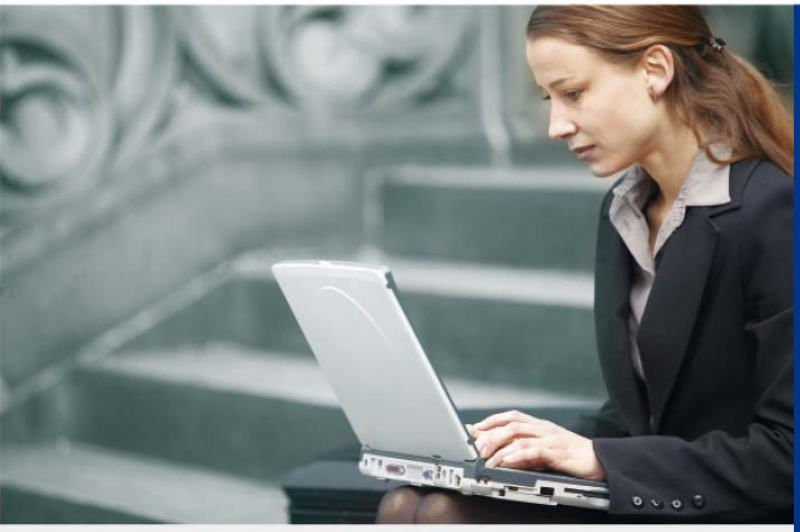
PLANET
Networking & Communication

User's Manual

300Mbps 802.11n Wireless Outdoor CPE

- WNAP-6325



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Federal Communication Commission Interference Statement

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 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/her own expense. Any changes or modifications not expressly approved by PLANET could void the user's authority to operate this equipment under the rules and regulations of the FCC.

FCC Caution:

To assure continued compliance, (for example, use only shielded interface cables when connecting to computer or peripheral devices) any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 0.25m during normal operation.

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.

Energy Saving Note of the Device

This power required device does not support Standby mode operation. For energy saving, please remove the DC-plug to disconnect the device from the power circuit. Without removing the DC-plug, the device still consumes power from the power circuit. In view of Saving the Energy, it is strongly suggested to remove the DC-plug for the device if this device is not intended to be active.

R&TTE Compliance Statement

This equipment complies with all the requirements of DIRECTIVE 1999/5/CE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 9 March 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE). The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) as of April 8, 2000.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

WEEE regulation

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and thus, WEEE has to be collected separately.

Revision

User's Manual of PLANET 300Mbps 802.11n Wireless Outdoor CPE

Model: WNAP-6325

Rev: 1.0 (January, 2015)

Part No. EM-WNAP-6325_v1.0 (**2081-E10590-000**)

CONTENTS

FIGURES

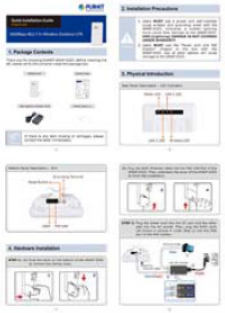
Chapter 1. Product Introduction

1.1 Package Contents

Thank you for choosing PLANET WNAP-6325. Before installing the AP, please verify the contents inside the package box.

WNAP-6325

Quick Installation Guide



PoE Injector & Power Cord

Plastic Strap x 1

Note

If there is any item missing or damaged, please contact the seller immediately.

1.2 Product Description

Cost-effective Wireless Solution with Superior Performance

PLANET WNAP-6325 is designed to provide a highly-stable, better performance and cost-effective wireless solution in outdoor wireless deployment. With the same transmission power, it offers better significant range and excellent throughput than those of the traditional 802.11g wireless device. Via the embedded 12dBi dual-polarization (vertical and horizontal) directional antenna, it provides good diversity coverage and better noise immunity effect, thus heightening the performance of a long-distance, outdoor connectivity even though the environment is flooded with many 2.4GHz wireless equipment.

Designed for Various Requirements

The WNAP-6325 is dedicatedly designed for WISP solution that provides CPE users with Internet access via the WISP provider in rural areas. Besides, it caters to various wireless communication connectivities (AP / Client / WDS PtP / WDS PtMP / WISP), thus meeting users' application requirements.

Advanced Security and Rigorous Authentication

The WNAP-6325 supports WEP, WPA / WPA2, WPA-PSK and WPA2-PSK wireless encryptions, the advanced WPA2-AES mechanism and 802.1X RADIUS authentication, which can effectively prevent eavesdropping by unauthorized users or bandwidth occupied by unauthenticated wireless access. Furthermore, any users are granted or denied access to the wireless LAN network based on the ACL (Access Control List) that the administrator pre-established. In addition, with the multiple-SSIDs feature, you can set up different wireless networks. The WNAP-6325 can therefore serve as a virtual access point for segmented networks tailored to any industrial need.

Flexible and Reliable Outdoor Characteristics

The WNAP-6325 is definitely suitable for such applications as IP surveillance, backhaul link of building to building and backbone of public service. Additionally, the self-healing/schedule reboot capability keeps connection alive all the time. Meeting the IP55 rating for outdoor UV resistant enclosure, the WNAP-6325 can perform normally under rigorous weather conditions, meaning it can be installed in any harsh, outdoor environments. With the proprietary Power over Ethernet (PoE) design, the WNAP-6325 can be easily installed in the areas where power outlets are not available.

Easy Deployment and Management

With user-friendly Web UI and step-by-step setup wizard, the WNAP-6325 is easy to install, even for users who never experience in setting up a wireless network. Furthermore, with the Planet Smart Discovery Utility and SNMP-based management interface, the WNAP-6325 is convenient to be managed and configured remotely.

1.3 Product Features

- **Industrial Compliant Wireless LAN and LAN**
  - Compliant with the IEEE 802.11n wireless technology (with data rate of up to 300Mbps)
  - Backward compatible with 802.11g standard
  - Equipped with 10/100Mbps RJ45 ports for LAN and WAN; auto MDI/ MDI-X supported
- **Fixed-network Broadband Router**
  - Supported connection types: Dynamic IP, Static IP, PPPoE
  - Supports virtual server and DMZ for various networking applications
  - Supports DHCP server, UPnP and Planet DDNS
- **RF Interface Characteristics**
  - Built-in 12dBi dual-polarization antenna
  - High output power up to 500mW with multiply-adjustable transmit power control
- **Outdoor Environmental Characteristics**
  - IP55 enclosure
  - Passive Power over Ethernet design
  - Operating temperature: -20~70°C
- **Multiple Operations and Wireless Modes**
  - Multiple operation modes: Bridge, WISP
  - Multiple wireless modes: AP, Client CPE (WISP), WDS PtP, WDS PtMP
  - Supports multiple SSIDs to allow users to access different networks through a single AP
  - Supports WMM (Wi-Fi multimedia)
- **Secure Network Connection**
  - Supports software Wi-Fi Protected Setup (WPS)
  - Advanced security: 64/128-bit WEP, WPA / WPA2, WPA-PSK / WPA2-PSK (TKIP/AES) and 802.1x RADIUS authentication
  - Supports IP / Protocol-based access control and MAC filtering
- **Easy Installation and Management**
  - Web-based UI and quick Setup Wizard for easy configuration
  - Planet Smart Discovery Utility allows administrator to discover and locate each AP
  - SNMP-based management interface
  - System status monitoring includes DHCP Client and System Log

1.4 Product Specification

Product	**WNAP-6325** 300Mbps 802.11n Wireless Outdoor CPE	
Hardware		
Standard Support	IEEE802.11b/g/n IEEE 802.3 IEEE 802.3u IEEE 802.3x	
Chipset	Atheros AR9344	
Memory	64 Mbytes DDR SDRAM 16 Mbytes Flash	
PoE	Passive PoE	
Interface	Wireless IEEE802.11b/g/n, 2T2R PoE LAN (LAN 1): 1 x 10/100BASE-TX, auto-MDI/MDIX, passive PoE LAN 2: 1 x 10/100BASE-TX, auto-MDI/MDIX, passive PoE out pass-through	
Antenna	Built-in 12dBi Dual-Polarization Antenna - Horizontal: 30 degrees - Vertical: 20 degrees	
Data Rate	IEEE 802.11b: 1, 2, 5.5, 11Mbps IEEE 802.11g: up to 54Mbps IEEE 802.11n (20MHz): up to 150Mbps IEEE 802.11n (40MHz): up to 300Mbps	
Media Access Control	CSMA/CA	
Modulation	Transmission/Emission type: OFDM Data modulation type: OFDM with BPSK, QPSK, 16-QAM, 64-QAM	
Frequency Band	2.412GHz ~ 2.484GHz	
Operating Channel	America/ FCC: 2.414~2.462GHz (11 Channels) Europe/ ETSI: 2.412~2.472GHz (13 Channels) Japan/ TELEC: 2.412~2.484GHz (14 Channels)	
RF Output Power (dBm)	IEEE 802.11b: up to 26 ± 1dBm IEEE 802.11g: up to 23 ± 1dBm IEEE 802.11n: up to 22 ± 1dBm	
Receiver Sensitivity (dBm)	IEEE 802.11b: -94dBm IEEE 802.11g: -91dBm IEEE 802.11n: -89dBm	
Output Power Control	12~27Bm	
Power Consumption	12W	
Power Requirements	LAN	24VDC, 1A/ Passive PoE Pin 4,5 VDC+ Pin 7,8 VDC- Pin 3 Reset
Environment & Certification		

Operating Temperature	-20~70°c
Operating Humidity	10~95% non-condensing
IP Level	IP55
Regulatory	CE, FCC, RoHS
Software	
LAN	Built-in DHCP server supporting static IP address distributing
	Support 802.1d STP (Spanning Tree)
WAN	■ Static IP ■ Dynamic IP ■ PPPoE
Operation Modes	■ Bridge ■ WISP
Firewall	NAT firewall with SPI (Stateful Packet Inspection)
	Built-in NAT server supporting Virtual Server, and DMZ
	Built-in firewall with Port/ IP address/ MAC/ URL filtering
Wireless Modes	■ AP ■ Client ■ WDS PTP ■ WDS PTMP ■ WISP
Channel Width	20MHz / 40MHz
Wireless Isolation	Enable it to isolate each connected wireless client so that they cannot access mutually.
Encryption Type	64/128-bit WEP, WPA, WPA-PSK, WPA2, WPA2-PSK, 802.1X
Wireless Security	Provides wireless LAN ACL (Access Control List) filtering
	Wireless MAC address filtering
	Enable/Disable SSID Broadcast
Max. Wireless Clients	25
Max. WDS AP	8
Max. Wired Clients	60
WMM	Supports Wi-Fi multimedia
QoS	Supports Quality of Service for bandwidth control
NTP	Network Time Management
Self Healing	Supports Schedule Reboot
Management	Web UI, DHCP Client, Configuration Backup & Restore, Dynamic DNS, SNMP
Diagnostic Tool	System Log, Ping Watchdog

Chapter 2. Hardware Installation

Please follow the instructions below to connect the WNAP-6325 to the existing network devices and your computers.

2.1 Hardware Description

- **Dimensions**: 127 x 63 x 254 mm (W x D x H)

Figure 2-1 Three-way View

Rear Panel – LED

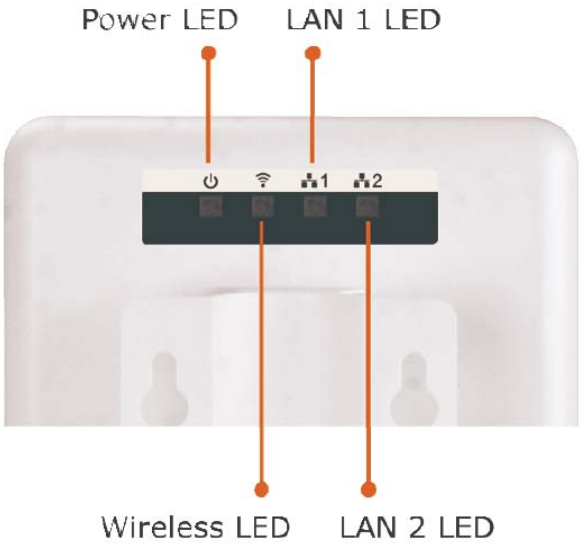


Figure 2-2 LED

LED Definition

LED	State	Meaning
Power	On	System On
	Off	System Off
Wireless	On	Wi-Fi On
	Off	Wi-Fi Off
LAN 1	On	Port linked.
	Off	No link.
LAN 2	On	Port linked.
	Off	No link.

Table 2-1 The LED indication

2.1.1 The Bottom Panel – Port

The Bottom panel provides the physical connectors connected to the power adapter and any other network device. **Figure 2-3** shows the bottom panel of the WNAP-7325.

Bottom Panel

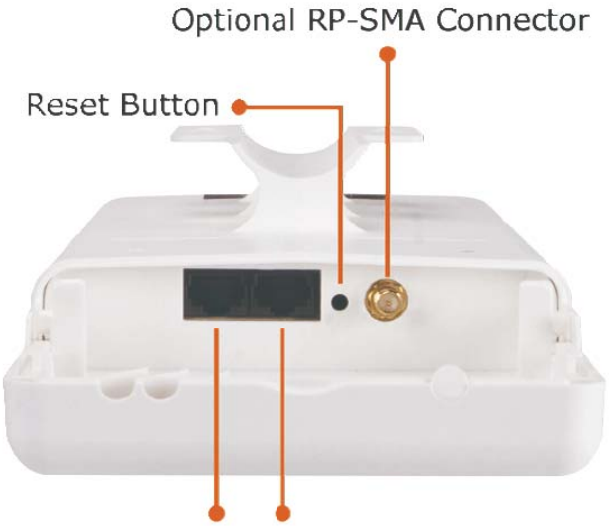


Figure 2-3 Bottom Panel

PoE Injector

Figure 2-4 PoE Injector

H/W Interface Definition

Object	Description
PoE LAN **(Passive PoE)**	10/100Mbps RJ45 port , auto MDI/ MDI-X and passive PoE supported Connect LAN port to the PoE injector to power on the device. **Pin assignment:** **Pin 4, 5 (+)** **Pin 7, 8 (-)** **Pin 3 (Reset)**
LAN 2	10/100Mbps RJ45 port, auto MDI/ MDI-X Connect this port to the network equipment. ※ When the option "**Enable POE Passthrough**" on the System Management page is checked, the LAN2 can supply passive PoE power to the second WNAP-7325 or WNAP-6325 through LAN 2.

Reset	Press the **Reset** button on the device or on the PoE injector over 5 seconds to return to factory default setting. **※ If you have connected with the thunder protector like PLANET ELA-100, please DO NOT press the reset button on the PoE injector to prevent the ELA-100 from being damaged. Remove the thunder protector before push the reset button.**

Table 2-2 The PoE Injector Indication

Chapter 3. Connecting to the AP

3.1 Preparation before Installation

3.1.1 Professional Installation Required

Please seek assistance from a professional installer who is well trained in the RF installation and knowledgeable in the local regulations.

3.1.2 Safety Precautions

1. To keep you safe and install the hardware properly, please read and follow these safety precautions.
2. If you are installing the WNAP-6325 for the first time, for your safety as well as others', please seek assistance from a professional installer who has received safety training on the hazards involved.
3. Keep safety as well as performance in mind when selecting your installation site, especially where there are electric power and phone lines.
4. When installing the WNAP-6325, please note the following things:
   - Do not use a metal ladder;
   - Do not work on a wet or windy day;
   - Wear shoes with rubber soles and heels, rubber gloves, long sleeved shirt or jacket.
5. When the system is operational, avoid standing directly in front of it. Strong RF fields are present when the transmitter is on.

3.2 Installation Precautions

- Users **MUST** use a proper and well-installed surge arrestor and grounding kit with WNAP-6325; otherwise, a random lightning could easily cause fatal damage to the WNAP-6325. **EMD (Lightning) DAMAGE IS NOT COVERED UNDER WARRANTY.**
- Users **MUST** use the "Power cord and PoE Injector" shipped in the box with the WNAP-6325. Use of other options will cause damage to the WNAP-6325.

OUTDOOR INSTALLATION WARNING

IMPORTANT SAFETY PRECAUTIONS:

LIVES MAY BE AT RISK! Carefully observe these instructions and any special instructions that are included with the equipment you are installing.

CONTACTING POWER LINES CAN BE LETHAL. Make sure no power lines are anywhere where possible contact can be made. Antennas, masts, towers, guy wires or cables may lean or fall and contact these lines. People may be injured or killed if they are touching or holding any part of equipment when it contacts electric lines. Make sure that equipment or personnel do not come in contact directly or indirectly with power lines.

The horizontal distance from a tower, mast or antenna to the nearest power line should be at least twice the total length of the mast/antenna combination. This will ensure that the mast will not contact power if it falls either during installation or later.

TO AVOID FALLING, USE SAFE PROCEDURES WHEN WORKING AT HEIGHTS ABOVE GROUND.

- Select equipment locations that will allow safe, simple equipment installation.
- Don't work alone. A friend or co-worker can save your life if an accident happens.
- Use approved non-conducting lasers and other safety equipment. Make sure all equipment is in good repair.
- If a tower or mast begins falling, don't attempt to catch it. Stand back and let it fall.
- If anything such as a wire or mast does come in contact with a power line, **DON'T TOUCH IT OR ATTEMPT TO MOVE IT**. Instead, save your life by calling the power company.
- Don't attempt to erect antennas or towers on windy days.

MAKE SURE ALL TOWERS AND MASTS ARE SECURELY GROUNDED, AND ELECTRICAL CABLES CONNECTED TO ANTENNAS HAVE LIGHTNING ARRESTORS. This will help prevent fire damage or human injury in case of lightning, static build-up, or short circuit within equipment connected to the antenna.

- The base of the antenna mast or tower must be connected directly to the building protective ground or to one or more approved grounding rods, using 1 OAWG ground wire and corrosion-resistant connectors.
- Refer to the National Electrical Code for grounding details.

IF A PERSON COMES IN CONTACT WITH ELECTRICAL POWER, AND CANNOT MOVE:

- **DON'T TOUCH THAT PERSON, OR YOU MAY BE ELECTROCUTED.**
- Use a non-conductive dry board, stick or rope to push or drag them so they no longer are in contact with electrical power.

Once they are no longer contacting electrical power, administer CPR if you are certified, and make sure that emergency medical aid has been requested.

3.3 Installing the AP

Please install the AP according to the following Steps. Don't forget to pull out the power plug and keep your hands dry.

Step 1. Push the latch on the bottom of the WNAP-6325 to remove the sliding cover.

Figure 3-1 Connect the Antenna

Step 2. Plug the RJ45 Ethernet cable into the PoE LAN Port of the WNAP-6325. Then, slide back the cover of the WNAP-6325 to finish the installation.

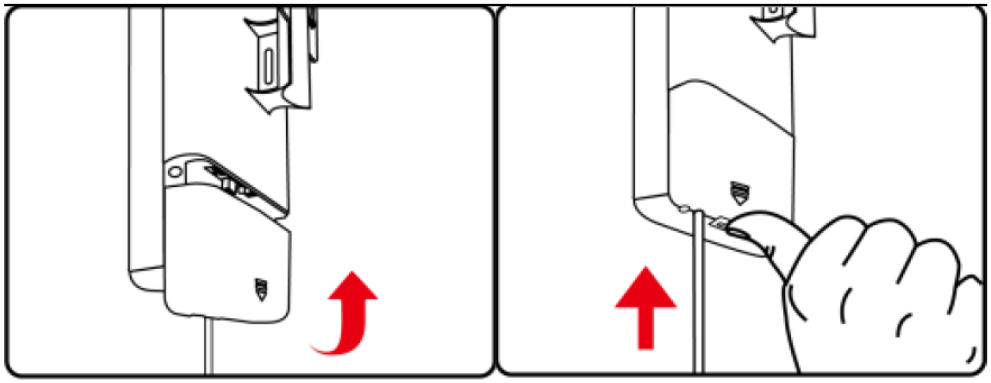


Figure 3-2 Connect the Ethernet cable