

Explosion-proof PTZ Camera User Manual



Issue

V1.0

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About This Document

Precautions

Fully understand this document before using this device, and strictly observe rules in this document when using this device. If you install this device in public places, provide the tip "You have entered the area of electronic surveillance" in an eye-catching place. Failure to correctly use electrical products may cause fire and severe injuries. To prevent accidents, carefully read the following context:






Intended Audience

This document is intended for:

- Technical support engineers
- Maintenance engineers
- IP camera operators

Symbols

This document may contain the following symbols whose meanings are described accordingly.

Symbol	Description
 DANGER	It alerts you to fatal dangers which, if not avoided, may cause deaths or severe injuries.
 WARNING	It alerts you to moderate dangers which, if not avoided, may cause minor or moderate injuries.
 CAUTION	It alerts you to risks. Neglect of these risks may cause device damage, data loss, device performance deterioration, or unpredictable results.
 TIP	It provides a tip that may help you resolve problems or save time.
 NOTE	It provides additional information.

Quality Guarantee

For Explosion-proof PTZ camera assemblies, we provide free repair service during the warranty period. The end user is responsible for the cost of labor and component in the follow conditions:

- Damage caused by improper operation that against the Instruction Manual.
- Damage caused by unauthorized disassembly.
- Thunder or other force majeure natural disasters.

If any other contracts between clients and us exist, we will follow the promise or regulation strictly.

Security Assurance

Operation of this product complies with the following requirements:

- No adverse interference in operation;
- The operation of this product cannot be interfered by external factors even adverse interference in a certain degree.

Notice

The user shall not disassemble this product optionally, such as removal of top cover or bolts may cause leakage of water or creepage. Please operate the product according to the requirements in this Instruction Manual;

- Ensure this product is always used in an environment with atmospheric pressure, ambient temperature and relative humidity specified in Chapter 1.6;
- Ensure the power supply complies with the requirement indicated in the nameplate;
- The internal and external grounding shall be reliable;
- Ensure the installation is firm and stable, to avoid unexpected damage of the camera;
- Do not carry out any modification on qualified products, otherwise Explosion-proof performance may be affected.



DANGER

Please read this Instruction Manual carefully before installation and operation of this product.

The safe service period is 2 years after date of manufacture, see nameplate of the date of manufacture.

Please read and understand associate knowledge, safety notices and cautions before put into service.

1. Safety cautions in installation

cut off the power supply before any maintenance or repair of the product. do not open when energized!

Avoid opening of this product in environment where oil smoke, heavy dust, high temperature or dewing may exist. These will cause the decrease of the image definition.

Connect the cables according to the requirement indicated in the Instruction Manual, otherwise fault may happen.

Protect the flame proof joint in maintenance; avoid any metal fragment or other substances get access in the internal chamber.

No disassembly or modification allowed.

2. Construction Safety

The unit shall be installed in accordance with government regulations and industry standards applicable in that country.

The protective regulations on construction spot shall be followed strictly.

Measurement shall be carried out immediately when any security risks found to eliminate the risks, stop construction if necessary.

All kinds of safety facilities shall be inspected, calibrated or repaired in the event of severe weather.

The ice, fog, rain and snow shall be removed clearly.

Alert area shall be set and a person shall be specified to protect the area when protective casing and other safety facilities are constructed or dismantled.

Work high above the ground may require in installation of this product, the operating personnel shall be qualified.

3. Power supply requirements

Local electrical safety standard shall be followed in the installation and service of this product.

Convenient de-energizing device shall be installed for emergency cutting off.

Verify the output voltage of the power supply before applying power to the unit.

Protect the power cable from trample or compressing, especially for the plug, socket and joint out from devices.

4. Service condition requirements

Please do not focus the camera to hard light (such as lamp or sunlight), which will cause too bright of the image, it's not malfunctions but it does will affect the duration of the CCD (or CMOS).

Transport, operate and store this product in applicable temperature and humidity range. Do not locate it in wet, overheated, extreme cold environment or area with strong electromagnetic radiation or unstable lighting conditions.

The product shall be protected from any entry of water or other conductive fluid, which may damage the internal electrical element.

Avoid overheated, the product shall be well ventilated.

Avoid damage caused by compressing or violent vibration in transmission, storage or operation.

Avoid installing in high vibration areas during storages and deployment.

The product shall be well packaged as new product or equivalent in transmission.

We recommend the installation of lighting surge protection and using this product with Lightning Protection Devices.

Internal and external grounding shall be reliable and the cross-sectional area shall be no less than 4mm².

5. Operation & maintenance requirements

Do not dismantle this product; there is no user serviceable part inside.

Do not touch the CCD (or COMS) directly; a proper way is to blow away the dust with a blower on the lens. If it is necessary to clean it, use soft cloth with a little alcohol to wipe the lens gently. Replace the cover when not use to protect the CCD (or COMS).

Soft, dry cloth can be used for camera window and body cleaning. For hard to clean dirt, neutral detergent can be used, clear the dirt away then dry the camera window and body. Corrosive agents, abrasive cleaners cannot be used for camera window cleaning, they may damage the surface or even decrease the camera performance.

This product shall be installed and repaired by authorized personnel, do not dismantle or attempt repair. Only manufacturer indicated components / accessories can be used when replacement is necessary.

The CCD (or COMS) may be damaged by laser beam, it's better to avoid the camera suffering radiation of laser beam.

6. Environmental protection

For components of the products made by our company that may pollute the environment, such as PCB, electrical elements, plastic and lubricant, collection and control measurement shall be taken in maintenance and scrapping of the products. These pollution sources shall be delivered to the government for further treatment, no casually discard allowed, avoid any adversative effect to the environment.

Special Notes

Pictures in this manual are for reference only.

- We retain the right to modify the content and technical specifications of the product in this Instruction Manual without any form of notification when the product updates, there may exist little differences after updating.
- You can get the latest software and description document by consulting the customer service department.
- Any problem in operation of this product, please contact the distributor or customer service department.

- We always tried to make this instruction manual as perfect as we can, but there still may be some de-tolerance between the real data and the data we provide, if you have any questions or disputes, please refer to our company for finally explanation.
- The operator or user shall be responsible for damages or losses caused by misuse or operations that do not comply with this manual.

Ex Structure Instruction

We have made adequate consideration in flameproof enclosure design of the explosion-proof camera to prevent explosive gases getting into the inner volume, the explosion inside the enclosure cannot cause the explosion of the external explosive gases. We ensure the explosion-proof performance by strengthen enclosure the strength, adjust the length and gap of the joint of associate components and limit the maximum surface temperature.

The enclosure can subject to static pressure test (1.5 times of reference pressure at least 10s) specified in EN60079-01/IEC60079-1, no leakage or deformation allowed after test.

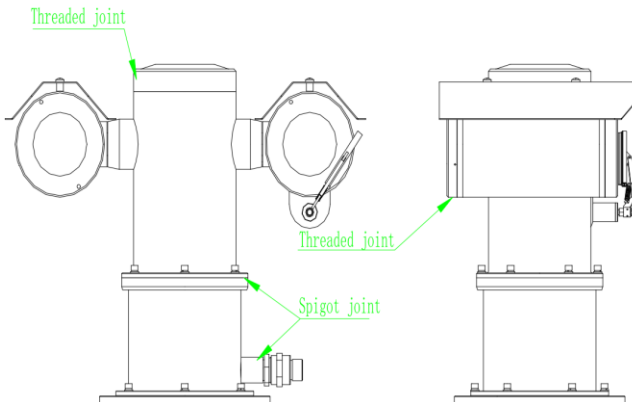
The maximum surface temperature will no more than 80°C in normal operation.

Tempering glass is adopted in observation port; the tempering glass shall pass the impact and thermal shock test.

Ingress protection level: IP66,IP68 (2m/2h).

Protection the flameproof surface in maintaining of this product, otherwise the damaged flameproof surface will affect the Explosion-proof performance.

When the product needs anti-corrosion treatment, the surface of the product will be sprayed. In this case, please wipe the non-metallic layer with a damp cotton cloth during maintenance. Pay attention to the protective coating. Do not use liquids with strong corrosion.

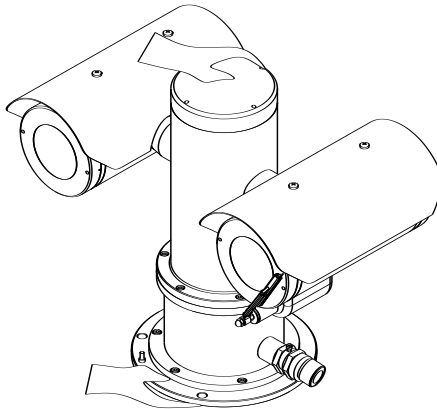


**WARNING**

How to Move This Product

De-energize the product, and hold the bottom part of the camera to move it, do not place force on the sunshade, wiper, base; do not drag or knock the camera.

When the product is energized: Do not open, move, knock or drag the product.



Special Announcement

All complete products sold by the manufacturer are delivered along with nameplates, operation instructions, and accessories after strict inspection. The manufacturer shall not be held responsible for counterfeit products.

This manual may contain misprints, technology information that is not accurate enough, or product function and operation description that is slightly inconsistent with the actual product. The manufacturer will update this manual according to product function enhancement or changes and regularly update the software and hardware described in this manual. Update information will be added to new versions of this manual without prior notice.

This manual is only for reference and does not ensure that the information is totally consistent with the actual product. For consistency, see the actual product.

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1 General

1.1 Characters

This camera consists of HD camera and universal pan and tilt, it is integrated a variety of communication protocols and speed, it plays an important role in security systems.

This camera can work at wide voltage range and its self-adaptation function will satisfy most brands of the video camera. The surge protection device provided with the camera will make it safer and more reliable.

Integrated structure design make no external cable connection, it could rotate for 360° in horizontal and $\pm 90^\circ$ in vertical.

1.2 Scope

This product is applicable for Zone 1 and Zone 2 hazardous areas that explosive mixture of group IIA, IIB, IIC, T1~T6 gases, vapors and air may exists, Zone 21 and Zone 22 hazardous areas that explosive dust may exist

1.3 Dimensions of Explosion-proof Fix Camera

Dimensions of Explosion-proof Fix Camera is shown in the following figure

Figure 1-1 Camera1

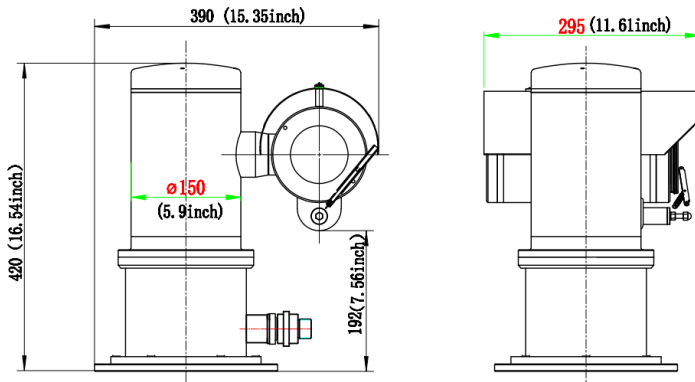


Figure 1-2 Camera2

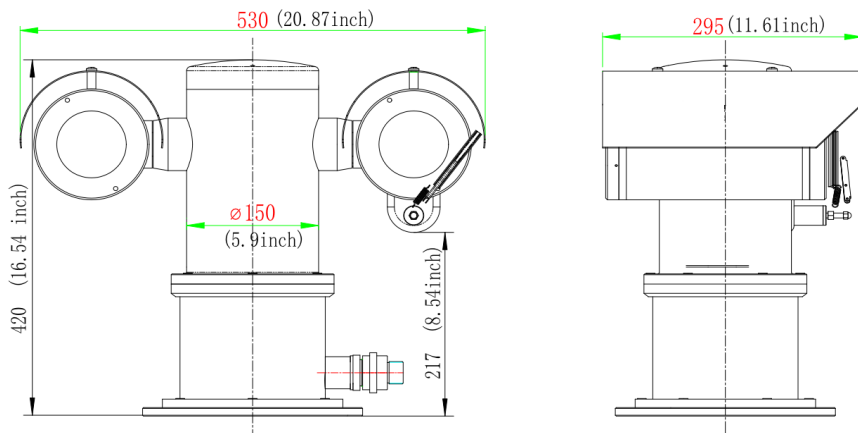


Figure 1.4.1 Dimensions

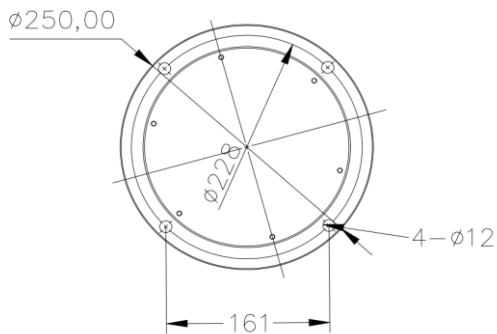


Figure 1.4.2 Distribution of installation holes

1.4 Electrical parameters

Voltage and Current:	100~240V a.c. 50/60Hz or 24V a.c. 50/60Hz or 24V d.c. or PoE++(48V d.c.); Max. 3.0A
Consumption:	≤75W(not include heater and fan)
Electrical Connection:	Comprehensive cable
Communication Type	RS-485
Control Communication Speed:	2400~19200bps adjustable
Control Communication Protocol:	PELCO-D/PELCO-P
Preset Positions	300, precision ≤0.1° Special Preset from 80 to 115 to be updated with its usage; Washer and Wiper Preset details; Wiper Preset 103 can be access only from the VMS
Auto Cruise:	4 groups, 16 cruises in each group, 30s' interval
Wiper	(30 ± 10) times/min
Fast Ethernet Electrical Signal Interface (optional)	full duplex TCP/IP Protocol Ethernet interface transmission
Video Signal (optional)	1-way video output
Audio (optional)	1-way input, 1-way output
Alarm (optional)	7-way alarm input, 2-way alarm output
Washer (optional)	DC24V or DC12V or dry contact reply (switch on/off)
Default Button (optional)	2-wire button output(depend on camera)
Address Code:	0/1
Fill-light Distance	100~200M(depend on light Quantity)
Fill-light Type	Infrared (7pcs) 3 Near(73.5 degree);4 Far(8 degree)

1.5 Electrical Safety (in normal atmosphere)

Insulation resistance: the insulation resistance between power terminal and the enclosure shall be no less than $50\text{ M}\Omega$;

Dielectric strength: dielectric test of 50Hz, AC1500V shall be conducted between power terminal and the enclosure for 1min.; There should be no breakdown or flash-over.

1.6 Special Conditions for Safe Use

- Repairs of the flameproof joints must be made in compliance with the structural specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in table 3 and table 4 of IEC/EN60079-1.
- The mechanical property class of the fasteners which are relevant to the flameproof joint should be at least A4-70 with min. Yield stress 450MPa;
- The ambient temperature range is limited to $-40^{\circ}\text{C}\sim +60^{\circ}\text{C}$;
- For group III application of fixed installation, the end user shall follow the guidance in the instruction manual to minimize the risk of electrostatic discharge for the products with non-metallic coating.
- For the product, only the composite cable with optical fiber specified in the instruction manual is permitted to be used. Before application, the optical fiber cable must be connected and protected according to the instruction manual to meet the requirements of IEC/EN 60079-28.
- Before application, separate ATEX/IECEX certified Ex db IIC Gb or/and Ex tb IIIC Db IP66/IP68 cable gland should be incorporated.

2 Installation

2.1 Cautions Before Installation

- It's Prohibit customer to disassemble the camera. Otherwise dangerous;
- Check whether it has the explosion proof certificate;
- Check whether it has the explosion proof marking, it should fit the explosion proof environment;
- All explosion-proof parts have no cracks and defects affecting explosion-proof performance;

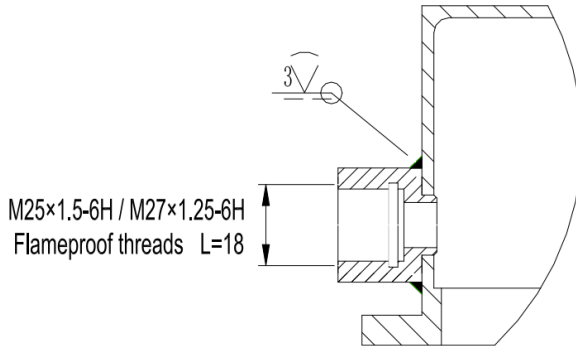
Cautions in service:

- It's not suggested for users to dismantle this product at will, please follow the Instruction for operation.
- The power must comply with requirements specified in 1.5.
- Please use this product in conditions (atmosphere pressure, temperature and humidity) specified in chapter 1.6.
- Since Ex product is very special, debugging with power before installation if available.
- No extra load on the camera, extra load may cause malfunction or damage!

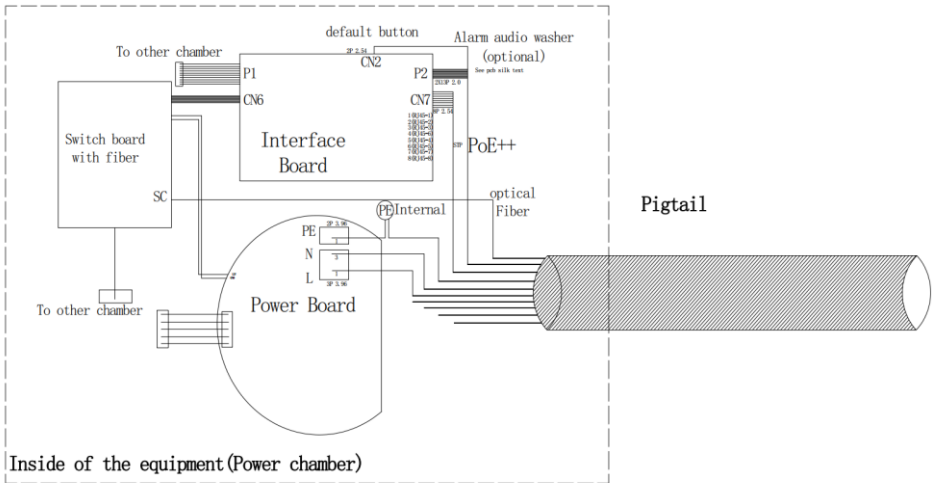
2.2 Cable Entry

There is one cable entry in the horizontal shaft in packaged product, the thread spec. is $M27 \times 1.25$ or $M25 \times 1.5$. Please use with ATEX/IECEX certified cable glands with sealing compound, the Ex marking: Ex db IIC Gb/Ex tb IIIC Db IP68 or higher must be used. Follow the instruction of the cable gland for correct installation.

Figure 2-1 Instruction of the cable gland



The internal wiring diagram is as follows(Reference Table 2.5.2 Cable specification):



2.3 Preparation of Supports Before Installation

It is highly recommended that the unit be bench tested prior to deployment. This is to ensure that the camera initializes correctly. Let the camera run for an hour+, allowing it to come up to operating temperature.

It is the user’s responsibility to ensure that the support for the camera is strong enough, and that the fasteners comply with associate load and corrosion requirements. Installation of the camera should be out of reach, and not be located near an object that may affect the rotation of the camera.

2.3.1 Support Installation

Select support installation holes in proper positions, ensure the direction of the camera is correct; fasten the support with anchors or plug bolts. Junction box should always install in positions that are easy for installation and maintenance, as Figure shown in. The cable is connected to junction box by wire conduit or bridges.

Specification of the support see Figure 2-2 to Figure 2-5.

Figure 2-2 Installation of support

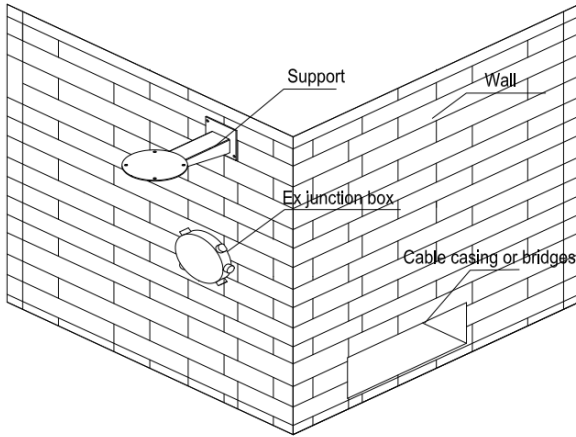


Figure 2-3 Dimension of support

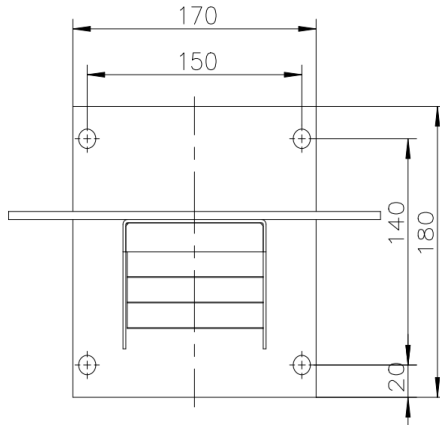


Figure 2-4 Front view of support

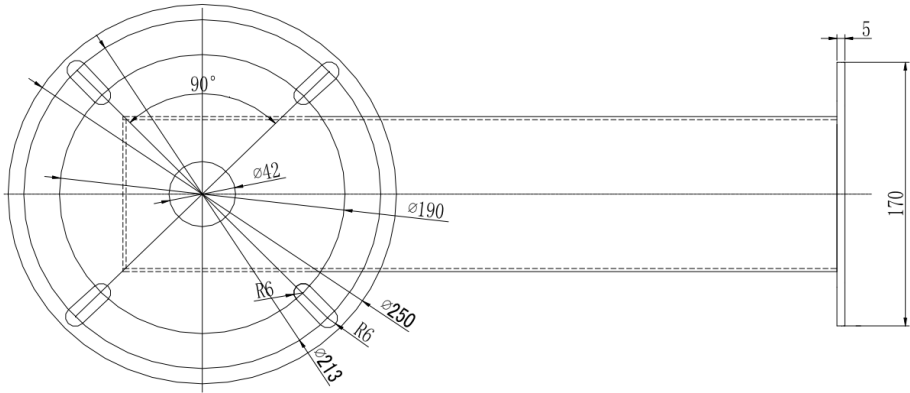
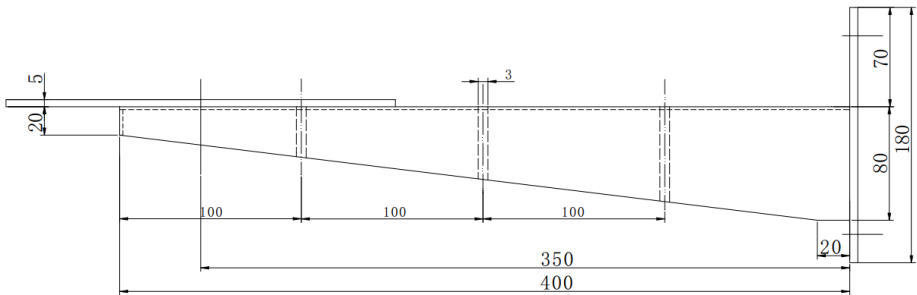


Figure 2-5 Side view of support



2.4 On-spot installation and fixing

Since Ex product is very special, adjust with power indoors before installation in the intended locations if available.

2.4.1 Instruction for Installation

See Figure 2.3.1.2 for distribution of installations holes under the camera, take Explosion proof PTZ camera as example: pass the reserved cable of the camera through the cable entry in the support mount, the cable running from the camera to junction box could be protected by Explosion-proof flexible conduit (or armored cable, etc); cable from junction box to control room could be protected by metal conduit or by armored cables, see Figure 2.4.1.

Figure 2-6 Installation of camera

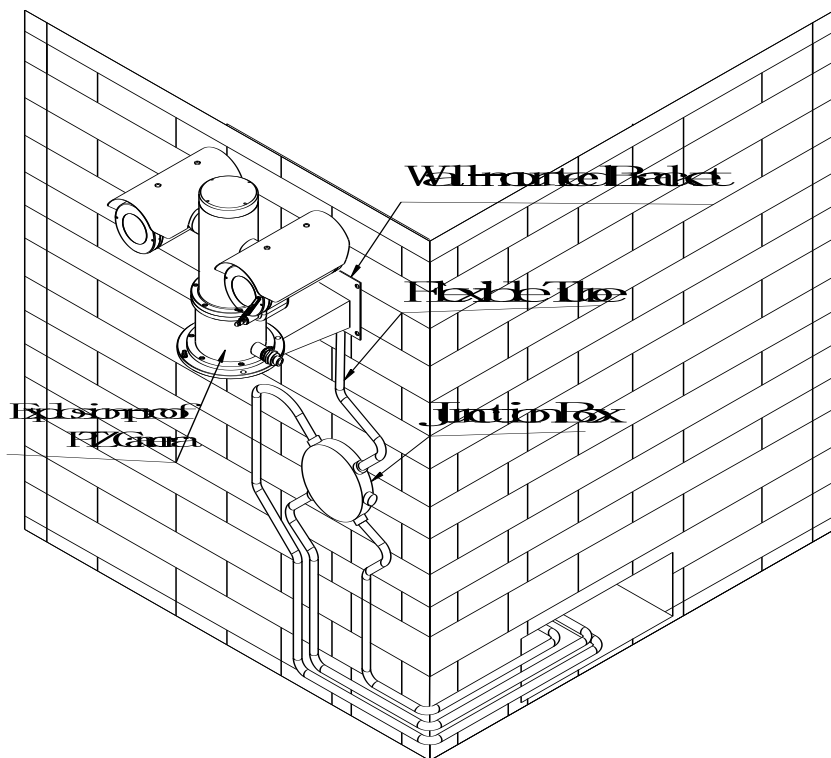
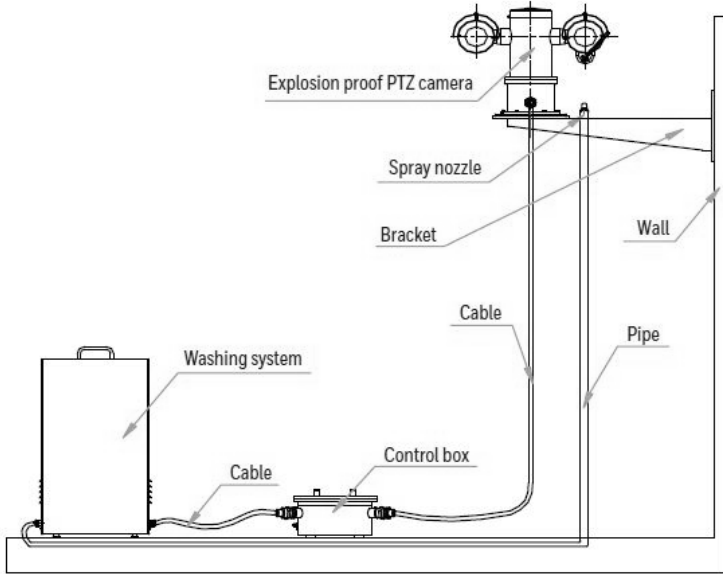


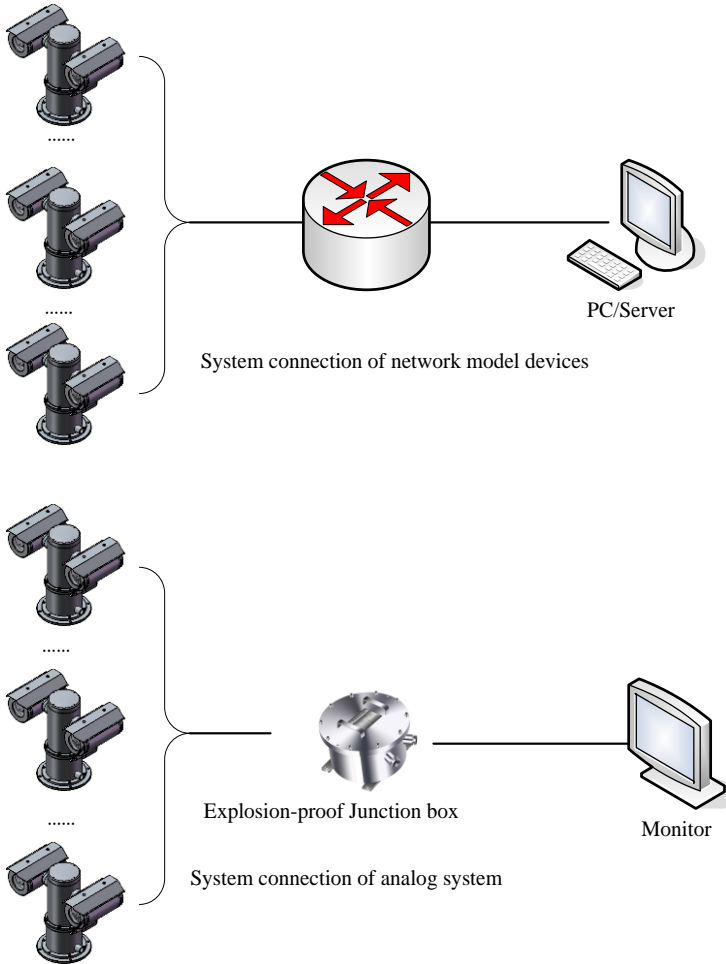
Figure 2-7 High level connection diagram



2.5 Adjusting and Operation

2.5.1 System Connection

Figure 2-8 System connection



The camera is a network model device that uses a cable network or wireless network as the main network for digital video signal transmission, it's possible for users to monitor or record the videos at any time via the network, regardless of whether the camera is on local area network (LAN) or wide area network (WAN), such as internet.

Analog system is controlled by Explosion-proof control keyboard and Explosion-proof control box, it's available for user to monitor the scene condition.

2.5.2 Washing System Connection

The connection diagram, high level connection diagram and wiring definitions of Explosion proof PTZ camera, Explosion proof control box and Explosion proof washing system are shown in the following figure.

Figure 2-9 Washing system connection

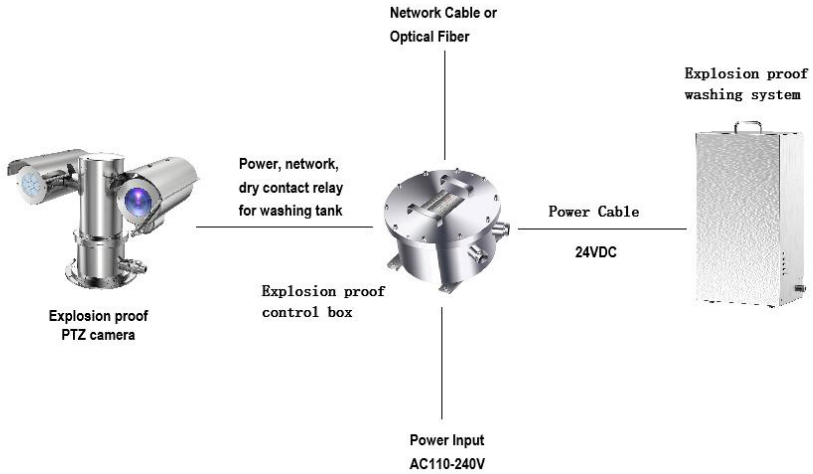


Figure 2-10 Diagram of Explosion proof washing system connection

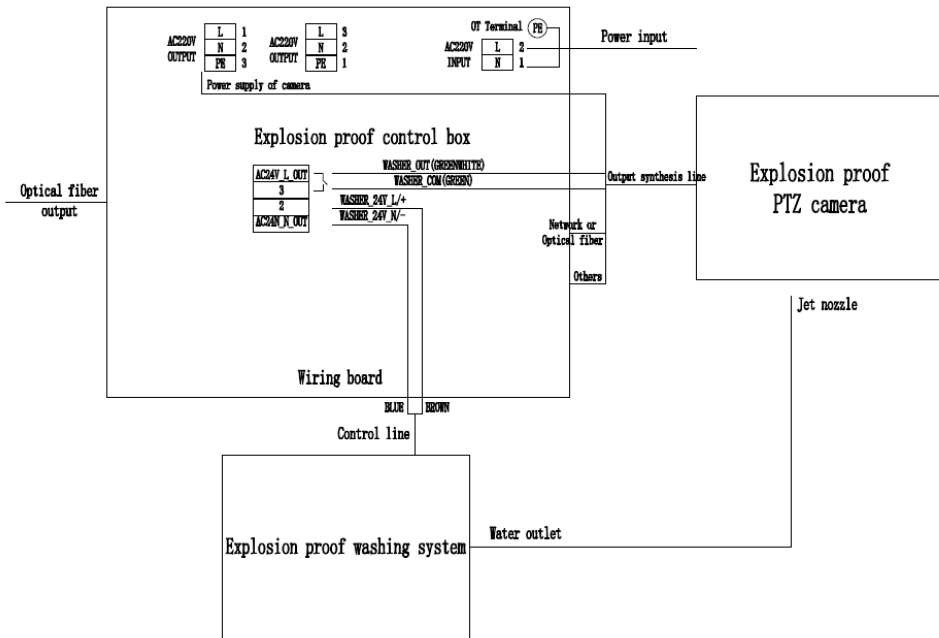
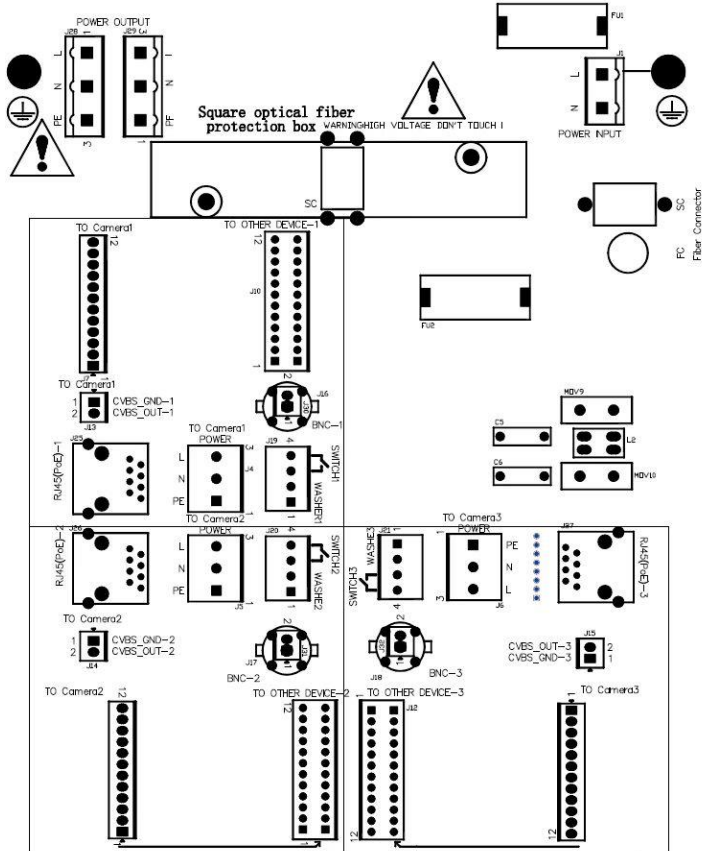


Figure 2-11 Explosion proof control box internal terminal wiring definition figure



Wiring definition for Explosion proof camera and Explosion proof control box
(To device1: J7, J13, J19, J25; To device2: J8, J14, J20, J26; To device3: J9, J15, J21, J27):

Part name	Explosion proof PTZ camera	Explosion proof control box wiring board
Power	AC100-240V	J28 or J29
Network	Fast Ethernet	J25 or J26 or J27
Optical fiber	Single Mode Single Fiber, 1310T/1550R (standard)	SC/FC

	FC connector	
485	485 output A	J7 or J8 or J9 PIN2
	485 output B	J7 or J8 or J9 PIN1
Alarm	Alarm input 1	J7 or J8 or J9 PIN5
	Alarm input 2	J7 or J8 or J9 PIN4
	Alarm input grounding	J7 or J8 or J9 PIN3
	Alarm output 1(COM1)	J7 or J8 or J9 PIN7
	Alarm output 2(OUT1)	J7 or J8 or J9 PIN6
Audio	Audio output	J7 or J8 or J9 PIN8
	Audio grounding	J7 or J8 or J9 PIN9
	Audio input	J7 or J8 or J9 PIN10
Washer	Washer out (COM2)	J19 or J20 or J21 PIN3
	Washer out (OUT2)	J19 or J20 or J21 PIN4
Video	Vo-	J13 or J14 or J15 PIN1
	Vo+	J13 or J14 or J15 PIN2

Wiring definition for Explosion proof control box and Explosion proof washing system:

Explosion proof washing system's control line	Explosion proof control box wiring board's J19 or J20 or J21
Washer_N/-(Black 24VDC-)	PIN1
Washer_L/(Red 24VDC+)	PIN2

2.5.3 Cable Specification

A comprehensive cable is provided on packaged product (see Table 2.5.2 for cable specification), the cable is lead out from the side of the base bottom with minimum length of 2m; connect the comprehensive cable to the system bus in a junction box before operation.

Table 2-1 Cable specification

Part name	Color	Function
-----------	-------	----------

Audio	purple	Audio output
	black	Audio grounding
	white-purple	Audio input
Alarm	blue-white	Alarm input 1
	blue	Alarm input 2
	Brown-white	Backup(or alarm input 3)
	Brown	Backup(or alarm input 4)
	Red-white	Backup(or alarm input 5)
	black-white	Alarm input grounding
	orange	Alarm output 1(COM1)
	orange-white	Alarm output 2(OUT1)
Reset Button	Red	Default setting
	Gray (non-armored cable)	Default GND
WASHING SWITCH ON/OFF	green	Washer out (COM2)
	green-white	Washer out (OUT2)
RS485 (only for upgrade purpose)	yellow	485 output A
	white	485 output B
VIDEO	Shield	Vo-
	Core	Vo+

Fast Ethernet	orange-white	Network cable 1
	orange	Network cable 2
	green-white	Network cable 3
	blue	Network cable 4
	blue-white	Network cable 5
	green	Network cable 6
	brown-white	Network cable 7
	brown	Network cable 8
Power	thick brown	100-240V AC
	thick yellow-green	grounding
	thick blue	100-240V AC
Optical Fiber	Single Mode Single Fiber, 1310T/1550R (standard) FC connector	

The color of the cable depends on the configuration. The actual tail cable label shall prevail. The above colors are for reference only.

2.5.4 Reset button

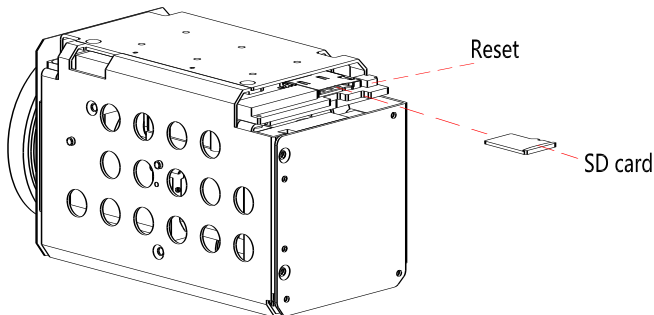
The pigtail cable is coming with the reset button. The reset button consists of two wires (red and gray for non-armored cable) (yellow/White for armored cable) connected to the button.

After holding down the reset button for 60 to 65 seconds, the camera will automatically return to factory setting.

2.5.5 SD card position

After open the camera enclosure, you can find the camera module. SD card position as show in the figure below:

Figure 2-12 SD card position



2.5.6 Inspection and Examination Before Power on

Check if the power and network cable are connected correctly, if the toggle switch settings are correct before power on.

2.5.7 Optical Fiber Connector Definition and Fiber Protect Instruction

The camera supports an Ethernet port or optical port connection. The interface adopts encoding and decoding to transmit video signal. It is necessary to choose suitable converter to match the display interface, so as to convert the interface to Ethernet power port or optical port.

The onboard media converter adapts 100Mbps/1000Mbps Ethernet to single mode single fiber or single mode double fiber. Wave length is 1310nmTx/1550nmRx.

The following specifications of composite cable with optical fiber are recommended. See Table 2-2 , 0. and 0.

Table 2-2 Optical fiber parameter

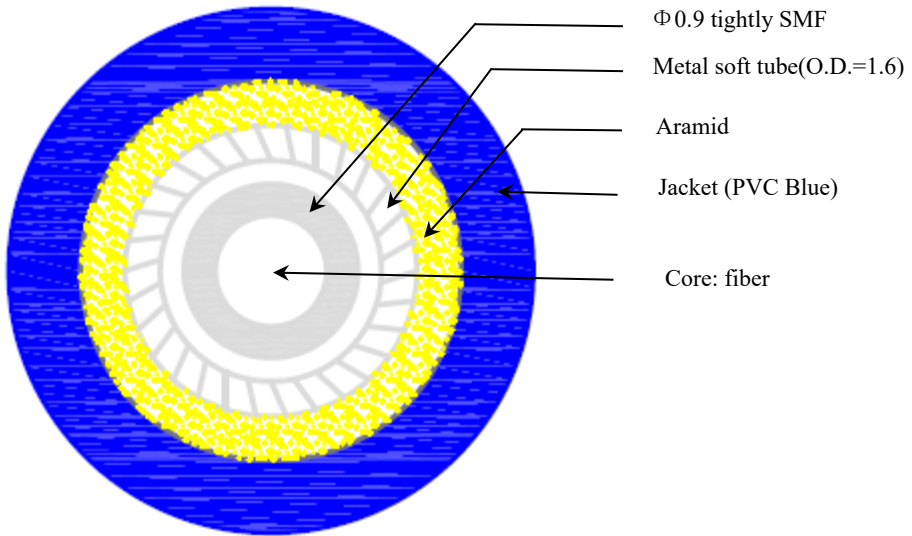
parameter	data
Size	Φ 3.0mm
Tensile strength (N)	Long term:300
	Short term:500
Crush resistance (N/100mm)	Long term:2000
	Short term:3000
	dynamic:20D

Min bending	Static:10D
Operating temp.	-40~+85°C
Loss (db)	@1310nm≤0.4db/km
	@1550nm≤0.3db/km

Table 2-3 Composite cable with fiber parameter

Name	colour	O.D.	Conductor structure
UTP	Black or custom	$0.95 \pm 0.05\text{mm}$	7*0.16mm
Power	Brown blue	$2.80 \pm 0.1\text{mm}$	41*0.16mm
Signal	Black brown red orange Yellow green blue purple	$1.0 \pm 0.05\text{mm}$	7*0.16mm 17C*26#
fiber	blue	$3.0 \pm 0.10\text{mm}$	Armored BIDI SC interface
Video	Black	$2.20 \pm 0.08\text{mm}$	7*0.16mm

Figure 2-13 Optical fiber Structure diagram



For Optical fiber protection:

In the process of installation and maintenance, please operate according to the requirements of the minimum bending radius of optical fiber, to avoid breaking or increasing the loss of optical fiber;

Be careful not to contaminate the fiber connector.

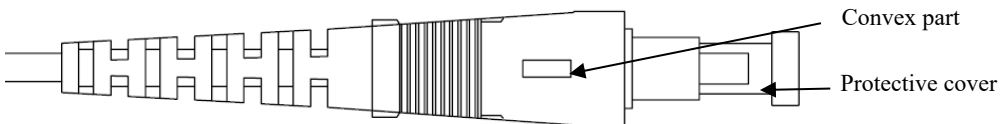
During the installation, pay attention to fix the suspended optical fiber firmly to avoid damaging the optical fiber during the operation.

It is recommended that users use explosion-proof flexible conduit or galvanized steel pipe to protect the output cable.

Optical fiber connect operation

SC interface is used inside the pigtail cable, as shown in Figure 2-14. The convex part is aligned with the slot of the optical fiber board. Take care not to dirty the interface after removing the protective cover during operation.

Figure 2-14 SC interface Structure diagram



2.5.8 Service Sstatus and Inspection in Service

The camera will start self-checking automatically after power on.

3 Quick Configuration

3.1 Login and Logout



CAUTION

To access the web interface through Microsoft Edge, Chrome or Firefox browser; Otherwise some functions may be unavailable.

Login

- Step 1 Open Microsoft Edge, enter the IP address of the IP camera (default value: 192.168.0.120) in the address box, and click on the **Enter** button.

The login page is displayed, as shown in Figure 3-1.

Figure 3-1 Login Page

The screenshot shows the login interface for an IP camera. It features a light blue header with the text 'IP CAMERA' in a large, blue, 3D-style font. To the right of the header is a language selection dropdown menu currently set to 'English'. Below the header, there are two input fields: 'User Name' containing the text 'admin' and 'Password' containing five black dots. To the right of these fields is a blue 'Login' button.

- Step 2 Enter the user name and password.

The default name and password are both admin. Modify the password when you login the system for first time to ensure system security.

After modifying password, you need to wait at least three minutes then power off to make sure modifying successfully. Or login the Web again to test the new password.

You can change the system display language on the login page.


- Step 3 Click **Login** to enter the interface.

The main page is displayed.

----**End**

Logout



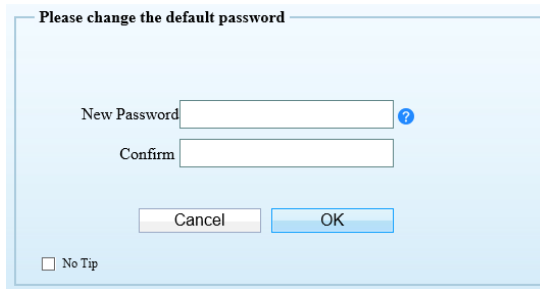
Click  in the upper right to return to login page.

3.2 Change the Password

Description

For the first login, the change default password page is as shown in Figure 3-2.

Figure 3-2 Change the Default Password Page



Please change the default password

New Password ?

Confirm

No Tip




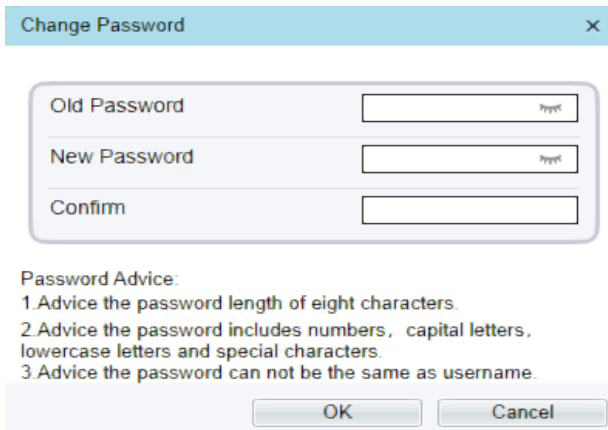
Or click  to change the password to login the system, as show in Figure 3-3.

Figure 3-3 Change Password Dialog Box



Change Password ×

Old Password

New Password

Confirm

Password Advice:

1. Advice the password length of eight characters.
2. Advice the password includes numbers, capital letters, lowercase letters and special characters.
3. Advice the password can not be the same as username.

Procedure

Step 1 Input the old password, new password, and confirmation password.

Step 2 Click **OK**.

If the message "Change own password success" pops up, the password is successfully changed. If the password fails to be changed, the password advice is displayed. (For example, the new password length couldn't be less than eight.)

It is advised to restart the device three minutes later after modifying password.

Step 3 Click **OK**.

The login page is displayed.

3.3 Browse Real-Time Videos

Download IPC Local Server

If you want to play H.265 encoded video, you should download the latest IPC Local Server, as shown in Figure 3-4, when you login to the web management system for the first time.

Figure 3-4 Download the Plugin Page

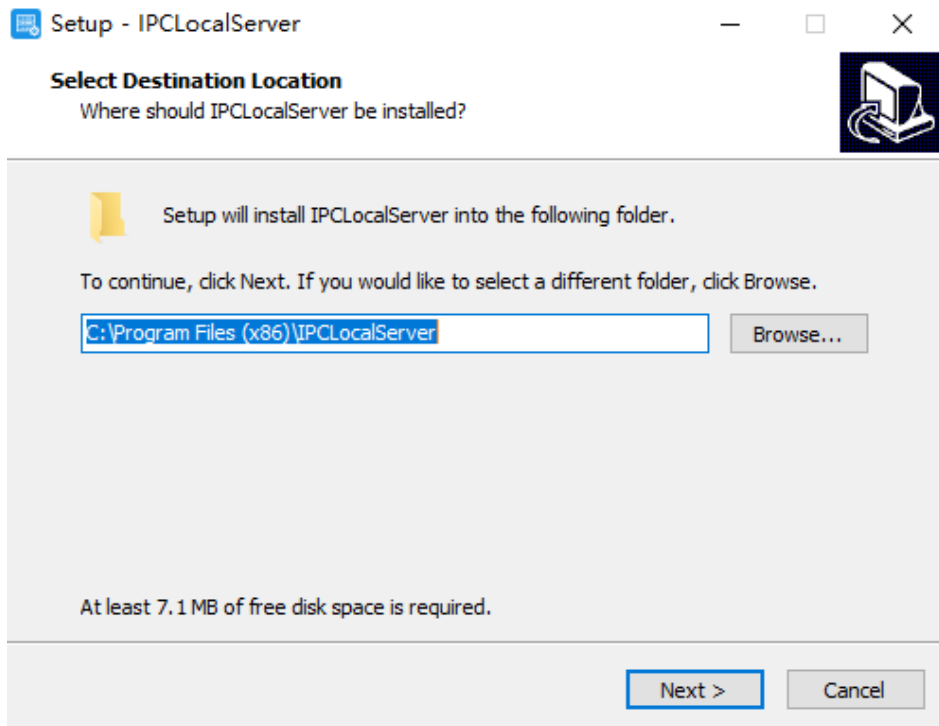


Step 4 Click "Please download the latest plugin", download the IPCLocal Server plugin.

Step 5 Open the download file to complete installation.

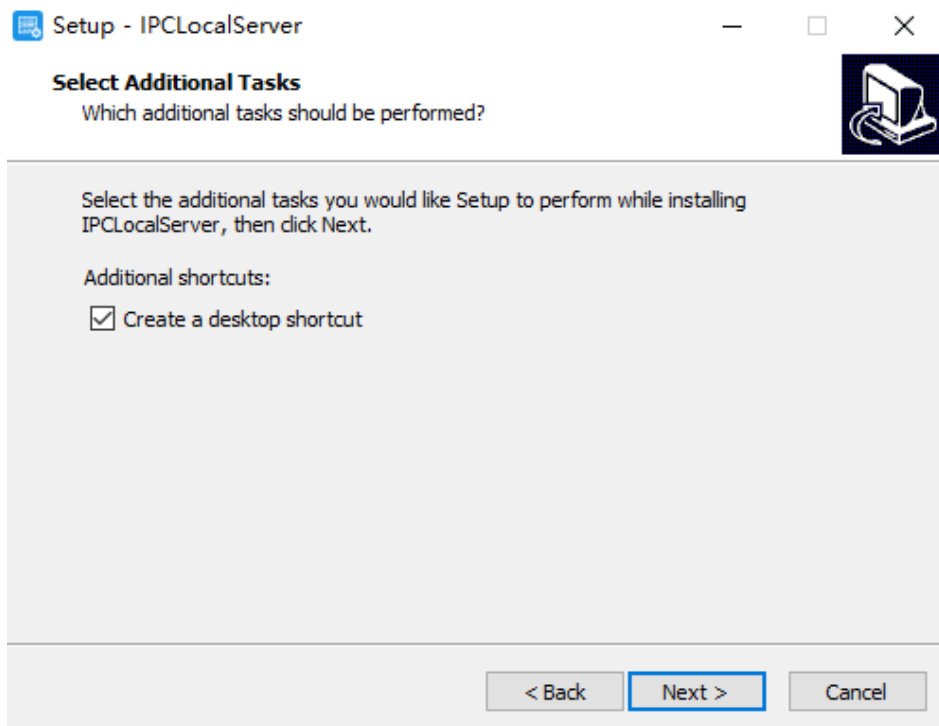
Step 6 Click "Run", select destination location as shown in Figure 3-5.

Figure 3-5 Select Destination Location



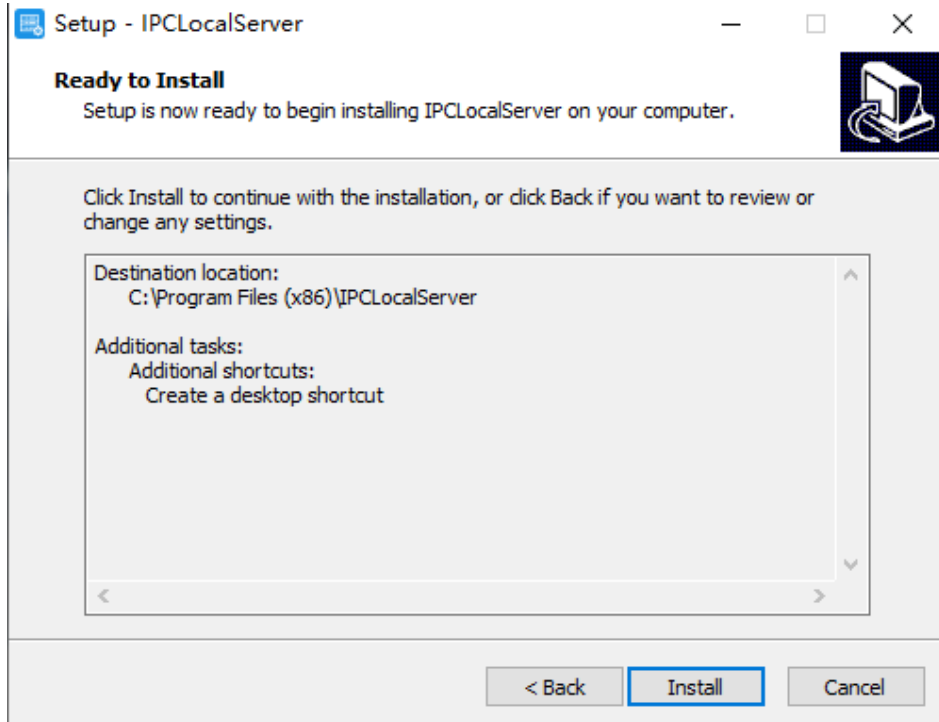
Step 7 Click “Next”, ready to install the plugin, as shown in Figure 3-6.

Figure 3-6 Select additional tasks



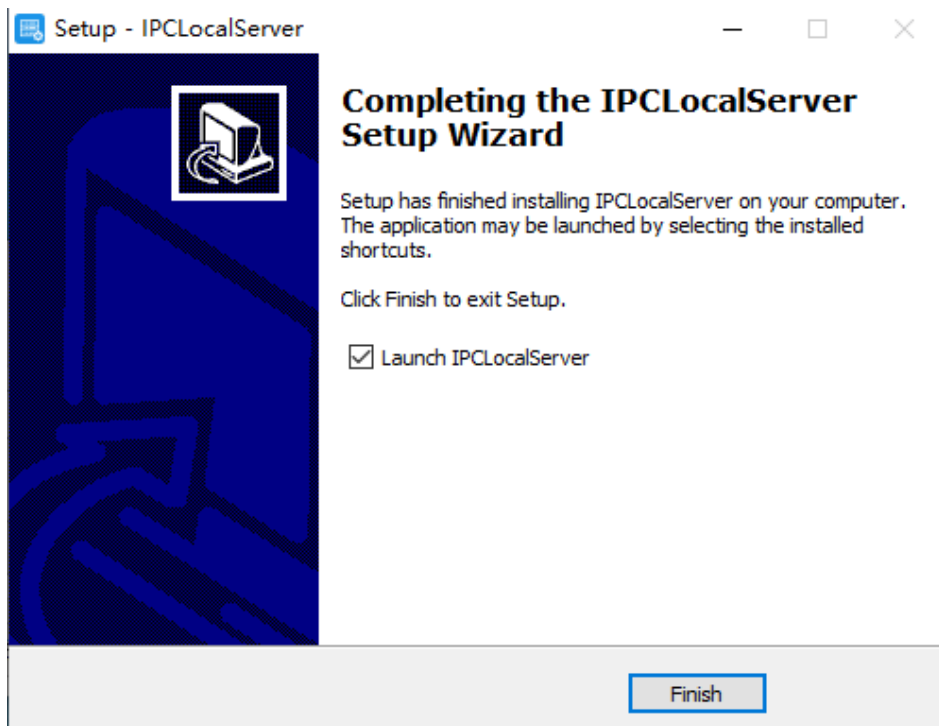
- Step 8 Tick “Create a desktop shortcut”, Click “Next” to install the plugin, as shown in Figure 3-7.

Figure 3-7 Installing



Step 9 Click “Finish” , complete plugin installation, as shown in Figure 3-8.

Figure 3-8 Complete to Install the Plugin



Step 10 Reopen the browser after installing.

 **NOTE**

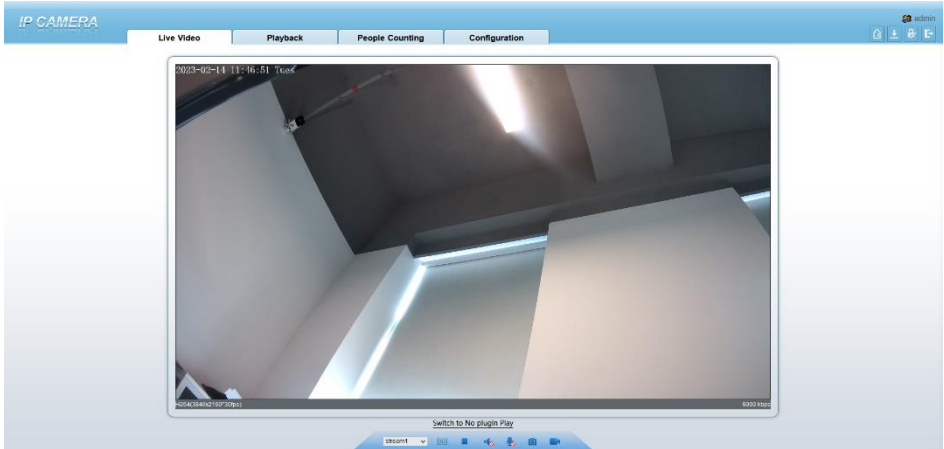
- If the repair tips displayed when installing the control, please ignore the prompt, and continue the installation.
- During the plugin installing, the browser should be closed.

----End





Description

To browse real-time videos, click **Live Video**. The **Live Video** page is displayed, as shown in Figure 3-9.

Figure 3-9 Live Video Page



On the **Live Video** page, you can perform the following operations:

- Click  to stop playing a video.
- Click  to play a video.
- Double-click in the video area to enter the full-screen mode, and double-click again to exit.
- Configure the PTZ. For details, see Table 4-1.
- Control the PTZ. For details, see Table 4-1.
- Switch between three modes. For more details about how to configure streams, see Table 3-1.
- Click  to snapshot and save the photos.
- Click  to enable the local record.

NOTE

- AI interface is supplied for some models.




3.4 Main Page Layout

On the main page, you can view real-time videos, receive alarm and fault notifications, set parameters, change the password, and log out of the system. Figure 3-10 shows the main page layout. Table 3-1 describes the elements on the main page.

Figure 3-10 Main page layout



Table 3-1 Elements on the main page

No.	Element	Description
1	Real-time Video Area	Real-time videos are played in this page.
2	Playback	You can query the playback videos in this area. NOTE Only when the SD card or NAS has videos can you query the playback videos.
3	People Counting	Set the query condition to query the personnel count, the statistical can be shown in different types, such as line chart, histogram, list. Only for Some Models.
4	Device Configuration	You can choose a menu to set device parameters, including the device information, audio and video streams, alarm setting, privacy mask function and so on.
5		When the device accepts an alarm signal, the alarm icon will display within 10s in the web management system. The alarm icon  is displayed. You can click  to view the alarm information.








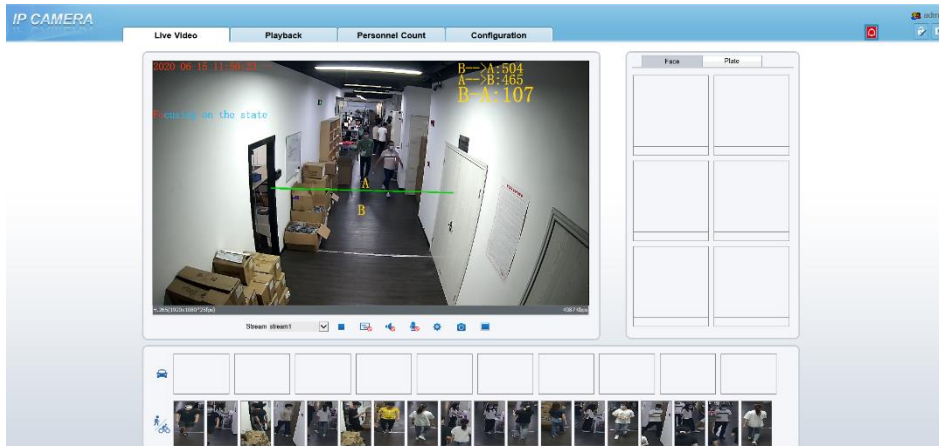
No.	Element	Description
		<p>Help of intercom</p> <p>About the intercom function: ×</p> <p>Description: Configure only Chrome browser in the HTTP environment, compatible with all browsers in HTTPS environments</p> <p>HTTP Environment Chrome Opens the intercom step:</p> <ol style="list-style-type: none"> 1 Chrome Enter 'chrome://flags#unsafely-treat-insecure-origin-as-secure' in the address bar 2 Set 'INSECURE Origins Treated as Secure' to 'Enabled' 3 Fill in the device domain name in the input box, multiple devices named ',' separation, example 'http://192.168.0.123, http://192.168.0.123: 8045'
		Download the latest plugin IPC Local Server.
		Change password, you can click  to change the password.
		Sign Out, you can click  to return to the login page.
6	PTZ	Support two methods to play live video, plugin play and no plugin play. For no plugin play, the default stream is stream 1.  NOTE Preset 103 Turn on the wipers Preset 116 Turn on the spray
7	Switch to No Plugin Play	Support two methods to play live video, plugin play and no plugin play. For no plugin play, the default stream is stream 1.
8	Stream	Choose stream mode from drop-list. Set the parameters in " Configuration > Streams > Basic Streams ".
	3D	The 3D positioning function quickly rotates the PTZ and changes the focal length in specific scenarios. You can also change the focus by drawing rectangle frames. Only for Some Models.
	Pause /Play video	Pause the live video or play the video.
	Audio	Open/close the audio.
	Microphone	Open/close the microphone.
	Snapshot	Click the icon to snapshot the video and save the images to the specified location.
	Local Record	Record the video and save the file to the specified location.
9	AI Interface	Click the icon to switch to AI live video, you can view the snapshots of AI multi object, there are face, plate, car, human body, riding. Only for Some Models.
10	Mode	Only used for fisheye camera, click the icon to choose mode to play video.

Figure 3-11 AI multi object interface



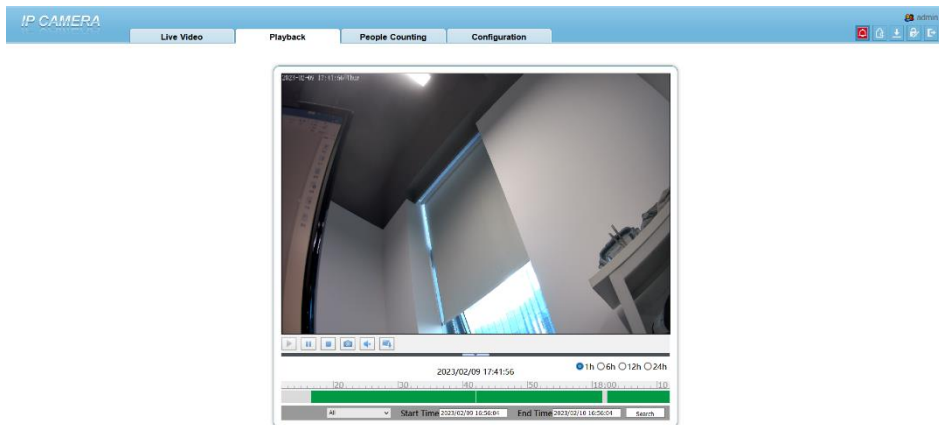
The face frame will show the snapshot of human face.


The plate frame will show the snapshot of license plate.

3.5 Playback

Click “Playback” at web interface, if users install SD card, and there are video in SD card, click “Playback” and the playback video will show as in Figure 3-12.



Figure 3-12 Playback interface











: Play, click “speaker” to switch sound on or off.

: Pause.

: Stop.

 : Frame back / Frame play.

      : Fast forward, user can choose the different speed to play.

: Snapshot, click the icon to snapshot current interface


: Backup, click the icon to start backup, drag the bar to download recording quickly, click the icon again to end up. The pop-up window of tip as shown in Figure 3-13, click the save to save the video. Click **Cancel** to abandon.

Figure 3-13 Record backup tip

Tip

Media Type	Mp4
Start Time	<input type="text" value="2023/02/09 17:44:29"/>
End Time	<input type="text" value="2023/02/09 17:45:16"/>

- All
 - Alarm Record
 - I/O Alarm
 - Motion Alarm
 - Day Night Switch Alarm
 - Audio Abnormal Alarm
 - Intrusion
 - Smart Motion
 - Single Line Crossing
 - Double Line Crossing
 - Multi-Loitering
 - Retrograde
 - Personnel Count Threshold Alarm
 - Network Alarm
- All

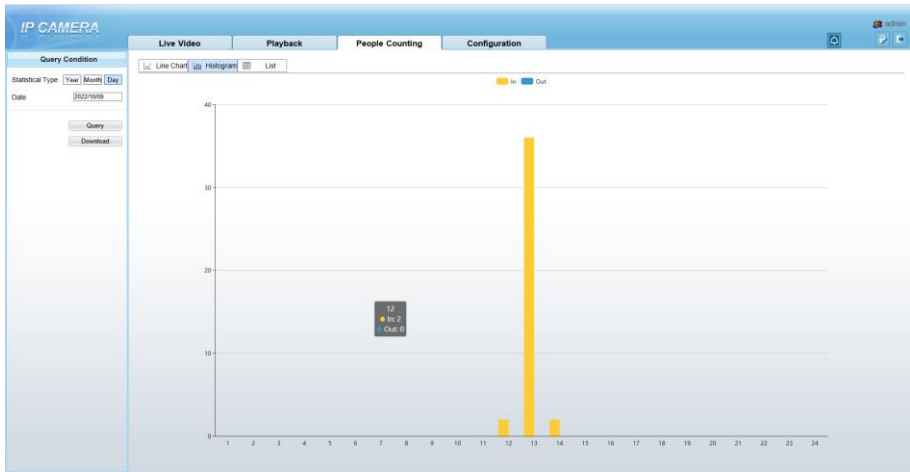
Choose the type of alarm, set the start time and end time to search alarm record quickly.

3.6 People Counting (Only for Some Models)

At **people counting** interface, you can view the personnel count throughout setting query condition (choose the detail time at date' s pop-up window).

There are three modes to show the data, such as line chart, histogram, and list, as shown in Figure 3-14

Figure 3-14 People counting interface



Click “Download” to download the query result.

Choose the mode of showing result, such as line chart, histogram and list.

Click “Query” to query the data of people counting.

The data result can be saved to local folder.

3.6.2 Set Local Network Parameters

Description

Local network parameters include:

- IP protocol
- IP address
- Subnet mask
- Default gateway
- Dynamic Host Configuration Protocol (DHCP)
- Preferred Domain Name System (DNS) server

- Alternate DNS server
- MTU

Procedure

Step 1 Choose **Configuration > Device > Local Network**.

The **Local Network** page is displayed, as shown in Figure 3-15.

Figure 3-15 Local Network page

Local Network

Network Card ID: 1

IP Protocol: IPv4

DHCP: OFF

IP Address: 192.168.0.120

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.1

Preferred DNS Server: 192.168.0.1

Alternate DNS Server: 192.168.0.2

MTU(1280-1500): 1500

Refresh Apply

Step 2 Set the parameters according to Table 3-2.

Table 3-2 Local network parameters

Parameter	Description	Setting
IP Protocol	IPv4 is the IP protocol that uses an address length of 32 bits.	[Setting method] Select a value from the drop-down list box. [Default value] IPv4
DHCP	The device automatically obtains the IP address from the DHCP server.	[Setting method] Click the option button. NOTE To query the current IP address of the device, you must query it on the platform based on the device name.
DHCP IP	IP address that the DHCP server assigned to the device.	N/A

Parameter	Description	Setting
IP Address	Device IP address that can be set as required.	[Setting method] Enter a value manually. [Default value] 192.168.0.120
Subnet Mask	Subnet mask of the network adapter.	[Setting method] Enter a value manually. [Default value] 255.255.255.0
Default Gateway	This parameter must be set if the client accesses the device through a gateway.	[Setting method] Enter a value manually. [Default value] 192.168.0.1
Preferred DNS Server	IP address of a DNS server.	[Setting method] Enter a value manually. [Default value] 192.168.0.1
Alternate DNS Server	IP address of a domain server. If the preferred DNS server is faulty, the device uses the alternate DNS server to resolve domain names.	[Setting method] Enter a value manually. [Default value] 192.168.0.2
MTU	Set the maximum value of network transmission data packets.	[Setting method] Enter a value manually. NOTE The MTU value is range from 1280 to 1500, the default value is 1500, Please do not change it arbitrarily.

Step 3 Click **OK**.

- If the message "Apply success" is displayed, click OK. The system saves the settings. The message "Set network param's success, please login system again" is displayed. Use the new IP address to log in to the web management system.
- If the message "Invalid IP Address", "Invalid Subnet Mask", "Invalid default gateway", "Invalid primary DNS", or "Invalid space DNS" is displayed, set the parameters correctly.

 **NOTE**

- If you set only the **Subnet Mask**, **Default Gateway**, **Preferred DNS Server**, and **Alternate DNS Server** parameters, you do not need to log in to the system again.
- You can click **Reset** to set the parameters again if required.

----End

4 PTZ Function Application

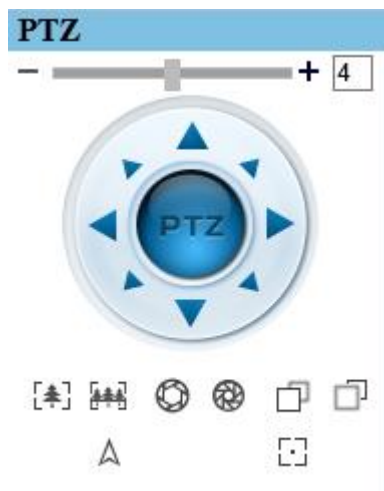
4.1 PTZ Control function

PTZ Control

When browsing real-time videos shot by a dome camera or a camera connected to an external PTZ, you can control the PTZ to view Video shot in different directions.










In the PTZ control area, you can click the eight arrow keys to move the PTZ in eight directions, as shown in Figure 4-1.

Figure 4-1 PTZ Control zone



It may also control the iris, zoom and focus of the camera lens through other buttons in the PTZ control zone. Functions of each button are as shown in Table 4-1.

Table 4-1 Descriptions of PTZ buttons

Button	Description
Auto Zoom	Click  or  to adjust the surveillance range of the front-end lens.
Auto Iris	Click  or  to adjust the size of the front-end iris.
Auto Focus	Click  or  to adjust the focus of the front-end lens.
Speed	Drag the slider on  to adjust the rotational speed of the PTZ.
North	Click  to set due north direction.
Focus	Click  to enable automatic focus function

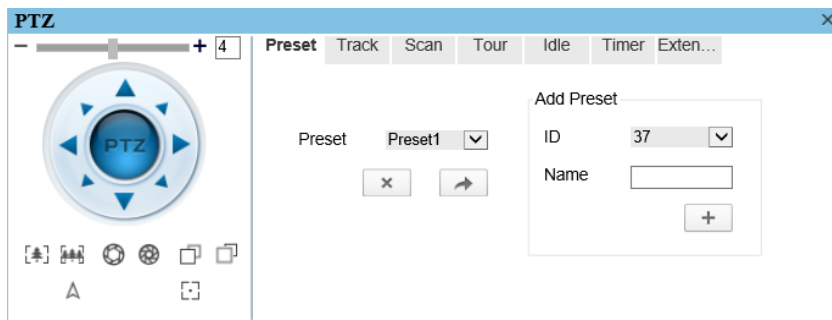
---End

4.2 PTZ configuration

4.2.1 PTZ Setting

Click , the PTZ configuration interface displayed, as shown in Figure 4-2.

Figure 4-2 PTZ Configuration



Through this interface, you can perform the following operations:

- Add, Delete and Apply a Preset, Track, Scan and Tour.
- Set and enable Idle.

- Set the direction to due north.
- Any direction can be set as the reference due north.
- Configure Timer.

----End

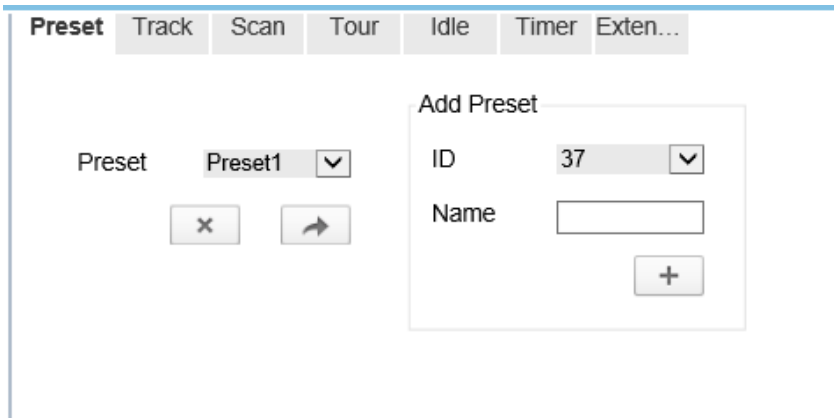
4.2.2 Configure and Apply Preset

You can configure preset positions and quickly rotate the camera to preset position by applying the preset.

Operation procedure


Step 1 Click **Preset** tab page in the PTZ configuration interface, the add preset page is displayed, as shown in Figure 4-3.

Figure 4-3 Add Preset



Step 2 Select a preset ID (such as 1) from the Preset drop-down list box and enter the name of preset.

Step 3 Use eight arrow keys in the **PTZ control** area to configure a position, then click  to complete adding a preset.

Step 4 Select a Preset name from the Preset drop-down list box and click  to apply the preset.

NOTE

Up to 400 Presets can be configured

----End

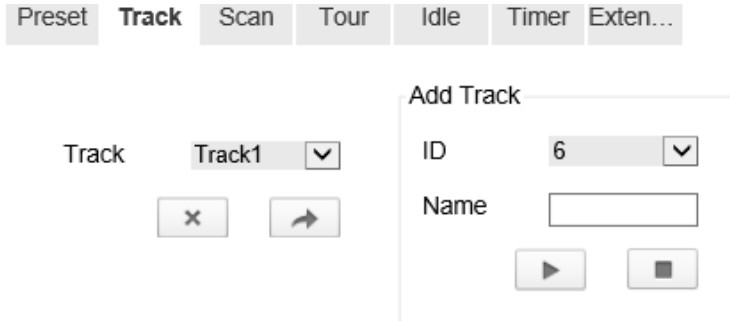
4.2.3 Configure and Apply Tracks

You can record a track to allow the camera to repeatedly rotate based on the preset track.



Operation procedure


Step 1 Click **Track** tab page in the PTZ configuration interface, the add track page is displayed as shown in Figure 4-4.

Figure 4-4 Add Track



Step 2 Select a track ID (such as 1) from the track drop-down list box and enter the name of track.

Step 3 Click , then use eight arrow keys in the **PTZ control** area to configure a track, then click  to complete adding a track.

Step 4 Select a Track name from the Track t drop-down list box and click  to apply the track.

NOTE

Up to 6 Tracks can be configured.

----End

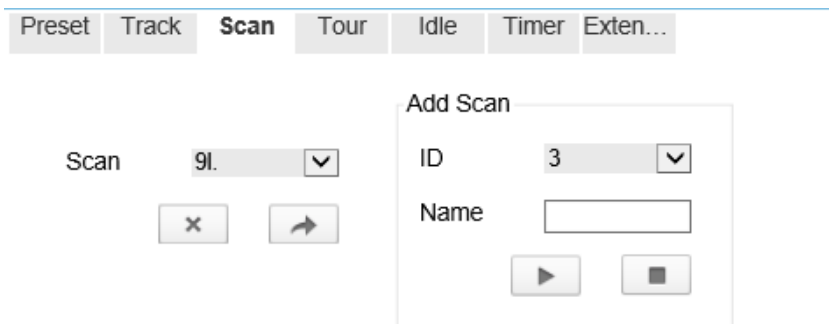
4.2.4 Configure and Apply Scan

You can configure a Scan to rotate the camera between two positions by applying the Scan.



Operation procedure


Step 1 Click **Scan** tab page in the PTZ configuration interface, the add Scan page is displayed, as shown in Figure 4-5.

Figure 4-5 Add Scan



Step 2 Select Scan ID (such as 1) from the track drop-down list box and enter the name of scan.

Step 3 Click , then use eight arrow keys in the **PTZ control** area to configure two positions, then click  to complete adding a scan.

Step 4 Select a Scan name from the Scan t drop-down list box and click  to apply the scan.

---End





4.2.5 Configure and Apply Tour

You can configure a tour to rotate the camera between presets set by PTZ.

Operation procedure

Step 1 Click **Tour** tab page in the PTZ configuration interface, the add tour page is displayed, as shown in Figure 4-6.

Figure 4-6 Add Tour

- Step 2 Select Tour ID (such as 2) from the drop-down list box, enter the tour name.
- Step 3 Select first required position preset from the **Preset** drop-down list box.
- Step 4 Input the values from **Wait Time** area box to set the time to stay in this position preset.(0 sec~ 255 sec).
- Step 5 Click  button to begin setting tour.
- Step 6 Select next position preset form the preset drop-down list box, and then input the values from Wait Time area box to set the time to stay in next position preset.(0 sec~ 255 sec).
- Step 7 Click  to add the preset to tour.
- Step 8 Repeat former step until all required position presets are completed adding.
- Step 9 Click  to complete adding a tour (You also can click Cancel button to quit current setting).
- Step 10 Select a tour name and preset from the tour and preset drop-down list box, and then click  to apply the tour.

----End

4.2.6 Configure and Apply Idle

You can configure an idle to `apply preset. Scan, Track, or Tour regularly.

Operation procedure

- Step 1 Click **Idle** tab page in the PTZ configuration interface, the idle page is displayed, as shown in Figure 4-7.


Figure 4-7 Idle


The screenshot shows the 'Idle' configuration page. At the top, there are several tabs: 'Preset', 'Track', 'Scan', 'Tour', 'Idle' (which is highlighted), 'Timer', and 'Exten...'. Below the tabs, there are four main configuration items: 1. 'Enable' with a toggle switch currently set to 'ON'. 2. 'Type' with a dropdown menu showing 'Preset'. 3. 'Name' with a dropdown menu showing 'Preset1'. 4. 'Wait Time' with a text input field containing the number '1'. Below the 'Wait Time' field is a button with a checkmark icon.

Step 2 Select a monitor type from the **Type** drop-down list box. Monitor type can choose preset, Scan, track, tour and Cir Scan.

Step 3 Select a name form the **Name** drop-down list box.

Step 4 Input a value from the **Wait Time** area box.

Step 5 Click  to completed adding an idle.

Step 6 Click  to enable idle function.

----End

4.2.7 Configure Timer

Operation procedure

Step 1 Click **Timer** tab page in the PTZ configuration interface, the set timer page is displayed, as shown in Figure 4-8.

Figure 4-8 Set Timer



Set the PTZ Timer




Step 2 Click , the Timer page is displayed, as shown in Figure 4-9.


Figure 4-9 Timer

Timer	Begin Time	End Time	PTZ Type	Name	Clear
1	▼	▼	▼	▼	×
2	▼	▼	▼	▼	×
3	▼	▼	▼	▼	×

Step 3 Check **Enable** box.

Step 4 Select the timer mode.

Step 5 Select the required begin time at the **Begin Time** drop-down list box, and then select the required end time at the **End Time** drop-down list box.

- Step 6 Select the required monitor type at the PTZ type drop-down list box, you can select preset, Scan, Track, Tour in the box, and then select a specific from the **Name** drop-down list box.(for example preset, 1).
- Step 7 Repeat Step 5 and Step 6 to add more required time.
- Step 8 Click  to complete timer setting.

----End

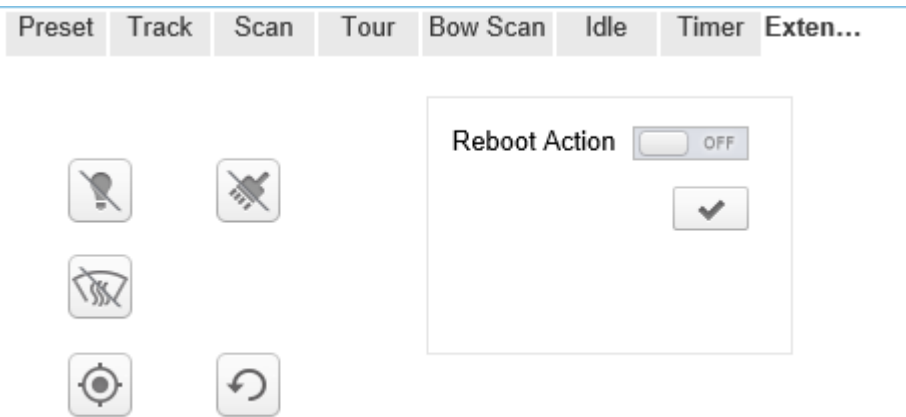
4.2.8 Configure Extension

You can use extension function including lamp and brush.

Operation procedure


- Step 1 Click **Extension** tab page in the PTZ configuration interface, the extension page is displayed, as shown in Figure 4-10.

Figure 4-10 Extension




- Step 2 Click  to enable the lamp.


Light On/Off is used to control the infrared camera shields on and off. It's available only to specific camera shields.


Click  to enable the brush.

Brush is used to clean the lens. It's available only to a camera with a brush or a camera shield.

Click  to enable the heater.

Heater is used to defog. It's available only to a camera with a heater.

Click  to do a self-inspection.

Click  to restore the PTZ to factory settings, the preset, track, scan, tour, and so on, all of these settings are restored immediately. Then the PTZ do a self-inspection.

---End

5 Transportation, storage and maintenance

5.1 Transportation

The packaged product can be delivered in all modes of transportation but without direct rain or snow.

5.2 Storage

This product can be stored for one year in an environment: devoid of corrosive substance, no obvious vibration, temperature range: 0° C~+40 ° C and humidity no more than 90%.

5.3 Maintenance

- Six months after putting into service:
 1. Check all the fasteners;
 2. Inspect the cables to ensure that protective sheath is not damaged and the cables will not come into touch with other objects during rotation.
- Five years after putting into service: the rubber sealing ring need to be replaced if the camera was installed in severe conditions, please contact the local distributor for this work.

5.4 Trouble-shooting

Phenomenon	Analysis	Solution
No image	No power supply	Check the power supply
	Poor connection of video signal cable	Check the video signal cable
Cannot switch to night viewing model	Strong light in optical angle/ in manual night viewing switch model	Remove the strong light Set to auto night viewing switch model
Unclear image	Camera is in manual focus model/ dust or stain on window	Set to auto model/ clear the window
Unstable image	Poor connection of video signal cable	Check the video signal cable
	Bad connection of signal cable	Check signal cable connection
	Signal attenuation caused by long distance	Use repeater to lengthen the communication distance
	Signal reflection	Short-circuit the 120-jumper wire of the farthest camera communication PCB, add 120 Ω to eliminate the reflection
	Incorrect address	Set according to instruction manual of camera
	Incorrect protocol	
	Incorrect baud rate	
Uncontrolled camera	Incorrect model of camera	Set according to instruction manual of camera
	Incorrect setting of control model (SW1)	

A Troubleshooting

Common Trouble	Possible Cause	Solution
Unable to access the web	Network is not connected.	<ul style="list-style-type: none">• Connect the network cable of the camera to the PC to check whether the network cable is in good contact.• Run the ping command to check the network connection and whether the device works normally.
	IP address is occupied.	Directly connect the camera to the PC, and reset the IP address of the camera.
	The IP addresses of the PC and the device are in different networks.	Check the IP address, subnet mask and gateway setting of the camera.
PTZ or high speed dome is out of control.	The protocol, bit-rate, or address setting of the PTZ is incorrect.	Modify the address of the PTZ on the web.
	The signal cable is unconnected or not connected correctly.	Check the signal strength, and reconnect the signal cable.
	The FFC mode is incorrect.	The FFC mode is auto by default. If the mode is set to manual, it will be no block calibration, which may lead to fuzzy pictures and inaccurate temperature.
	The target configuration is incorrect.	Check whether the emission rate and distance of the target are configured correctly.

Common Trouble	Possible Cause	Solution
An error occurs in accessing the web of the device after the upgrade.	The data in the cache of browser is not updated in time.	<p>Delete the cache of the Internet Explorer. The steps are as follows (taking IE9 as an example):</p> <ol style="list-style-type: none"> 1. Open the Internet Explorer. 2. Select Tools > Internet Options. 3. On the General tab, select Delete under Browsing history. The Delete Browsing History dialog box appears. 4. Select all check boxes. 5. Click Delete. <p>Relogin the web page of the camera.</p>
Upgrade failed.	No network cable is connected.	Ensure the upgrade network is connected.
	The network setting is incorrect.	Check whether the network setting is correct.
	The upgrade package is incorrect.	Perform the correct upgrade package again.
No self-test no image output	There is a broken line in the circuit	Find breakpoints, rewiring.
	Low supply voltage	Replace the power adapter to increase the output voltage.
Self-test exception	Low supply voltage	Replace the power adapter to increase the output voltage.
Equipment control is normal, image instability (Analog video)	Poor video circuit contact	Troubleshooting, rewiring
	Access device exception	Replacement access device
Equipment control is normal, image instability (Web video)	Network line bad contact	Dismantling bad point, re-wiring.
	Access to computer performance is insufficient, take up CPU usage	Lower stream and resolution

Common Trouble	Possible Cause	Solution
	Lack of network bandwidth	Replacement of industrial Gigabit switches
	Access decoder performance decoder	Replacement of high-performance decoder
Self-test normal, cannot control	Wrong wiring	Rewiring
	Set the baud rate, protocol, address and device mismatch	Screen configuration according to device parameters
Repeated restart	Insufficient supply voltage or voltage instability	To ensure that the input device voltage stability
Cannot control the lens to perform zoom and Focus action	Wiring error	Re-connect the lens control line
	Circuit board lens control problems	Replacement circuit board (please contact after-sales rework processing, do not replace parts or repair)
Cannot recall the set lens preset point	DIP switch relative to the set lens preset dialing is not set to ON	DIP switch control lens preset dialing dial into ON
The image is lost when the control device rotates	Rotation process at the same location lost image	Conductive slip ring there is a bad contact, replace the parts (please contact after-sales rework, do not replace parts or repair)

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