D-Link
Building Networks for People

# DGS-1026MP

# 26-Port Unmanaged PoE Gigabit Switch




VERSION 1.0

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# About This Guide

This guide provides instructions to install the D-Link DGS-1026MP 26-Port Unmanaged PoE Gigabit Switch.

## Terms/Usage

In this guide, the term “Switch” (first letter capitalized) refers to the DGS-1026MP, and “switch” (first letter lower case) refers to other Ethernet switches. Some technologies refer to the terms “switch”, “bridge” and “switching hubs” interchangeably, and all are commonly accepted for Ethernet switches.



A **NOTE** indicates important information to use the device properly.



A **CAUTION** indicates potential property damage or personal injury.

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# Product Introduction

The DGS-1026MP is an unmanaged switch with 24 10/100/1000 Mbps ports and 2 Gigabit combo uplink ports. The first 24 10/100/1000 Mbps ports of the DGS-1026MP support IEEE 802.3af/at Power over Ethernet (PoE) and are capable of supplying up to 30 watts of power per port. The DGS-1026MP is easy to install and requires no configuration. With these features combined, the DGS-1026MP provides an ideal solution for Small and Medium Business (SMB) users who have limited budgets but require PoE capability in a switch.

## Package Contents

Open the shipping carton and carefully unpack the contents. Please consult the packing list to make sure all items are present and undamaged.

- One D-Link DGS-1026MP 26-Port Unmanaged PoE Gigabit Switch
- One power cord
- One power cord retainer
- One rack-mount kit and rubber feet
- One Quick Installation Guide

If any item is found missing or damaged, please contact your local retailer for replacement.

## Product Overview

### Front Panel

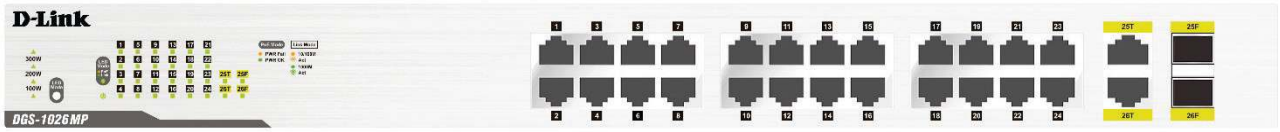



**Figure 1 – DGS-1026MP Front Panel**

| Item | Description |
|---|---|
| **LED MODE** | Press to change the port LEDs to display the PoE status or the link status. The color of the LED Mode light will indicate which LED status display is currently active. Green LEDs means the Switch is currently showing the Link/Act/Speed status of the ports, while amber LEDs display the PoE status of the ports. Please refer to the table in the section **Indicator LEDs** for more detailed information on the LED Mode function. |
| **Ports 1 to 24** | These are 10/100/1000 Mbps PoE-capable ports used for connecting Ethernet devices and PoE-powered devices. |
| **Ports 25 to 26** | These are 10/100/1000 Mbps/SFP combo ports. When using one interface of these combo ports, the other interface in the pair will become unavailable. For example, using the SFP interface on port 25 will render the RJ45 interface on port 25 unavailable. |

**Table 1 – Front panel connector description**

### Rear Panel

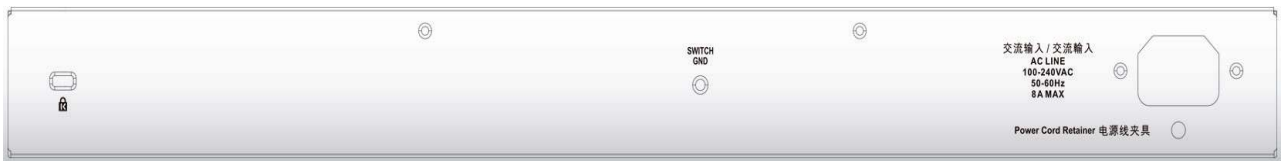



**Figure 2 – DGS-1026MP Rear Panel**

| Item | Description |
|---|---|
| **Kensington Security Lock** | The DGS-1026MP adds additional value by providing users with a simple, reliable, built-in security solution to prevent theft in the form of a Kensington Security Slot on the rear panel of the Switch. |
| **SWITCH GND** | This is used to connect the switch to ground. |
| **Power Cord Retainer Slot** | This is used for securing the power cord retainer to the switch. |
| **DC Power Jack** | This is used to connect the power cable to the switch. |

**Table 2 – Rear panel connector description**

## Indicator LEDs

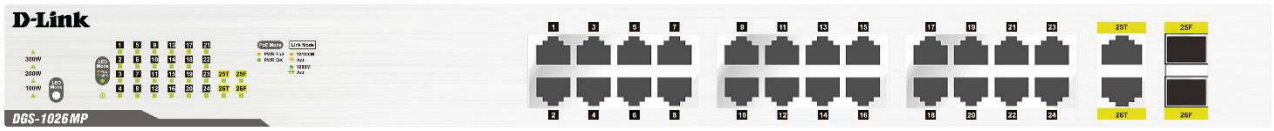



**Figure 3 – DGS-1026MP Front panel LEDs**

| LED | Status | Description |
|---|---|---|
| **PoE Power Budget** | Solid red | (LED above "**300W**"): The total PoE power consumption is between 301 and 370 W. |
| | Solid amber | (LED below "**300W**"): The total PoE power consumption is between 201 and 300 W. |
| | Solid green | (LED below "**200W**"): The total PoE power consumption is between 101 and 200 W. |
| | Solid green | (LED below "**100W**"): The total PoE power consumption is between 1 and 100 W. |
| | Off | There are no PoE-powered devices attached to the Switch. |
| **LED Mode** | Solid amber | The port LEDs are currently displaying the PoE status. Please refer to **PoE Mode** in this table for more information. |
| | Solid green | The port LEDs are currently displaying the port link status. Please refer to **Link/Act/Speed** in this table for more information. |
| **Power** | Solid green | The device is powered on. |
| | Solid amber | The device is powered off. |
| **Link/Act/Speed (Ports 1 to 26)** | Solid amber | There is an active link on the corresponding port at 10/100 Mbps. |
| | Blinking amber | There is traffic on the corresponding port at 10/100 Mbps. |
| | Solid green | There is an active link on the corresponding port at 1000 Mbps. |
| | Blinking green | There is traffic on the corresponding port at 1000 Mbps. |
| **PoE Mode (Ports 1 to 24)** | Solid amber | The power supply on the corresponding port has failed. |
| | Solid green | The corresponding port is supplying power correctly. |

 **Table 3 – Front panel LED description**

# Hardware Installation

This chapter provides more detailed instructions for grounding and installing the DGS-1026MP.

**CAUTION:** Ensure the power cable is disconnected before installing the switch.

## Installation Precautions

For safe installation and operation of the Switch, it is recommended to:

- Visually inspect the DC power jack and make sure that it is fully secured to the power adapter.
- Make sure that there is at least 10 cm of space on each side of the Switch to allow for proper heat dissipation and adequate ventilation around the Switch.
- Install the Switch in a site free from strong electromagnetic sources, vibration, dust, and direct sunlight.
- Install the Switch in a cool and dry place. Refer to the technical specifications section of this manual for the acceptable operating temperature and humidity ranges.
- Not place heavy objects on the Switch.

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## Grounding the Switch

This section describes how to connect the Switch to ground. It is necessary to complete this procedure before powering on the Switch.

**Required Tools and Equipment**

- One ground screw (this Switch is shipped with this screw already in place on the rear panel of the device).
- Ground cable (not included in the accessory kit): The grounding cable should conform to local and national installation requirements. Commercially available 6 AWG wire is recommended. The length of the cable depends on the proximity of the Switch to proper grounding facilities.
- A screwdriver (not included in the accessory kit).

The following steps explain the procedure for connecting the Switch to a protective ground:

1. Verify that the Switch is powered off.
2. Remove the grounding screw marked **SWITCH GND** from the back of the device and place the #8 terminal lug ring of the grounding cable on top of the ground screw opening, as seen in the figure below.
3. Insert the grounding screw back into the ground screw opening.
4. Using a screwdriver, tighten the ground screw to secure the ground cable to the Switch.
5. Attach the terminal lug ring at the other end of the grounding cable to an appropriate grounding source.
6. Verify that the connection from the ground connector on the Switch to the ground source is secure.

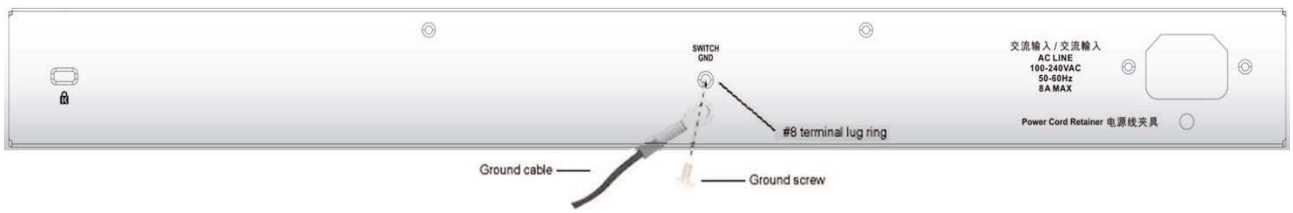



**Figure 4 – Attaching a grounding cable**

## Attaching the Rubber Feet

The DGS-1026MP comes with a strip of four adhesive rubber pads that can be placed on the bottom of the device to prevent the Switch from damaging the surface it is placed on. This allows the Switch to be placed virtually anywhere. To attach the rubber pads, simply remove them from the adhesive strip and stick one pad on each corner on the bottom panel of the Switch.

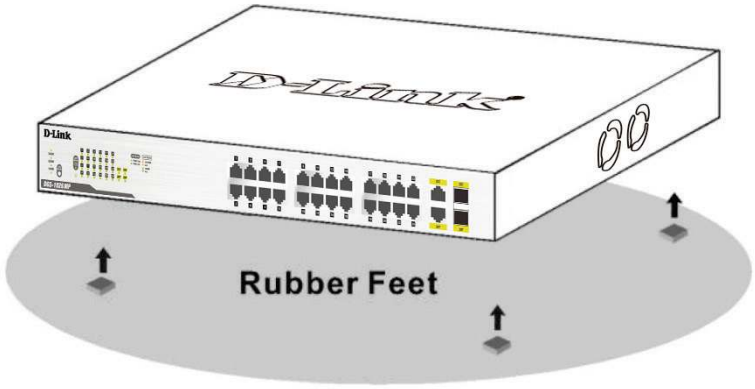



**Figure 5 - Attaching the rubber feet**

## Mounting the Switch in a Rack

The DGS-1026MP can be easily mounted in a rack using the two provided mounting brackets. Make sure that the front panel is exposed in order to view the LEDs. Please refer to the following illustrations:

1. Attach and fasten the rack mounting brackets to each side of the Switch using the included screws.

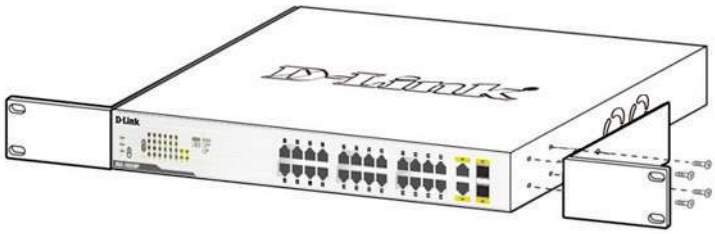


**Figure 6 - Attaching the rack brackets**

2. Firmly secure the brackets with the Switch to the rack. Please follow the usual safety precautions for rack-mountable products.

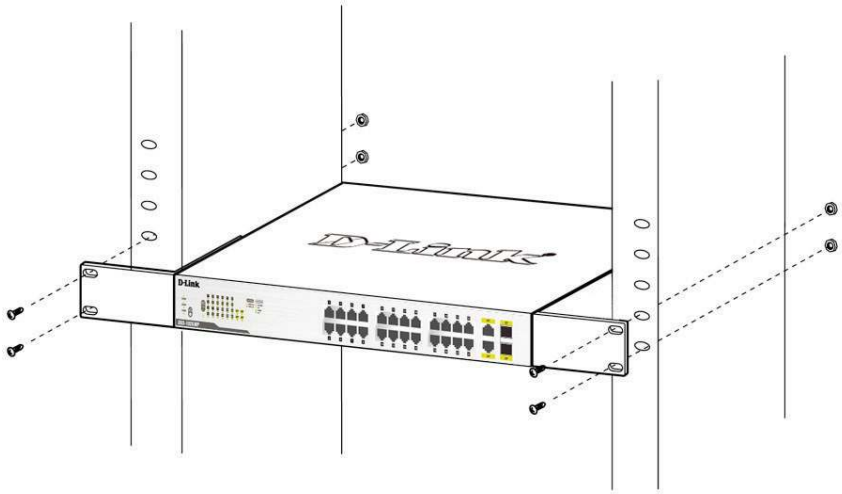


**Figure 7 - Securing the Switch to a rack**

# Powering on the Switch

To power on the Switch, connect the provided power cable to the power socket on the back of the Switch, and connect the adapter side of the cord to a suitable power source.

After the Switch has been powered on, the LED indicators will blink briefly while the system initializes.

As a precaution, in the event of a power failure it is recommended to unplug the Switch. When power has been restored, plug the Switch back in.

# Connecting the Switch

After the DGS-1026MP has been successfully installed, the Switch can be integrated into the network through one of the following three connection methods:

**NOTE:** All Ethernet ports auto-detect MDI/MDIX, port speed (10, 100, or 1000 Mbps), and duplex mode of the device connected to the Switch.

***Cable Quality***

For all connections to the Switch, use these rules for cable selection:

- For connections to 10BASE-T and 100BASE-TX devices, use Category 5 or 5e UTP/STP cable.
- For connections to 100BASE-TX and 1000BASE-T devices, use Category 5e or better UTP/STP cable. All 1000BASE-T connections will operate in full-duplex mode.

**NOTE:** UTP (Unshielded Twisted Pair) Ethernet cabling is adequate for most small office environments. More expensive STP (Shielded Twisted Pair) can also be used, but is generally only needed when there is risk of strong electromagnetic interference due to radio frequencies.

## Connect to an End Node

Use a standard Ethernet cable to connect the Switch to PCs with a 10/100/1000 Mbps RJ45 interface, or connect and power remote IEEE 802.3af/at-compliant PoE devices, such as IP cameras or IP phones. The Switch ports will automatically adjust to the hardware characteristics (MDI/MDIX, speed, duplex mode) of the connected device.

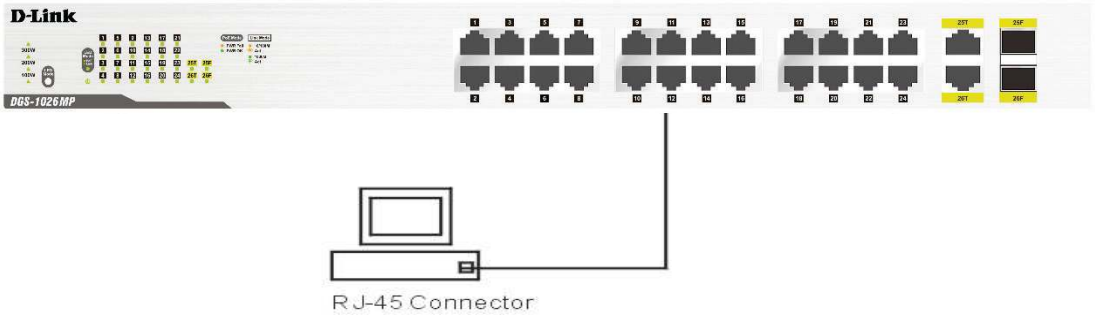



**Figure 8 – Connecting the Switch to a node**

## Connect to a Hub or Switch

Use a straight or crossover cable to connect the Switch to another switch or hub.

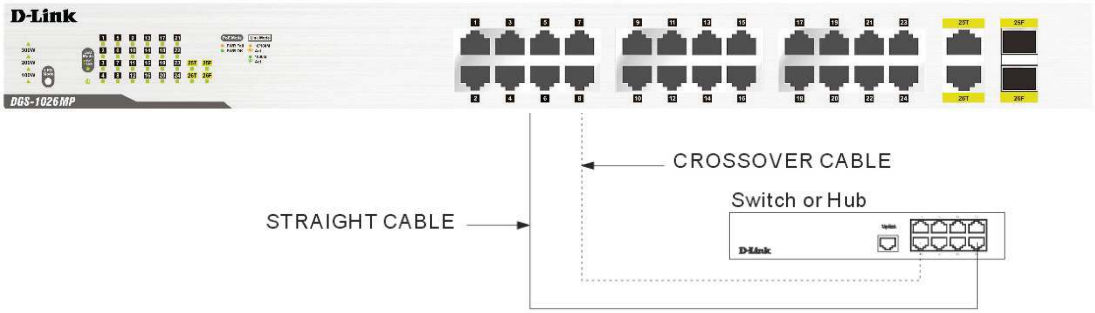



**Figure 9 – Connecting the Switch to another switch or hub**

## Connect to a Network Backbone or Server

Use any port on the device to connect the Switch to a network backbone or network server. When linking to a 1000BASE-T device, the port operates in full-duplex mode.

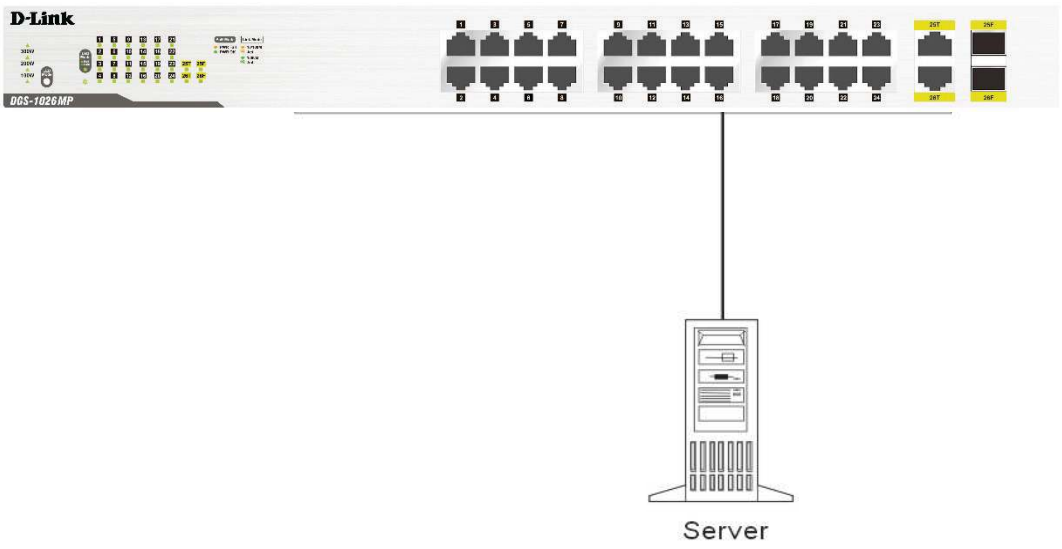



**Figure 10 – Connecting the Switch to another switch or hub**

# Understanding the Switch's Features

## Power Over Ethernet (PoE)

The DGS-1026MP supports many PoE features to guarantee the safety and stability of the Switch and the connected powered devices.

**PoE Power Budget:** The total PoE budget of the DGS-1026MP is limited to a maximum of 370 watts to both protect the Switch and to stabilize the power being transmitted to the PoE-powered devices.

**Guard Band:** The DGS-1026MP reserves a 2 watts Guard Band to prevent the PoE power supply from exceeding the maximum PoE power budget of 370 watts. When the Switch detects the current PoE output has reached the maximum of 370 watts, and another device is connected to the Switch, the Switch will check which type of device is being connected. If the device is another PoE-powered device, the Switch will disconnect the power on the port with the higher port number in order to power the new device.

**PoE Port Priority:** The DGS-1026MP is configured to have predefined PoE priorities for all PoE ports to prevent problems such as power budget overloading. Lower number ports have a higher priority for supplying power than higher number ports (i.e. port 1 > port 2 > … > port 24). When the Switch detects a PoE budget overload, the power supply from the higher number ports will be cut off first.

For example: When ports 2 to 13 are supplying a combined total of 370 watts of power to the attached clients, and a new PoE-powered device is connected to port 1, the power supply from port 13 will be disconnected first.

## Power Saving

The DGS-1026MP supports IEEE 802.3az Energy Efficient Ethernet (EEE), which will constantly monitor all ports for activity and will put inactive ports into a sleep mode to save power.

# Appendix A - Technical Specifications

## Hardware Specifications

### Key Components / Performance

- Switching Capacity: 52 Gbps
- Max. Forwarding Rate: 38.69 Mpps
- Forwarding Mode: Store-and-forward
- Packet Buffer memory: 512 Kbytes

### Ports

- 24 x 10/100/1000BASE-T PoE ports
- 2 x 10/100/1000BASE-T/SFP combo ports

### Port Standards

- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3x (Full-duplex Flow Control)
- IEEE 802.3z
- IEEE 802.3az
- IEEE 802.3af/at (ports 1 to 24)

### Physical & Environment

- Dimensions: 440 x 250.4 x 44 mm
- Weight: 3.1 kg
- Internal Power Supply AC input: 100~240 VAC, 50/60Hz
- Acoustic: 41.8 dB(A) at low speed, 55.1 dB(A) at high speed
- Operation Temperature: 0 to 50 °C
- Storage Temperature: -40 to 70 °C
- Operation Humidity: 0% to 95% RH
- Storage Humidity: 0% to 95% RH

### Emission (EMI) Certifications

- FCC class A
- CE Class A
- VCCI Class A
- C-Tick
- CCC
- BSMI

### Safety Certifications

- cUL, LVD
- CB
- CCC
- BSMI

## Features

### General Features

- Surge protection
- Supports up to 8k MAC addresses

### PoE Features

- IEEE 802.3af/at compliant
- Supplies up to 30 watts power per port.
- Total PoE budget: 370 watts.

# Appendix B - Regulatory Statements

**FCC Warning**

This equipment has been tested and found to comply with the regulations 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 this user's guide, 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.

**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.

**VCCI Warning**

この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

**UL Warning**

a) Elevated Operating Ambient Temperature- If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

b) Reduced Air Flow- Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

c) Mechanical Loading- capitalize of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

d) Circuit Overloading- Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

e) Reliable Earthing- Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

f) The Installation instructions clearly state that the ITE is to be connected only to POE networks without routing to the outside plant.


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