

Installation Guide

Redundant Power Supply

RPS150

About this Installation Guide

This Installation Guide describes the hardware characteristics, installation methods and the points that should be attended to during the installation. This Installation Guide is structured as follows:

Chapter 1 Introduction.

This chapter describes the features and external components of RPS150.

Chapter 2 Installation.

This chapter illustrates how to install RPS150.

Chapter 3 Connection.

This chapter illustrates how to do the physical connection of RPS150.

Appendix A Specifications.

Audience



This Installation Guide is for:

Network Engineer

Network Administrator

Conventions

This Guide uses the specific formats to highlight special messages. The following table lists the notice icons that are used throughout this guide.

	Remind to be careful. A caution indicates a potential which may result in device damage.
	Remind to take notice. The note contains the helpful information for a better use of the product.

Related Document

This Installation Guide is also available in PDF on our website. To obtain the latest documentation and product information, please visit the official website:

<http://www.tp-link.com>

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Chapter 1 Introduction

1.1 Product Overview

The TP-Link Redundant Power Supply (RPS) RPS150 is designed to maximize availability for the business network. RPS150 is used as a redundant power supply for TP-Link RPS capable L2 and L3 Managed switches. When worked with these switches, RPS150 provides a quick failover feature to ensure that the connected switches can work uninterruptedly in the event of an internal power supply failure. Without any necessary configuration, RPS150 can be easily installed as an independent power supply unit, or placed inside RPS2 chassis which is designed to accommodate two RPS150 for rack-mount installation. Overall, the system integration between TP-Link's managed switches and RPS devices, provides you a resilient and highly available converged network at an affordable price.

1.2 Features

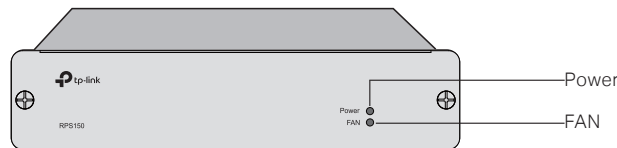
- Redundant power supply for the switch's built-in power supply
- 100 to 240 Volts, 50 to 60Hz AC input range
- +12V/12.5A DC output
- Up to 150 watts output power
- LED status indicators
- Over current/voltage protection
- Independent or rack-mount installation.

1.3 Appearance

■ Front Panel

The front panel of RPS150 is shown as the following figure.

Figure 1-1 Front Panel of RPS150



Indicators

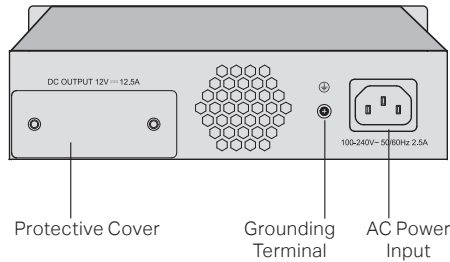
You can monitor the running status of RPS150 through the Power and FAN LEDs.

LED	Status	Indication
Power	On	The system power supply is normal
	Flashing	The system power supply is abnormal
	Off	The system power supply is off or abnormal
FAN	On	The fan works normally
	Flashing	The fan works abnormally
	Off	The power supply is off or the fan works abnormally

■ **Rear Panel**

The rear panel of RPS150 is shown as the following figure.

Figure 1-2 Rear Panel of RPS150



AC Power Input

On the right side of the rear panel, and the input AC power should be 100-240V~50/60Hz.

Grounding Terminal

On the left side of the AC Power Input, please ground the device with the provided Ground Cable. You can also ground the device through the PE (Protecting Earth) cable of AC cord. For detailed information, please refer to section 3.1 Connect to Ground.

Protective Cover

It is used to protect the DC Power Output Socket. Remove it to connect RPS150 to the powered device.



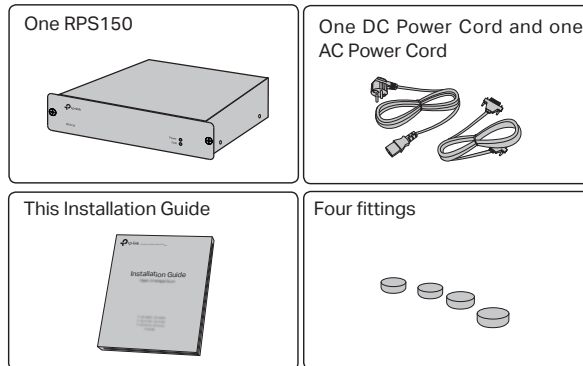
Caution:

- Please use the provided power cord and verify the power supply is 100-240V~50/60Hz.
- The electrical outlet shall be installed near the device and shall be easily accessible.

Chapter 2 Installation

2.1 Package Contents

Make sure that the package contains the following items. If any of the listed items is damaged or missing, please contact your distributor.



2.2 Safety Precautions

To avoid any device damage and bodily injury caused by improper use, please observe the following rules:

■ Safety Precautions

- 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.
- Make sure that the input AC power voltage matches the specifications indicated on the rear panel of the RPS150.
- Before switching on the power, make sure that the power circuit will not be overloaded, otherwise the RPS150 will work abnormally or be damaged.
- Do not open or remove the cover of the RPS150, even if it is not electrified.
- 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.

■ Site Requirements

To ensure normal operation and long service life of the device, please install it in an environment that meets the requirements described in the following subsection.

Temperature/Humidity



Please keep a proper temperature and humidity in the equipment room. Too high/low humidity may lead to bad insulation, electricity leakage, mechanical property changes and corrosions. Too high temperature may accelerate aging of the insulation materials and can thus significantly shorten the service life of the device. For normal temperature and humidity of the device, please check the following table.

Environment	Temperature	Humidity
Operating	0°C to 40°C	20% to 90%RH Non-condensing
Storage	-40°C to 70°C	10% to 95%RH Non-condensing

Cleaness



The dust accumulated on the device 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 device, please attach much importance to the following items:

- Dust the device regularly, and keep the indoor air clean.
- Keep the device well grounded and ensure 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, please 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, strong-current devices, such as radio transmitting station.
- Use electromagnetic shielding when necessary.

Lightening 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.

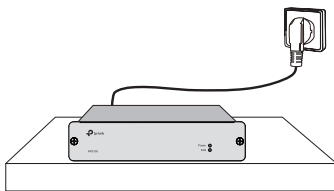
- Ensure the rack and device are well earthed.
- Make sure the power socket has a good contact with the ground.
- Keep a reasonable cabling system and avoid induced lightning.
- Use the signal SPD (Surge Protective Device) when wiring outdoor.



Note:

For detailed lightning protection measures, please refer to section **3.1 Connect to Ground**.

Installation Site



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

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

2.3 Installation Tools

- Phillips Screwdriver
- ESD-preventive wrist wrap

2.4 Product Installation

The RPS150 can be installed either in a standard 19-inch rack via RPS2 or directly on a tabletop.

■ Desktop Installation

To install the device on the desktop, please follow the steps:

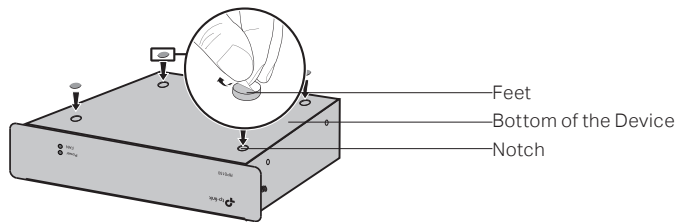


Caution:

- Please set 5 to 10cm gaps around the device for heat dissipation and air circulation.
- Please avoid any heavy thing placed on the device.

1. Set the device upside down on the flat desktop strong enough to support the entire weight of the device with all fittings.
2. Remove the adhesive backing papers from the supplied rubber feet and attach the rubber feet to the recessed areas on the bottom at each corner of the device.

Figure 2-1 Desktop Installation



3. Turnover the device and place it stably on the tabletop.

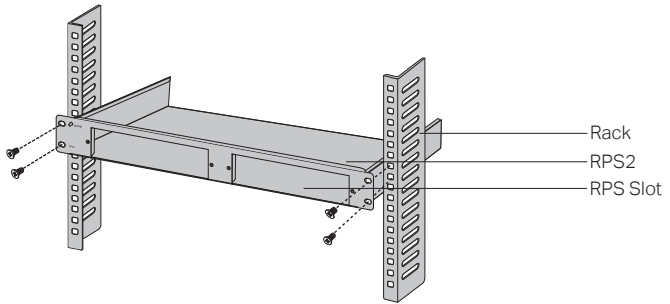
■ Rack Installation

RPS150 can be installed in the standard rack via the RPS2 chassis. One RPS2 chassis is designed to hold up to 2 RPS150s. You should install the RPS2 chassis to the rack first, and then insert RPS150 into the RPS2. The detailed instructions are described below:

1. Check the grounding and stability of the rack.
2. Place the RPS2 horizontally to an appropriate position in the rack and then support it with bracket.

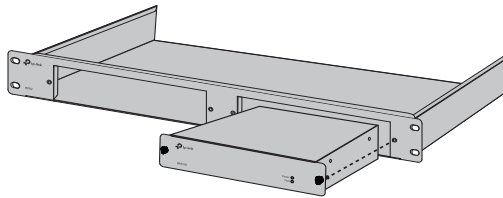
- Secure the RPS2 to each side of the fixed guide slot with screws. Verify the stability and horizontality of RPS2 in the rack.

Figure 2-2 Install the RPS2 to a standard rack



- Insert the RPS150 in to the RPS2 and fix it with screws, as illustrated in the figure below:

Figure 2-3 Insert RPS150 into RPS2



Note:

- Do not attach the supplied rubber feet on the bottom of RPS150 if it is supposed to be inserted into RPS2 in the bracket.
- A well grounded bracket can largely prevent the device from static electricity, electric leakage, lightning and electromagnetic interference. Make sure the grounding cable of the bracket is correctly installed.
- Ensure the device is well ventilated for the purpose of heat dissipation.

Chapter 3 Connection

3.1 Connect to Ground

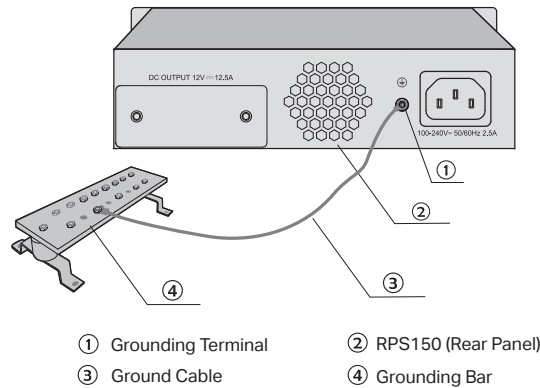
Connecting the device to ground is to quickly release the lightning over-voltage and over-current of the device, which is also a necessary measure to protect the body from electric shock.

In different environments, the device may be grounded differently. The following will instruct you to connect the device to the ground in two ways, connecting to the grounding bar or connecting to the ground via the power cord. Please connect the device to ground in the optimum way according to your specific operation environment.

■ Connecting to the Grounding Bar

If the device is installed in the Equipment Room, where a grounding bar is available, you are recommended to connect the device to the grounding bar as shown in the following figure.

Figure 3-1 Connecting to the Grounding Bar



Note:

The grounding bar and ground cable are not provided with our product. If needed, please self purchase them.

■ Connecting to the Ground via the Power Supply

If the device is installed in the normal environment, the device can be grounded via the PE (Protecting Earth) cable of the AC power supply as shown in Figure 3-4.

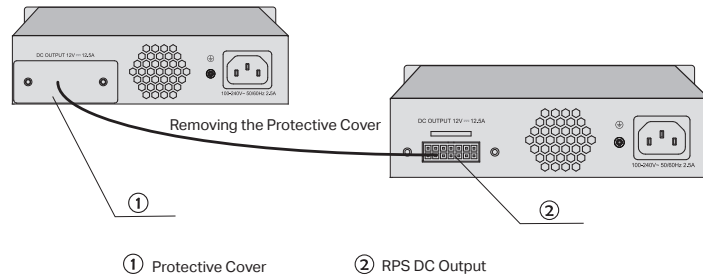
To connect the device to the ground via the PE (Protecting Earth) cable of AC power cord, please make sure the PE (Protecting Earth) cable in the electrical outlet is well grounded in advance.

3.2 Connect to the Powered Device

The RPS150 can be used as a redundant backup power supply unit for multiple switch models. Follow the steps below to connect the RPS150 to a powered device.

1. Confirm that the power supply of the RPS150 is cut off.
2. Remove the protective covers covering the redundant power socket of RPS150 and the switch. Here we take the removing process of RPS150 for example:

Figure 3-2 Removing the RPS Protective Cover



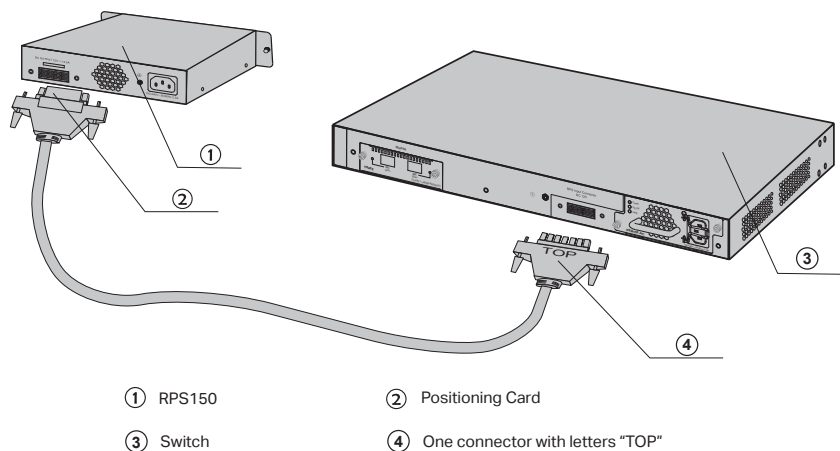
3. Connect the RPS150 and the switch with DC power cord, as illustrated in Figure 3-3. One end of the DC power cord is marked by the letters "TOP" and the other end has a positioning card attached to it. Plug the end with the letters "TOP" into the input socket of the switch with "TOP" facing up and the other end with positioning card into the DC output socket of the RPS150 with the positioning card facing up.



Caution:

Make sure the power supply of RPS150 is cut off when connecting or disconnecting RPS150 and the switch, otherwise both RPS150 and the switch may work abnormally or even be damaged.

Figure 3-3 Connecting to the Powered Switch

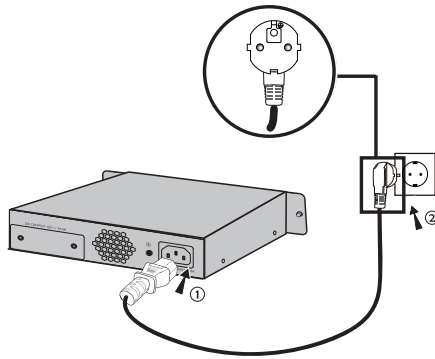


3.3 Power On

The RPS150 requires 100-240V~50/60HZ AC power input.

1. Confirm that the power supply satisfies the requirement of the input voltage of RPS150;
2. Plug the negative connector of the provided AC power cord into the power socket of RPS150, and the positive connector into a power outlet as the following figure shown. After RPS150 is powered on normally, the Power LED and FAN LED indicators on its front panel will light on all the time.

Figure 3-4 Connecting to Power Supply



Caution:

- Make sure that the power supply is well grounded. Locate the switch of the power supply in advance, so that you can cut it off in time when needed.
 - Disconnect RPS150 from its AC power supply when plugging or removing the DC power cable.
 - The figure is to illustrate the application and principle. The power cord you get from the package and the socket in your situation will comply with the regulation in your country, so they may differ from the figure above.
-

3.4 Verify Installation

After completing the installation, please verify the following items:

- There is enough room around the sides of RPS150 for heat dissipation and the air flow is adequate;
- The voltage of the power supply meets the requirement of the input voltage of the device;
- The power socket, device and rack are well grounded.

Appendix A Specifications

Item	Content
AC Power Input	100-240V~ 50/60Hz 2.5A
DC Power Output	12V 12.5A
Maximum Power Output	150W
LEDs	Power, FAN
Operating Temperature	0°C to 40°C
Storage Temperature	-40°C to 70°C
Operating Humidity	20% to 90%RH Non-condensing
Storage Humidity	10% to 95%RH Non-condensing

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 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 own expense.

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.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

Industry Canada Statement

CAN ICES-3 (A)/NMB-3(A)

Korea Warning Statements

당해 무선설비는 운용중 전파혼신 가능성이 있음.

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。
- 請不要私自打開機殼，不要嘗試自行維修本產品，請由授權的專業人士進行此項工作。

此為甲類資訊技術設備，于居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。



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



Safety Information

- When product has power button, the power button is one of the way to shut off the product; when there is no power button, the only way to completely shut off power is to disconnect the product or the power adapter from the power source.
- Don't disassemble the product, or make repairs yourself. You run the risk of electric shock and voiding the limited warranty. If you need service, please contact us.
- Avoid water and wet locations.

Explanation of the symbols on the product label

	AC voltage.
	<p>RECYCLING</p> <p>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.</p> <p>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.</p>

