



Ethernet Switch (24-Port Gigabit Ethernet Switch)

DH-SG1024M

Quick Start Guide

V1.0.0

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Foreword

General

This manual mainly introduces the hardware, installation, and wiring steps of the 24-Port Gigabit Ethernet Switch (hereinafter referred to as "the Device"). Please read this manual before you start and keep it properly for future reference.

Safety Instructions

The following signal words might appear in the manual.

Signal Words	Meaning
 WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
 CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
 TIPS	Provides methods to help you solve a problem or save you time.
 NOTE	Provides additional information as the emphasis and supplement to the text.

Privacy Protection Notice

As the device user or data controller, you might collect the personal data of others such as their face, fingerprints, and car plate number. You need to be in compliance with your local privacy protection, laws and regulations to protect the legitimate rights and interests of other people by implementing measures which include but are not limited: Providing clear and visible identification to inform people of the existence of the surveillance area and provide required contact information.

About the Manual

- We are not liable for any loss caused by the operations that do not comply with the manual.
- The manual would be updated according to the latest laws and regulations of related regions. For detailed information, see the paper manual, CD-ROM, QR code or our official website. If there is inconsistency between paper manual and the electronic version, the electronic version shall prevail.
- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the manual. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, please refer to our final explanation.
- All trademarks, registered trademarks and the company names in the manual are the properties of their respective owners.
- Please visit our website, contact the supplier or customer service if there is any problem occurred when using the device.
- If there is any uncertainty or controversy, please refer to our final explanation.

Important Safeguards and Warnings

This section introduces content covering the proper handling of the Device, hazard prevention, and prevention of property damage. Read carefully before using the Device, comply with the guidelines when using it.

Operating Requirements



- Transport and store the device under allowed humidity and temperature conditions. Transporting and storing temperature range: -40 °C to +70 °C, humidity range: (5-90) %RH, non-condensing.
- Only use the device within the rated power range.
- Prevent liquids from splashing or dripping on the device. Make sure that there are no objects filled with liquid on top of the device to avoid liquids flowing into it.
- Do not disassemble the device.
- The device can only be used within the rated power range.
- Make sure that the power supply of the device works properly before use.
- Do not pull out the power cable of the device while it is powered on.
- Operating temperature range: -10 °C to +55 °C, humidity range: (10-90) %RH, non-condensing.
- This is a class A product. In a domestic environment this might cause radio interference in which case the user may be required to take adequate measures.

Installation Requirements



- Connect the device to the adapter before power on.
- Strictly abide by local electrical safety standards, and make sure that the voltage in the area is steady and conforms to the power requirements of the device.
- Do not connect the device to more than one power supply. Otherwise, the device might become damaged.



- Observe all safety procedures and wear required protective equipment provided for your use while working at heights.
- Do not expose the device to direct sunlight or heat sources.
- Do not install the device in humid, dusty or smoky places.
- Install the device in a well-ventilated place, and do not block the ventilator of the device.
- Use the power adapter provided by the device manufacturer.
- The power supply must conform to the requirements of ES1 in IEC 62368-1 standard and be no higher than PS2. Note that the power supply requirements are subject to the device label.

- Connect class I electrical appliances to a power socket with protective earthing.
- Be sure to ground the device (cross section of copper wire: >2.5 mm²; resistance to ground: <4 Ω).
- The voltage regulator and lightning arrester should be installed according to the onsite power supply and surrounding environment.
- To ensure heat dissipation, the gap between the device and the surrounding area should not be less than 10 cm on the sides and 10 cm on top of the device.
- When installing the device, make sure the power plug and appliance coupler are easy to reach to cut off the power.
- Do not block the ventilator of the device with objects, such as newspapers, table clothes or curtains.
- Do not put open flames, such as a lit candle, on the device.

Maintenance Requirements



- Power off the device before maintenance.
- Mark key components on the maintenance circuit diagram with warning signs.

1 Overview

1.1 Introduction

The Device is a gigabit Ethernet unmanaged switch. In full duplex mode, the ports can reach 2000 Mbps, ensuring smooth transmission of large files and video streams in real time. With a mini steel shell, the switch can be easily placed into a low voltage box. Easy to install and operate with excellent network performance in connection to computers, IP cameras and other network devices, the Device is an ideal choice for small and middle scale of video surveillance and wired networking in such scenarios as SMBs, hotel and residential communities.

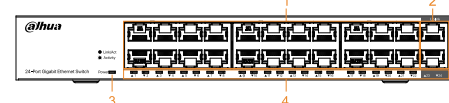
1.2 Features

- Compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab and IEEE 802.3x standards.
- Provides 24 × 10/100/1000 Mbps auto-negotiation RJ-45 ports, reaching 2000 Mbps in full duplex mode, wire speed forwarding on all ports, ensuring smooth transmission of large files and video streams in real time.
- Supports IEEE 802.3x full duplex flow control and backpressure half duplex flow control, non-blocking wire speed forwarding on all ports.
- Supports auto MDI/MDIX on all ports, both straight-through and crossover cables recognizable.
- Supports 10 K jumbo frame, increasing the transmission rate for large files.
- 8 K MAC address table, MAC address auto learning, auto aging.
- Supports 6 kV robust lightning protection on all ports, effectively reducing the possible harms caused by thunderstorms and improving the reliability of the whole system.
- Switches to VLAN mode with one toggle: Ports 1 - 22 are isolated from each other, but all of them can communicate with ports 23 - 24, largely preventing broadcast storm and increasing network security.
- Adopts a mini steel shell, easily placed into a low voltage box, plug&play, simplifying network maintenance.

2 Port and Indicator

2.1 Front Panel

Figure 2-1 Front panel



Following are all the ports and indicators on the front panel of the 24-Port Gigabit Ethernet Switch.

Table 2-1 Description of front panel

No.	Description
1	10/100/1000 Mbps auto-negotiation Ethernet ports.
2	10/100/1000 Mbps auto-negotiation uplink ports.
3	Power indicator. - Solid on: Powered on. - Off: Powered off or powered improperly.
4	Single-port connection or data transmission status indicator (Link/Act) - Solid on: Connected but not active. - Blinking: Active in data transmission. - Off: Not connected or connected improperly.

2.2 Rear Panel

Figure 2-2 Rear panel



Following are all the ports and indicators on the rear panel of the 24-Port Gigabit Ethernet Switch.

Table 2-2 Description of rear panel

No.	Description
1	Ground terminal.
2	Working mode toggle. - Standard: Default mode. In this mode, all ports can communicate with each other. - VLAN: In this mode, ports 1 - 22 are isolated from each other, but all of them can communicate with ports 23 - 24. This mode helps isolate DHCP broadcast and reduce broadcast storm.
3	Power port. Use the power adapter provided by the device manufacturer.

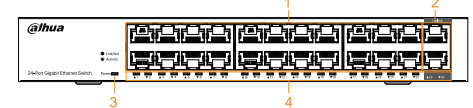
3 Installation



Prepare an ESD bracelet (or ESD gloves) before installation.

Horizontally place the switch right-side up on a big enough, clean, stable and flat desktop. Leave about 10 cm of open space around the Device for ventilation and heat dissipation.

Figure 3-1 Desktop mount



4 Wiring

4.1 Connecting GND



GND cables do not come with the package of the Device. Purchase them as needed.

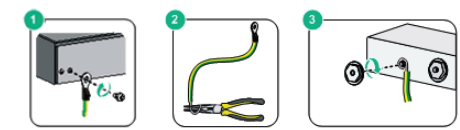
Grounding the Device can protect it against lightning and interference. The steps for connecting the GND are as follows:

Step 1 Remove the ground screw from the ground terminal of the Device and pass the ground screw through the round hole of the OT terminal of the ground cable. Turn the ground screw clockwise with a cross screwdriver to fasten the OT terminal of the ground terminal of the Device.

Step 2 Wind the other end of the ground cable into a circle with the needle-nose pliers.

Step 3 Connect the other end of the ground cable to the ground bar, then turn the hex nut clockwise with a wrench to fasten the other end of the ground cable to the ground terminal.

Figure 4-1 Connect GND



4.2 Connecting Power Adapter

Before connecting the power adapter, make sure that the device is securely grounded. The steps for connecting the power adapter are as follows:

Step 1 Connect one end of the package included power adapter to the power jack of the Device.

Step 2 Connect the other end of the power adapter to the external power socket.

4.3 Connecting Ethernet Port

The Ethernet port is a standard RJ-45 port. With its auto-negotiation function, it can be automatically configured to full duplex/half-duplex operation mode. It supports MDI/MDI-X self-recognition of the cable, allowing you to use a cross-over cable or straight-through cable to connect the terminal device to the network device.

Figure 4-2 Ethernet port pin number

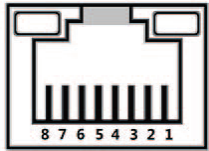
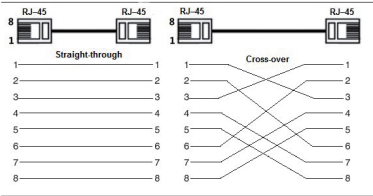


Figure 4-3 Pin description



The cable connection of RJ-45 connector conforms to the 568B standard (1-orange white, 2-orange, 3-green white, 4-blue, 5-blue white, 6-green, 7-brown white, 8-brown).