16-Port 10/100Mbps + 1G Combo PoE Unmanaged Ethernet Switch

User's Manual

V1.0.1

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Mandatory actions to be taken towards cybersecurity

1. Change Passwords and Use Strong Passwords:

The number one reason systems get "hacked" is due to having weak or default passwords. It is recommended to change default passwords immediately and choose a strong password whenever possible. A strong password should be made up of at least 8 characters and a combination of special characters, numbers, and upper and lower case letters.

2. Update Firmware

As is standard procedure in the tech-industry, we recommend keeping NVR, DVR, and IP camera firmware up-to-date to ensure the system is current with the latest security patches and fixes.

"Nice to have" recommendations to improve your network security

1. Change Passwords Regularly

Regularly change the credentials to your devices to help ensure that only authorized users are able to access the system.

2. Change Default HTTP and TCP Ports:

● Change default HTTP and TCP ports for systems. These are the two ports used to communicate and to view video feeds remotely.

● These ports can be changed to any set of numbers between 1025-65535. Avoiding the default ports reduces the risk of outsiders being able to guess which ports you are using.

3. Enable HTTPS/SSL:

Set up an SSL Certificate to enable HTTPS. This will encrypt all communication between your devices and recorder.

4. Enable IP Filter:

Enabling your IP filter will prevent everyone, except those with specified IP addresses, from accessing the system.

5. Change ONVIF Password:

On older IP Camera firmware, the ONVIF password does not change when you change the system's credentials. You will need to either update the camera's firmware to the latest revision or manually change the ONVIF password.

6. Forward Only Ports You Need:

● Only forward the HTTP and TCP ports that you need to use. Do not forward a huge range of numbers to the device. Do not DMZ the device's IP address.

● You do not need to forward any ports for individual cameras if they are all connected to a recorder on site; just the NVR is needed.

7. Disable Auto-Login on SmartPSS:

Those using SmartPSS to view their system and on a computer that is used by multiple people should disable auto-login. This adds a layer of security to prevent users without the appropriate credentials from accessing the system.

8. Use a Different Username and Password for SmartPSS:

In the event that your social media, bank, email, etc. account is compromised, you would not want someone collecting those passwords and trying them out on your video surveillance system. Using a different username and password for your security system will make it more difficult for someone to guess their way into your system.

9. Limit Features of Guest Accounts:

If your system is set up for multiple users, ensure that each user only has rights to features and functions they need to use to perform their job.

10. UPnP:

● UPnP will automatically try to forward ports in your router or modem. Normally this would be a good thing. However, if your system automatically forwards the ports and you leave the credentials defaulted, you may end up with unwanted visitors.

● If you manually forwarded the HTTP and TCP ports in your router/modem, this feature should be turned off regardless. Disabling UPnP is recommended when the function is not used in real applications.

11. SNMP:

Disable SNMP if you are not using it. If you are using SNMP, you should do so only temporarily, for tracing and testing purposes only.

12. Multicast:

Multicast is used to share video streams between two recorders. Currently there are no known issues involving Multicast, but if you are not using this feature, deactivation can enhance your network security.

13. Check the Log:

If you suspect that someone has gained unauthorized access to your system, you can check the system log. The system log will show you which IP addresses were used to login to your system and what was accessed.

14. Physically Lock Down the Device:

Ideally, you want to prevent any unauthorized physical access to your system. The best way to achieve this is to install the recorder in a lockbox, locking server rack, or in a room that is behind a lock and key.

Foreword

General

This user's manual introduces the functions and operations of 16-Port 10/100Mbps + 1G Combo PoE Unmanaged Ethernet Switch devices.

Models

DH-PFS3117-16ET-135

Safety Instructions

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

Signal Words	Meaning
⚠ DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
⚠ 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.

Revision History

Version	Revision Content	Release Time
V1.0.1	Delete specifications.	June 2019
V1.0.0	First release.	May 2018

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.

Table of Contents

1 Introduction

1.1 Overview

The Switch provides the seamless network connection. Based on Gigabit Ethernet Technology, It is essential to helping solve network bottlenecks that frequently develop as more advanced computer users and newer applications continue to demand greater network resources. Can be configured to automatically switch the normal working mode, port isolation (VLAN) mode, monitoring mode, network extend mode, flexible and extensible family.

The Switch 16*port support IEEE802.3bt/at/af PoE standard, 16*100M ports have PoE power supply function, 1 ~ 2 port single power output maximum support 60W, internal 150W power supply. It can be used as an Ethernet power supply device. It can automatically detect and identify the electrical equipment that meets the standard and power it through the network cable.

The product is highly integrated design, simple operation, a variety of models optional, suitable for a variety of applications, especially for security monitoring occasions.

1.2 Features

- Compliant IEEE 802.3、IEEE 802.3u、IEEE802.3ab、IEEE802.3x standards
- Supports IEEE802.3af、IEEE802.3at，IEEE802.3bt standards
- Supports normal working mode, port isolation (VLAN) mode, monitoring mode, network extend mode.
- supports Store-and-Forward
- 16*10 / 100Mbps ports, 1*Gigabit Combo port, support port auto flipping (Auto MDI / MDIX)
- 1 to 2 single PoE support the maximum power of 60W, PoE output total power up to 135W
- Supports IEEE802.3x flow control for Full-duplex Mode and backpressure for Half-duplex Mode
- 4K entry MAC address table with auto-learning and auto-aging
- LED indicators for monitoring power, link and activity

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,16 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
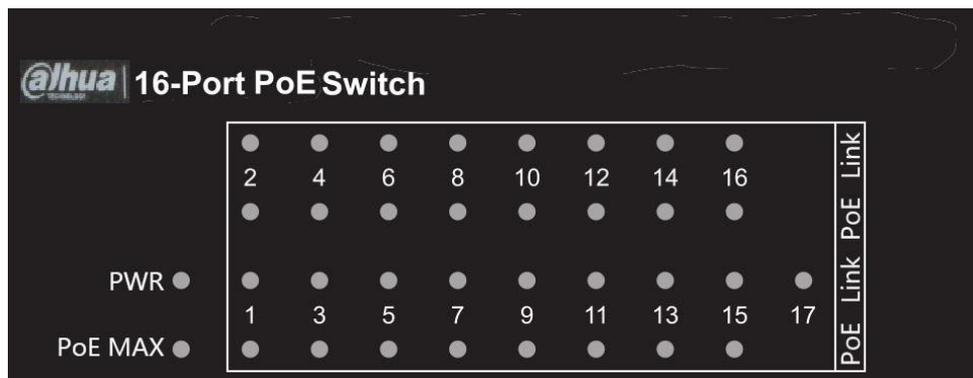
The following chart shows the LED indicators of the Switch along with explanation of each indicator.

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 (130W~135Wmax), and the load quota can no longer be increased
10/100 BASE-T adaptive	Link	Off	The port is NOT connected.
		Solid green	The port is connected, but no data is transmitting or receiving.

LED Indicator	Faceplate Marker	Status	Indication
Ethernet port indicators (1-16,17)		Blinking	The port is transmitting or receiving data.
PoE status indicators (1-16)	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 16 cannot communicate with each other, but can communicate with the uplink Combo port 17.

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.

📖 NOTE

The mode control needs to be moved to the correct position.

10/100 Mbps RJ-45 ports (1~16):

Designed to connect to the device with a bandwidth of 10Mbps, 100Mbps. Each has a corresponding Link and PoE indicator.

10/100/1000Mbps RJ45 port 17:

Designed to connect to the device with a bandwidth of 10Mbps, 100Mbps or 1000Mbps. Each has a corresponding Link LED.

1000Mbps SFP port 17:

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 16-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 13-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
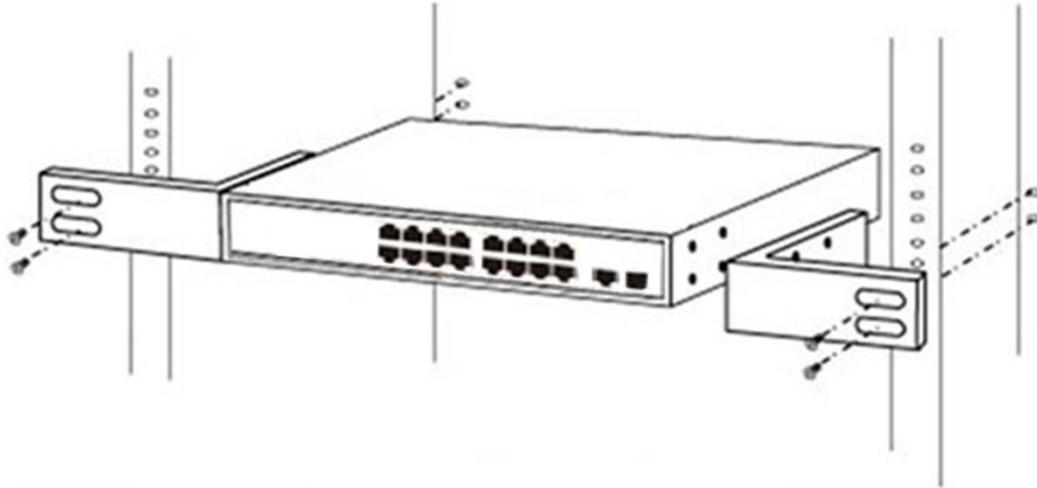
Step 2　Use the screws provided with the equipment rack to mount the Switch on the rack and tighten it.

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 status indicator lights corresponding ports of the Switch.

2.3 Switch connection to the PD

1-16 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.

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