

Installation Guide

Unmanaged Rackmountable Switches

About this Installation Guide

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

Chapter 1 Introduction

This chapter describes the external components of the switch.

Chapter 2 Installation

This chapter illustrates how to install the switch.

Chapter 3 Connection

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

Appendix A Troubleshooting

Appendix B Specifications

Audience

This Installation Guide is for:

Network Engineer

Network Administrator

Conventions

- When using this guide, notice that features available in TP-Link | Omada series products may vary by model and software version. Availability of TP-Link | Omada series products may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual experience. Some models featured in this guide may be unavailable in your country or region. For local sales information, visit <https://www.omadanetworks.com>.
- The speed of the ports in Extend Mode will downgrade to 10 Mbps. The actual transmission distance may vary due to power consumption of PoE-powered devices or the cable quality and type.
- PoE budget calculations are based on laboratory testing. Actual PoE power budget is not guaranteed and will vary as a result of client limitations and environmental factors.
- 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 the potential which may result in device damage.
	Remind to take notice. The note contains the helpful information for the 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, visit the official website: <https://www.omadanetworks.com>.

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Chapter 1 Introduction

1.1 Product Overview

The Unmanaged Switch provides you with a low-cost, easy-to-use, high-performance, seamless, and standard upgrade to improve your network to 100 Mbps or 1000 Mbps.

DS1018GMP is also a Power Sourcing Equipment (PSE*). The 10/100/1000 Mbps RJ45 ports 1–16 on DS1018GMP support the Power over Ethernet (PoE*) function, which can automatically detect and supply power to those powered devices (PDs*) complying with IEEE 802.3af and IEEE 802.3at.



Note:

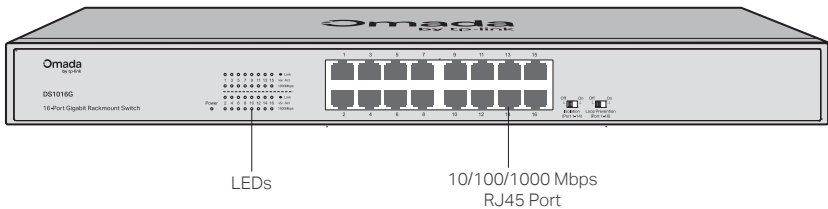
- *PSE is a device (switch or hub for instance) that will provide power in a PoE setup.
- *PoE is a technology that describes a system to transmit electrical power, along with data, to remote devices over standard twisted-pair cable in an Ethernet network.
- *PD is a device powered by a PSE and thus consumes energy. Examples include powering IP telephones, wireless LAN access points, network cameras, network hubs, embedded computers, and so on.

1.2 Appearance

■ Front Panel

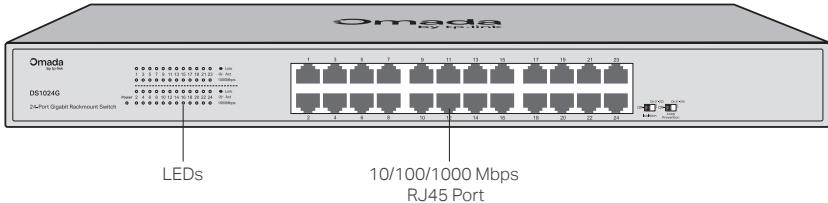
The front panel of DS1016G is shown as the following figure.

Figure 1-1 Front Panel of DS1016G



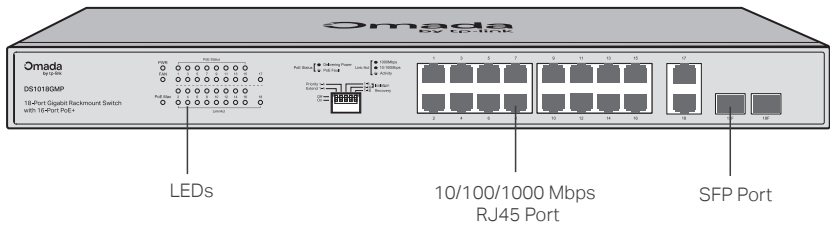
The front panel of DS1024G is shown as the following figure.

Figure 1-2 Front Panel of DS1024G



The front panel of DS1018GMP is shown as the following figure.

Figure 1-3 Front Panel of DS1018GMP



LED	Indication
Power PWR	On: The switch is powered on. Off: The switch is powered off or power supply is abnormal. Flashing: Power supply is abnormal/Loop Prevention function is enabled. Note: PWR for DS1018GMP; Power for other models.
1000Mbps	On: Running at 1000 Mbps. Off: Running at 10/100 Mbps or no device is linked to the corresponding port. Note: Except for DS1018GMP.
Link/Act	On: A device is linked to the corresponding port and running properly. Flashing: Transmitting or receiving data. Off: No device is linked to the corresponding port. Note: Except for DS1018GMP. Green On: Running at 1000 Mbps but no activity. Green Flashing: Running at 1000 Mbps and transmitting or receiving data. Yellow on: Running at 100/10 Mbps but no activity. Yellow Flashing: Running at 100/10 Mbps and transmitting or receiving data. Off: No device is linked to the corresponding port. Note: Only for ports 1–18 of DS1018GMP. Ports 17F–18F of DS1018GMP only support 1000M SFP module connection, and they just have Green On/Green Flashing/Off LED indications.
PoE Status	On: The port is connecting and supplying power to a PD. Flashing: The PoE power circuit may be in short or the power current may be overloaded or non-standard PD is connected or the amount of power of the port has exceeded the power limit. Off: No PD is connected to the corresponding port or no power is supplied according to the power limits of the port. Note: Only for DS1018GMP.
FAN	Green: The fan works properly. Yellow: The fan doesn't work properly. Note: Only for DS1018GMP.

LED	Indication
PoE Max	On: Total power supply is equal to or greater than 243 W. Flashing: Total power supply is equal to or greater than 243 W and lasts for more than 2 minutes. Off: Total power supply is less than 243 W. Note: Only for DS1018GMP.

**Note:**

For models that support the LED On/Off feature, the LEDs function as shown above only when the LED status is on.

Switch Explanation

Switch	Indication
Priority (For DS1018GMP)	Off: All the ports transmit data with the same priority. On: The specific ports transmit data with a higher priority than other ports.
Isolation (For DS1016G/ DS1024G/DS1018GMP)	Off: Ports can transmit data with each other. On: Specific ports cannot transmit data with other downlink ports. They can transmit data only with the uplink ports.
Extend (For DS1018GMP)	Off: Ports run at 10/100/1000 Mbps and support PoE power supply up to 100 m away. On: Ports run at 10 Mbps and support PoE power supply up to 250 m away.
Recovery (For DS1018GMP)	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.
Loop Prevention (For DS1016G/ DS1024G)	Off: (default) The switch will not try to monitor or address loop-related issues. On: The switch will monitor and address loop-related issues within the network structure to prevent disruptions caused by redundant pathing.

**Note:**

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

10/100/1000Mbps RJ45 Port

Designed to connect to the device with a bandwidth of 10 Mbps, 100 Mbps or 1000 Mbps. For DS1018GMP, port 1–16 can provide power for PDs.

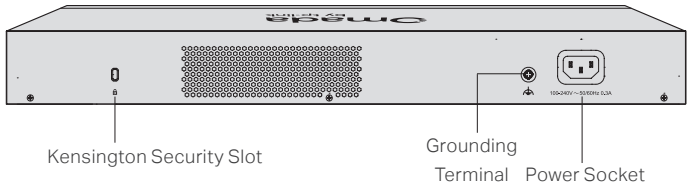
SFP Port

Designed to install the SFP module. DS1018GMP has 2 SFP ports which support 1000 Mbps SFP module connection. An SFP Port (port 17F/port 18F) and the associated 10/100/1000 Mbps RJ45 Port (port 17/port 18) are called a "Combo" port, which means they cannot be used simultaneously.

■ **Rear Panel**

The rear panel is shown as the following figure. Here we take DS1016G as an example.

Figure 1-4 Rear Panel



Kensington Security Slot

Secure the lock (not provided) into the security slot to prevent the device from being stolen.

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. For detailed information, refer to the Lightning Protection Guide from the Related Documents of our website:
<https://support.omadanetworks.com/r/1004/>.

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).



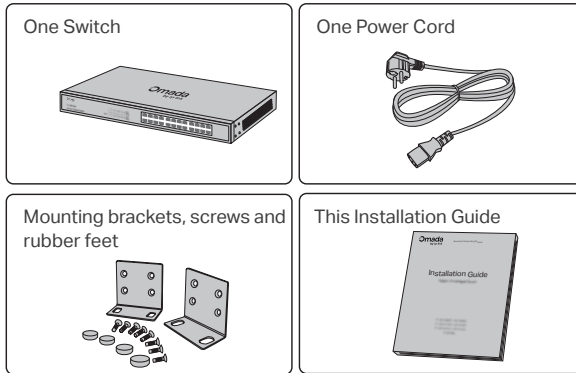
Caution:

You should use the provided power cord.

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, contact your distributor. The figures are for demonstration only. The actual items may differ in appearance and quantity from the depicted.



2.2 Safety Precautions

To avoid any device damage and bodily injury caused by improper use, you should 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.
- 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.

■ 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.

Clearness



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.

Lightning Protection



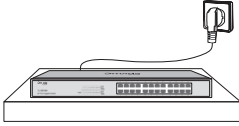
Extremely high voltage currents can be produced instantly when lightning occurs and the air in the electric discharge path can be instantly heated up to 20,000 °C. As this instant current is strong enough to damage electronic devices, more effective lightning protection measures should be taken.

- 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 from the Related Documents of our website:
<https://support.omadanetworks.com/r/1004/>.

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.

2.3 Installation Tools

- Phillips screwdriver
- ESD-preventive wrist wrap
- Cables

**Note:**

These tools are not included with our product. If needed, you can purchase them separately.

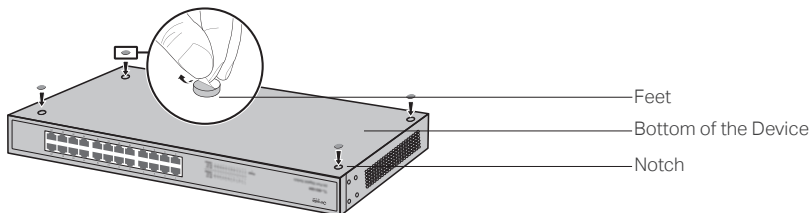
2.4 Product Installation

■ Desktop Installation

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

1. Set the device on a flat surface which is strong enough to support the entire weight of the device with all fittings.
2. Remove the adhesive backing papers from the rubber feet.
3. Attach the rubber feet to the bottom of the device to prevent it from slipping when placed on a desktop.

Figure 2-1 Desktop Installation

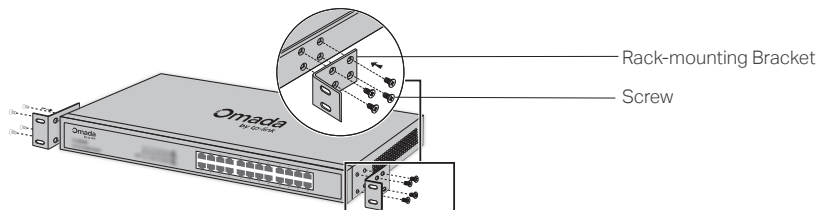


■ Rack Installation

To install the device in an EIA standard-sized, 19-inch rack, follow the instructions described below:

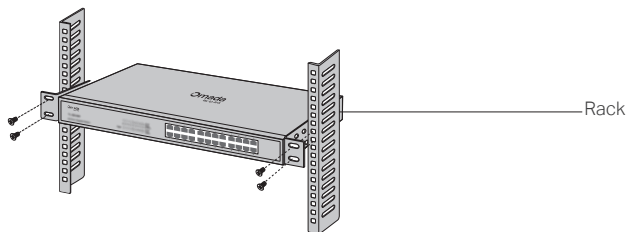
1. Check the efficiency of the grounding system and the stability of the rack.
2. Secure the supplied rack-mounting brackets to each side of the device with supplied screws, as illustrated in the following figure.

Figure 2-2 Bracket Installation



3. After the brackets are attached to the device, use suitable screws (not provided) to secure the brackets to the rack, as illustrated in the following figure.

Figure 2-3 Rack Installation



Caution:

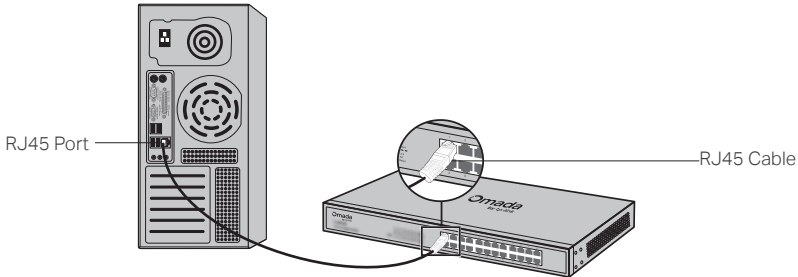
- Leave 5 to 10 cm gaps around the devices for air circulation.
- Avoid placing heavy things on the device.
- Mount devices in sequence from the bottom to top of the rack and ensure a certain clearance between devices for the purpose of heat dissipation.

Chapter 3 Connection

3.1 Ethernet Port

Connect an Ethernet port of the switch to the computer by RJ45 cable as the following figure shows.

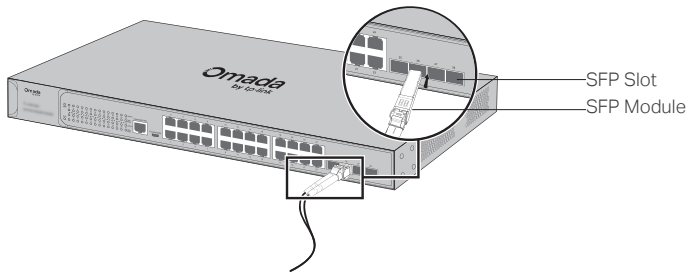
Figure 3-1 Connecting the RJ45 Port



3.2 SFP Port

The following figure demonstrates the connection of SFP port to an SFP module.

Figure 3-2 Inserting the SFP Module



Note:

DS1018GMP has 2 SFP ports which support 1000 Mbps SFP module connection.

3.3 Verify Installation

After completing the installation, verify the following items:

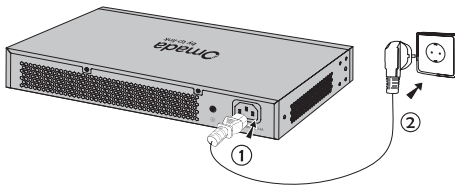
- There should be 5 to 10 cm of clearance around the device for ventilation and make sure the air flow is adequate.
- The voltage of the power supply meets the requirement of the input voltage of the device.

- The power socket, device and rack are well grounded.
- The device is correctly connected to other network devices.

3.4 Power On

Plug the negative connector of the provided power cord into the power socket of the device and plug the positive connector into a power outlet as the following figure shows.

Figure 3-3 Connecting to Power Supply



Note:

The figure is to illustrate the application and principle. The provided plug and the socket in your region may differ from the figures above.

3.5 Initialization

After the device is powered on, it begins the Power-On Self-Test. A series of tests run automatically to ensure the device functions properly. During this time, the LED indicators will respond as follows:

1. The PWR/Power LED indicator will light up.
2. The LED indicators of all the ports will flash momentarily and then turn off again after the initialization.

Appendix A Troubleshooting

Q1. Why is the Power/PWR LED not lit?

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

1. Make sure that the power cable is connected properly, and the power contact is normal.
2. Make sure the voltage of the power supply meets the requirement of the input voltage of the switch.
3. Make sure the power source is ON.
4. (For models that support the LED On/Off feature) On the LED On/Off configuration page, check whether the LED status is on. By default, the LED status is on.

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

Please try the following:

1. Make sure that the cable connectors are firmly plugged into the switch and the device.
2. Make sure the connected device is turned on and working normally.
3. The cable length should be less than 100 meters (328 feet). For DS1018GMP, if Extend Mode is enabled, it should be less than 250 meters (820 feet).
4. (For models that support the LED On/Off feature) On the LED On/Off configuration page, check whether the LED status is on. By default, the LED status is on.

Q3. What should I notice before using the PoE Auto Recovery feature?

1. Before upgrading a connected PoE powered device (PD), disable PoE Auto Recovery to avoid the PD's damage.
2. 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.

Appendix B Specifications

Item	Content
Standards	IEEE 802.3i, IEEE 802.3u, IEEE 802.3x, IEEE 802.3ab, IEEE 802.1p
	IEEE 802.3af, IEEE 802.3at, IEEE 802.3z (only for DS1018GMP)
Transmission Medium	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)
	1000BASE-SX: 62.5 μ m MMF (Minimum range: 2 m to 275 m) or 50 μ m MMF (Minimum range: 2 m to 550 m) (only for DS1018GMP)
	1000BASE-LX: 62.5 μ m/50 μ m MMF (Minimum range: 2 m to 550 m) or 10 μ m SMF (Minimum range: 2 m to 5000 m) (only for DS1018GMP)
	1000BASE-LX10: Type B1.1, B1.3 SMF (2 fiber) (Minimum range: 0.5 m to 10000 m) (only for DS1018GMP)
	1000BASE-BX10: Type B1.1, B1.3 SMF (1 fiber) (Minimum range: 0.5 m to 10000 m) (only for DS1018GMP)
Frame Forward Rate	10Base-T: 14881 pps/Port
	100Base-X: 148810 pps/Port
	1000Base-T: 1488095 pps/Port
	1000BASE-X: 1488095 pps/Port (only for DS1018GMP)
LEDs	PWR, Link/Act, PoE Status, PoE MAX, FAN (only for DS1018GMP)
	Power, 1000 Mbps, Link/Act (for other models)

CE Mark Warning



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/support/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>



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.
- The PoE ports shall not be used to charge lithium batteries or devices supplied by lithium batteries.
- Plug the product into the wall outlets with earthing connection through the power supply cord.

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.



For technical support, replacement services, user guides, and more, please visit <https://support.omadanetworks.com/>, or simply scan the QR code.

