

Installation Guide

16/24-Port Gigabit Desktop/Rackmount Switch

LiteWave™ LS1016G/LS1024G

For simplicity, we will take LS1024G for example.
The images are for demonstration only and may differ from your actual product.

LEDs

Power

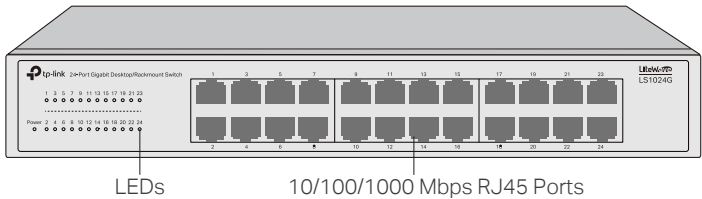
- On: The switch is powered on.
- Off: The switch is powered off or power supply is abnormal.
- Flashing: Power supply is abnormal.

Link/Act

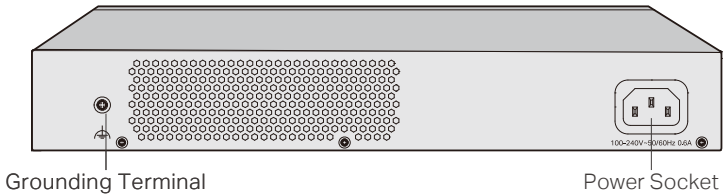
- On: A device is linked to the corresponding port and running properly.
- Off: No device is linked to the corresponding port.
- Flashing: Transmitting or receiving data.

Appearance

Front Panel



Rear Panel



Others

Grounding Terminal

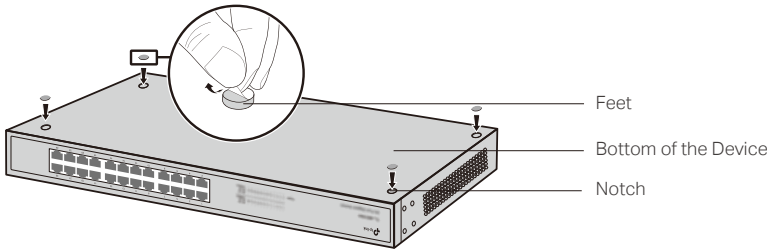
The switch already comes with lightning protection mechanism. You can also ground the switch through the PE (Protecting Earth) cable of AC cord or with Ground Cable.

Power Socket

Plug the female connector of the power cord directly into the power socket and plug the male connector into an AC outlet. Make sure that the voltage of the power supply meets the requirement of the input voltage (100–240 V ~ 50/60 Hz).

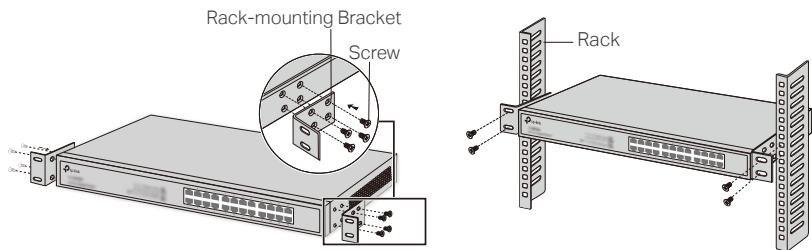
Installation

Method 1: Desktop Installation



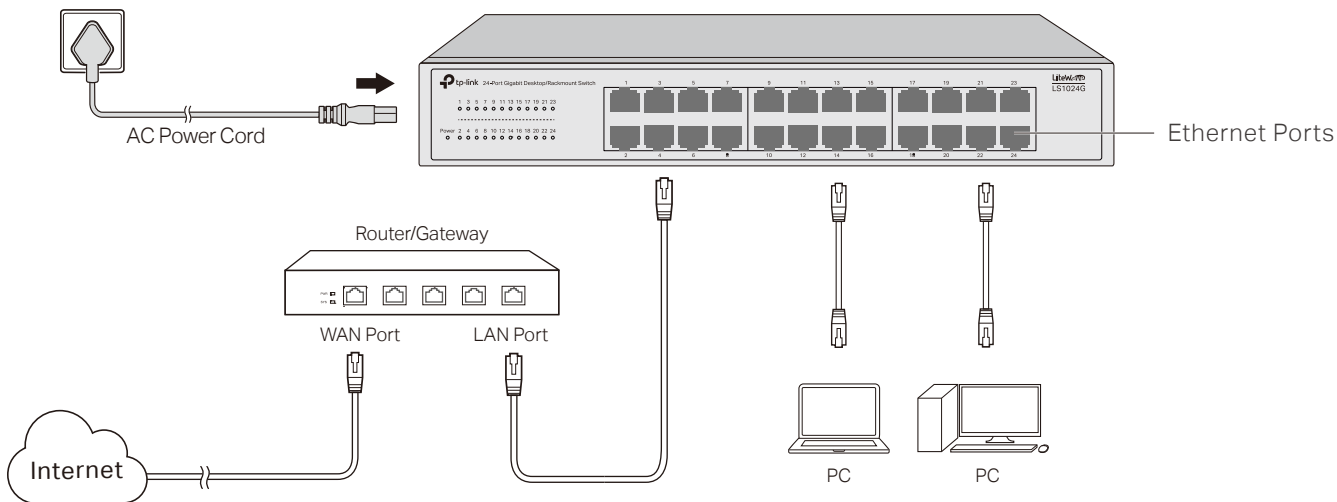
- 1) Remove the adhesive backing papers from the feet.
- 2) Attach the feet to the bottom of the switch to prevent it from slipping when placed on a desktop.

Method 2: Rack Installation



- Note:
- Leave 5 to 10 cm gaps around the devices for air circulation.
 - Avoid placing heavy things on the device.
 - Place the device with its bottom facing downwards.
 - Mount devices in sequence from the bottom to top of the rack and ensure a certain clearance between devices for the purpose of heat dissipation.

Connection



Specifications

General Specifications

Standard	IEEE 802.3, IEEE 802.3i, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3x, IEEE802.1p
Protocol	CSMA/CD
Interface	16/24 10/100/1000 Mbps RJ45 Ports Auto-Negotiation/Auto MDI/MDIX
Network Media (Cable)	10Base-T: 2-pair UTP/STP of Cat. 3 or above (maximum 100 m) 100Base-TX: 2-pair UTP/STP of Cat. 5 or above (maximum 100 m) 1000Base-T: 4-pair UTP/STP of Cat. 5e or above (maximum 100 m)
Switching Capacity	LS1016G: 32 Gbps LS1024G: 48 Gbps
Transfer Method	Store-and-Forward
MAC Address Learning	Automatically learning, automatically aging
Frame Forwarding Rate	10Base-T: 14881 pps/Port 100Base-X: 148810 pps/Port 1000Base-T: 1488095 pps/Port

Safety Precautions

To avoid any device damage and bodily injury caused by improper use, you should observe the following rules.

- Keep the power off during the installation.
- Wear an ESD-preventive wrist strap, and make sure that the wrist strap has a good skin contact and is well grounded.
- Use only the power cord provided with the switch.
- Make sure that the supply voltage matches the specifications indicated on the rear panel of the switch.
- Ensure that the switch is installed in a well-ventilated environment and its ventilation hole is not blocked.
- Do not open or remove the cover of the switch.
- Before cleaning the device, cut off the power supply. Do not clean it by the waterish cloth, and never use any other liquid cleaning method.
- Place the device with its bottom surface downward.

Lightning Protection



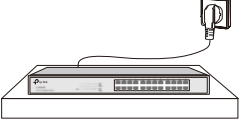
Extremely high voltage currents can be produced instantly when lightning occurs and the air in the electric discharge path can be instantly heated up to 20,000 °C. As this instant current is strong enough to damage electronic devices, more effective lightning protection measures should be taken. Ensure that the rack and the device are well earthed.

- Make sure the power socket has a good contact with the ground.
- Keep a reasonable cabling system and avoid induced lightning.
- Use the signal SPD (Surge Protective Device) when wiring outdoor.

Note:

For detailed lightning protection measures, refer to the Lightning Protection Guide:
https://www.tp-link.com/us/configuration-guides/lightning_protection_guide

Installation Site



When installing the device on a rack or a flat workbench, attach much importance to the following items:

- The rack or workbench is flat, stable, and sturdy enough to support the weight of 5.5 kg at least.
- The rack or workbench has a good ventilation system. The equipment room is well ventilated.
- The rack is well grounded. Keep the device less than 1.5 meters away from the power socket.

Environmental and Physical Specifications

Certification	FCC, CE, RoHS
Operating Temperature	-5 °C to 50 °C (23 °F to 122 °F) (For LS1016G) -5 °C to 45 °C (23 °F to 113 °F) (For LS1024G)
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 switch 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/ce>.

UK declaration of conformity

TP-Link hereby declares that the switch 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. The Power LED is not lit.

The Power LED should be lit when the power system is working normally. If the Power LED is not lit, check as follows:

A1: Make sure the power adapter 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. The Link/Act LED is not lit when 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).

Site Requirements

Temperature/Humidity



Keep the equipment room at an appropriate level of temperature and humidity. Too much or too little humidity may lead to bad insulation, leakage of electricity, mechanical property changes, and corrosion. High temperatures may accelerate aging of the insulation materials, significantly shortening the service life of the device. To find out the best temperature and humidity conditions for the device, check the following table.

Environment	Temperature	Humidity
Operating	-5 °C to 50 °C (For LS1016G) -5 °C to 45 °C (For LS1024G)	10% to 90%RH Non-condensing
Storage	-40 °C to 70 °C	5% to 90%RH Non-condensing

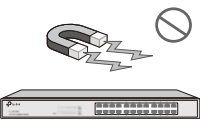
Cleanness



The dust accumulated on the switch can be absorbed by static electricity and result in poor contact of metal contact points. Some measures have been taken for the device to prevent static electricity, but too strong static electricity can cause deadly damage to the electronic elements on the internal circuit board. To avoid the effect of static electricity on the operation of the switch, attach much importance to the following items:

- Dust the device regularly, and keep the indoor air clean.
- Keep the device well grounded and ensure that the static electricity has been transferred.

Electromagnetic Interference



Electronic elements including capacitance and inductance on the device can be affected by external interferences, such as conducted emission by capacitance coupling, inductance coupling, and impedance coupling. To decrease the interferences, make sure to take the following measures:

- Use the power supply that can effectively filter interference from the power grid.
- Keep the device far from high-frequency and strong-current devices such as radio transmitting station.
- Use electromagnetic shielding when necessary.

For technical support and other information, please visit <https://www.tp-link.com/support/?type=smb>, or simply scan the QR code.



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.
- The plug on the power supply cord is used as the disconnect device, the socket-outlet shall be easily accessible.
- The socket-outlet shall be installed near the equipment and shall be easily accessible
- Plug the product into the wall outlets with earthing connection through the power supply cord.
In Denmark: Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord.
In Finland: Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan.
In Norway: Apparatet må tilkoples jordat stikkontakt.
In Sweden: Apparatens skall anslutas till jordat uttag.

Please read and follow the above safety information when operating the device. We cannot guarantee that no accidents or damage will occur due to improper use of the device. Please use this product with care and operate at your own risk.



Продукт сертифіковано згідно с правилами системи УкрСЕПРО на відповідність вимогам нормативних документів та вимогам, що передбачені чинними законодавчими актами України.



BSMI Notice

安全諮詢及注意事項

- 請使用原裝電源供應器或只能按照本產品注明的電源類型使用本產品。
- 清潔本產品之前請先拔掉電源線。請勿使用液體、噴霧清潔劑或濕布進行清潔。
- 注意防潮，請勿將水或其他液體潑灑到本產品上。
- 插槽與開口供通風使用，以確保本產品的操作可靠並防止過熱，請勿堵塞或覆蓋開口。
- 請勿將本產品置放於靠近熱源的地方。除非有正常的通風，否則不可放在密閉位置中。
- 請不要私自拆開機殼或自行維修，如產品有故障請與原廠或代理商聯繫。

警告：為避免電磁干擾，本產品不應安裝或使用於住宅環境。

限用物質含有情況標示聲明書

單元 Unit	限用物質及其化學符號					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁶⁺)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
PCB	○	○	○	○	○	○
外殼	○	○	○	○	○	○
電源供應板	-	○	○	○	○	○
其他及其配件	-	○	○	○	○	○
備考1. `超出0.1 wt %` 及 `超出0.01 wt %` 係指限用物質之百分比含量超出百分比含量基準值 Note 1: “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition. 備考2. `○` 係指該項限用物質之百分比含量未超出百分比含量基準值。 Note 2: “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence. 備考3. `—` 係指該項限用物質為排除項目。 Note 3: The “—” indicates that the restricted substance corresponds to the exemption.						

Explanation of the symbols on the product label

產品標籤上符號的解釋

Note: The product label can be found at the bottom of the product and its I.T.E. power supply. Symbols may vary from products.

注意：產品標籤可以在產品底部和其I.T.E. 電源供應

Symbol 符號	Explanation 說明
	Class II equipment 二級設備
	Class II equipment with functional earthing 具有接地功能的二級設備
	Alternating current 交流電
	Direct current 直流電
	Polarity of d.c. power connector 輸出端點的極性
	For indoor use only 僅供室內使用
	Dangerous voltage 危險電壓
	Caution, risk of electric shock 請注意，有觸電的危險
	Energy efficiency Marking 能源效率標誌
	Protective earth 保護接地
	Earth 接地
	Frame or chassis 框架或外殼
	Functional earthing 功能接地
	Caution, hot surface 請注意，表面過熱
	Caution 警告
	Operator's manual 操作手冊
	Stand by 待機
	"ON"/"OFF" (push- push) “開啟” /” 關閉” （按壓式）
	Fuse 保險絲
	Fuse is used in neutral N 保險絲用於中性線N
	RECYCLING 回收 This product bears the selective sorting symbol for Waste electrical and electronic equipment (WEEE). This means that this product must be handled pursuant to European directive 2012/19/EU in order to be recycled or dismantled to minimize its impact on the environment. 這個產品帶有歐盟指令2012/19/EU 中關於廢棄電氣電子設備（WEEE）的選擇性分類標誌。這意味著，該產品必須按照該指令處理，以便進行回收或拆解，從而最大限度地減少對環境的影響。 User has the choice to give his product to a competent recycling organization or to the retailer when he buys a new electrical or electronic equipment. 用戶可以選擇將產品交給有資格的回收機構，或在購買新的電器或電子設備時將其交給零售商進行回收。
	Caution, avoid listening at high volume levels for long periods 請小心，避免長時間以高音量收聽。
	Disconnection, all power plugs 斷線，所有電源插頭
m	Switch of mini gap construction 迷你間隙結構開關
μ	Switch of micro-gap construction (for US version) Switch of micro-gap /micro disconnection construction (for other versions except US) 小間隙結構開關（US 版本） 小間隙/ 小斷開結構的開關（非US 版）
ε	Switch without contact gap (Semiconductor switching device) 無接觸間隙的開關（半導體開關設備）