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24-Port 10/100Mbps + 1-Port Gigabit Combo Base-T SFP multi-mode PoE Switch

User's Manual

V1.0.0

ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD.

General

This user's manual introduces the functions and operations of 24-Port 10/100Mbps + 1-Port Gigabit Combo Base-T SFP multi-mode PoE Switch devices.

Models

DH-PFS3125-24ET-190

Safety Instructions

The following categorized signal words with defined meaning might appear in the Manual.

Symbol	Note
⚠ DANGER	It indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ WARNING	It indicates a moderate or low level of potential danger which, if not avoided, could result in minor or moderate injury.
⚠ CAUTION	It indicates a potential risk that, if ignored, could result in damage to device, loss of data, degraded performance, or unpredictable results.
☞ TIPS	It means that it can help you to solve some problems or save your time.
📖 NOTE	It means the additional information, which is to emphasize or supplement.

Privacy Protection Notice

As the device user or data controller, you might collect personal data of others' such as face, fingerprints, car plate number, Email address, phone number, GPS and so on. You need to be in compliance with the local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures include but not limited to: providing clear and visible identification to inform data subject the existence of surveillance area and providing related contact.

About the Manual

- The Manual is for reference only. If there is inconsistency between the Manual and the actual product, the actual product shall govern.
- 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 User's Manual, CD-ROM, QR code or our official website. If there is inconsistency between paper User's 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.
- Upgrade the reader software or try other mainstream reader software if the Guide (in PDF format) cannot be opened.
- 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

Electrical safety

- All installation and operation here should conform to your local electrical safety codes.
- The product must be grounded to reduce the risk of electric shock.
- We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

Installation

- Keep upwards. Handle with care.
- Do not apply power to the Device before completing installation.
- Do not place objects on the Device.

Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers. We are not liable for any problems caused by unauthorized modifications or attempted repair.

Environment

The Device should be installed in a cool, dry place away from conditions such as direct sunlight, inflammable substances, and explosive substances.

Accessories

- Be sure to use all the accessories recommended by manufacturer.
- Before installation, please open the package and check all the components are included.
- Contact your local retailer ASAP if something is broken in your package.

Battery

- Improper battery use might result in fire, explosion, or personal injury.
- When replacing the battery, please make sure you are using the same type. Risk of explosion if battery is replaced by an incorrect type.
- Dispose of used batteries according to the instructions.
- Please make sure to use the same battery model if possible.
- We recommend replace battery regularly (such as one-year) to guarantee system time accuracy. Before replacement, please save the system setup, otherwise, you may lose the data completely.

1 Introduction

1.1 Overview

The Switch is a high performance multi-mode PoE switch. Provides twenty-four 10/100Mbps Auto-Negotiation RJ45 ports, plus one gigabit Combo ports, it can be used to link bandwidth higher upstream equipment. These PoE ports can automatically detect and supply power with those IEEE 802.3 at compliant Powered Devices (PD) such as AP, IP Cameras or IP Phones, etc. The switch port1 and port2 can support the 802.3bt standard, and the maximum output power can reach 60W.The switch on the panel to stir, can be configured to automatically switch the normal working mode, port isolation (VLAN) mode, monitoring mode, network extend mode, flexible and extensible family, office network without power line layout restrictions; meet the small and medium-sized enterprises, intelligent community, hotels, parks and office network network networking and access requirements.

1.2 Features

- Comply with IEEE802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3x, IEEE802.3az, IEEE802.3at, IEEE802.3af, IEEE802.3bt standards
- 24 x 10/100Mbps Auto Negotiation Ethernet port, 1 x 1000Mbps Combo ports. All port auto MDI/MDIX
- The switch 1 and 2 ports support IEEE802.3bt standard 60W high power output, the total power consumption of up to 190W
- Supports IEEE802.3x flow control for Full-duplex and backpressure for Half-duplex
- Supports MAC address auto-learning and auto-aging
- Store and forward mode operates
- Free switching of multiple working modes
- LED indicators for monitoring PSE, Link/Activity
- Built in 210W high performance switching power supply

1.3 External Component Description

1.3.1 Front Panel

The front panel of the Switch consists of a series of LED indicators, one Mode Switch, 24 x 10/100Mbps RJ-45 ports, one Combo (RJ45/SFP) port.
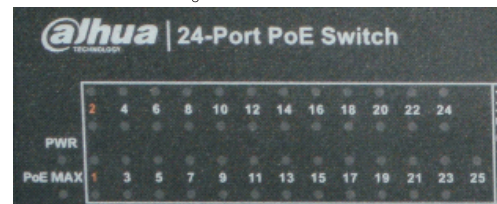
Figure 1-1 Front panel

LED indicators:
The LED Indicators will allow you to monitor, diagnose and troubleshoot any potential problem with the Switch, connection or attached devices.

Figure 1-2 LED indicator

The following chart shows the LED indicators of the Switch along with explanation of each indicator.

LED Indicator	Faceplate Marker	Status	Indication
Power Indicator	PWR	Off	Power Off
		Solid green	Power On
MAX indicator	PoE MAX	Off	PoE load value is normal
		Solid red	The PoE load value reaches the set limit value which is 190W, and the load quota can no longer be increased
10/100 BASE-T adaptive Ethernet port indicators (1-24,25)	Link	Off	The port is NOT connected.
		Solid green	The port is connected, but no data is transmitting or receiving.
		Blinking	The port is transmitting or receiving data.
PoE status indicators (1-24)	PoE	Off	No PD is connected to the corresponding port, or there is a breakdown.
		Solid yellow	A Powered Device is connected to the port, which supply power successfully.

Mode Control:
You can select the switch mode.
Normal mode (Normal): Switch all ports can communicate with each other
Port isolation mode (VLAN): 1 to 24 cannot communicate with each other, but can communicate with the uplink Combo port 25.
Monitoring mode (Monitor): 1 to 8 ports support port priority, optimize port cache, switch all ports can communicate with each other.
Network extend mode(Extend): 1 to 8 port rate down to 10Mbps, the farthest transmission distance of up to 250 meters, all ports can communicate with each other.

10/100 Mbps RJ-45 ports (1~24):
Designed to connect to the device with a bandwidth of 10Mbps, 100Mbps. Each has a corresponding Link/Act and PoE indicator.

10/100/1000Mbps RJ45 port 25:
Designed to connect to the device with a bandwidth of 10Mbps, 100Mbps or 1000Mbps. Each has a corresponding Link/Act LED.

1000Mbps SFP port 25:
Designed to install the SFP module. The Switch features one SFP transceiver slots that are shared with one associated RJ45 ports. A SFP port and an associated RJ45 port are referred to as "Combo" port, which means they cannot be used simultaneously, and only SFP port work or only RJ45 port work at the same time.

1.3.2 Rear Panel

The rear panel of the Switch contains one Grounding Terminal, Heat vent and AC power connector shown as below.

Figure 1-3 Rear panel

Grounding Terminal:
Located on the left side of the power supply connector, use wire grounding to lightning protection.

Heat vent:
The Heat vent is located in the middle position of the rear panel of the switch. It is used for heat dissipation and ventilation. Do not cover it.

AC Power Connector:
Power is supplied through an external AC power adapter. It supports AC 100~240V, 50/60Hz.

1.4 Package Contents

Before installing the Switch, make sure that the following the "packing list" listed OK. If any part is lost and damaged, please contact your local agent immediately. In addition, make sure that you have the tools install switches and cables by your hands.

- One 24−Port 10/100Mbps + 1−Port Gigabit Combo Base−T SFP multi−mode PoE Switch
- One Installation Component
- One AC power cord
- One User's Manual

2 Installation and Connection

This part describes how to install your PoE Ethernet Switch and make connections to it. Please read the following topics and perform the procedures in the order being presented.

2.1 Installation

Please follow the following instructions in avoid of incorrect installation causing device damage and security threat.

- Put the Switch on stable place or desktop in case of falling damage.
- Make sure the Switch works in the proper AC input range and matches the voltage labeled on the Switch.
- To keep the Switch free from lightning, do not open the Switch's shell even in power failure.
- Make sure that there is proper heat dissipation from and adequate ventilation around the Switch.
- Make sure the cabinet to enough back up the weight of the Switch and its accessories.

2.1.1 Desktop Installation

Sometimes users are not equipped with the 19−inch standard cabinet. So when installing the Switch on a desktop, please attach these cushioning rubber feet provided on the bottom at each corner of the Switch in case of the external vibration. Allow adequate space for ventilation between the device and the objects around it.

2.1.2 Rack-mountable Installation in 13-inch Cabinet

The Switch can be mounted in an EIA standard−sized, 19−inch rack, which can be placed in a wiring closet with other equipment. To install the Switch, please follow these steps:

Step 1
Attach the mounting brackets on the Switch's side panels (one on each side) and secure them with the screws provided.

Figure 2−1 Bracket installation
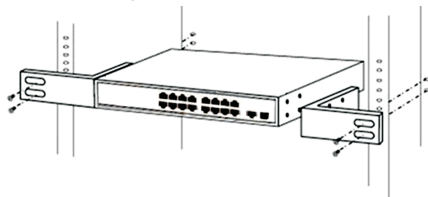
Step 2
Use the screws provided with the equipment rack to mount the Switch on the rack and tighten it.

Figure 2−2 Rack installation

2.1.3 Power on the Switch

The Switch is powered on by the AC 100−240V 50/60Hz internal high−performance power supply. Please follow the next tips to connect:

AC Electrical Outlet:
It is recommended to use single−phase three−wire receptacle with neutral outlet or multifunctional computer professional receptacle. Please make sure to connect the metal ground connector to the grounding source on the outlet.

AC Power Cord Connection:
Connect the AC power connector in the back panel of the Switch to external receptacle with the included power cord, and check the power indicator is ON or not. When it is ON, it indicates the power connection is OK.

2.2 Connect Computer (NIC) to the Switch

Please insert the NIC into the computer, after installing network card driver, please connect one end of the twisted pair to RJ−45 jack of your computer, the other end will be connected to any RJ−45 port of the Switch, the distance between Switch and computer is around 100 meters. Once the connection is OK and the devices are power on normally, the LINK/ACT status indicator lights corresponding ports of the Switch.

2.3 Switch connection to the PD

1−24 ports of the Switch have PoE power supply function, the switch port 1 and port 2 support IEEE802.3bt standard 60W high power output , other PoE port power maximum support 30W, it can make PD devices, such as internet phone, network camera, wireless access point work. You only need to connect the Switch PoE port directly connected to the PD port by network cable.

3 Appendix 1 Technical Specifications

The abbreviations in this glossary are related to the Manual.

Hardware Specifications		
Standards	IEEE 802.3 , IEEE 802.3u , IEEE 802.3ab , IEEE802.3x , IEEE802.3az , IEEE802.3at, IEEE802.3af, IEEE802.3bt	
Network Media (Cable)	10BASE−T: UTP category 3,4,5 cable (maximum 100m)	
	100BASE−Tx: UTP category 5,5e cable (maximum 100m)	
	1000BASE−T: UTP category 5e,6 cable (maximum 100m)	
	1000Base−SX: 62.5 μm/50 μm MMF(2m~550m)	
	1000Base−LX: 62.5 μm/50 μm MMF(2m~550m) or 10 μm SMF(2m~5000m)	
Transfer Method	Store−and−Forward	
Switching Capacity	6.8Gbps	
Packet Forwarding Rate	5.06Mbps	
Packet Buffer	4Mbit	
MAC Address Table	16K	
Jumbo Frame	16KByte	
Mode	normal mode	switch all ports can communicate with each other
	port isolation mode	1 to 24 cannot communicate with each other, but can communicate with the uplink Combo port 25
	monitoring mode	1 to 8 ports support port priority, optimize port cache, switch all ports can communicate with each other
	network extend mode	1 to 8 port rate down to 10Mbps, the farthest transmission distance of up to 250 meters, all ports can communicate with each other
Number of Ports	24 x 10/100Mbps Auto−Negotiation ports	
	1 x gigabit Combo (RJ45 / SFP) port	
PoE Ports(RJ45)	24* PoE ports compliant with IEEE802.3at/af (The switch 1 and 2 ports support IEEE802.3bt standard)	
Power Pin Assignment	IEEE802.3at/af 4/5(+), 7/8(−)	
	IEEE802.3bt 1/2(+) 4/5(+), 3/6(−) 7/8(−)	
PoE Budget	190W	
LED indicators	Per Port	Link: Green
		PoE: Yellow
	Per Device	Power: Green
		MAX: Red
Power Supply	AC 100−240V/50−60Hz 210W internal power	
Dimensions (W x D x H)	340*200*43mm	
Environment	Operating Temperature: −0℃ − 45℃	
	Storage Temperature: −40℃ − 70℃	
	Operating Humidity: 10%~90% RH non−condensing	
	Storage humidity: 5%~90% RH non−condensing	