

# Installation Guide

10/100Mbps Desktop PoE+ Switch

LiteWave™ LS105LP/LS106LP/LS109P

## LED Explanation

### Power

**On:** Power on  
**Off:** Power off

### Link/Act; Uplink

**On:** Running at 10/100 Mbps, but no activity.  
**Flashing:** Running at 10/100 Mbps and is transmitting or receiving data.  
**Off:** No device is linked to the corresponding port.

### PoE Status

**On:** Providing PoE power  
**Flashing:** Current-overload/Short-circuit  
**Off:** Not providing PoE power

### PoE Max

**For LS105LP/LS106LP:**  
**On:**  $34\text{ W} \leq \text{Total power supply} < 41\text{ W}$   
**Flashing:** Total power supply  $\geq 41\text{ W}$   
**Off:** Total power supply  $< 34\text{ W}$   
**For LS109P:**  
**On:**  $56\text{ W} \leq \text{Total power supply} < 63\text{ W}$   
**Flashing:** Total power supply  $\geq 63\text{ W}$   
**Off:** Total power supply  $< 56\text{ W}$

## Switches Explanation

Note: The numbers in brackets indicate the ports where the feature takes effect. For example, when Extend (Port 1-4) is toggled to On, the Extend mode will be enabled for ports 1-4.

### Extend (For LS105LP/LS106LP/LS109P)

**Off:** The corresponding ports run at 10/100 Mbps and support PoE power supply up to 100 m away.  
**On:** The corresponding ports run at 10 Mbps and support PoE power supply up to 250 m away.

### Recovery (For LS105LP/LS106LP/LS109P)

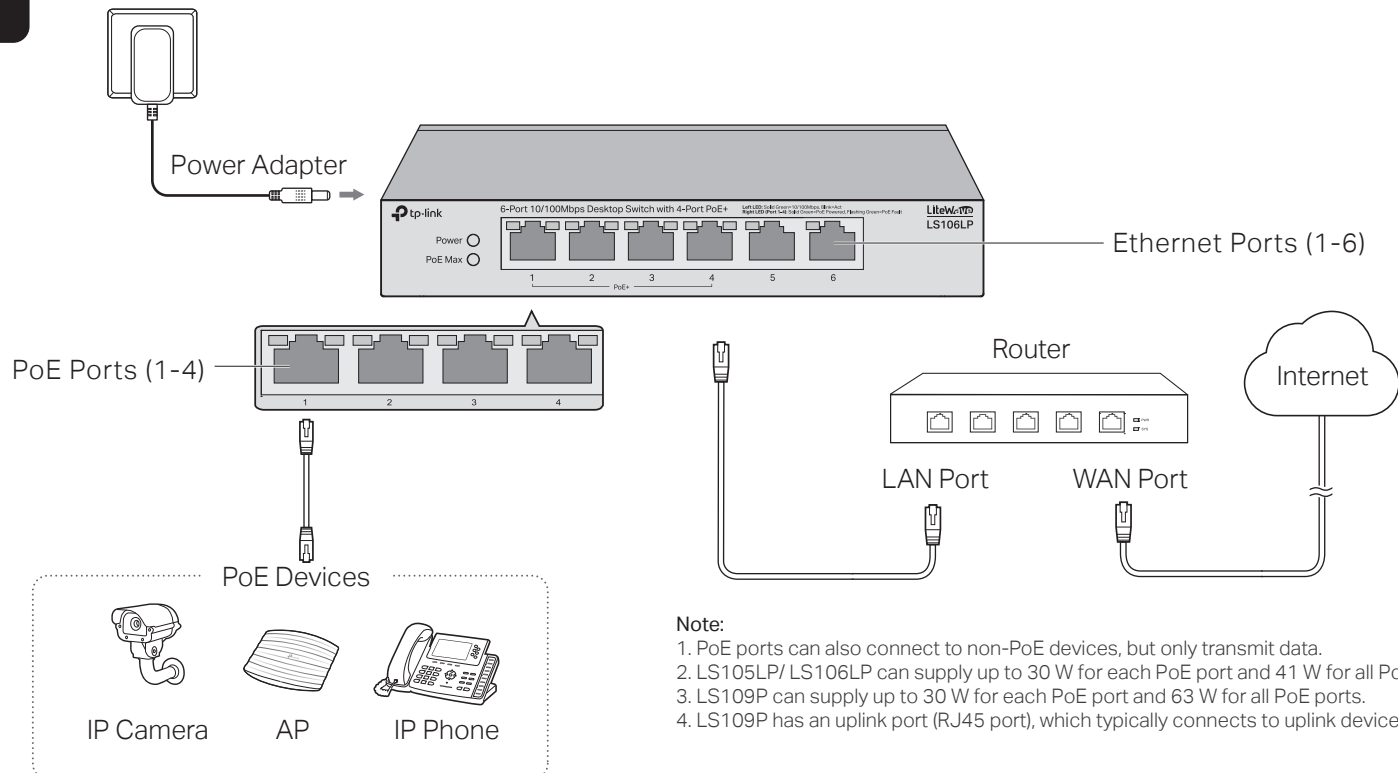
**Off:** The PoE Auto Recovery function is disabled.  
**On:** The switch will constantly detect the working status of a PoE powered device (PD). When the switch finds that the PD works abnormally, the switch will reboot it.

### Isolation (For LS109P)

**Off:** Ports can transmit data with each other.  
**On:** The corresponding ports cannot transmit data with other downlink ports. They can transmit data only with the uplink port.

Note: For simplicity, we will take LS106LP for example throughout this Guide.

## Connection



### Note:

- PoE ports can also connect to non-PoE devices, but only transmit data.
- LS105LP/LS106LP can supply up to 30 W for each PoE port and 41 W for all PoE ports.
- LS109P can supply up to 30 W for each PoE port and 63 W for all PoE ports.
- LS109P has an uplink port (RJ45 port), which typically connects to uplink devices like routers.

# Specifications

## General Specifications

Standard	IEEE802.3i, IEEE802.3u, IEEE802.3x, IEEE802.3af, IEEE802.3at
Interface	LS105LP: 5 10/100 Mbps RJ45 Ports Auto-Negotiation MDI/MDIX PoE Ports: Port 1-4 LS106LP: 6 10/100 Mbps RJ45 Ports Auto-Negotiation MDI/MDIX PoE Ports: Port 1-4 LS109P: 9 10/100 Mbps RJ45 Ports Auto-Negotiation MDI/MDIX PoE Ports: Port 1-8
Network Media (Cable)	10BASE-T: UTP category 3, 4, 5 cable (maximum 100 m); EIA/TIA-568 100Ω STP (maximum 100 m) 100BASE-TX: UTP category 5, 5e cable (maximum 100 m); EIA/TIA-568 100Ω STP (maximum 100 m)
Switching Capacity	LS105LP: 1 Gbps LS106LP: 1.2 Gbps LS109P: 1.8 Gbps
Transfer Method	Store-and-Forward
MAC Address Learning	Automatically learning, automatically aging
Power Supply	External Power Adapter Input: 100-240 VAC, 50/60 Hz Output: 53.5 VDC /0.81 A (LS105LP/LS106LP) 53.5 VDC /1.31 A (LS109P)
PoE Budget	LS105LP/LS106LP: 41 W (up to 30 W for each PoE port) LS109P: 63 W (up to 30 W for each PoE port)
Wall Mountable	Yes
Distance Between Mounting Holes	LS105LP: 76 mm LS106LP: 65mm LS109P: 105mm

## Environmental and Physical Specifications

Operating Temperature	0 °C to 40 °C (32 °F to 104 °F)
Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)
Operating Humidity	10% to 90%RH non-condensing
Storage Humidity	5% to 90%RH non-condensing

### EU declaration of conformity

TP-Link hereby declares that the device is in compliance with the essential requirements and other relevant provisions of directives 2014/30/EU, 2014/35/EU, 2011/65/EU and (EU)2015/863.

The original EU declaration of conformity may be found at <https://www.tp-link.com/en/support/ce/>

### UK declaration of conformity

TP-Link hereby declares that the device is in compliance with the essential requirements and other relevant provisions of the Electromagnetic Compatibility Regulations 2016 and Electrical Equipment (Safety) Regulations 2016.

The original UK declaration of conformity may be found at <https://www.tp-link.com/support/ukca>



# Frequently Asked Questions (FAQ)

## Q1. Why is the Power LED not lit?

The Power LED should be lit when the power system is working normally. If the Power LED is not lit, please try the following:

- A1:** Make sure the AC power cord is connected to the switch with power source properly.  
**A2:** Make sure the voltage of the power supply meets the requirements of the input voltage of the switch.  
**A3:** Make sure the power source is on.

## Q2. Why is the Link/Act LED not lit while a device is connected to the corresponding port?

It is recommended that you check the following items:

- A1:** Make sure that the cable connectors are firmly plugged into the switch and the device.  
**A2:** Make sure the connected device is turned on and works normally.  
**A3:** The cable must be less than 100 meters long (328 feet). If Extend Mode is enabled, it should be less than 250 meters (820 feet).

## Q3. Why are the PoE ports not supplying power for PoE devices?

When the total power consumption of connected PoE devices exceeds the maximum, the PoE port with a smaller port number has higher priority. The system will cut off power to the ports with larger port numbers to ensure supplying to other ports.

Take LS106LP as an example. If port 1, 2 and 4 are consuming 10 W respectively, and an additional PoE device with 15 W is connected to port 3, the system will cut off the power of port 4 to compensate for the overload.

## Q4. What should I notice before using the PoE Auto Recovery feature?

- A1:** Before upgrading a connected PoE powered device (PD), disable PoE Auto Recovery to avoid the PD's damage.  
**A2:** When a PD does not send data packets to the switch for a long period in certain scenarios (e.g. an IPC in sleep mode), disable PoE Auto Recovery to avoid the PD repeatedly rebooting.



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## Safety Information

- Keep the device away from water, fire, humidity or hot environments.
- Do not attempt to disassemble, repair, or modify the device. If you need service, please contact us.
- Place the device with its bottom surface downward.
- Do not use damaged charger or USB cable to charge the device.
- Do not use any other chargers than those recommended.
- Adapter shall be installed near the equipment and shall be easily accessible.
- The plug on the power supply cord is used as the disconnect device, the socket-outlet shall be easily accessible. (For LS109P)
- The socket-outlet shall be installed near the equipment and shall be easily accessible. (For LS109P)