

Linksys



LKS-SG9P4 9-port Gigabit Ethernet Switch with 4-port PoE

User Manual
Rev. 1.0

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Chapter 1 Introduction

1.1 Product Overview

The Linksys LKS-SG9P4 Gigabit Ethernet with 4-port PoE Switch provides you with an ideal seamless solution of high performance, low cost, easy-to-use, and boosts your 10/100Mbps local area network to 1000Mbps. The switch supports 10/100/1000M auto-sensing, and protects the existing network investment when you enjoy the gigabit network. The switch is plug-and-play with no configuration required. Diagnostic LEDs which display link status and activity, allow you to quickly detect and correct problems on the network. The LKS-SG9P4 also provides four PoE-capable ports of the switch, up to 30W output power on each port, which can solve the problems resulting from wiring complexities, high cost and maintenance difficulties of network devices.

1.2 Package Contents

Open the package and verify the following items carefully. If any of the listed items is damaged or missing, please contact your local reseller.

- 1 x LKS-SG9P4 Gigabit Ethernet Switch with 4-port PoE
- 1 x Power Adapter
- 1 x User Manual
- 1 x Magnet Kit (4 magnets and 4 screws)
- 4 x Rubber Foot Pad
- 2 x Screw Set
- 1 x Product Warranty Card

1.3 Physical Description

Front Panel

The front panel mainly consists of RJ45 ports and LEDs, shown as Figure 1-1.

9-port Gigabit Ethernet Switch with 4-port PoE

(1) RJ45 Ports

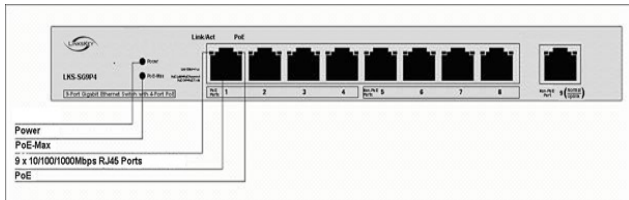


Figure 1-1 Front Panel

There are nine 10/100/1000M RJ45 ports, of which port 9 is the Normal/Uplink port, others are downlink ports. From port 1 to 4 of the downlink ports are PoE-capable, port 5 to 8 of the downlink ports are regular ports, details shown as Table 1-1.

PoE-capable Ports (1 ~ 4)

- Compliant with the IEEE 802.3af and IEEE 802.3at standards
- Up to four IEEE 802.3af compliant (15.4W per port) or two IEEE 802.3at compliant (30W per port) powered devices (PDs) can be accessed simultaneously connected on any PoE-capable port

Table 1-1 PoE-capable Ports



Tips: PoE implements two ways of supplying DC power over the RJ45 Ethernet cable. In Mode-A, is also known as "Phantom Power", the wire pairs which are used for data transmission are also used to provide the power (Pair 1 and 2, Pair 3 and 6). You're recommended to use Cat.5 or higher UTP/STP cables.

(2) LED

You can check link status and activity of the switch via LEDs.

Table 1-2 describes the LED status.

9-port Gigabit Ethernet Switch with 4-port PoE

LED	Color	Status	Description
POWER	Green	Solid	The switch is powered on
		Off	The switch is powered off or its power supply is improper
PoE-MAX	Green	Solid	PoE consumption exceeds the power limit or no more PDs can be powered on
		Off	PoE consumption is proper
Link/Act	Orange	Solid	Proper network connection on the corresponding RJ45 port
		Blinking	Traffic is being transmitted on the corresponding RJ45 port
		Off	No network connection is on the corresponding RJ45 port
PoE	Green	Solid	Powered Device is connected to the corresponding port and powered on properly
		Off	Port 1 to 4 :Powered Device is powered off or not connected properly Port 5 to 9 : PoE feature is not supported

Table 1-2 LED Status

Back Panel

The back panel mainly consists of a grounding terminal for lightning protection, Kensington security slot, and a power socket, shown as Figure 1-2,

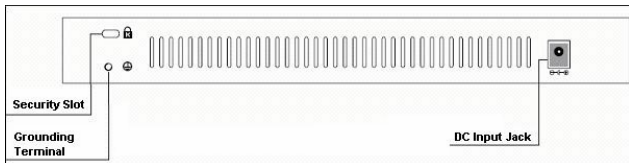


Figure 1-2 Back Panel

(1) Kensington Security Slot

Use an anti-theft lock to attach the switch to a fixed object against theft.

(2) Grounding Terminal

Use a wire to connect the terminal to the ground for lightning protection. For details, please refer to section 2.5 Connect to Protective Grounding Cable.

9-port Gigabit Ethernet Switch with 4-port PoE

(3) Power Input Jack

Plug the DC power output to this power input jack to supply power for the switch.

Power Input	100-240V AC, 50/60Hz
Power Output	51V DC, 1.25A




Note: Please use only the power supply provided with the switch.

Chapter 2 Installation

2.1 Safety Precautions

To avoid any device damage and bodily injury caused by improper use, please 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
- Use only the power supply provided with the switch
- Make sure that the supply voltage matches the specifications identified on the power adapter provided with the switch
- Ensure the vent hole is well ventilated and unblocked
- Do not open or remove the housing of the switch
- Before cleaning the switch, power off the power supply. Do not clean it by the waterish cloth, and never use any other liquid cleaning method
- Keep the switch away from nearest source of high voltage, such as power lines, electric lamps, grids, etc.

 **Note:** If needed to open the device's housing, please contact Linksys to get permission, or you have to be responsible for the result that the device cannot be maintained because of unpermitted operation.

2.2 Site Requirements

Operating Temperature and Humidity

Requirements of temperature and humidity to the switch are shown as Table 2-1.

Environment	Temperature	Humidity
Operating	14°F ~ 113°F (-10°C ~ 45°C)	10% ~ 90% RH (Non-condensing)
Storage	-40°F ~ 158°F (-40°C ~ 70°C)	5% ~ 90% RH (Non-condensing)

Table 2-1 Temperature and Humidity Requirement

9-port Gigabit Ethernet Switch with 4-port PoE

Cleanness

To avoid the effect of static electricity on the operation of the switch, please refer to the followings.

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

Lightning Protection

To avoid the damage of electronic devices made by the extremely high voltage current produced when lightning occurs, please take the following lightning protection measures.

- Ensure the rack and the switch's ground terminal are well earthed
- Make sure the power outlet has a good contact with the ground
- Keep a reasonable cabling system to avoid induced lightning
- Use the signal SPD (Surge Protective Device) when wiring outdoor

Installation Site

When installing the device on a rack or a flat workbench, please note the following items.

- Make sure that the rack or workbench is sturdy enough to support the switch and well-grounded
- Make sure that the switch has a good ventilation system. The device should be left 10cm of equipment clearance for ventilation
- Do not place objects on the switch
- If the switches need to be used in stacked, the vertical distance between neighboring ones cannot be less than 1.5 cm

2.3 Installation Tools

- Phillips Screwdriver
- ESD-preventive Wrist Wrap
- Network Cables (Option)

2.4 Product Installation

Desktop Installation

Step 1: Set the bottom of the switch up on a flat and stable desktop.

Step 2: Paste four cushions in the corresponding concave places at the bottom.

Step 3: Turn over the switch and place it face up on the workbench.

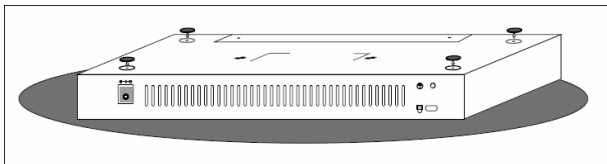


Figure 2-1 Desktop Installation

Magnet Installation

Step 1: Attract 4 magnets into the corresponding round grooves on the bottom at each corner of the switch's housing.

Step 2: Use screws to secure the magnets to the switch's housing, shown as Figure 2-2 (a).

Step 3: Press the switch (installed with magnets) in a proper way on a stable surface you select, shown as Figure 2-2 (b).

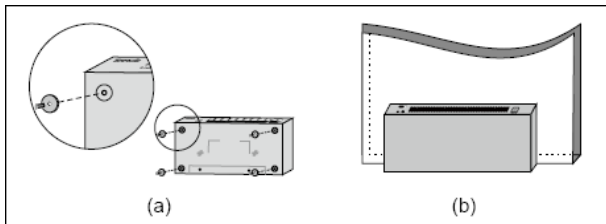


Figure 2-2 Magnet Installation



Note:

- Select the installation surface carefully. If the surface is not proper, the reliability of this installation will be compromised
- Too high installation position or vibration might cause a fall leading to switch damage or personal injury
- When installation is finished, don't move the switch very often to avoid surface coating damage
- To make it cable more easily, please place the switch bottom up when you mount it vertically and pay attention to the weight of the installed cables to avoid a fall
- Keep magnets away from objects such as the floppy disk, magnetic card, computer or computer monitor, which are easy to be magnetized

Wall Mount Installation

Step 1: Drill 2 holes with a diameter of 5mm on the wall. The distance between the 2 holes is 110mm, and the line through them should keep horizontal, as illustrated in Figure 2-3.

Step 2: Install a drywall anchor inside the board hole; and flush the edge of the drywall anchor with the wall surface.

Step 3: Fasten the screws into the drywall anchor. Distance between the inside surface of the screw header and the edge of the drywall anchor should not be less than 2.5mm, to make sure that the device can be hung on the bolt tightly.

Step 4: Align two wall type holes at the bottom of the device with the screw, and hang the device on it.

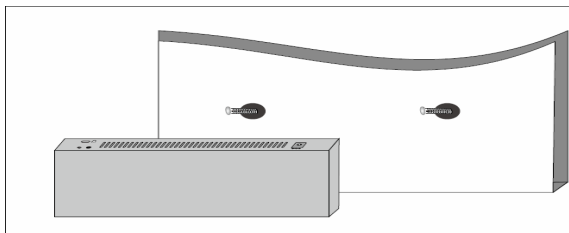


Figure 2-3 Wall Mount Installation

2.5 Connect to Protective Grounding Cable

Proper connection of the protective grounding cable is not only for quickly releasing the overvoltage and overcurrent resulting from lightning, but also necessary precaution of preventing bodily injury.

With Grounding Bar

Connect one end of the protective grounding cable to the binding post on the grounding bar and fix the screws, shown as Figure 2-4

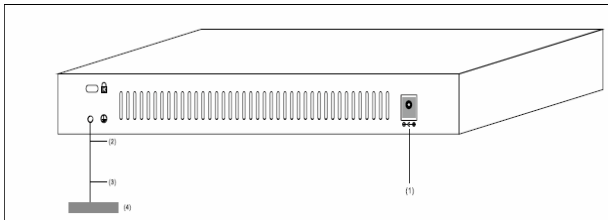



Figure 2-4 Installation with Grounding Bar

(1) DC Power Input Jack	(2) Binding Post
(3) Protective Grounding Cable	(4) Grounding Bar

 **Note:** The switch's grounding cable should be connected to the metal support rod.

Chapter 3 Hardware Connection

Connection Procedures

Step 1: Use a RJ45 Ethernet cable to connect an upstream network device (such as another switch or a router) to the Normal/Uplink port which is port 9 on the switch, shown as Figure 3-1.

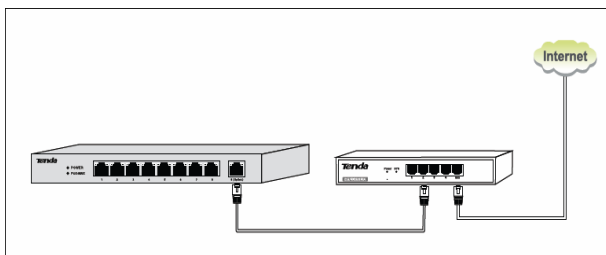


Figure 3-1 Installation with upstream network device

Step 2: Use another RJ45 Ethernet cable connect a downstream network device to downlink port. PoE-capable ports can access PDs such as an AP, IP phone, IP camera, shown as Figure 3-2.

9-port Gigabit Ethernet Switch with 4-port PoE

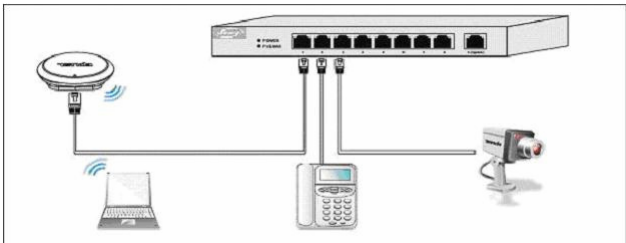


Figure 3-2 Installation with Powered Devices

Step 3: Use the AC power adapter provided in the product package to supply power for the switch, shown as Figure 3-3.

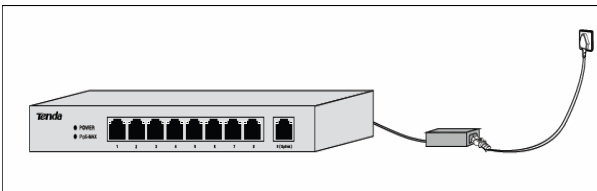


Figure 3-3 Installation with the AC power adapter

Step 4: After powered up, the switch begins auto-initialization. Check the LED indicators, and they will respond as follows:

- All the functional LEDs will flash momentarily for one second and then go off, which represents a resetting of the system.
- The POWER LED indicator is lit.

Appendix

A. Technical Specifications

Item	Specification
Protocol & Standard	IEEE 802.3i 10Base-T Ethernet IEEE 802.3u 100Base-Tx Fast Ethernet IEEE 802.3ab 1000Base-T Gigabit Ethernet IEEE 802.3x Flow Control IEEE 802.3af PoE IEEE 802.3at PoE+
Power Supply	<ul style="list-style-type: none"> ● Total power of the switch: 63.75W maximum ● Total power of the PoE power supply: 57.81W maximum ● DC Power Output : 51VDC, 1.25A
MAC Address Table	4K
LEDs	POWER, PoE , PoE-MAX , Link/Act
PoE Power Media	Cat.5 (≤100m) or Cat.5 higher UTP/STP cables (≤150m) (recommended)
Operating Temperature	14°F ~ 113°F (-10°C ~ 45°C)
Storage Temperature	-40°F ~ 158°F (-40°C ~ 70°C)
Operating Humidity	10% ~ 90% RH non-condensing
Storage Humidity	5% ~ 90% RH non-condensing
Dimension	9.3in x 4.0in x 1.0in (235mm x 103mm x 27mm)

B. Safety and Emission Statement

CE Mark Warning

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

NOTE: (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class A 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 radiofrequency 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this 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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.