TP-LINK®

The Reliable Choice

Installation Guide

Outdoor CPE

CPE210 / CPE220 / CPE510 / CPE520

CONTENTS

Overview 4

Hardware Connection

Site Consideration 6

Ethernet Cable Selection 8

Connection and Installation 9

Lightning & ESD Protection 10

Software Configuration

Login to Pharos 10

Configuration for Typical Application 14

• Point-to-Point 14

Antenna Alignment 16

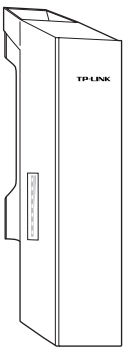
Specifications 17

Frequently Asked Questions (FAQ) 18

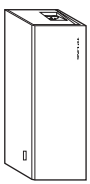
Overview

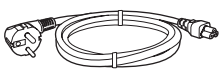
TP-LINK's Pharos series outdoor CPEs are dedicated to outdoor wireless network solutions. This guide is applicable to products including CPE210, CPE220, CPE510 and CPE520.

• Package Contents



Pharos CPE

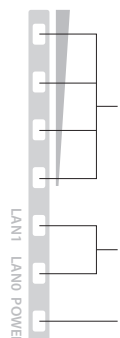

Passive PoE Adapter


Power Cord

Pole Mounting Straps

Installation Guide

• LED Explanation



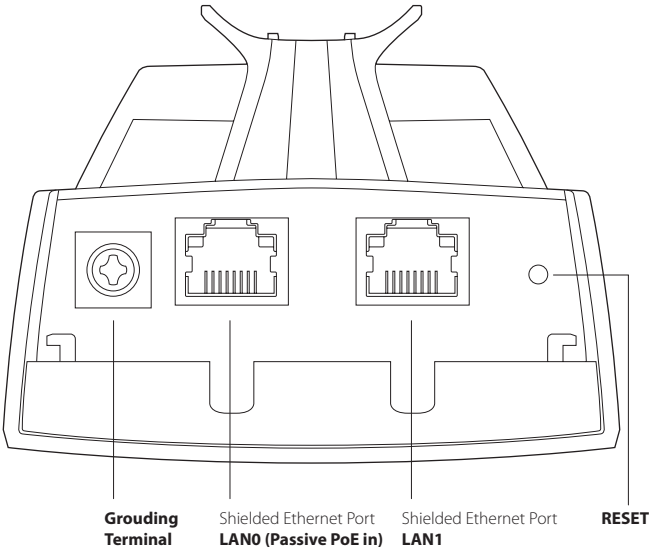
AP/AP Router mode:
All the four LEDS are steady light
Client/Bridge/Repeater/AP Client Router mode:
More lighted LEDs indicate better wireless signal strength

On: A device is connected to this port, but there is no activity
Flashing: A device is connected to this port, and is active

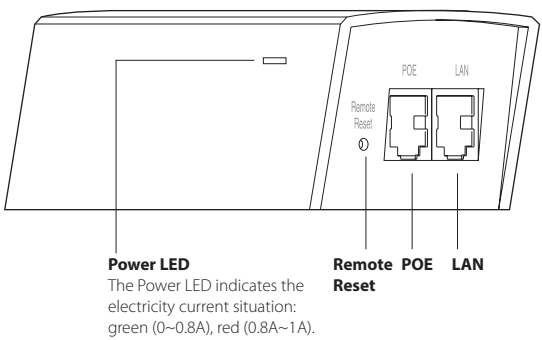
On: The CPE is powered on.

• Panel Layout

Pharos CPE:



Passive PoE Adapter:

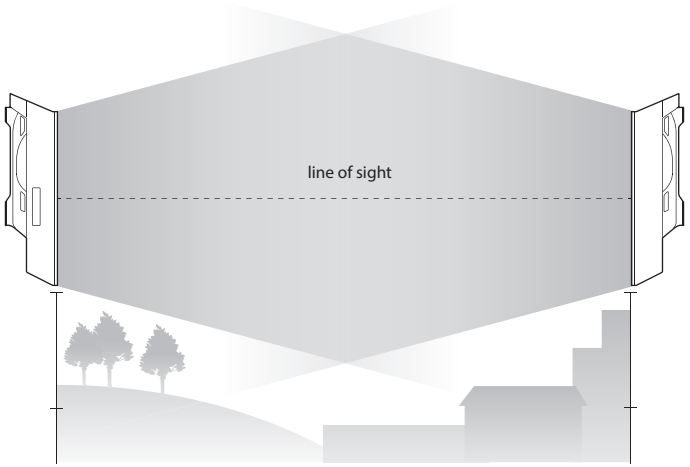


Hardware Connection

1. Site Consideration

• Mounting Height

Ensure a clear line of sight between the wireless devices for an optimum performance. An elevated location is recommended as obstacles like trees, buildings and large steel structures will weaken the wireless signal.
See Q2 in FAQ for details about how to calculate the minimum mounting height of the devices.



Side View

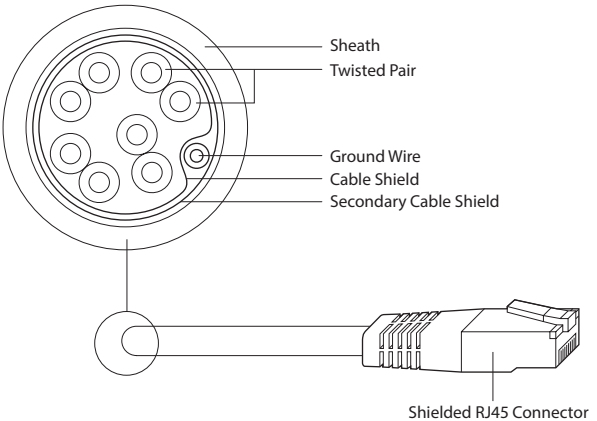
• Orientation

Install the CPE devices with their fronts facing the signal receivers. You can orient the devices with the assistance of Google Map, GPS and some landmarks according to the horizontal beamwidth listed below.

Models	CPE210	CPE220	CPE510	CPE520
Horizontal Beamwidth	65°	45°	45°	50°

2. Ethernet Cable Preparation

1. Select the adequate type of Ethernet cable.
The shielded CAT5e cable with ground wire (refer to the figure below) is prior to the general shielded CAT5e cable during the whole cabling. The former can more effectively protect your devices against ESD attacks under brutal outdoor environment.

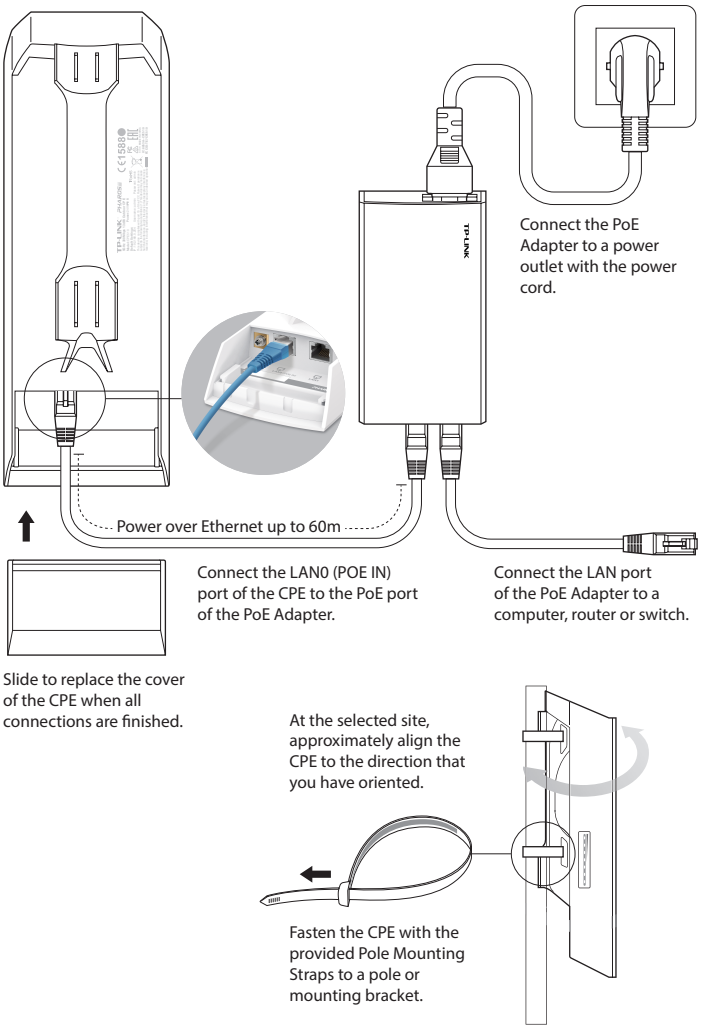


Shielded CAT5e Cable with Ground Wire

2. Review the routes of connecting the POE Adapter to the CPE and evaluate the Ethernet cable length for all the connections, then prepare adequate Ethernet cable.

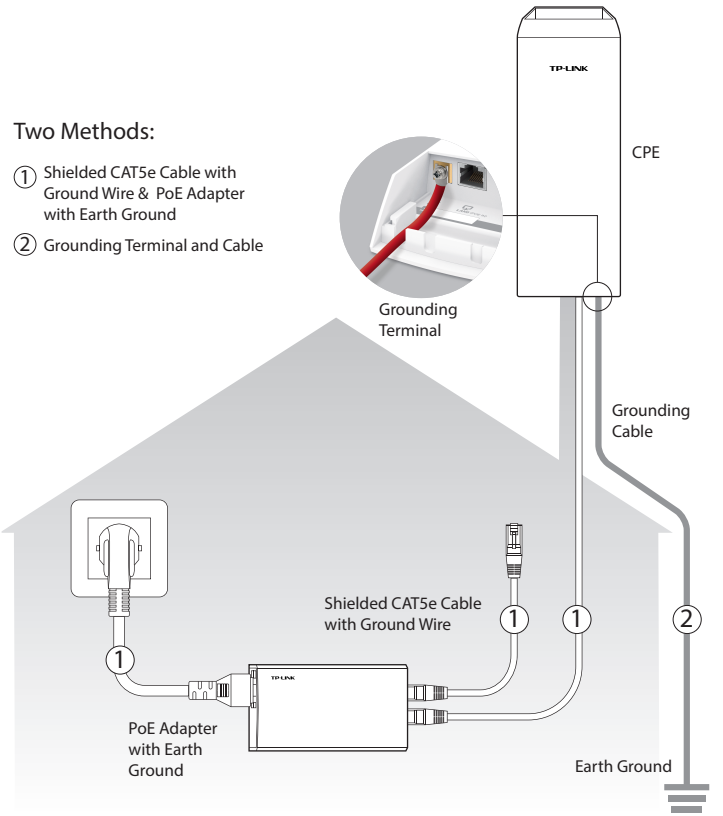
3. Connection and Installation

Please connect and install the device as shown in the figure below.



4. Lightning & ESD Protection

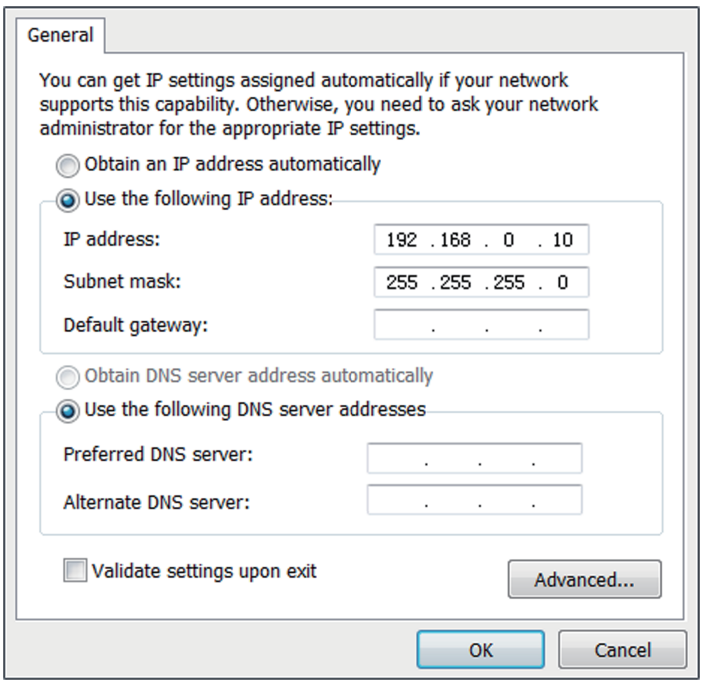
Proper grounding is extremely important for outdoor devices. Pharos CPEs provide two methods to protect the devices from damage of lightning and ESD attacks as shown in the figure below.



In most cases, adopting either of the two methods can be adequate, but adopting both of them can offer more effective protection.

Software Configuration

This chapter introduces the login to the Pharos Web Interface and the software configurations to implement Point-to-Point application.

1. Login to PharOS

1. Before accessing the PharOS Web Interface, you need to assign a static IP address 192.168.0.x (2≤x≤253) to your computer. We use 192.168.0.10 as an example in the figure below.