

dahua PFS32 Desktop Switch



dahua PFS32 Desktop Switch User Guide

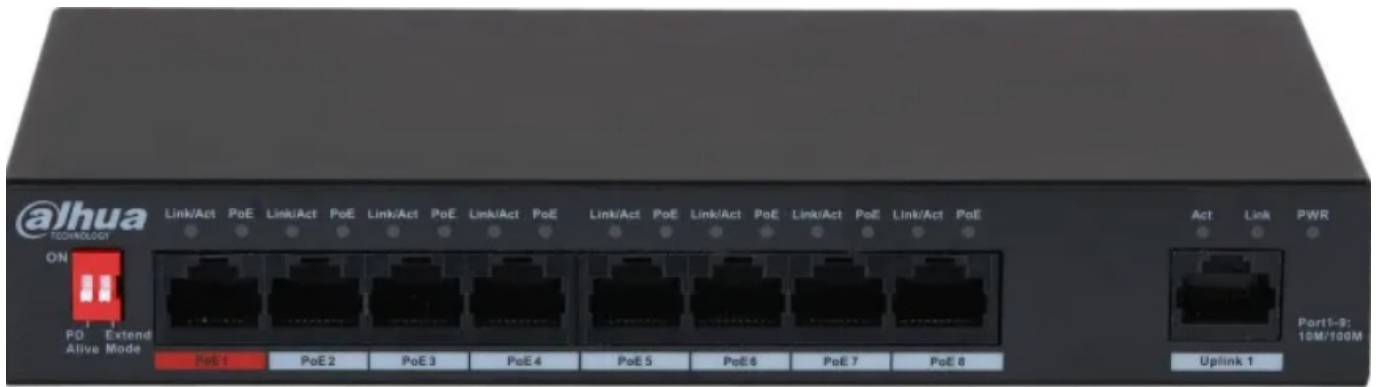
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dahua PFS32 Desktop Switch



Specifications

- **Product Name:** Ethernet Switch (4&8-port Unmanaged Desktop Switch)
- **Model:** V1.0.1

Product Information

- The Ethernet Switch is a 4&8-port unmanaged desktop switch.
- It is designed to provide reliable and high-speed network connectivity for small office or home networks.
- The switch allows you to connect multiple devices such as computers, printers, and gaming consoles to your network.

Product Usage Instructions

Installation

1. Choose a suitable location for the switch. It should be placed on a flat and stable surface.
2. Connect one end of an Ethernet cable to the LAN port on your modem or router.
3. Connect the other end of the Ethernet cable to the WAN port on the switch.
4. Connect your devices (computers, printers, etc.) to the available LAN ports on the switch using Ethernet cables.
5. Plug the power adapter into the switch and connect it to a power outlet.

Operation

- The switch operates in an unmanaged mode, meaning it does not require any configuration.
- Once connected, it will automatically detect and connect the devices on your network.

Indicator Lights

The switch is equipped with indicator lights that provide information about its status:

- **Power LED:** Indicates whether the switch is powered on.
- **Link/Activity LEDs:** Indicate the status of each port. A solid light indicates a successful connection, while blinking indicates data activity.

Product Maintenance

To ensure optimal performance and longevity of the switch, follow these maintenance guidelines:

- Keep the switch in a well-ventilated area to prevent overheating.
- Avoid exposing the switch to moisture or extreme temperatures.
- Regularly clean the switch using a soft, dry cloth to remove dust or debris.
- Do not disassemble or attempt to repair the switch yourself. Contact customer service for assistance.

FAQ (Frequently Asked Questions)

Q: Can I use the switch with a wireless router?

- **A:** Yes, you can connect the switch to a wireless router using an Ethernet cable.
- The switch will provide additional wired ports for devices that require a wired connection.

Q: Can I connect devices to the switch wirelessly?

- **A:** No, the switch only supports wired connections.
- If you need wireless connectivity, consider using a wireless access point in conjunction with the switch.

Q: How do I know if the switch is functioning properly?

- **A:** Check the power LED to ensure that the switch is powered on.
- Additionally, check the link/activity LEDs for each port to verify successful connections and data activity.

Q: Can I use the switch to connect devices from different networks?






- **A:** No, the switch is designed to connect devices within the same network.
- If you need to connect devices from different networks, consider using a router or a managed switch.

Foreword General

- This manual introduces the installation, functions, and operations of the 4&8-port unmanaged desktop switch (hereinafter referred to as “the Switch”).
- Read carefully before using the Switch, and keep the manual safe for future reference.

Safety Instructions

The following signal words 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 that, if not avoided, could result in property damage, data loss, reductions in performance, or unpredictable results.
 TIPS	Provides methods to help you solve a problem or save time.
 NOTE	Provides additional information as a supplement to the text.

Revision History

Version	Revision Content	Release Time
V1.0.1	Updated the long-distance description.	August 2023
V1.0.0	First release.	March 2022

Privacy Protection Notice

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

About the Manual

- The manual is for reference only. Slight differences might be found between the manual and the product.
- We are not liable for losses incurred due to operating the product in ways that are not in compliance with the manual.
- The manual will be updated according to the latest laws and regulations of related jurisdictions.
- For detailed information, see the paper user's manual, use our CD-ROM, scan the QR code, or visit our official website.
- The manual is for reference only. Slight differences might be found between the electronic version and the paper version.
- All designs and software are subject to change without prior written notice. Product updates might result in some differences appearing between the actual product and the manual.
- Please contact customer service for the latest program and supplementary documentation.

- There might be errors in the print or deviations in the description of the functions, operations, and technical data. If there is any doubt or dispute, we reserve the right to a final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- All trademarks, registered trademarks, and company names in the manual are properties of their respective owners.
- Please visit our website, and contact the supplier or customer service if any problems occur while using the device.
- If there is any uncertainty or controversy, we reserve the right to a 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, and comply with the guidelines when using it.

Transportation Requirements

- Transport the device under allowed humidity and temperature conditions.

Storage Requirements

Store the device under allowed humidity and temperature conditions.

Installation Requirements

- Do not connect the power adapter to the device while the adapter is powered on.
- Strictly comply with the local electrical safety code and standards. Make sure that the ambient voltage is stable and meets the power supply requirements of the device.
- Personnel working at heights must take all necessary measures to ensure personal safety including wearing a helmet and safety belts.
- Do not place the device in a place exposed to sunlight or near heat sources.
- Keep the device away from dampness, dust, and soot.
- Put the device in a well-ventilated place, and do not block its ventilation.
- Use an adapter or cabinet power supply provided by the manufacturer.
- The power supply must conform to the requirements of ES1 in IEC 62368-1 standard and be no higher than PS2. Please note that the power supply requirements are subject to the device label.
- Do not connect the device to two or more kinds of power supplies, to avoid damage to the device.
- The device is a class I electrical appliance. Make sure that the power supply of the device is connected to a power socket with protective earthing.
- The device must be grounded by a copper wire with a cross-sectional area of 2.5 mm² and a ground resistance of no more than 4 Ω.
- Voltage stabilizer and lightning surge protector are optional depending on the actual power supply on-site and the ambient 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 that the power plug and appliance coupler can be easily reached to cut off power.

Operation Requirements

- Do not disassemble the device without professional instruction.
- Operate the device within the rated range of power input and output.
- Make sure that the power supply is correct before use.
- Make sure the device is powered off before disassembling wires to avoid personal injury.
- Do not unplug the power cord on the side of the device while the adapter is powered on.
- Use the device under allowed humidity and temperature conditions.
- Do not drop or splash liquid onto the device, and make sure that there is no object filled with liquid on the device to prevent liquid from flowing into it.
- Operating temperature: -10°C ($+14^{\circ}\text{F}$) to $+55^{\circ}\text{C}$ ($+131^{\circ}\text{F}$).
- This is a class-A product. In a domestic environment, this may cause radio interference in which case you may be required to take adequate measures.
- Do not block the ventilator of the device with objects, such as a newspaper, table cloth, or curtain.
- Do not place an open flame on the device, such as a lit candle.

Maintenance Requirements

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

Overview

Introduction

- The Switch is a layer-2 commercial switch. It has a high-performance switching engine and a large buffer memory to ensure smooth video stream transmission.
- With a full-metal and fanless design, the Switch features great heat dissipation capability on the shell surface and can work in environments that range from -10°C ($+14^{\circ}\text{F}$) to $+55^{\circ}\text{C}$ ($+131^{\circ}\text{F}$).
- With its DIP design, it can provide a variety of working modes for different scenarios.
- The Switch also supports power consumption management, which can adapt to the fluctuation of power consumption of terminal devices to ensure stable operation.
- The Switch is an unmanaged switch, so it does not need to be configured through the web page, which simplifies installation.
- The Switch is applicable for use in a variety of scenarios, such as in the home and office, on server farms, and in small malls.

Features

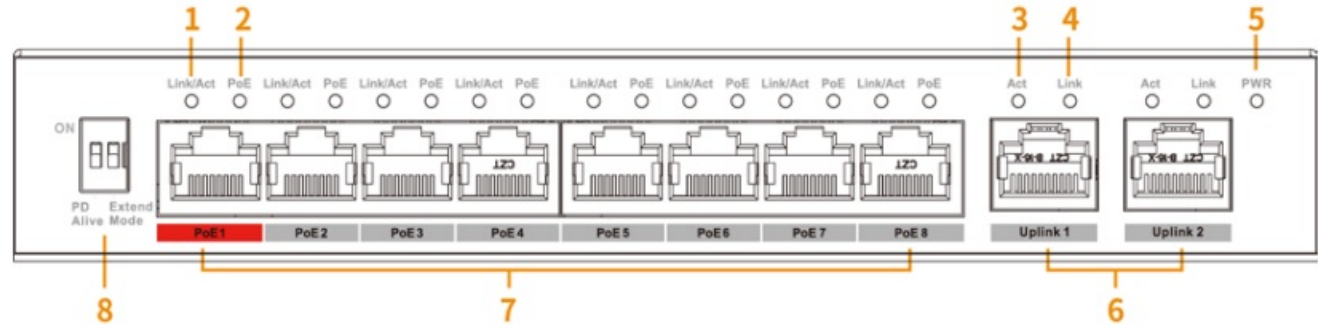
- 4/8 × 100/1000 Mbps Ethernet port.
- Uplink Combo ports include an electrical port and an optical port.
- All ports support IEEE802.3af and IEEE802.3at. The red port also supports Hi-PoE and IEEE802.3bt.
- 250 m long-distance PoE transmission, which can be enabled by a DIP switch.
- In Extend Mode, the transmission distance of the PoE port is up to 250 m but the transmission rate drops to 10 Mbps.
- The actual transmission distance might vary due to the power consumption of connected devices or the cable type and status.
- PoE watchdog.
- Power consumption management.
- Fanless.
- Supports desktop mount and wall mount.

Port and Indicator

Front Panel

The following figure is for reference only, and might differ from the actual product.

Figure 2-1 Front panel (without optical ports)



Following are all the ports and indicators on the front panel of the 4x8-port unmanaged desktop switch (without optical ports), and might differ from the actual product.

Table 2-1 Description of the front panel (without optical ports)

No.	Description
1	<p>Single-port connection or data transmission status indicator (Link/Act).</p> <ul style="list-style-type: none"> ● On: Connected to the device. ● Off: Not connected to the device. ● Flashes: Data transmission is in progress.
2	<p>PoE port status indicator.</p> <ul style="list-style-type: none"> ● On: Powered by PoE. ● Off: Not powered by PoE.
3	<p>Single-port data transmission status indicator (Act).</p> <ul style="list-style-type: none"> ● Flashes: Data transmission is in progress. ● Off: No data transmission.
4	<p>Single-port connection status indicator (Link).</p> <ul style="list-style-type: none"> ● On: Connected to the device. ● Off: Not connected to the device.
5	<p>Power indicator.</p> <ul style="list-style-type: none"> ● On: Power on. ● Off: Power off.
6	10/100 Mbps or 10/100/1000 Mbps self-adaptive uplink port.
7	10/100 Mbps or 10/100/1000 Mbps self-adaptive Ethernet ports.




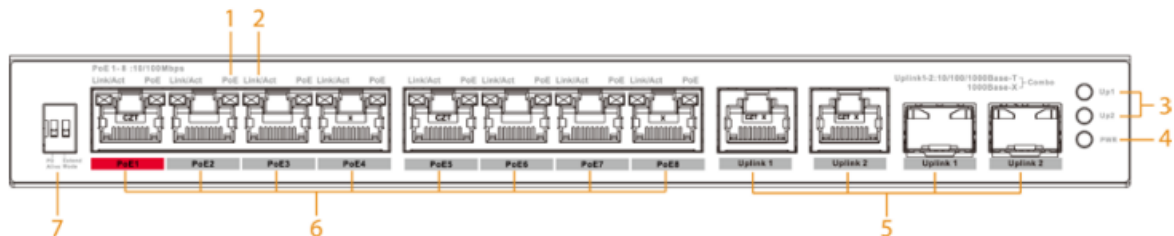
No.	Description
8	<p>DIP switch.</p> <ul style="list-style-type: none"> PD Alive: When terminal device crash is detected, power down and restart the terminal device. Extend Mode: Extends the maximum transmission distance to 250 m, but reduces average transmission speed to 10 Mbps.  <p>In Extend Mode, the transmission distance of the PoE port is up to 250 m but the transmission rate drops to 10 Mbps. The actual transmission distance might vary due to power consumption of connected devices or the cable type and status.</p>
 (Not included in the figure)	<p>Another DIP switch.</p> <p>Select Default or Extend Mode by dialing the DIP switch.</p> <p>Extend Mode: Extends the maximum transmission distance to 250 m, but reduces average transmission speed to 10 Mbps.</p>  <p>In Extend Mode, the transmission distance of the PoE port is up to 250 m but the transmission rate drops to 10 Mbps. The actual transmission distance might vary due to power consumption of connected devices or the cable type and status.</p>
Speed (Not included in the figure)	<p>Uplink port speed indicator.</p> <ul style="list-style-type: none"> On: 100 Mbps/1000 Mbps. Off: 10 Mbps.


Figure 2-1 Front panel (with optical ports)



Following are all the ports and indicators on the front panel of the 8-port unmanaged desktop switch (with optical ports), and might differ from the actual product.

Table 2-1 Description of the front panel (with optical ports)

No.	Description
1	<p>PoE port status indicator.</p> <ul style="list-style-type: none"> ● On: Powered by PoE. ● Off: Not powered by PoE.
2	<p>Single-port connection or data transmission status indicator (Link/Act).</p> <ul style="list-style-type: none"> ● On Connected to the Switch. ● Off: Not connected to the Switch. ● Flashes: Data transmission is in progress.

No.	Description
3	<p>Uplink port data transmission status indicator (Up1/Up2).</p> <ul style="list-style-type: none"> ● Flashes: Data transmission is in progress. ● Off: No data transmission.
4	<p>Power indicator.</p> <ul style="list-style-type: none"> ● On: Power on. ● Off: Power off.
5	Uplink port, 10/100/1000 Mbps self-adaptive electrical ports, and 1000 Mbps optical ports .
6	10/100 Mbps or 10/100/1000 Mbps self-adaptive Ethernet ports.
7	<p>DIP switch.</p> <ul style="list-style-type: none"> ● PD Alive: When a terminal device crash is detected, power down and restart the terminal device. ● Extend Mode: Extends the maximum transmission distance to 250 m, but reduces average transmission speed to 10 Mbps. <p> In Extend Mode, the transmission distance of the PoE port is up to 250 m but the transmission rate drops to 10 Mbps. The actual transmission distance might vary due to the power consumption of connected devices or the cable type and status.</p>



Rear Panel

The following figure is for reference only and might differ from the actual product.

Figure 2-2 Rear panel



Table 2-2 Description of rear panel

No.	Description
1	Ground terminal.  Available for certain models.
2	Lock hole. Used to lock the Switch.  Available for certain models.

No.	Description
3	The power port supports 48–57 VDC.

Installation

Preparation

- Select an appropriate installation method.
- Install the Switch on a solid and flat surface.
- Leave around 10 cm of open space around the Switch for heat dissipation and to ensure good ventilation.

Desktop Mount

- The Switch supports desktop mount. You can directly place it on a solid and flat desktop.

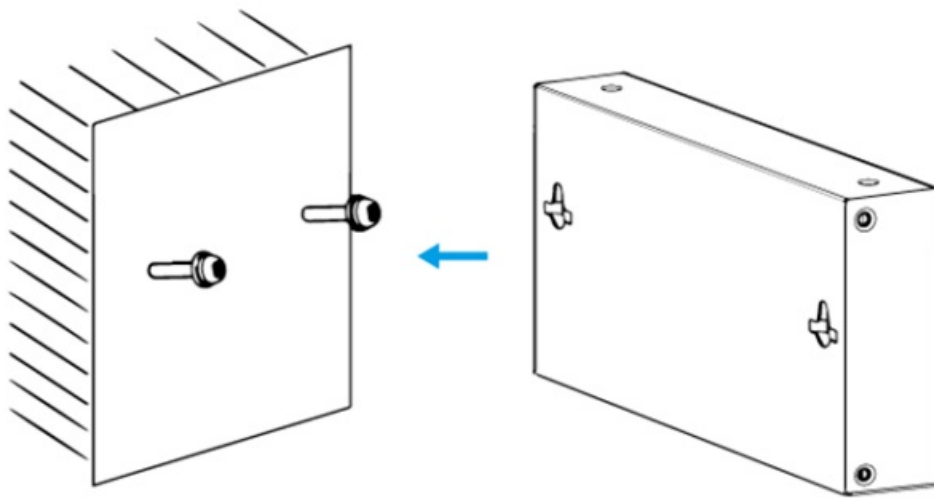
Wall Mount

- **Step 1** Drill two M4 screws into the wall. The distance between the screws needs to match that of the wall-mount holes of the Switch.
- Screws do not come with the package. Purchase them as needed.
- Make sure that the distance between the screws is the same as the distance between the wall-mount holes (the distance of the 4-port unmanaged desktop switch is 77.8 mm (3.06 inch), the distance of the 8-port unmanaged desktop switch without optical ports is 128.4 mm (5.06 inch), and the distance of the 8-port unmanaged desktop

switch with optical ports is 120 mm (4.72 inch)).

- Leave a space of at least 4 mm between the wall and the head of the screws.
- **Step 2** Align the wall-mount holes on the back cover of the Switch with the screws, and hang the Switch on the screws.

Figure 3-1 Wall mount

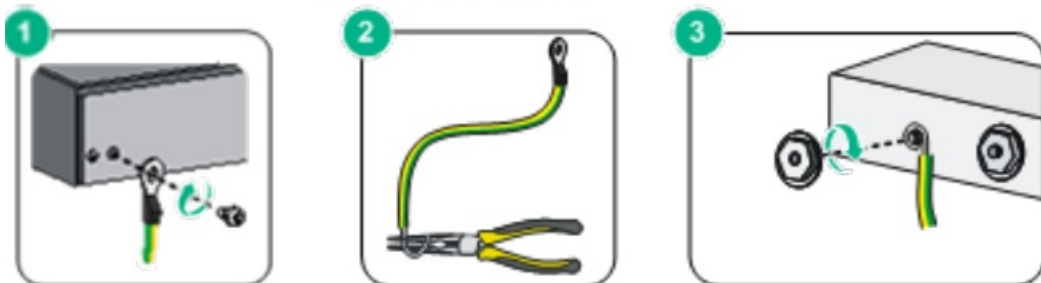


Wiring

Connecting GND

- GND cables do not come with the package of select models. Purchase them as needed.
- Grounding the Switch can protect it against lightning and interference. The steps for connecting the GND are as follows:
- **Step 1** Remove the ground screw from the Switch 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 cable.
- **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



Connecting Power Cord

- Before connecting the power cord, make sure that the Switch is securely grounded.
- **Step 1** Connect one end of the power cord to the power jack of the Switch.
- **Step 2** Connect the other end of the power cord to the external power socket.

Connecting SFP Ethernet Port

- **Step 1** We recommend wearing antistatic gloves, and then the anti-static wrist strap before installing the SFP module.
- Make sure that the anti-static wrist strap and the antistatic gloves are in good contact.
- **Step 2** Lift the handle of the SFP module upward vertically, and stick it to the top hook.
- Hold the SFP module by both sides and push it gently into the SFP slot till the SFP module is firmly connected to the slot (You can feel that both the top and bottom spring strips of the SFP module are firmly stuck with the SFP slot).
- The signal is transmitted through laser by optical fiber cable. The laser conforms to the requirements of Class 1 laser products. When the Switch is powered on, do not look directly at the optical port to avoid injury to the eyes.
- Do not touch the gold finger part of the SFP module when installing the SFP optical module.
- We do not recommend extracting the dustproof plug of the SFP module before connecting it to the optical fiber cable.
- We do not recommend directly inserting the SFP module into the slot. Unplug the optical fiber before installation.

Figure 4-2 SFP module structure

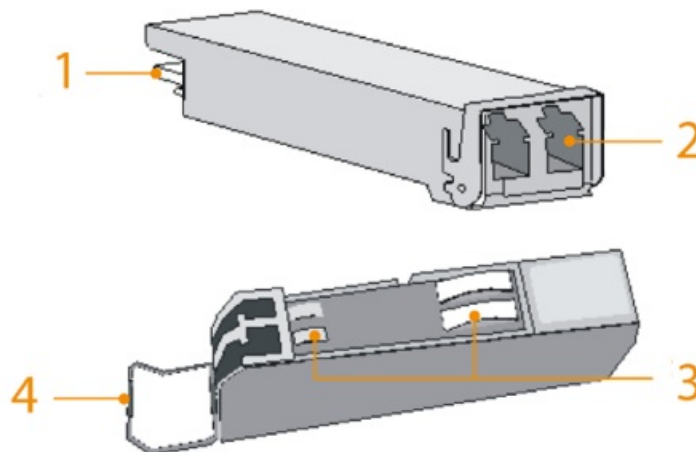
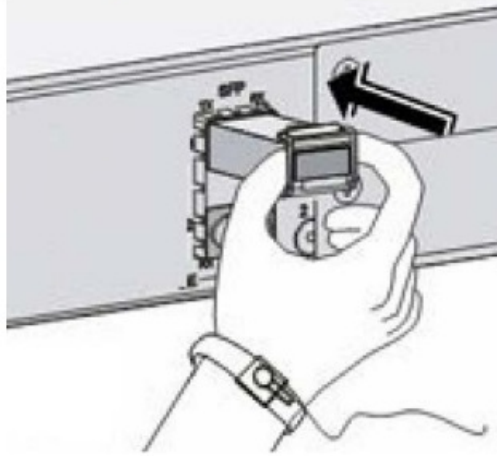


Table 4-1 Structure description

No.	Description
1	Gold finger
2	Optical fiber port
3	Spring strip
4	Handle

Figure 4-3 Install SFP module



Connecting Ethernet Port

- The Ethernet port is a standard RJ-45 port. With its self-adaptation 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 4-4 Ethernet port pin number

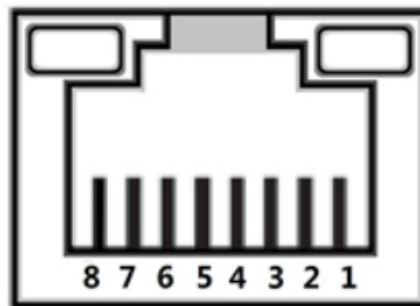
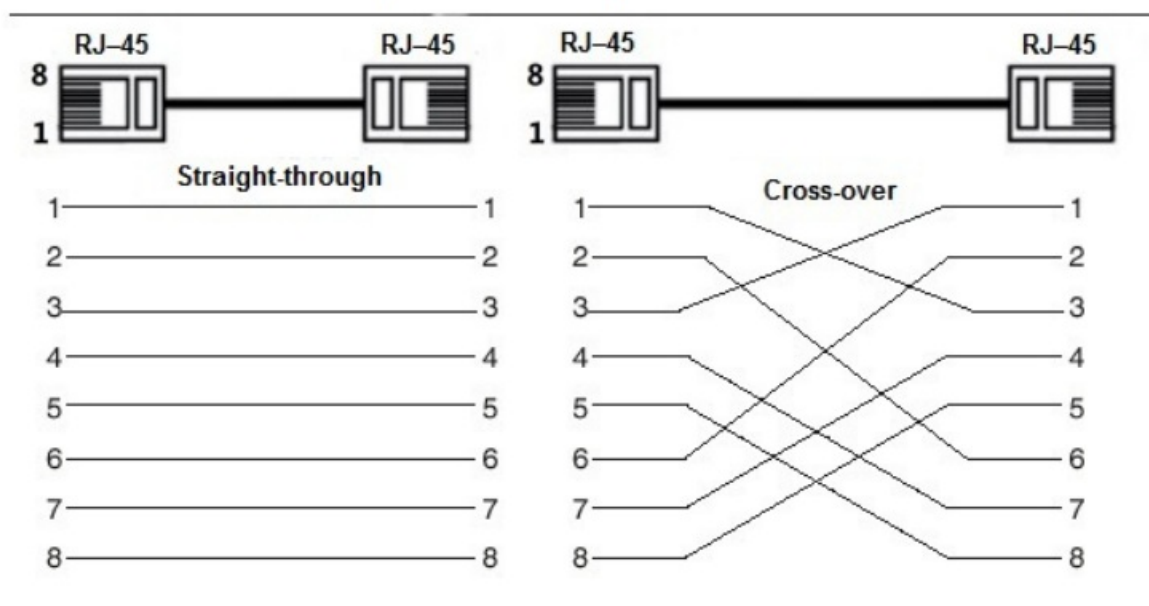


Figure 4-5 Pin description



- The cable connection of the 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).

Connecting PoE Port

- You can directly connect the Switch PoE Ethernet port to the device PoE Ethernet port through a network cable to achieve a synchronized network connection and power supply.
- With Extend Mode disabled, the maximum distance between the switch and the device is about 100 m.
- When connecting to a non-PoE device, the device needs to be used with an isolated power supply.

Appendix 1 Cybersecurity Recommendations

Mandatory actions to be taken for basic device network security:

1. Use Strong Passwords

- **Please refer to the following suggestions for setting passwords:**
- The length should not be less than 8 characters.
- Include at least two types of characters; character types include upper and lower case letters, numbers, and symbols.
- Do not contain the account name or the account name in reverse order.
- Do not use continuous characters, such as 123, ABC, etc.
- Do not use overlapped characters, such as 111, aaa, etc.

2. Update Firmware and Client Software in Time

- According to the standard procedure in the industry, we recommend keeping your device (such as NVR, DVR, IP camera, etc.) firmware up-to-date to ensure the system is equipped with the latest security patches and fixes.
- When the device is connected to the public network, it is recommended to enable the “auto-check for updates” function to obtain timely information on firmware updates released by the manufacturer.
- We suggest that you download and use the latest version of the client software.

Nice to have” recommendations to improve your device network security:

1. Physical Protection

- We suggest that you perform physical protection on devices, especially storage devices.
- For example, place the device in a special computer room and cabinet, and implement well-done access control permission and key management to prevent unauthorized personnel from carrying out physical contacts such as damaging hardware, unauthorized connection of removable devices (such as USB flash disk, serial port), etc.

2. Change Passwords Regularly

- We suggest that you change passwords regularly to reduce the risk of being guessed or cracked.

3. Set and Update Passwords Reset Information Timely

- The device supports a password reset function. Please set up related information for password reset in time, including the end user’s mailbox and password protection questions.
- If the information changes, please modify it in time. When setting password protection questions, it is suggested not to use those that can be easily guessed.

4. Enable Account Lock

- The account lock feature is enabled by default, and we recommend you keep it on to guarantee account security.

- If an attacker attempts to log in with the wrong password several times, the corresponding account and the source IP address will be locked.

5. Change Default HTTP and Other Service Ports

- We suggest you change the default HTTP and other service ports into any set of numbers between 1024–65535, reducing the risk of outsiders being able to guess which ports you are using.

6. Enable HTTPS

- We suggest you enable HTTPS so that you visit Web service through a secure communication channel.

7. MAC Address Binding

- We recommend you bind the IP and MAC address of the gateway to the device, thus reducing the risk of ARP spoofing.

8. Assign Accounts and Privileges Reasonably

- According to business and management requirements, reasonably add users and assign a minimum set of permissions to them.

9. Disable Unnecessary Services and Choose Secure Modes

- If not needed, it is recommended to turn off some services such as SNMP, SMTP, UPnP, etc., to reduce risks.
- If necessary, it is highly recommended that you use safe modes, including but not limited to the following services:
 - **SNMP:** Choose SNMP v3, and set up strong encryption passwords and authentication passwords.
 - **SMTP:** Choose TLS to access the mailbox server.
 - **FTP:** Choose SFTP, and set up strong passwords.
 - **AP hotspot:** Choose WPA2-PSK encryption mode, and set up strong passwords.

10. Audio and Video Encrypted Transmission

- If your audio and video data contents are very important or sensitive, we recommend that you use an encrypted transmission function, to reduce the risk of audio and video data being stolen during transmission.
- **Reminder:** encrypted transmission will cause some loss in transmission efficiency.

11. Secure Auditing

- **Check online users:** we suggest that you check online users regularly to see if the device is logged in without authorization.
- **Check device log:** By viewing the logs, you can know the IP addresses that were used to log in to your devices and their key operations.

12. Network Log

- Due to the limited storage capacity of the device, the stored log is limited.
- If you need to save the log for a long time, it is recommended that you enable the network log function to ensure that the critical logs are synchronized to the network log server for tracing.


13. Construct a Safe Network Environment

- To better ensure the safety of the device and reduce potential cyber risks, we recommend:
- Disable the port mapping function of the router to avoid direct access to the intranet devices from the external network.
- The network should be partitioned and isolated according to the actual network needs.
- If there are no communication requirements between two sub-networks, it is suggested to use VLAN, network GAP, and other technologies to partition the network, to achieve the network isolation effect.
- Establish the 802.1x access authentication system to reduce the risk of unauthorized access to private

networks.

- Enable IP/MAC address filtering function to limit the range of hosts allowed to access the device.

Documents / Resources

	dahua PFS32 Desktop Switch [pdf] User Guide 8x RJ-45, 60W PoE, PFS32, PFS32 Desktop Switch, Desktop Switch, Switch
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References

- [User Manual](#)

Manuals+. [Privacy Policy](#)

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