ■ Orange: The Powerline connection quality is fair ■ Red: The Powerline connection quality is bad Off: No Powerline Link detected
ETH (Green)	On: Ethernet Link detected Blinking: Ethernet traffic detected Off: No Ethernet Link detected

*1 : The "PWR" LED indicator will blink in standby mode. It will automatically get into standby mode, if the Ethernet-link is lost for 60 seconds. If you unplug the Ethernet cable, it will get into standby mode after 60 seconds. **Under standby mode, PLC and ETH LEDs will both be off.**

Push Buttons (Only applicable for models with push button)

Push button functions are disabled under Standby mode.

Setup Button Usage:

1. First time to setup your private network:

Step 1. Press and hold the device's "SETUP" button for more than 10 seconds. You can release the button when you see all the device's LEDs are off and restart. The original network encryption setting is cleared.

Step 2. Repeat Step 1 to clear another device's original network encryption setting.

Step 3. Press both devices' "SETUP" button for 1 to 3 seconds. You will see both devices' "PWR" LED start blinking. Both devices start to communicate and try to setup their private network encryption. They will complete the new private network encryption setting within 10 seconds. You will see both devices' all LEDs are off and restart.

Note: The setup operation timeout is 120 seconds.

Step 4. If failed, please repeat Step 1 to Step 3 again.

2. Add a new device to the existing private network:

Step 1. Plug the new device. Press and hold its "SETUP" button for more than 10 seconds to clear the original network encryption setting.

Step 2. Press the new device's "SETUP" button for 1 to 3 seconds. The "PWR" LED starts blinking.

Step 3. Select a random device from the existing private network. Press its "SETUP" button for 1 to 3 seconds. The device's "PWR" LED starts blinking.

Step 4. The new device starts to communicate with the device from existing private network, and tries to join this existing private network. It will complete the new private network encryption setting within 10 seconds. You will see the new device's all LEDs are off and restart after completing the private network setting. The existing private network device's "PWR" LED become solid.

Note: The setup operation timeout is 120 seconds.

Step 5. If failed, please repeat Step 1 to Step 3 again.

3. Leave the private network:

Step 1. If the device wants to leave the private network, press and hold the device's "SETUP" button for more than 10 seconds to clear the network encryption setting. This device will leave the private network.

Reset Button Usage:

Reset the device to the factory default setting:

Push the device's "RESET" button for 1 to 3 seconds. You will see the device's all LEDs are off and restart.

The device's setting resets to the "factory defaults".

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Konformitätserklärung
Declaration of Conformity

Hersteller / Manufacturer: ALLNET GmbH

Produkt / Product: ALL168500

Typ / Type: 500Mbit Powerline



This device has been tested and found to comply with the stated standard(s), which is(are) required by the Council Directive of 2004/108/EC. The test results are indicated in the test report and are applicable only to the tested sample identified in the report.

Getestete Normen:
tested norms:

EN55022:2006+ A1:2007
CISPR/1/XX/CDV Opt B
EN 61000-3-3:2008
EN 50412-2-2:2005
IEC 61000-4-2:2008
IEC 61000-4-3:2006+A1:2007
IEC 61000-4-4:2004
IEC 61000-4-5:2005
IEC 61000-4-6:2008
IEC 61000-4-8:1993+A1:2000
IEC 61000-4-11:2004



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