

VALUE LINE SERIES (BULLET AND DOME)

USER MANUAL

Document Control

Version : 1.2
Effective Date : 01.01.2024
Next Review Date : 01.01.2025

■ Statement

- The Company has the right to update the contents of this Manual according to the enhancements and changes of product functions, and periodically improve the software and hardware products described in this Manual. Updated information may be reflected in the latest version of this Manual without prior notice.
- Product parameters may change because of continuously using new technologies without prior notice.
- This Manual is only used for providing reference and guidance for customers. It is not guaranteed to be completely consistent with the actual product, and the actual product may prevail during practical application.
- The information on the texts, forms and pictures in this Manual are protected by relevant national laws, and it shall not be used without permission.
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■ 1 Precautions

Welcome you to purchase our network camera, and please contact the dealer or our after-sales service personnel in case of any questions during use.

The purpose of this Manual is to ensure that users can operate the products properly, thus avoiding danger or property damage. Please read this Manual carefully and keep it properly for future reference before using the products.

The personnel responsible for the installation and routine maintenance of the equipment must have basic skills for safe operation. Please follow the safety specifications specified in the product manual during the operation of the equipment.

As shown below, the precautionary measures are divided into two parts: “Warning” and “Note”:

	
<p>Warning: Alert users to prevent the potential danger of death or serious injury</p>	<p>Note: Alert users to prevent the potential danger of injury or property damage</p>



Warning

- (1) Please use a power adapter that meets the requirements of SELV (Safety Extra Low Voltage) and meets the Limited Power Source specified in IEC60950-1. Refer to the list of product parameters for the specific parameters of power adapter.
- (2) Do not disassemble or modify the equipment in any way. The problems caused due to unauthorized disassembly or modification are not covered by the warranty, and the Company is not responsible for all problems arising from this, please contact the dealer or the latest service center in case the equipment is unable to work properly.
- (3) To reduce the risk of fire or electric shock, do not expose indoor products to rain or moisture.
- (4) Installation shall be performed by professional service personnel in accordance with local regulations.

- (5) User-friendly power-off equipment shall be connected in series during the installation and wiring of building.
- (6) Ensure that the connection can bear the weight at least 4 times the weight of the product before installing the equipment on a wall or ceiling.
- (7) Do not directly touch the heat-dissipating parts of the integrated machine, to prevent burns.



Note:

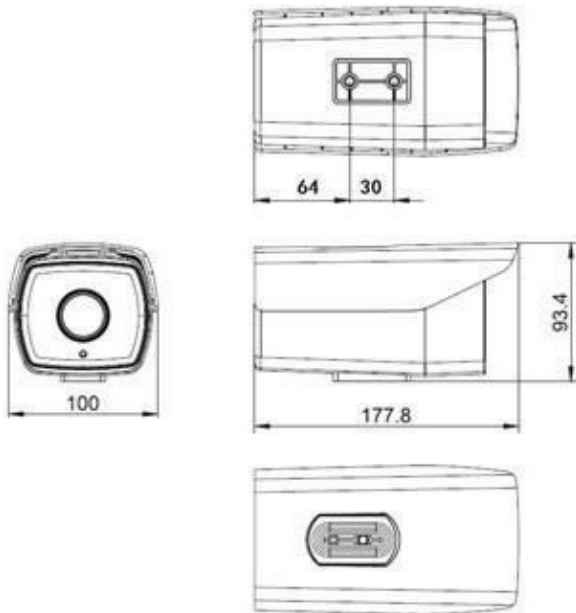
- (1) Prevent operations that may cause damage to products during the transportation and storage, such as heavy pressure, severe vibration and immersion.
- (2) Please check whether the power supply is correct before powering on the camera.
- (3) Do not directly touch the image sensor with any object, and wipe off the dirt with a lens tissue or eyeglass cloth slightly wet with alcohol if necessary, and do not give it a vigorous wipe to prevent scratching.
- (4) Please prevent pointing the lens directly at strong light (such as lighting, sunlight, etc.), otherwise, over-brightness or glare (this is not a failure of camera) may be caused, and the service life of image sensor may be affected.
- (5) Laser beam may burn the image sensor. When laser device is used, please be careful not to expose the surface of image sensor to the laser beam.
- (6) Do not place it in humid, dusty, extremely hot or cold, or strong electromagnetic radiation places.
- (7) Please ensure a sufficient distance between the installation location and surrounding electromagnetic sensitive equipment, to prevent possible electromagnetic interference.
- (8) Avoid heat accumulation and keep the surroundings of camera well ventilated.
- (9) Do not allow water or any liquid to flow into the equipment during use.
- (10) Products shall be provided with original packaging of the factory when being delivered or returned to the factory, otherwise, the damage to the network camera during transportation is not covered by the warranty.
- (11) Accessories or products may be used abnormally due to the improper replacement of battery, so users are not recommended to replace them directly; please use the battery recommended by the manufacturer (suitable for the equipment with a battery) if necessary.
- (12) After logging in for the first time, be sure to change the default login password, thus avoiding loss due to weak passwords.
- (13) The interfaces of the equipment supporting USB, SD card or micro-SD card interfaces do not support hot plugging, please power off the equipment before plugging or unplugging; otherwise, the equipment may be damaged.
- (14) The setting interfaces and menu contents of different models of cameras may be not exactly same, and please refer to the actual interface, please consult the dealer or after-sales service personnel in case of any doubt.

■ 2 Product Overview.

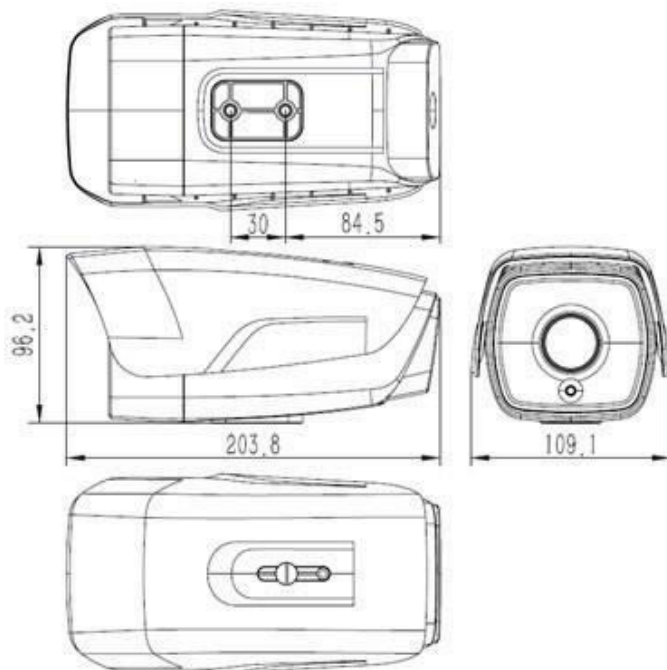
This series of network camera products are designed using high-sensitivity sensors and advanced circuit to provide ultra-high-quality, powerful and reliable audio and video surveillance solutions, so they are suitable for the field of security applications that require high-performance cameras. The network camera is provided with a high-performance single SOC chip to achieve audio and video capture, compression and transmission; standard H.265 and H.264 High profile and Main Profile encoding algorithms are used to ensure clearer and smoother video transmission effects; embedded Web Server allows users to conveniently realize real-time monitoring and remote control of front-end cameras through IE browser (default IP address is 192.168.1.110, user name is admin, password is admin). Featuring wide dynamic range, strong light suppression, intelligent analysis, ultra-low illumination and infrared enhancement, the products are applicable to the places that require ultra-high-definition image quality, such as finance field, telecommunications field, supermarkets, hotels, governments, schools, airports, factories, public security and judicial field.

2.1 Dimensions

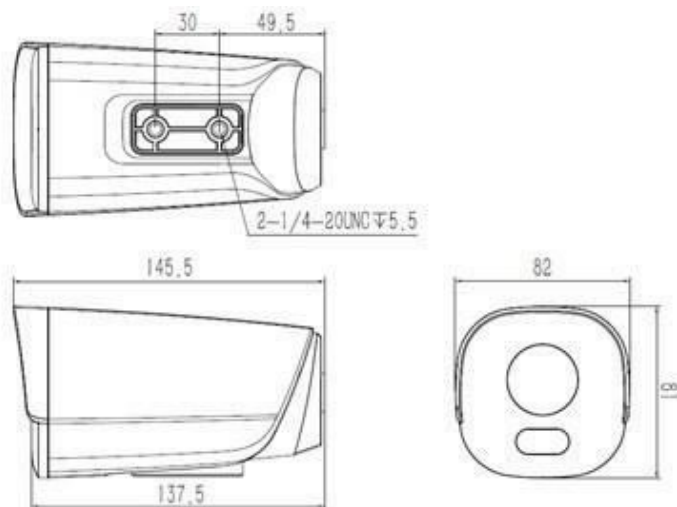
2.1.1. IR IP Bullet Camera (Unit: mm)



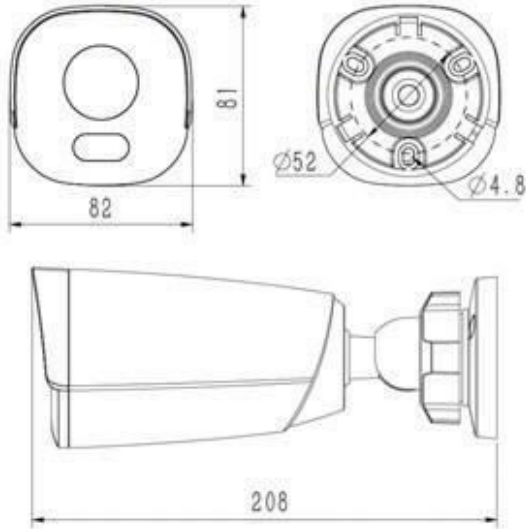
Dimensions of IR IP Bullet Camera- V2.0



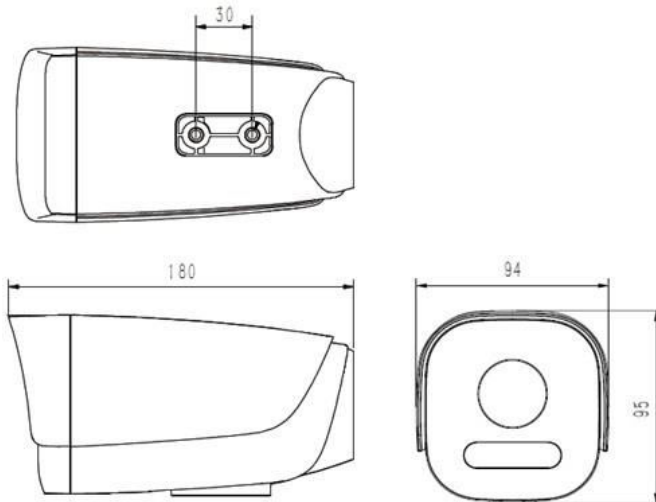
Dimensions of IR IP Bullet Camera- V3.0



Dimensions of IR IP Bullet Camera- V4.0 (without integrated support)

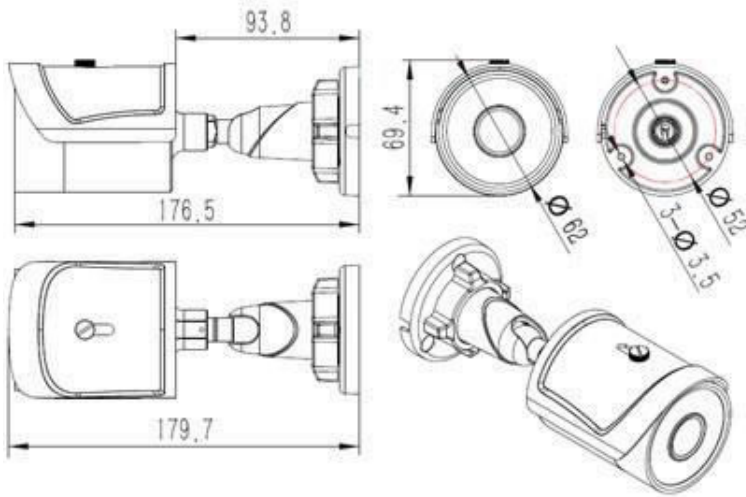


Dimensions of IR IP Bullet Camera- V4.0 (with integrated support)

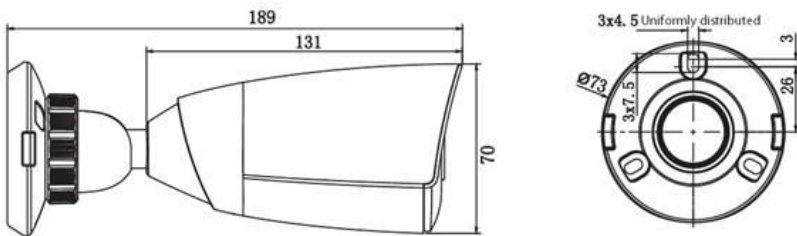


Dimensions of IR IP Bullet Camera- V5.0

2.1.2. IR IP Compact Bullet Camera (Unit: mm)

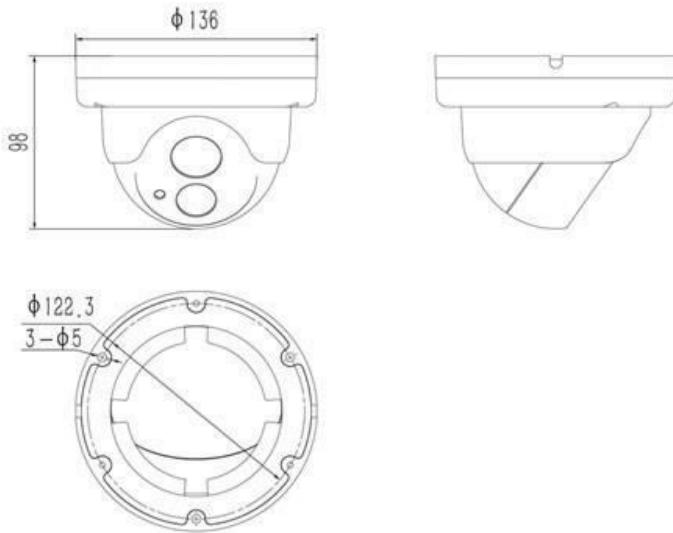


Dimensions of IR IP Compact Bullet Camera - V3.0

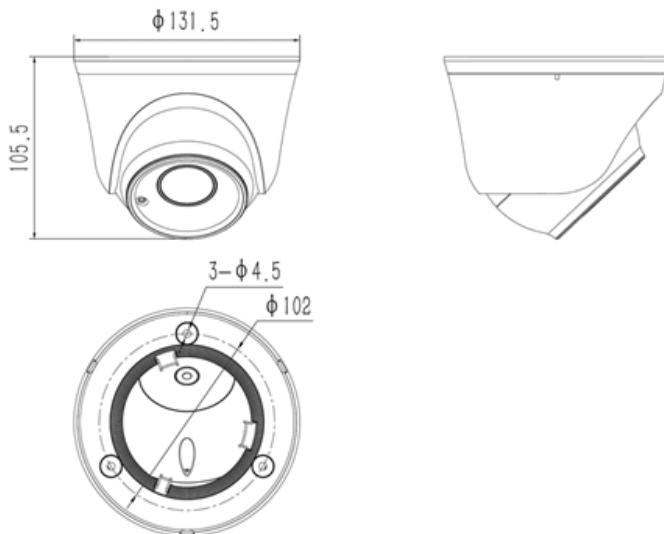


Dimensions of IR IP Compact Bullet Camera- V2.0

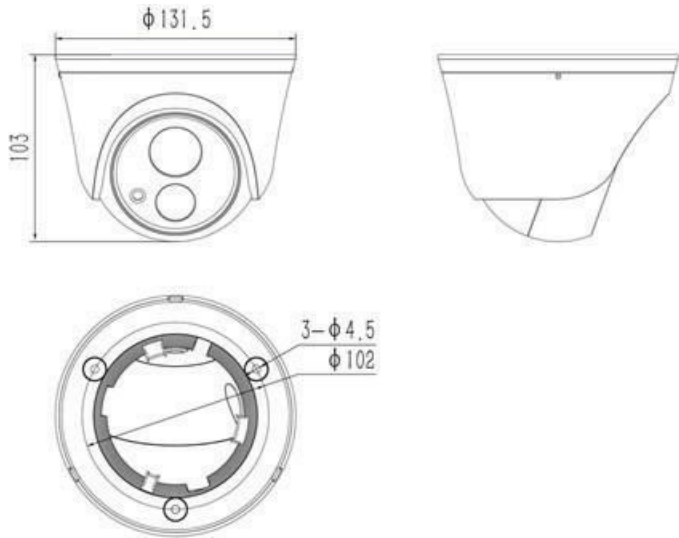
2.1.3. IR IP Dome Camera (Unit: mm)



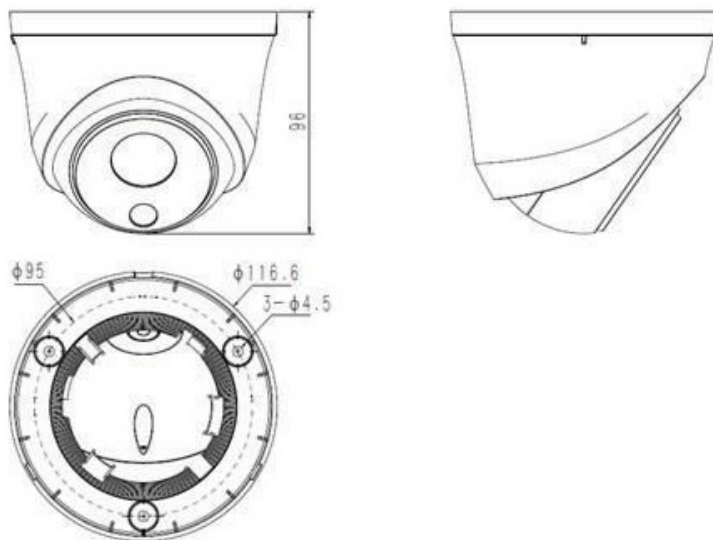
Dimensions of IR IP Dome Camera - V2.0



Dimensions of IR IP Dome Camera - V3.0

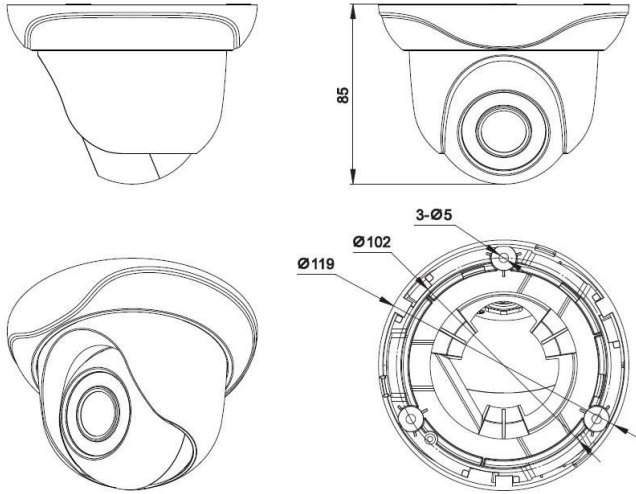


Dimensions of IR IP Dome Camera - V4.0



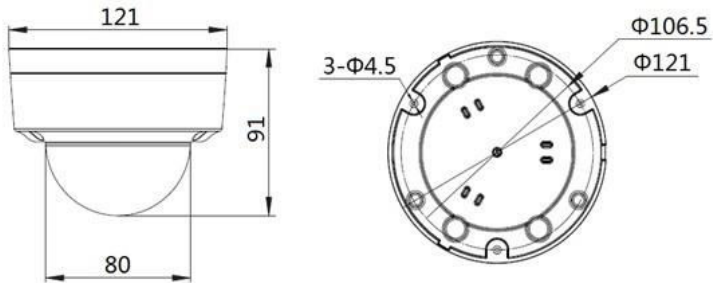
Dimensions of IR IP Dome Camera - V5.0

2.1.4. IR IP Compact Dome Camera (Unit: mm)

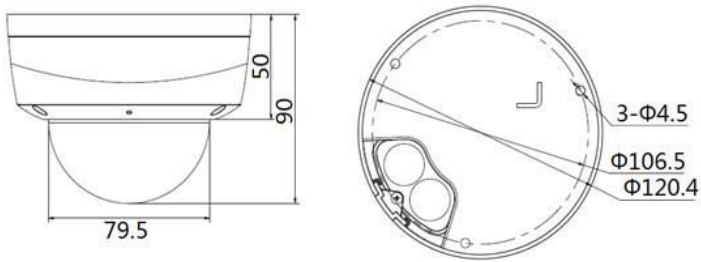


Dimensions of IR IP Compact Dome Camera

2.1.5. Non - IR IP Dome Camera (Unit: mm)

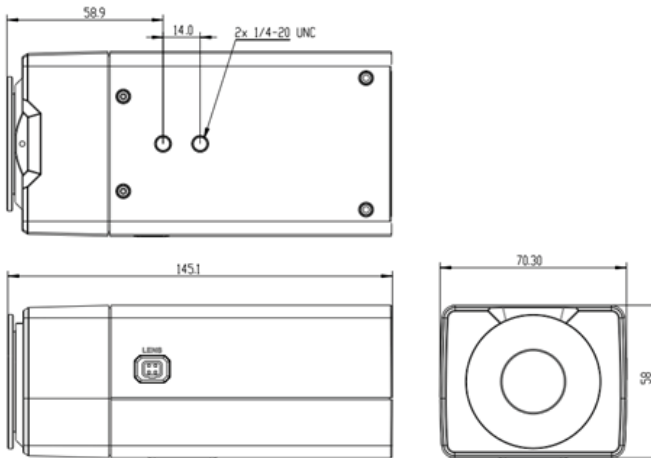


Dimensions of Non - IR IP Dome Camera - V1.0

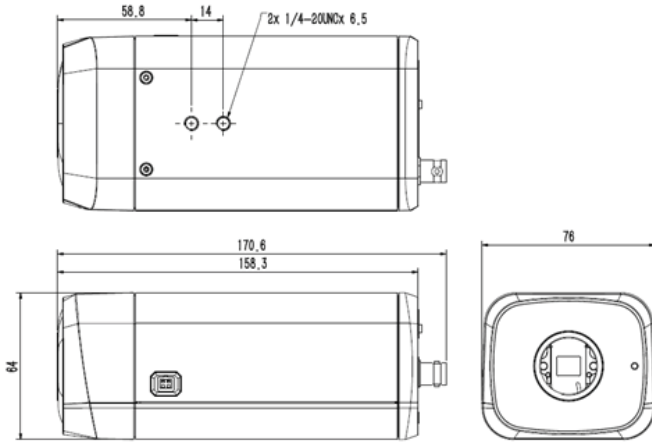


Dimensions of Non - IR IP Dome Camera - V2.0

2.1.6. IP Box Camera (Unit: mm)

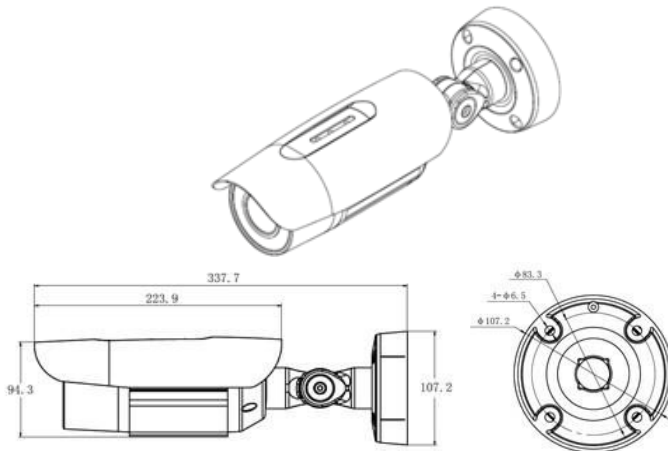


Dimensions of IP Box Camera - V1.0/V2.0

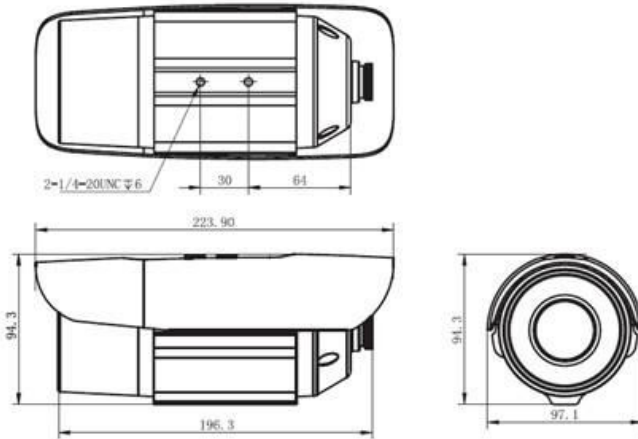


Dimensions of IP Box Camera - V3.0

2.1.7. IP Zoom Bullet Camera (Unit: mm)

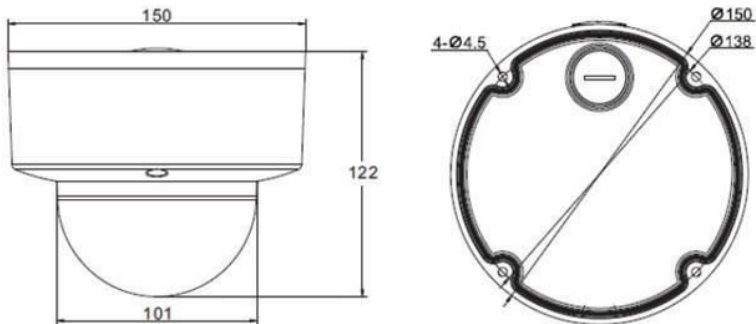


Dimensions of IP Zoom Bullet Camera (with integrated support)

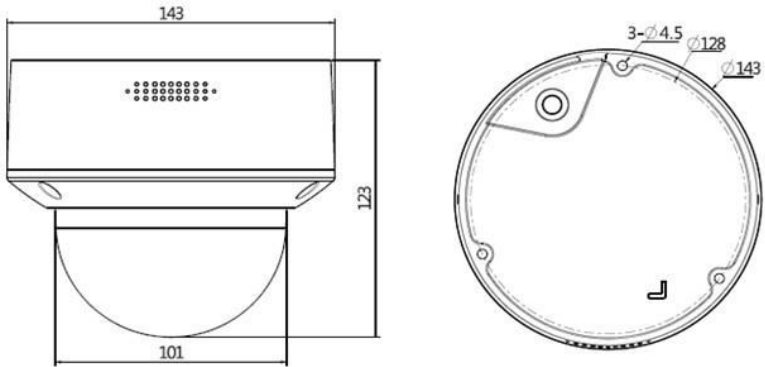


Dimensions of IP Zoom Bullet Camera (without integrated support)

2.1.8. Dimensions of Non-IR IP Dome Camera (Unit: mm)

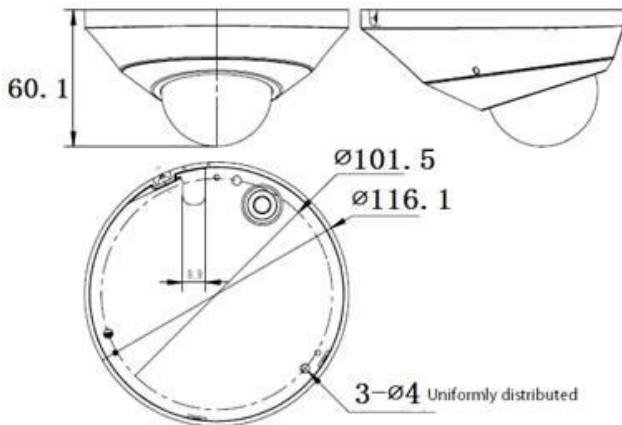


Dimensions of HD Network Zoom (non-)IR Dome Camera - V2.0



Dimensions of HD Network Zoom (non-)IR Dome Camera - V3.0

2.1.9. HD Network Special-shaped Safe IR Dome Camera (Unit: mm)



Dimensions of Special shaped IR Dome Camera

■ 3 Installation Instructions

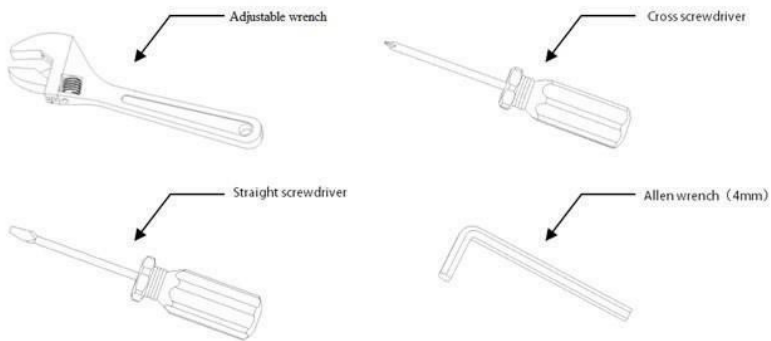
3.1 Preparation for Installation

(1) Basic Requirements

Ensure that all electrical work must be conducted in accordance with the latest electrical regulations, fire regulations and related regulations; check whether the packaging is damaged, equipment and accessories are complete, and determine whether the application places and installation methods of network camera product meet the requirements; please contact the dealer, if necessary, please use the product according to the requirements of the working environment.

(2) Common installation tools:

Prepare the tools required according to the actual situations



Common installation tools

(3) Check the strength of structure at installation space and the installation site. Confirm that there is enough space at the installation site to accommodate the product and its mounting structural part. Confirm that the carrying capacity of the ceiling, wall, and bracket on which the network camera is installed must be able to support the total weight of network camera and its mounting structural part, with a 4 times of safety factor.

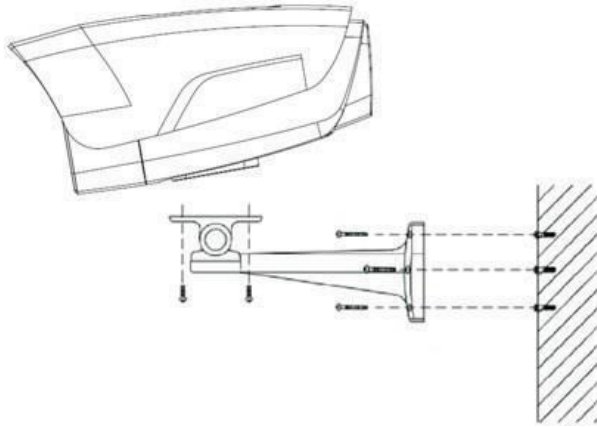
(4) Please keep all packaging materials of network camera

After unpacking the network camera, please keep the original packaging materials of network camera properly and pack the network camera product properly using the packaging materials of network camera and return it to the supplier for handling in case of any problem.

Note: Non-original packaging materials may cause accidental damage during transportation.

3.2 Installation Methods

3.2.1. IR IP Bullet Camera



Installation diagram of HD network IR integrated machine - v1.0

Steps:

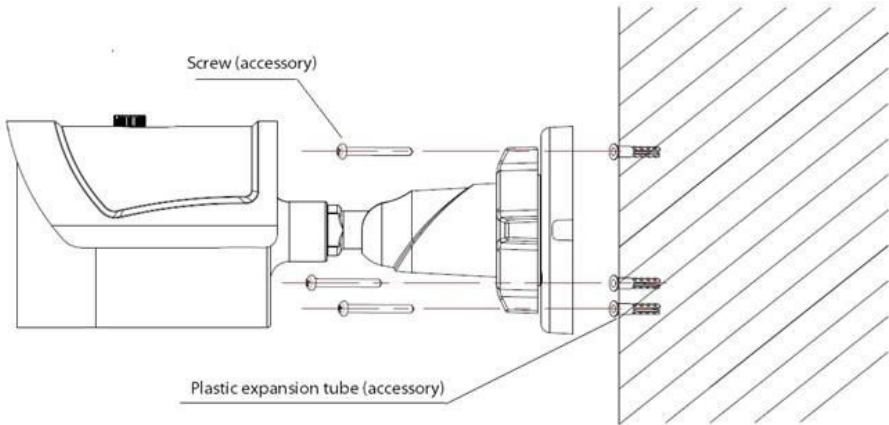
1. Mark the positions of holes for mounting camera on the wall using an ink pen.
2. Make holes on the marked positions using an electric drill.
3. Drive the expansion rubber plug into the hole.
4. Fasten the wall mounting bracket on the wall with screws.
5. Take out the camera in the packaging box, and fasten the camera on the universal joint of bracket with screws.
6. Adjust the universal joint of bracket to a proper position and then tighten the screws.
7. Finally, remove the protective film on the infrared anti-reflection plate (some models are provided with

IR anti-reflection plates, please clean the IR anti-reflection plate, to avoid oil stains and scratches).

Note:

- (1) Brackets must be purchased separately.
- (2) The mounting hole of camera is 5.5mm deep. Do not use excessively long screws.
- (3) The mounting surface of camera must have sufficient bearing capacity.

3.2.2. IR IP Compact Bullet Camera



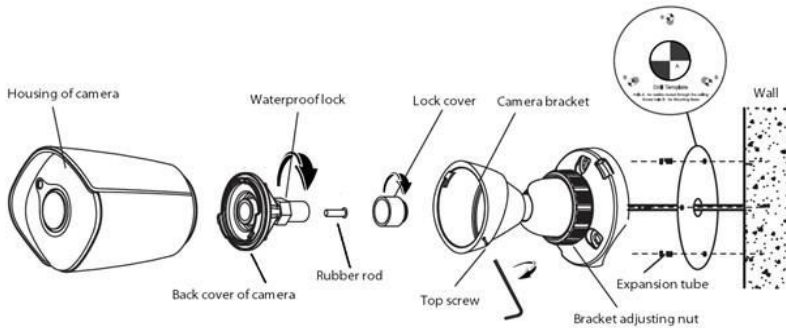
Installation Diagram of compact Bullet Camera

Steps:

1. Mark the positions of holes for mounting camera on the wall using an ink pen.
2. Make holes on the marked positions using an electric drill.
3. Drive the expansion rubber plug into the hole that has just been made.
4. Take out the camera in the packaging box and fasten the wall mounting bracket on the wall with 3 screws.
5. Adjust the universal joint of bracket to the proper position.

Note:

The mounting surface of camera must have sufficient bearing capacity.

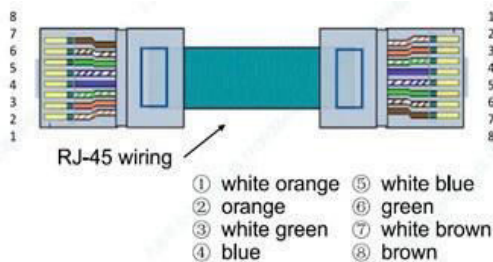


Installation Diagram of IR IP Compact Bullet Camera - V2.0

Steps:

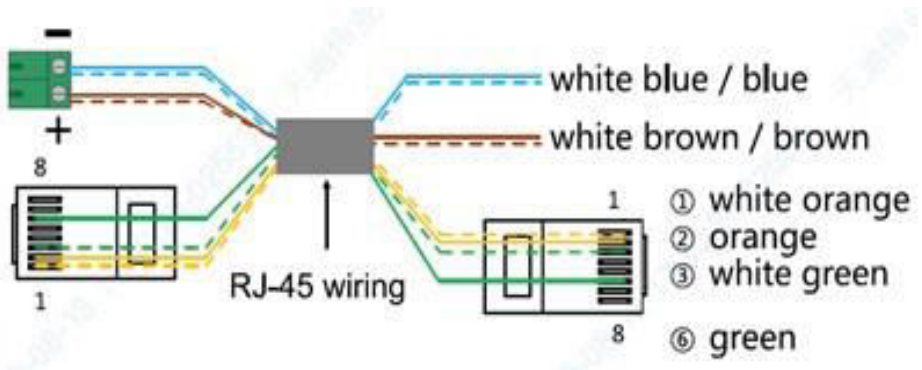
1. Unscrew the top screw and remove the camera bracket. Unscrew the back cover of camera according to the mark, unscrew the waterproof lock on the back cover, and take out the rubber rod.
2. Paste the positioning stickers (accessories) on the wall where the camera needs to be installed, drill holes at Position B, and then drive the expansion tube (accessory) into the hole. Position A is the outlet hole. If necessary, drill holes according to the hole position. Pass the network cable through the camera bracket, and then fasten the bracket on the wall with 3 self-tapping screws (accessories). Pass the network cable through the waterproof lock and the back cover of camera.
3. Equip the network cable that has passed through the wire lock with RJ-45 terminal and power terminal.

If the camera is powered by means of POE, the wiring method of RJ-45 is as follows:



POE power supply-wire sequence diagram

If the camera is powered by means of non-POE, the wiring method of RJ-45 is as follows:



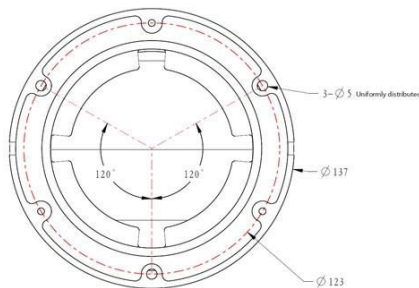
Non-POE power supply-wire sequence diagram

4. Tighten the back cover to the camera housing, adjust the length of cable, and then tighten the water proof lock to the marked position. (Note: Please keep the back cover aligned with the scale on the camera housing during the adjustment of waterproof lock).

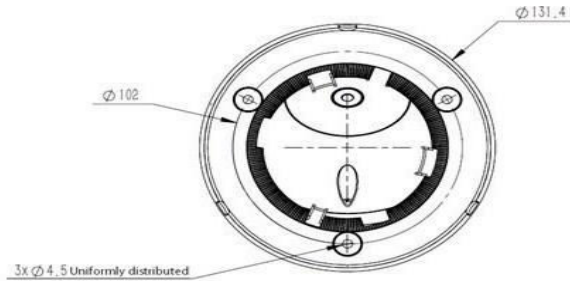
5. Fasten the camera housing to the bracket and tighten the top screw. Loosen the bracket adjusting nut on the camera bracket, adjust the camera angle, and tighten it after adjusting the picture to the required scene. Remove the protective film from the housing and complete the installation.

Note: The mounting surface of camera must have sufficient bearing capacity.

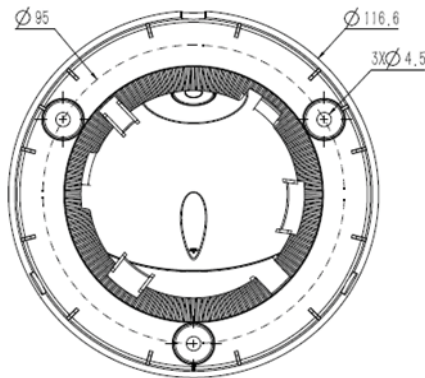
3.2.3. IR IP Dome Camera (Unit: mm)



Installation Diagram of IR IP Dome Camera-V2.0



Installation Diagram of HD Network IR Dome Camera-V3.0/V4.0



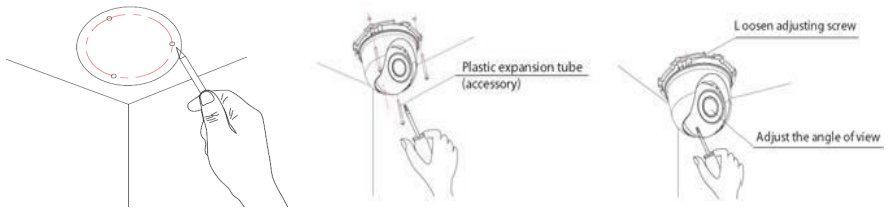
Installation Diagram of IR IP Dome Camera-V5.0

Steps:

1. Take out the camera in the packaging box, loosen the 3 mounting screws on the housing of V2.0 equipment, and remove the chassis. Rotate the chassis of V3.0/V4.0/V5.0 equipment to the indicated position and remove the chassis.
2. Mark the mounting hole position of camera on the wall with an ink pen, make holes on the indicated hole position with an electric drill, and drive the expansion rubber plug into the hole that has just been made.
3. Fasten the chassis on the wall with screws. Reassemble the components removed in Step 1. Adjust the direction of camera to a suitable position, and tighten the 3 mounting screws on the housing of V2.0 equipment. Rotate the component of V3.0/V4.0/V5.0 equipment into the snap position and then fasten it.

Note: The mounting surface of camera must have sufficient bearing capacity.

3.2.4. IR IP Compact Dome Camera



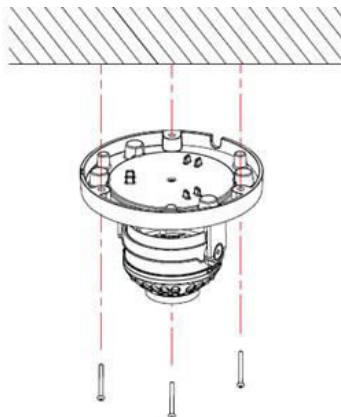
Installation Diagram of IR IP Compact Dome Camera

Steps:

1. Mark the positions of holes for mounting camera on the wall using an ink pen.
2. Make holes at the indicated position with an electric drill, and drive the expansion rubber plug into the hole.
3. Take out the camera in the packaging box, remove the dome cover, and fasten the dome to the ceiling with screws.
4. Loosen the adjusting screw, adjust the camera lens to an appropriate angle, and then re-fasten the adjusting screw.
5. Align the dome cover with the mounting position of the base, and then rotate and fasten it.

Note: The mounting surface of camera must have sufficient bearing capacity

3.2.5. Non - IR IP Dome Camera



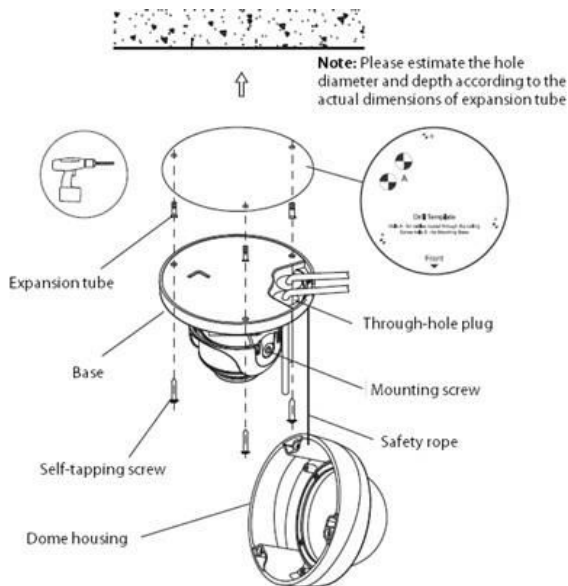
Installation Diagram of (Non-) Safe IR Dome Camera -V1.0

Steps:

1. Mark the positions of holes for mounting camera on the wall using an ink pen. Make holes on the marked positions using an electric drill, drive the expansion rubber plug into the hole.
2. Take out the camera in the packaging box, and remove the dome cover; and then fasten the dome to the ceiling using mounting screws.
3. Loosen the adjusting screw, adjust the camera lens to an appropriate angle, and then re-fasten the adjusting screw.
4. Align the dome cover with the mounting position of the base, and then fasten it by turning.
5. Finally, remove the protective film on the dome cover (please protect the transparent cover of dome, to avoid oil stains and scratches).

Note:

- (1) The mounting surface of camera must have sufficient bearing capacity.
- (2) Please use the dome camera as soon as possible after unpacking.
- (3) Fog may be caused when disassembling the equipment in wet environments.
- (4) To ensure the waterproof effect, please tighten the screws.



Installation Diagram of Non - IR IP Dome Camera-V2.0

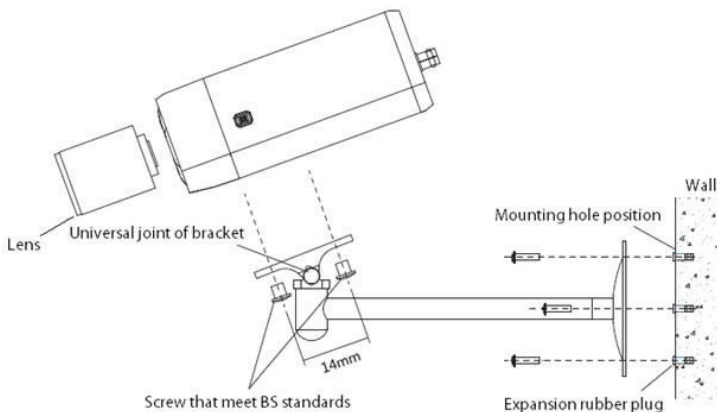
Steps:

1. Mark the mounting hole position of camera on the wall with an ink pen or positioning sticker, make holes on the indicated hole position with an electric drill, and drive the expansion rubber plug into the hole.
2. For models without a tail cable: loosen the screws, remove the dome housing, pass the power cord, audio cable (optional) and network cable through the cable hole plug at the base of dome, with a cable diameter of 3-5mm (Note: pull back after passing the cable to ensure water resistance), and then fasten the base of dome to the wall or ceiling. Connect the power cable and audio cable (optional) to the corresponding interface of camera. After making the plug of the network cable, insert it into the Ethernet port of camera, and then fasten the base of dome to the wall or ceiling.
3. For models with a tail cable: connect the power supply, network cable and other parts to the corresponding interface of camera. Loosen the screws, remove the dome housing, and fasten the base of dome to the wall or ceiling.
4. Adjust the lens to the required scene, and then tighten the two mounting screws. The recommended torque is 6-7kgf.cm.
5. Before installing the equipment in a humid environment, please replace the desiccant and then fasten the dome housing to the base, and finally remove the protective film on the housing (Note: do not crimp when installing dome housing on the base).

Note:

- (1) The mounting surface of camera must have sufficient bearing capacity.
- (2) Fog may be caused when disassembling the equipment in wet environments.
- (3) To ensure the waterproof effect, please tighten the screws.

3.2.6. IP Box Camera



Installation Diagram of IP Box Camera

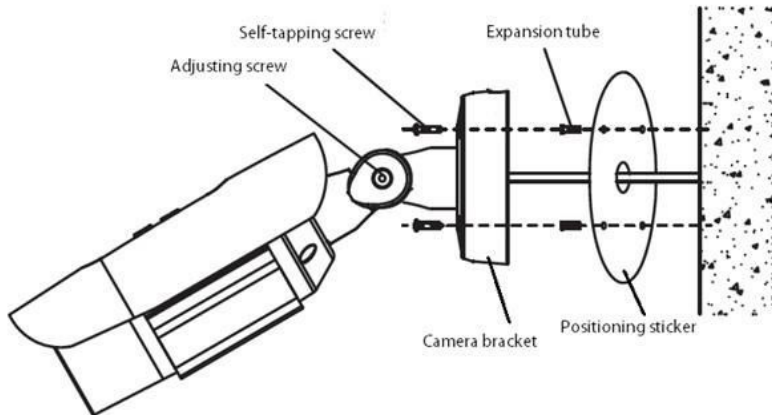
Steps:

1. Mark the positions of holes for mounting camera on the wall using an ink pen.
2. Make holes on the marked positions using an electric drill. 3. Drive the expansion rubber plug into the hole.
4. Fasten the wall mounting bracket on the wall with screws.
5. Take out the camera in the packaging box, align the two screws with the camera screw mounting position, and then tighten them by turning.
6. Adjust the universal joint of bracket to a proper position and then tighten it.

Note:

- (1) Brackets must be purchased separately.
- (2) The mounting surface of camera must have sufficient bearing capacity.

3.2.7. IP Zoom Bullet Camera



Installation Diagram of HD Network Zoom IR Gun Camera (with integrated bracket)

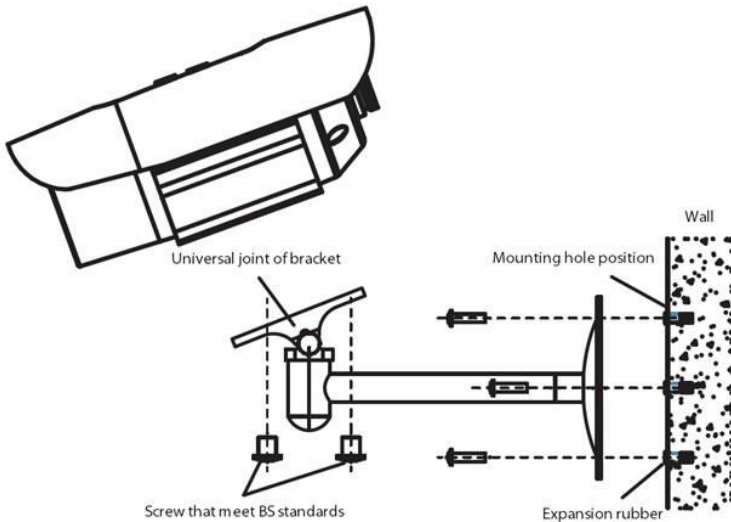
Steps:

1. Paste the positioning stickers on the wall.
2. Make holes on the marked positions using an electric drill.
3. Drive the expansion rubber plug into the hole.
4. Fasten the wall mounting bracket on the wall with screws.
5. Adjust the screw, rotate the angle to the target position, and then tighten the screw.

6. Adjust the sunshade back and forth, to avoid blocking video or infrared light.

Note:

The mounting surface of camera must have sufficient bearing capacity.



Installation Diagram of IP Zoom Bullet Camera (without integrated bracket)

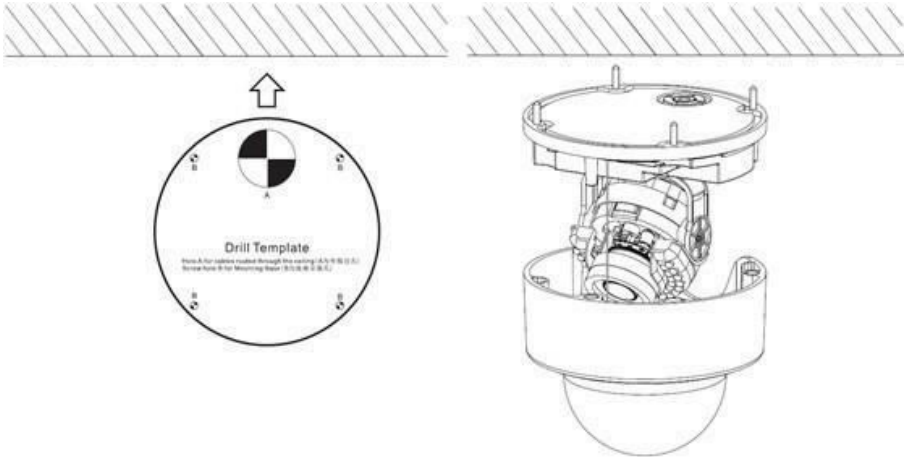
Steps:

1. Mark the positions of holes for mounting camera on the wall using an ink pen.
2. Make holes on the marked positions using an electric drill.
3. Drive the expansion rubber plug into the hole.
4. Fasten the wall mounting bracket on the wall with screws.
5. Align the two screws with the screw mounting position of camera, and then tighten them by turning.
6. Adjust the universal joint of bracket to a proper position and then tighten it.

Note:

- (1) Brackets must be purchased separately.
- (2) The mounting surface of camera must have sufficient bearing capacity.

3.2.8. Dimensions of HD Network Zoom (Non-)IR Dome Camera



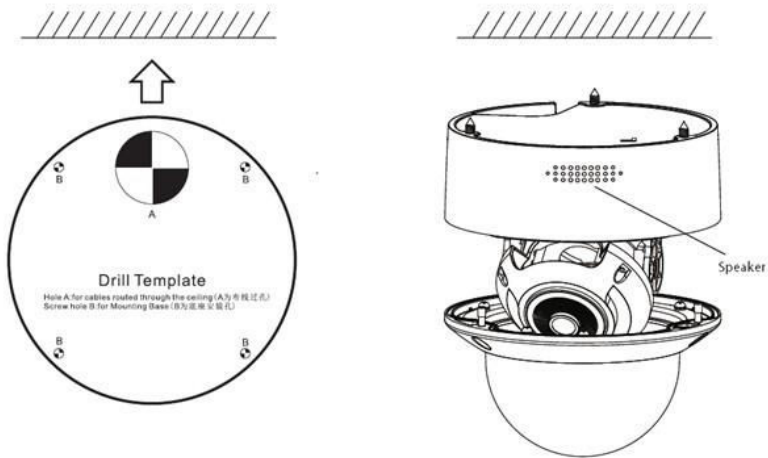
Installation Diagram of HD Network Zoom IR Dome Camera-V2.0

Steps:

1. Paste the positioning stickers on the wall.
2. Make holes on the marked positions using an electric drill.
3. Drive the expansion rubber plug into the hole.
4. Fasten the base of camera to the wall with screws.
5. Rotate the lens to the target angle.
6. Before installing the equipment in a humid environment, please replace the desiccant and then fasten the dome housing to the base, and finally remove the protective film on the housing (Note: do not crimp when installing dome housing on the base).

Note:

- (1) The mounting surface of camera must have sufficient bearing capacity.
- (2) Fog may be caused when disassembling the equipment in wet environments.
- (3) To ensure the waterproof effect, please tighten the screws.



Installation Diagram of HD Network Zoom IR Dome Camera-V3.0

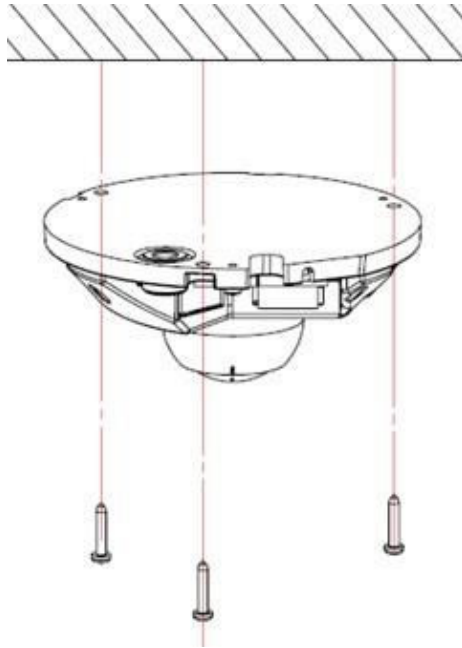
Steps:

1. Paste the positioning stickers on the wall.
2. Make holes on the marked positions using an electric drill.
3. Drive the expansion rubber plug into the hole.
4. Fasten the base of camera to the wall with screws.
5. Rotate the lens to the target angle.
6. Before installing the equipment in a humid environment, please replace the desiccant and then fasten the dome housing to the base, and finally remove the protective film on the housing (Note: do not crimp when installing dome housing on the base).

Note:

- (1) The mounting surface of camera must have sufficient bearing capacity.
- (2) Fog may be caused when disassembling the equipment in wet environments.
- (3) To ensure the waterproof effect, please tighten the screws.

3.2.9. HD Network Special-shaped Safe IR Dome Camera



Installation Diagram of HD Network Special-shaped Safe IR Dome Camera

Steps:

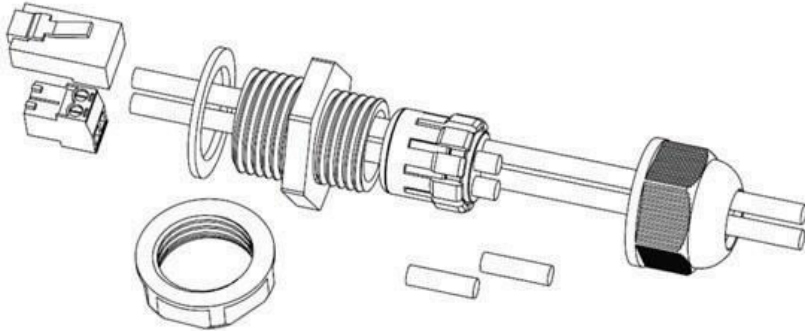
1. Make a hole at the mounting position according to the dimensional drawing and drive the expansion rubber plug into the hole.
2. Take out the camera in the packaging box and remove the dome cover; and then fasten the dome to the ceiling using mounting screws.
3. Loosen the adjusting screw, adjust the camera lens to an appropriate angle, and then re-fasten the adjusting screw.
4. Align the dome cover with the mounting position of the base, press down the dome cover and fasten it with screws.
5. Finally, remove the protective film on the dome cover (please protect the transparent cover of dome, to avoid oil stains and scratches).

Note:

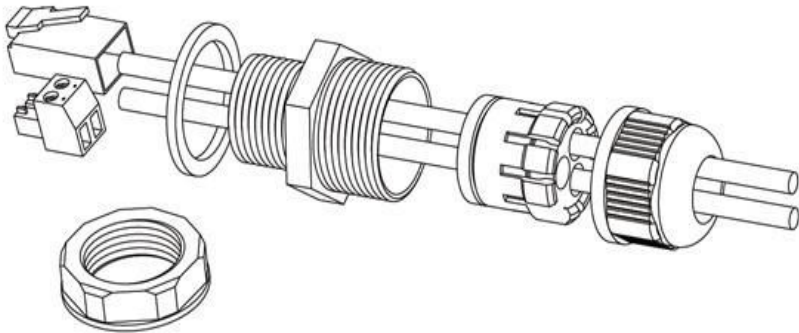
The mounting surface of camera must have sufficient bearing capacity.

3.2.10. Waterproof Construction Specifications

The zoom (non-) IR dome camera is divided into two models: model with tail cable and model with incoming cable. The model with incoming cable is equipped with a waterproof lock, a single hole supports the wire diameter of 3-5mm. For the lock with 4 holes, please keep the original plugs for the holes not used; for the lock with 3 holes, do not puncture the rubbers at the holes not used.



Installation Instructions for Waterproof Lock with 4 Holes



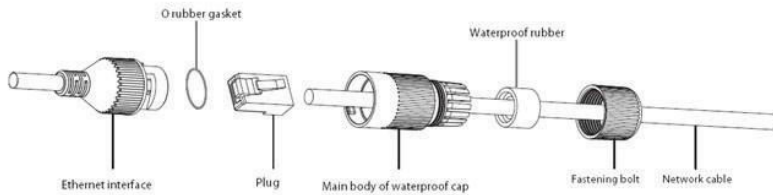
Installation Instructions for Waterproof Lock with 3 Holes

You may select to use side or bottom outlet according to needs, please tighten the waterproof lock with a wrench, to prevent water and fog from entering. Do not open the protective guard in humid environments, to prevent fogging. To prevent fogging, some models are equipped with new desiccants, please replace desiccants for some models before installing the protective guard.

For products with tail cables and waterproof design, please take the following waterproof measures during installation:

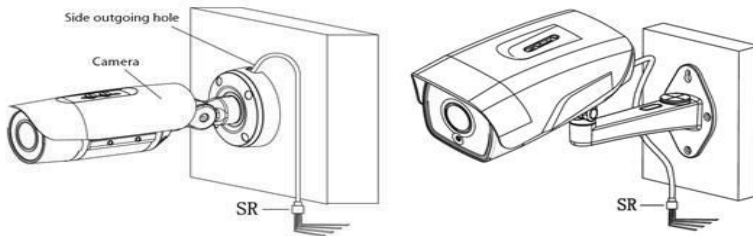
- (1) The power port must be wrapped with waterproof tape to ensure water resistance, otherwise, there may be a risk of short circuit

- (2) For the waterproofing of Ethernet port, please refer to the following figure for construction and installation.



Waterproof installation instructions of network cable

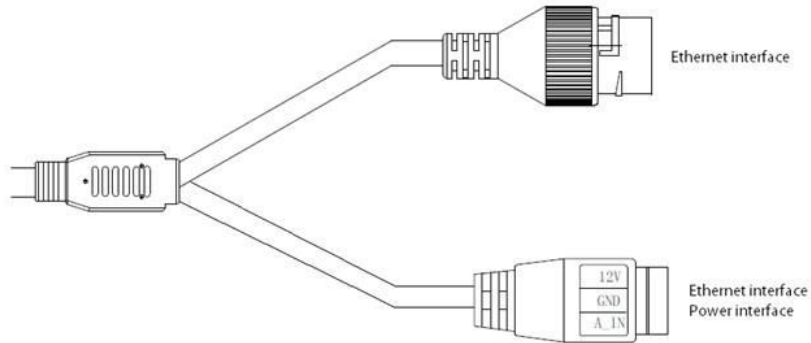
- (3) Please lower the SR of the tail cable to the position below the camera, as shown in the figure below.



Installation Diagram of Tail Cable

■ 4 Interface Description

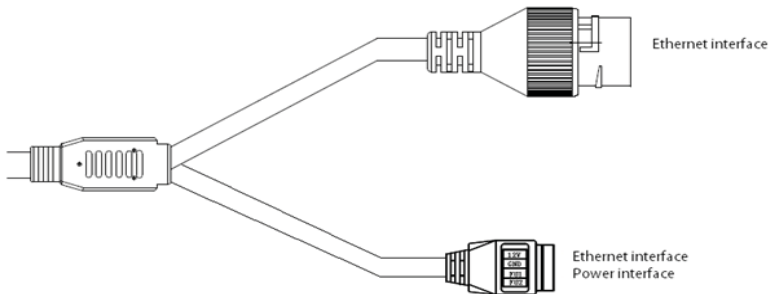
4.1 Camera Tail Cable Interface Description



I-type camera tail cable interface

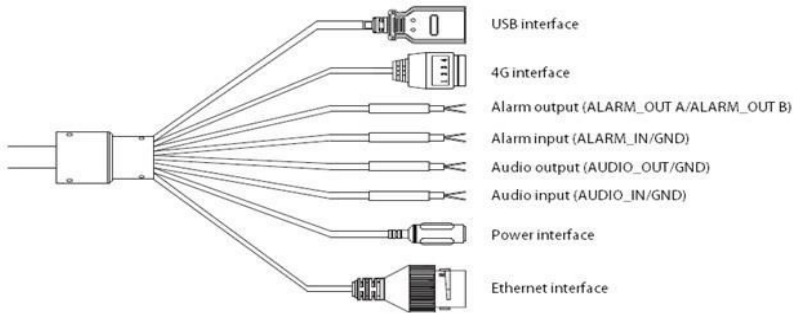
Interface Description:

TYPE	Functions	Name	Description
System interface	Power supply	DC12V GND	Input of DC12V \pm 10%, please select matching power supply according to suggestions Some models are powered by POE and can provide DC12V output
	Ethernet port	ETHERNET	10M / 100M, RJ45 interface Supported by some models POE power supply
Function interface	Audio input	A_IN GND	Linear signal input, input voltage \leq 1V GND is the common terminal



Type II camera tail cable interface

TYPE	Functions	Name	Description
System interface	Power supply	DC12V GND	Input of DC12V \pm 10%, please select matching power supply according to suggestions Some models are powered by POE and can provide DC12V output
	Ethernet port	ETHERNET	10M / 100M, RJ45 interface Supported by some models POE power supply
Function interface	Function interface 1	FU1 GND	See label description for details GND is the common terminal
	Function interface 2	FU2 GND	See label description for details GND is the common terminal



Type III camera tail cable interface

Description:

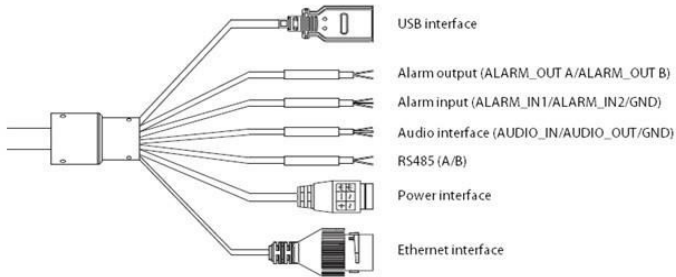
- (1) The specific vehicle-mounted camera power supply adopts BMW connector and needs to be used with an extension cable. The input voltage supports DC12V - DC24V.
- (2) The line sequence of the extension line is as follows:



Extension cord of tail cable (vehicle-mounted model)


Interface Description:

Type	Functions	Name	Description
System interface	Power supply	DC12V IN	Input of DC12V \pm 10%, please select matching power supply according to suggestions (Excluding special vehicle-mounted camera) Some models are powered by POE and can provide DC12V output
	Ethernet port	ETHERNET	10M / 100M, RJ45 interface
Extension ports (Optional)	Audio interface	AUDIO_IN	Linear signal input, GND is the common terminal, input voltage: \leq 1V; (optional function)
		AUDIO_OUT	Linear output, GND is the common terminal, used with active speakers; (optional function)
	Alarm interface	ALARM_IN	Switching signal input, GND is the common terminal (optional function)
	RS485 interface	RS485	A is 485 positive (+), B is 485 negative (-) (optional function)
	4G	4G	1: GND 2: RS485- (RS485B) 3: RS485 + (RS485A) 4: DC5V (optional function)
Storage interface	Support	USB	8G - 64G is recommended, please power off the device before disassembly



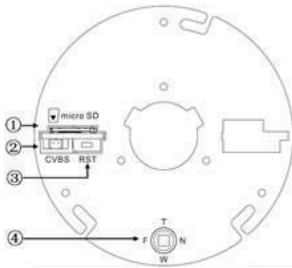
Type IV camera tail cable interface

Interface Description:

Type	Functions	Name	Description
System interface	Power supply	POWER	DC12V ± 10%, Supported by some models AC24VPlease refer to the actual label
	Earth		Connected to the earth to prevent static electricity / surges from damaging the equipment
	Ethernet port	ETHERNET	10M / 100M, RJ45 interface
Extension ports (Optional)	Audio interface	AUDIO_IN	Linear signal input, GND is the common terminal, input voltage: ≤1V (optional function)
		AUDIO_OUT	Linear output, GND is the common terminal, used with active speaker (optional function)
	Alarm interface	ALARM_IN	Switching signal input, GND is the common terminal
		ALARM_OUT	Switching signal output
	Control interface	RS485	A is RS485 +, B is RS485-
Storage interface	USB	USB	Expandable memory or Wifi module, the recommended memory is 8G - 64G, please power off the device before disassembly

Type	Functions	Name	Description
interface			memory is 8G-64G, please power off the device before disassembly.

4.2 IP Zoom Bullet Camera



- ① Micro-SD card slot
- ② Analog video output, used with BNC conversion cable (accessory) (supported by some models)
- ③ Reset button
- ④ Focusing control for electric lens, press for one-button focusing (supported by some models)

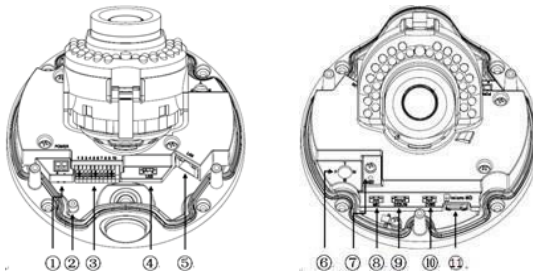
Internal interface of HD network zoom IR gun

Interface Description:

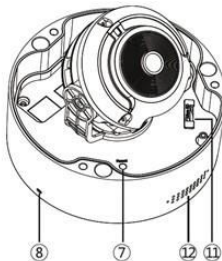
Type	Functions	Name	Description
System interface	Power supply	POWER	DC12V ($\pm 10\%$), Supported by some models AC24V ($\pm 25\%$)
	Ethernet port	ETHERNET	10M / 100M / 1000M (1000M for some models), RJ45 interface, Supported by some models POE
	Reset	RESET	After holding for 5 seconds, the system will restore factory settings
Audio and video interface	Video output	VIDEO OUT / CVBS	75 Ω p-p analog video signal;
	Audio input	AUDIO IN	Audio linear input
	Audio output	AUDIO OUT	Audio linear output
Alarm interface	Alarm Input	ALARM IN	GND is the common terminal; 1/2 is the 2-way alarm input interface
	Control output	ALARM OUT	1A / 1B, signal relay output interface

Type	Functions	Name	Description
Storage interface	TF card	micro-SD	8G - 64G is recommended, please power off the device before disassembly
	USB	USB	Expandable U disk or Wi-Fi adapter, please power off the device. Description: 1. The recommended U disk capacity is 8G - 64G 2. If a micro-SD card has been installed, U disk cannot be expanded
Extension ports	485 interface	RS485A/B	485 communication interface
	Motorized lens	T/W/F/N	Motorized lens control, T zoom in / W zoom out / F far / N near press for one button focusing (supported by some models)

4.3 Dimensions of HD Network Zoom (Non-)IR Dome Camera



Internal interface of HD network zoom (non-) IR dome camera-V2.0



Internal interface of HD network zoom (non-) IR dome camera-V3.0

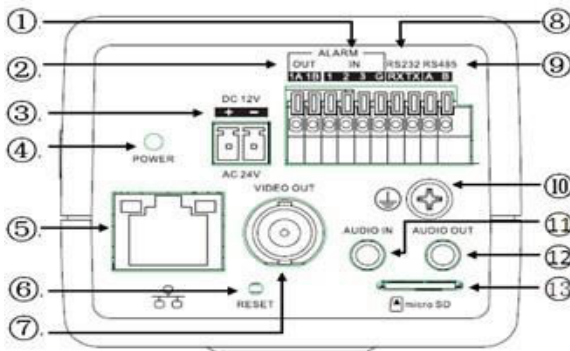
- ① Power interface, support DC12V (Supported by some models AC24V)
- ② Earthing rod
- ③ Signal cable interface, see chassis label for details
- ④ USB interface, GND/D+/D-/5V from left to right (supported by some models)
- ⑤ Ethernet port, 10M / 100M / 1000M (some models are 1000M, Supported by some models POE)
- ⑥ Focusing control for electric lens, press for one-button focusing (supported by some models)
- ⑦ Reset button
- ⑧ Built-in MIC interface
- ⑨ Debugging interface, only used by the manufacturer for debugging
- ⑩ Analog video output, used with BNC conversion cable (accessory) (supported by some models)
- ⑪ micro-SD card slot
- ⑫ Built-in speaker

Type	Functions	Name	Description
System interface	Power supply	POWER	DC12V ($\pm 10\%$), Supported by some models AC24V ($\pm 25\%$)
	Ethernet port	ETHERNET	10M / 100M / 1000M (1000M for some models), RJ45 interface Supported by some models POE
	Reset	RESET	After holding for 5 seconds, the system will restore factory settings
	Debugging interface	DEBUG	Debugging interface, only used by the manufacturer for debugging
Audio and video interface	Video output	VIDEO OUT /CVBS	75 Ω p-p analog video signal;
	Audio input	AUDIO IN	Audio input (Mic in/Line in)
	Audio output	AUDIO OUT	Audio linear output
Alarm interface	Alarm Input	ALARM IN	GND is the common terminal; 1/2 is the 2-way alarm input interface
	Control output	ALARM OUT	1A / 1B, signal relay output interface
Storage interface	TF card	micro-SD	8G - 64G is recommended, please power off the device before disassembly
	USB	USB	Expandable U disk or Wi-Fi adapter, please power off the device. Description: 1. The recommended U disk capacity is 8G - 64G 2. If a micro-SD card has been installed, U disk cannot be expanded

Type	Functions	Name	Description
Extension ports	485 interface	RS485A/B	485 communication interfaces
	Motorized lens	T/W/F/N	Motorized lens control, T zoom in / W zoom out / F far / N near Press for one-button focusing (supported by some models)

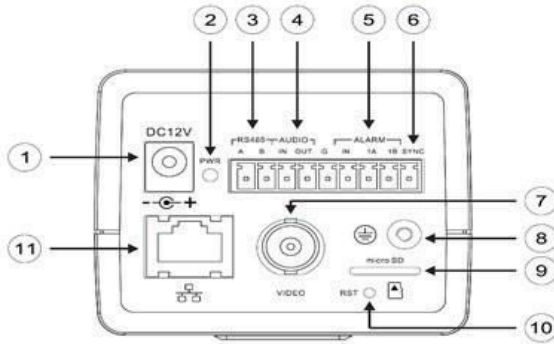
4.4 IP Box Camera Series

4.4.1. IP Box Camera-V2.0



Interface of Type I IP Box camera-V2.0

- ① 1 and 2 are 2-way alarm inputs, 3 is synchronous switch interface of alarm
- ② Alarm Output
- ③ Power interface, support DC12V (Supported by some models AC24V)
- ④ Power indicator
- ⑤ Network
- ⑥ Reset button
- ⑦ Analog video output
- ⑧ Extended RS232
- ⑨ Extended RS485
- ⑩ Lightning protection earthing wire interface
- ⑪ Audio input
- ⑫ Audio output
- ⑬ micro-SD card slot



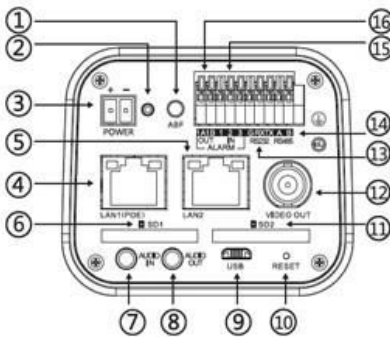
Interface of Type II IP Box camera-V2.0

- ① Power interface, support DC12V
- ② Power indicator
- ③ Extended RS485 interface
- ④ Audio interface
- ⑤ Alarm interface, IN is alarm input, and 1A and 1B are alarm output.
- ⑥ Synchronous switching interface of alarm
- ⑦ Analog video interface
- ⑧ Earthing rod
- ⑨ micro-SD card slot
- ⑩ Reset button
- ⑪ Network interface

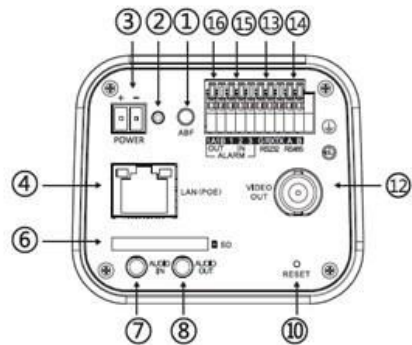
Type	Functions	Name	Description
System interface	Power supply	POWER	DC12V ($\pm 10\%$), Supported by some models AC24V ($\pm 25\%$)
	Ethernet port	ETHERNET	10M / 100M / 1000M (1000M for some models), RJ45 interface, Supported by some models POE
	Reset	RESET	After holding for 5 seconds, the system will restore factory settings
	Aperture interface	LENS	Lenses with controlled DC aperture (Supported by some models P-iris aperture lenses)
Audio and video interface	Video output	VIDEO OUT /CVBS	75 Ω p-p analog video signal
	Audio input	AUDIO IN	Audio input (Mic in/Line in)

Type	Functions	Name	Description
Audio and video interface	Audio output	AUDIO OUT	Audio linear output
	Alarm Input	ALARM IN	Type I Bullet camera: G is the common terminal; 1/2 is the two-way input interface of alarm, and 3 is the synchronous switching interface of alarm. The black and white/color mode of camera can be switched by shorting or disconnecting with G. Type II gun camera: G is the common terminal; IN is the alarm input interface, SYNC is the synchronous switching interface of alarm, and the black and white/color mode of camera can be switched by shorting or disconnecting with G.
	Control output	ALARM OUT	1A / 1B, signal relay output interface
	Support	micro-SD	The recommended storage capacity is 8G - 64G, please power off the equipment before disassembly
	485 interface	RS485A/B	485 communication interfaces
	232 interface	RX/TX/G	RX is the receiving port / TX is the sending port / G is the reference ground (Only supported by Type I)

4.4.2. IP Box Camera-V3.0



Interface of Type I IP Box Camera-V3.0



Interface of Type II IP Box Camera-V3.0

- ① ABF button: click it to start immediately (supported by some models)
- ② Indicator light: if the light is always on in red, the power supply is normal, if the light is flashing in blue, ABF is running
- ③ Power interface, support DC12V (Supported by some models AC24V)
- ④ Network interface, support POE
- ⑤ Network interface 2 (supported by some models)
- ⑥ SD card slot
- ⑦ Audio input
- ⑧ Audio output
- ⑨ micro-USB (supported by some models)
- ⑩ Reset button
- ⑪ SD card slot 2 (supported by some models)
- ⑫ Analog video output
- ⑬ RS 232 interface (supported by some models)
- ⑭ RS 485 interface (supported by some models)
- ⑮ Alarm input, 1 and 2 are alarm inputs, and 3 is the synchronous switching interface of alarm
- ⑯ Alarm output (supported by some models)

Type	Functions	Name	Description
System interface	Power supply	POWER	DC12V ($\pm 10\%$), Supported by some models AC24V ($\pm 25\%$)
	Ethernet port	ETHERNET	10M / 100M / 1000M (Supported by some models 1000M), RJ45 interface, Supported by some models POE
	Reset	RESET	After holding for 5 seconds, the system will restore factory settings
	Aperture interface	LENS	Lenses with controlled DC aperture (Supported by some models P-iris aperture lenses)
Audio and video interface	Video output	VIDEO OUT /CVBS	75 Ω p-p analog video signal
	Audio input	AUDIO IN	Audio input (Mic in/Line in)
	Audio output	AUDIO OUT	Audio linear output
Alarm interface	Alarm Input	ALARM IN	G is the common terminal; 1/2 is the 2-way alarm input interface, and 3 is the synchronous switching interface of alarm. The black and white/color mode of
	Control output	ALARM OUT	1A / 1B, signal relay output interface
Storage interface	SD card	SD	The recommended storage capacity is 8G-256G, please power off the equipment before disassembly
Extension ports	485 interface	RS485A/B	485 communication interfaces
	232 interface	RX/TX/G	RX is the receiving port / TX is the sending port / G is the reference ground

■ 5 WEB Client

5.1 Operating Environment

It is recommended to run under the operating system environment of Win7 and above. In order to better operate and use the system, and fully reflect the performance and effects, please ensure that the following items are set or installed correctly after the system is successfully installed:

- (1) The display resolution is set to 1920 × 1080 or higher, and the color is set to enhanced color (32-bit), please refer to Windows help document or online help for how to set the resolution and color of monitor.
- (2) Make sure that the font required for this system-Song font is installed in the Windows operating system. If the interface of this system is displayed abnormally, the fonts required by this system may not be installed, or the required fonts have been damaged, and fonts need to be reinstalled.

5.2 IE Settings

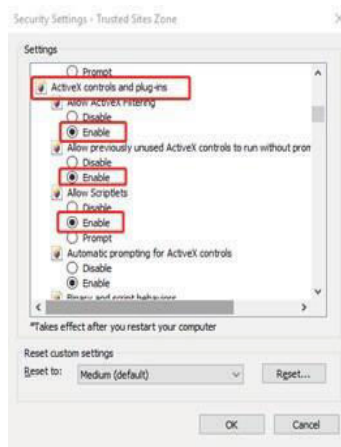
You need to download ActiveX controls before using this series of network video products for the first time. Before downloading, you need to set the IE browser appropriately to ensure that the controls are downloaded successfully.

Note: Use the IE browser of Windows operating system, to ensure that the version is 8.0 or above. Except for Firefox and Google browsers, please do not use other third-party browsers and any IE browser shell programs such as Maxton, Window of the World. We do not guarantee that you can log in normally with such software.

If the computer is connected to the camera for the first time, please go to “Internet Options”-“Security”-“Trusted Sites”-“Sites” and add the IP of the camera to the list of “Trusted Sites”. Then set the “Custom Level” and set all the options in “ActiveX Controls and Plug-ins” to “Enable”, to ensure that the computer can download and run the controls normally.



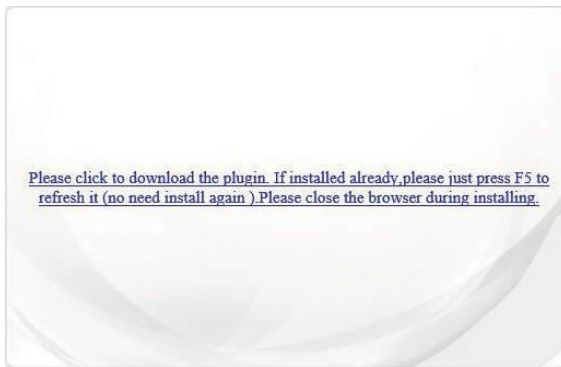
IE Browser-Internet Options



Trusted Site-Custom Level

5.3 Login Device

The default IP address of equipment is: 192.168.1.110, the subnet mask is 255.255.255.0, and the gateway is 192.168.1.1, please set the IP addresses of computer and equipment on the same network segment: for example, set the IP address of computer to 192.168.1.3, and then access the device through IE browser. Open IE Browser, enter the IP address of network video equipment in the address bar, and click “Go” to log in to the equipment. The following interface will appear when the equipment is used for the first time,



Trusted Site-Custom Level

The interface for saving or running the control will appear after clicking the text link, as shown in the figure below. Select “Save” to download NetVideo.exe locally, and select “Run” to automatically install NetVideo.exe after the downloading is completed.



Operating System of Windows 7 and above-Interface for saving or running the control
The control needs to be installed after downloading, and the installation program interface for running the control will pop up, as shown below; and then click the “Run” button.

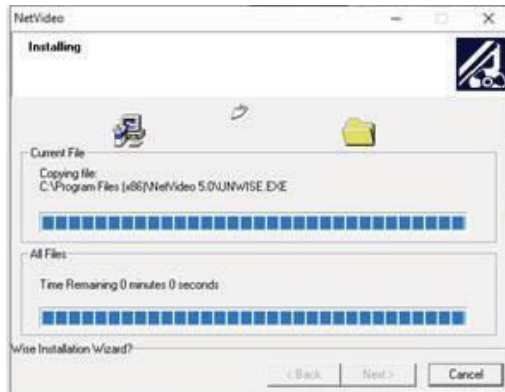


Operating System of Windows 7 and above-Installation program interface for running the control
After the interface of installing control, please first close the IE browser, and then click “Next” or “Forward” button, as shown in the figure.

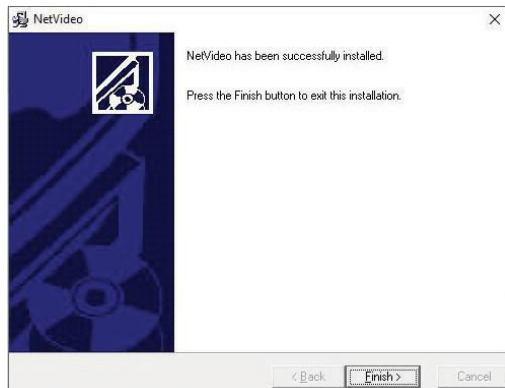
Note: The IE browser should be closed during the installation process.



Interface for installing control

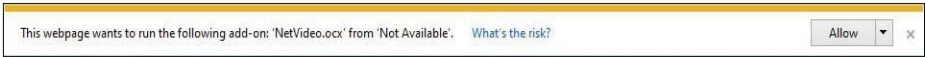


Interface for control installation process



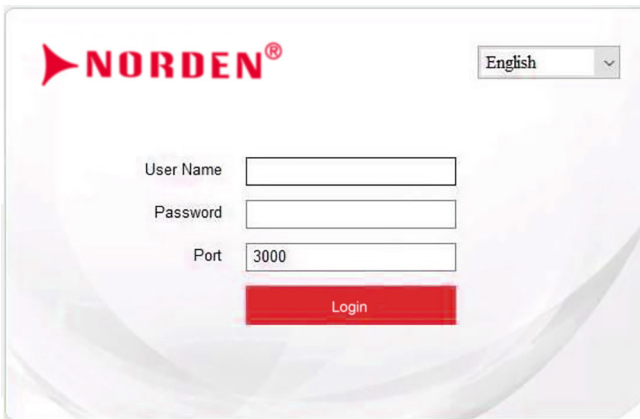
Interface for completing control installation

After the program is successfully installed, open the browser again, enter the IP address of camera in the address bar of browser and then enter, and click “Run Add-ons” or “Allow” browser to load the controls. (The prompts are different for different operating systems)



Operating systems of Win7 and above

The equipment login interface will be displayed after successfully loading the control, as shown in the figure below.



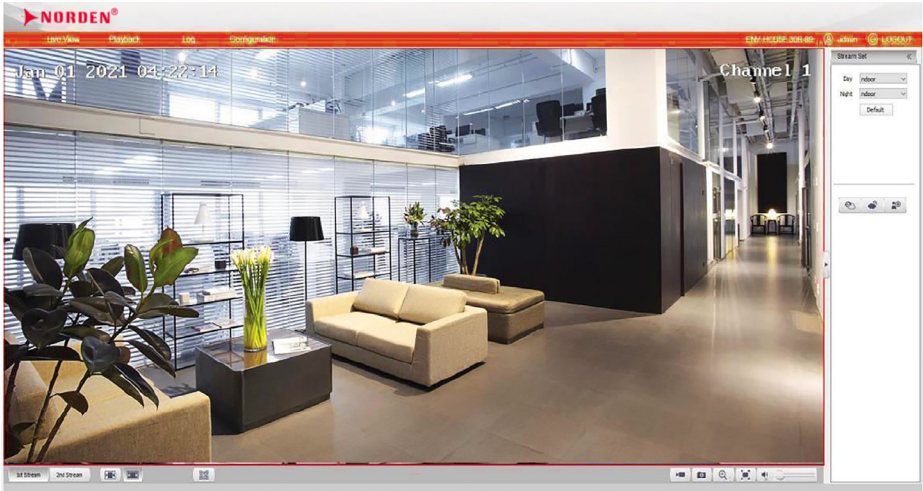
The screenshot shows the NORDEN login interface. At the top left is the NORDEN logo. At the top right is a language dropdown menu set to 'English'. Below the logo are three input fields: 'User Name', 'Password', and 'Port'. The 'Port' field contains the value '3000'. Below the input fields is a red 'Login' button.

IE login interface

Enter the correct username and password in the login window, and click “Login” to enter the preview interface later.








Description:

- (1) The default username is admin and the password is admin.
- (2) If the equipment port number is modified, you need to enter the correct port number, and the default port number is 3000.



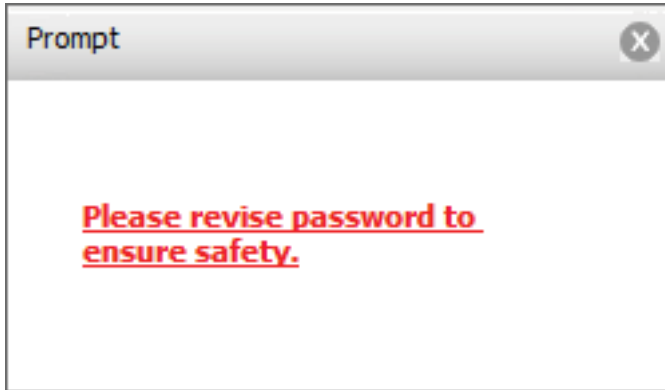
Preview interface

After logging in to the equipment, click the icon at the top of the interface to switch to different interfaces or execute related commands.

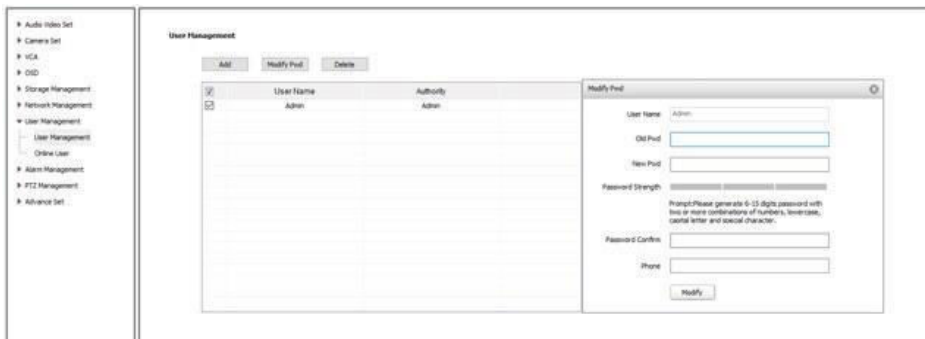
Icon	Description
	Click this icon to enter the interface of "Live View".
	Click this icon to enter the interface of "Playback".
	Click this icon to enter the interface of "Log".
	Click this icon to enter the interface of "Configuration".
	Display the user name for this login. (This icon can only be displayed but not be clicked)
	Click this icon for online help information. (supported by some models)
	Click this icon to log out.

After you log in to the system, a prompt box of “Change Password” will appear in the lower right corner of the desktop, please click the red text in the box to link to the user management interface, select the user and click “Change Password”, as shown in the figure below.

Note: To ensure the security of your information, please be sure to change the initial password!



Change password prompt box

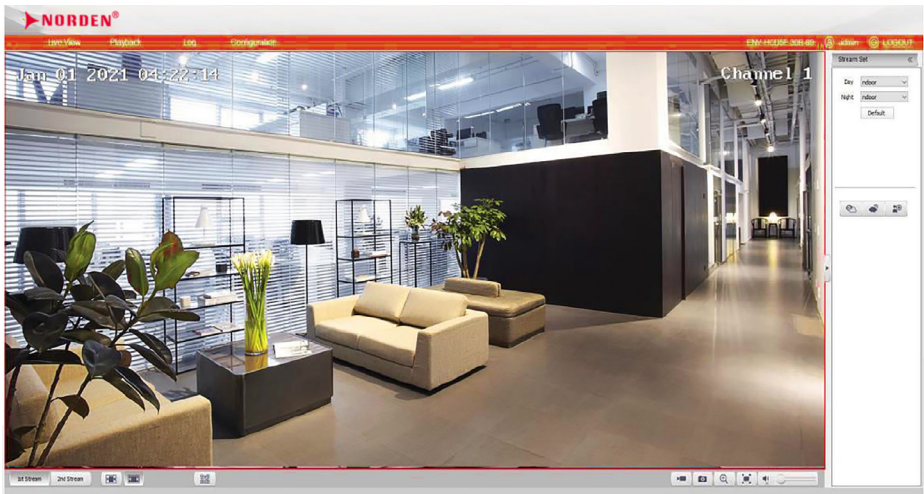


User management interface

5.4 Live View Preview

After successful login, the system will display the [Preview] interface by default. In other interfaces, users can return to the video preview interface by clicking the [Preview] button at the top of the interface. Because different models support different functions, the interfaces may also be different, please refer to the actual interface.

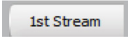
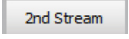
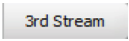
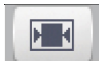

Live View
















Live View interface

Description:

- (1) Double-click the video to display it in full screen. Double-click again or press the [Esc] key of keyboard to exit the full screen.
- (2) When displayed in full screen, the PTZ can be controlled through the keyboard:
W "↑", S"↓", A"←", D"→", I "Zoom in", K "Zoom out", J "Near", L "Far" .
(Supported by some models)
- (3) Introduction to the functions of keys at the preview interface:

Icon	Description
	Click "Enable"; the video window will display the primary code stream, and the primary code stream will be displayed by default.
	Click "Enable"; the video window will display secondary code stream after selection
	Click "Enable"; the video window will display third code stream after selection. (Supported by some models)
	Click "Enable"; the video will be displayed at a fixed scale.
	Click "Enable"; the video will automatically adapt to the computer resolution display.

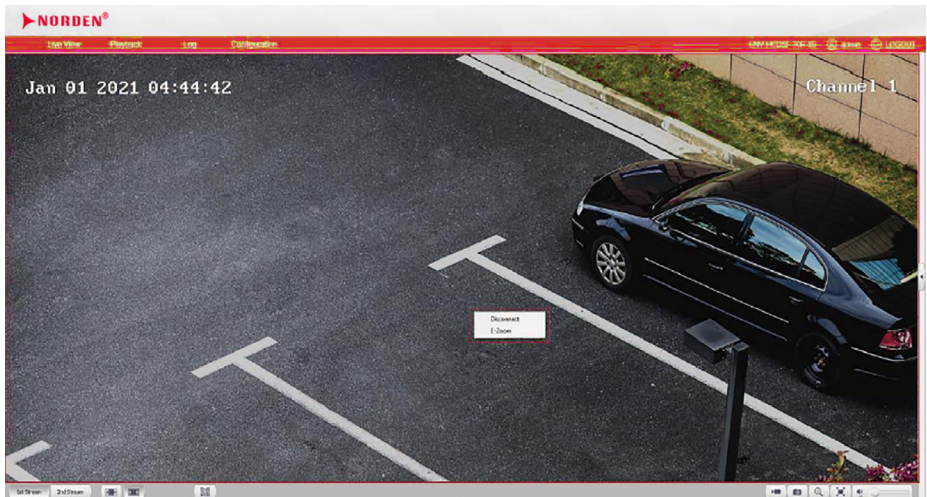
Icon	Description
	<p>QR code button. QR code will appear after clicking it. Users can scan the QR code according to the type of mobile phone and downloads the mobile client. A third QR code will appear after the equipment is connected to the public network, and you can add the equipment by scanning on the mobile client. (Supported by some models)</p>
	<p>Track button. Click “Enable” to track the moving object. “Track” will be turned off after clicking the button again. (Supported by some models) Note:The site environment has a great impact on the recognition rate of the equipment. If the site lighting conditions are poor, it is recommended to not turn it on.</p>
	<p>Alarm removal button. Alarm can be removed after pressing the button. (Supported by some models)</p>
	<p>White light alert button. The white light will be turned on after clicking it, and the white light will be turned off after clicking it again. (Supported by some models)</p>
	<p>Sound alert button. Click “Enable” and play the alert tone after enabling. (Supported by some models)</p>
	<p>Local manual recording control button. Click “Enable”, and start local recording after enabling; the recording file storage path can be modified by itself, and the default storage location is: D:\NetVideoBrowser\ Record Files</p>
	<p>Local manual capture control button. Click “Enable” to capture and save the preview picture locally. The snapshot file storage path can be modified by itself. The default storage location is: D:\NetVideoBrowser\ Centrepins</p>
	<p>Voice intercom switch. When enabled, it can transmit local audio to the front-end equipment through the network for output.</p>
	<p>Electronic zoom button. After enabling this function, click the left mouse button to draw the area to be enlarged, and then you can zoom in and view the area. (Supported by some models)</p>
	<p>Turn on / off “Mute” button. Click it to turn off the audio captured by the front-end equipment and click it again to turn on audio. (When the stream type is pure video, the function is invalid)</p>
	<p>Volume adjustment. Drag the slider to adjust the volume. (When the stream type is pure video, the function is invalid)</p>
	<p>Full screen button. Realize full screen preview video, double click left mouse button or press the [Esc] key of keyboard to exit full screen preview video status</p>
	<p>Focus assist. When the back focus of the lens is not accurate or the focus is not clear due to vibration, the remote auto focusing can be achieved through the focus assistance function. (Supported by some models)</p>

Caution

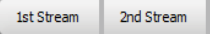

- (1) All icons are valid when pressed.
- (2) When there is no video in the interface, the audio preview is invalid.
- (3) Talk can only be conducted with one user at the same time, and it is recommended to turn off the intercom in time after completing the talk, so that others can use it.

Live View preview-right-click menu

After clicking the right mouse button on the preview interface, the menu shown in the figure will appear, and you can select the corresponding operation. (The functions supported by different models are slightly different, please refer to the actual interface)



E-mail menu



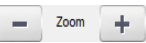
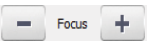
Name	Description
Disconnect	Disconnect the current code stream.  Click the “Wait” button at the bottom left of the video to restore the video connection.
E-zoom	 The usage and effect are the same as that below the video.
Flip	Rotate the video by 180°, operate it again, and return to the original state.
Snapshot	Store the current video image to the micro-SD card or U disk of camera.(Supported by some models) The function is invalid in case of no micro-SD card or U disk.
One-key focus	Trigger the camera to perform a focusing operation immediately. (Supported by some models)

Live View preview-control menu

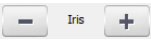







Note: Click the or button on the right side of video preview interface to hide or show the control menu.

Audio and Video Preview-Control Menu-Control Panel

This function is only supported by the equipment with 485 control. The functions supported by different models are different, please refer to the actual interface.

Icon	Description
	The eight-way control button is used to control the PTZ to move in eight directions respectively. The button at the middle is the auto scan button. After clicking this button, the PTZ will scan automatically; click this button again to stop scanning. (Supported by some models)
	Manually adjust the rotation speed of PTZ from Level 0 to 100. The larger the value is, the faster the rotation speed of PTZ is. (Supported by some models)
	Control the camera lens to adjust the zooming, including optical zooming and electronic zooming. (Supported by some models)
	Control the camera lens to adjust the focusing. (Supported by some models)

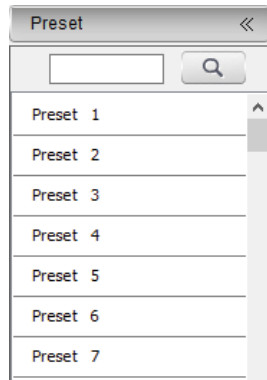
Live View preview-control Stream Set parameters

Icon	Description
	Control the camera lens to adjust the aperture. (Supported by some models)
	Control the camera to adjust the back focus. (Supported by some models)
	Light control button. (Supported by some models)
	Power button. (Supported by some models)
	Wiper control button. Support wiper equipment, and the wiper will perform an operation after clicking the button. In order to extend the service life of wiper, the wiper is provided with lowtemperature protection measures, and the function will be turned off when the ambient temperature is lower than 0 degrees. (Supported by some models)
	Fog transmission function button. Press the button to turn on the fog transmission function. (Supported by some models)
	Glare suppression function button. Press the button to turn on glare suppression. (Supported by some models)
	Wide dynamic function button. Press the button to turn on wide dynamic. (Supported by some models)

Live Video preview-control menu-preset position

Note: It is only supported by the cameras controlled by RS485.

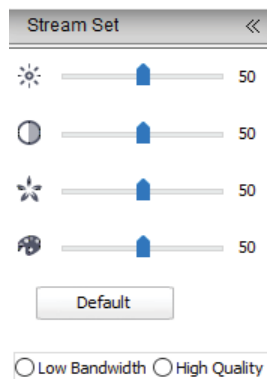
Enter the preset position number and click the “Search” button to select the operations for preset position,including [Setting] and [Call] operations.



Preset position interface

- (1) Click or next to the [Preset Position] tab to open or hide the parameter setting page.
- (2) [Set]: Control the PTZ to move to the specified position, enter the preset position number in the blank field, click the button, and then click the button to add the corresponding preset position successfully; support to add multiple preset positions.
- (3) [Call]: Enter the preset position number in the blank field, click the button, and then click to call the corresponding preset position, and control the PTZ to move to the specified preset position.

Live View preview-control Stream Set parameters

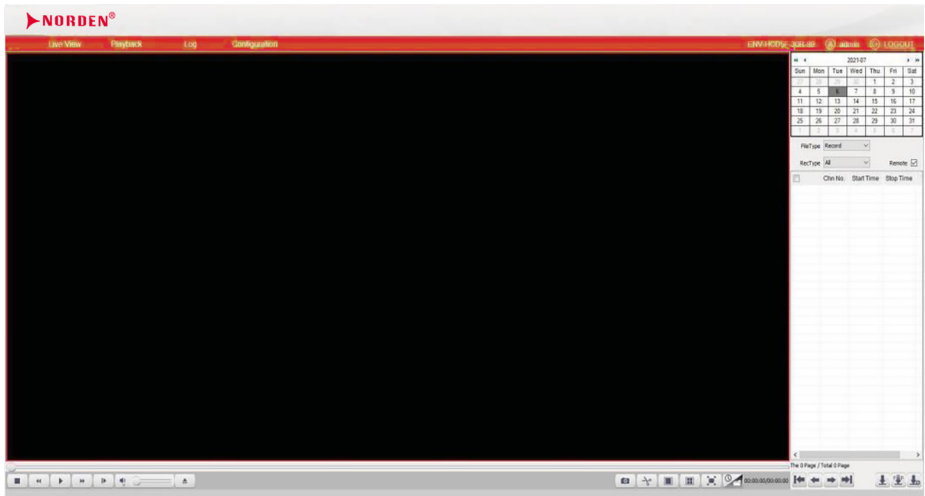


Video parameter setting interface

- (1) Click or next to the [Video Parameter] tab to open or hide the parameter setting page.
- (2) Adjust video parameters such as brightness, contrast, saturation and hue by means of adjusting corresponding slider.
- (3) If you need to restore all video parameters to the default state, you can click the [Restore Default] button.
- (4) According to the specific situation of network environment, choose the appropriate preview mode from [Low Bandwidth] and [High Quality].

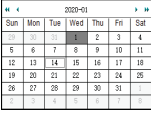
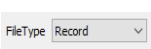
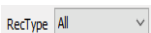
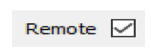
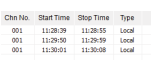







5.5 Playback

Click the [Playback] button to enter the [Playback] interface. Because different models support different functions, the interfaces may also be different, please refer to the actual interface.
















Playback interface






5.5.1. Search for and Download Videos

Icon	Description
	Select the date of recording / capturing in the calendar.
	Set the type of file to be queried, such as [Video], [Image], etc.
	Select the type of video file to be queried. (Supported by some models)
	When [Remote] is checked, query the files in the U disk or micro-SD card of camera, when [Remote] is not checked, query the files in the computer. (Supported by some models)
	List of video files. Double-click the file to start playing the video. Click the checkbox in front of the "channel number" and select the video file to download or perform other operations.
	Jump to the first page of query results.
	Go to the previous page of the current page
	Go to the next page of the current page.
	Jump to the last page of query results.
	Download the files from your camera to your computer. (Supported by some models) The default download address is: D:\NetVideoBrowser\DownloadFiles
	Upload the video file to the FTP server. (Supported by some models)
	A new window will pop up after clicking, to check the download status of the file. (Supported by some models) If you want to stop downloading some files, select the checkbox at the left of the file, and then click [Delete] to cancel the downloading.

5.5.2. Playback Control

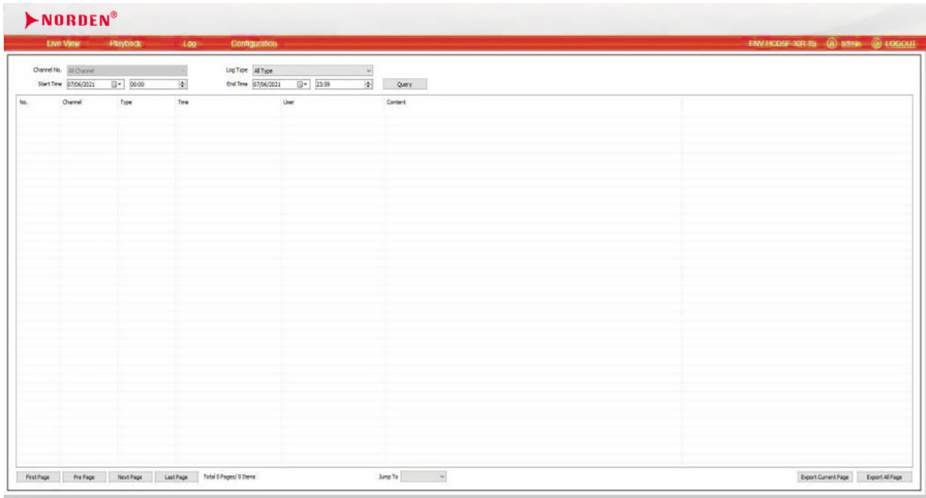
If you want to play the searched video file, double-click the [Video] file in the list of video files; if you want to play back the video stored on the local PC, click the button  at the bottom of the interface to find and open the local file you want to play from the pop-up file dialog box.

Icon	Description
	"Stop Playing" button. You can stop playing the current file by clicking it.
	Slow forward button. The speed is 1/2 X, 1/4 X, 1/6 X and 1/8 X.
	Play / pause button. Click to start/stop playing video file. Double speed playback will be canceled if necessary.
	Fast forward button. The speed is 2 X, 4 X, 6 X and 8 X.
	Step button. Video can be played back in a single frame.
	Turn on / off "Mute" button. Click it to turn off the audio captured by the front-end equipment and click it again to turn on audio. (When the stream type is pure video, the function is invalid)
	Volume adjustment. Adjust the volume by means of dragging the slider. (When the stream type is pure video, the function is invalid)
	Browse button. Select a local recording file.
	Playback capture button Default saves in D:\NetVideoBrowser\PlaybackPics
	Playback edit button. Click this button to "Start Editing" and click it again to end editing. (Some models only support to edit [Remote] video files) Default saves in D:\NetVideoBrowser\PlaybackFiles
	View and manage edited video files. (Supported by some models)
	Single screen play button.

Icon	Description
	<p>Four-screen playback button. Single-screen window will be divided into 4 small windows, and a different video file will be played in each window separately. User only needs to select a window with the mouse, and then open and play the required video file in this window.</p>
	<p>Full-screen play button. Click it to preview the video in full screen. In full-screen mode, double-click the left mouse button or press the [Esc] key of keyboard in any position, to exit the full-screen preview video status.</p>
	<p>Playback mode switching button. Optional timeline mode and file mode. (Supported by some models)</p> <p> Indicate that it is currently in file mode. In the file mode, user can operate according to the file type, video type and remote query remotely.</p> <p> Indicate that it is currently in timeline mode. In timeline mode, user can drag the timeline with the mouse to select the time point to play back the video, and then click the "Play" button to view the video. Some models support [Playback Time Point Positioning]; fill in the time point in the column of [Playback Time Point Positioning], and click [Position] to quickly position the time point. (Timeline mode does not support to view the video files saved on the local computer)</p>

5.6 Log

Click the [Log] button to enter the log query page. Because different models support different functions, the interfaces may also be different, please refer to the actual interface.



Log interface

- (1) Select the channel number for which you want to query the log in the [Channel Selection] drop-down list.
- (2) Select the type of log you want to query from the [Log Type] drop-down list.
- (3) Select the start date and time from the [Start Time] drop-down list.
- (4) Select the end date and time in the [End Time] drop-down list.
- (5) Click the [Query] button to query the logs within the specified time range.
- (6) When there are many logs, you may click [Home], [Previous], [Next] and [Last] in the bottom left corner to view the logs; or select the page number to be viewed in the [Go to] drop-down list. This jumps to the specified page.
- (7) Click [Export Logs of Current Page] to export the logs of current page to the computer. (Default storage address: D:\NetVideoBrowser)
- (8) Click [Export Logs of Current Page] to export the logs of current page to the computer. (Default storage address: D:\NetVideoBrowser)

Advanced parameter configuration

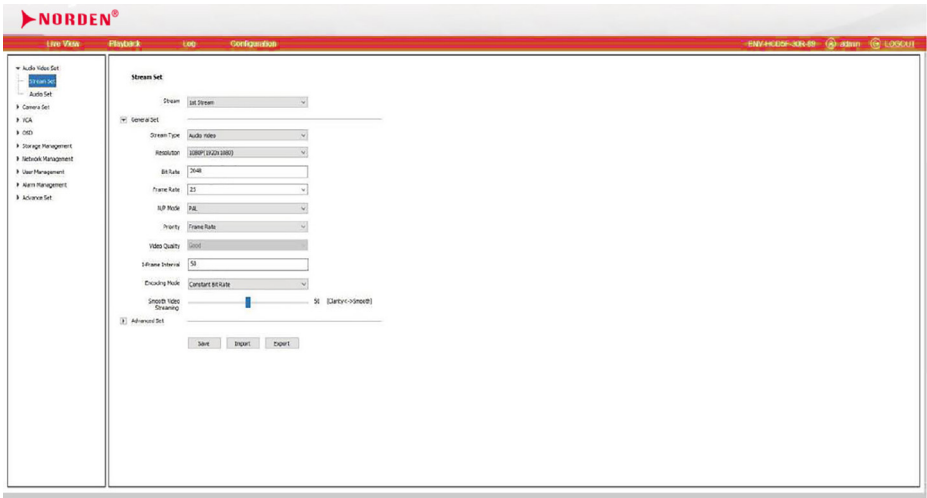
After successful login, the system will display the [Live View] interface by default. User can enter the parameter configuration page and set audio and video parameters, camera settings, intelligent analysis, character overlay, front-end storage, network management, user management, alarm management, PTZ management and advanced options by clicking the [Configure] in the menu bar at the top of page.

Note:

Because different models support different functions, the interfaces and menus may also be different, please refer to the actual interface.

5.7 Audio Video Set

5.7.1. Stream Set



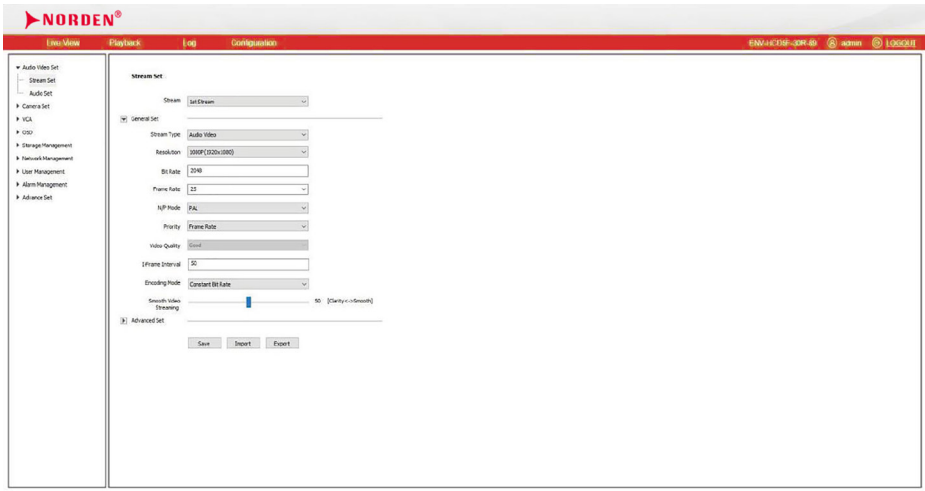
Video parameters-interface of common settings

Stream Set-common settings

Parameters	Description
Channel selection	Select the channel whose parameters need to be configured. (Supported by some models)
Code stream type	Select the code stream type that needs to be configured.
Stream type	You can select [Audio and Video] or [Pure Video]. (Supported by some models) Some models do not support audio, so there will be no sound even if [Audio / Video] is selected.
Resolution	Select the required resolution from the [Resolution] drop-down list, and then switch the code stream to the specified resolution. (The resolutions supported by different models are slightly different, please refer to the actual interface)

Parameters	Description
Code rate	<p>Select the required resolution from the [Resolution] drop-down list, and then switch the code stream to the specified [Code Rate]. (Unit: Kbps)</p> <p>When [Compression Method] is [Constant Code Rate], [Code Rate] represents the actual code rate of code stream.</p> <p>When [Compression Method] is [Variable Code Rate], [Code Rate] represents the maximum code rate allowed by the code stream. (Different models support different code rates, please refer to the actual interface)</p>
Frame rate	<p>Select the required frame rate from the drop-down list, and switch the code stream to the specified frame rate.</p> <p>(The frame rates supported by different systems and resolutions are different, please refer to the actual interface)</p> <p>Note: If the frame rate is greater than 25 (PAL system) or the frame rate is greater than 30 (NTSC system), the following functions of some models will be automatically turned off: corridor mode, ultra-wide dynamic, video occlusion, image adjustment, alert plan, intelligent analysis-behavior analysis, face detection, population statistics, crowd gathering, position detection, video diagnosis.</p>
System	<p>Select the required system from the [System] drop-down list and set it to [PAL] or [NTSC].</p>
Priority mode	<p>Set it to [Give Priority to Frame Rate] or [Give Priority to Quality Priority].</p>
Video quality	<p>You can set [Video Quality] to [Best], [Better], [Good], [Common] or [Bad]. The better the video quality is, the higher the average video code rate is. (It is valid only when [Compression Method] is [Variable Code Rate])</p>
I-frame rate	<p>You can set the number of frames spaced between every 2 I-frames. (The range can be set from 10 to 100, and it is not recommended to modify it)</p>
Compression method	<p>Set it to [Constant Code Rate] or [Variable Code Rate].</p> <p>In the constant code rate mode, the fluctuation of video data volume is small, and the occupied bandwidth is stable during network transmission. In the variable code rate mode, the video data volume changes with the complexity of video screen. When the scene is single, bandwidth can be saved greatly.</p>
Code stream smoothing	<p>Set the ratio of I-frame and P-frame. (Supported by some models) The closer it gets to smooth, the better the smoothness of dynamic scene is. The closer it gets to clear, the better the video clarity of static scene is.</p>

After setting, click the [Save] button to take effect.



Video parameters-interface of advanced settings

Stream Set-advanced settings

Parameters	Description
Corridor pattern	The screen is rotated by 90 degrees to fit the scene where the device is installed on the wall transversely. It is turned off by default. (Supported by some models)
Video coding	User can select the required video coding method from the drop-down list, such as [H.264], [H.265] and [Motion JPEG]. (Different models support different video coding methods, please refer to the actual interface)
S+	S+ is a smart coding method. When it is turned on, the device will automatically select reasonable coding parameters according to the current scene, improve the image quality under the setting of constant code stream, and save code stream storage space under the setting of variable code stream. Under the setting of S+265, parameter settings such as I-frame interval will be invalid. (Supported by some models)
Extended coding	If [H.264] is selected for [Video Coding], you can select the required extended coding method from the drop-down list, such as [baseline], [main profile] and [high profile]. (Supported by some models)

Parameters	Description
Encryption type	User can encrypt the video data to improve the security of network transmission, and it is not encrypted by default. Select the required video coding method from the drop-down list, such as [AES], enter the encryption password in [Encryption Password] and [PasswordConfirmation], please make sure that the passwords entered twice are the same, and click [Save] button to make it take effect. (The encryption algorithms supported by different models are slightly different, please refer to actual situation)
Electronic image stabilization	According to the actual situation, user can select [On] or [Off] to optimize the picture quality and prevent shake. (Supported by some models)
SVC	SVC is a special coding technology that can save storage costs, but storage equipment and decoding equipment must support SVC at the same time. It is [Off] by default. (Supported by some models)

After setting, click the [Save] button to take effect.

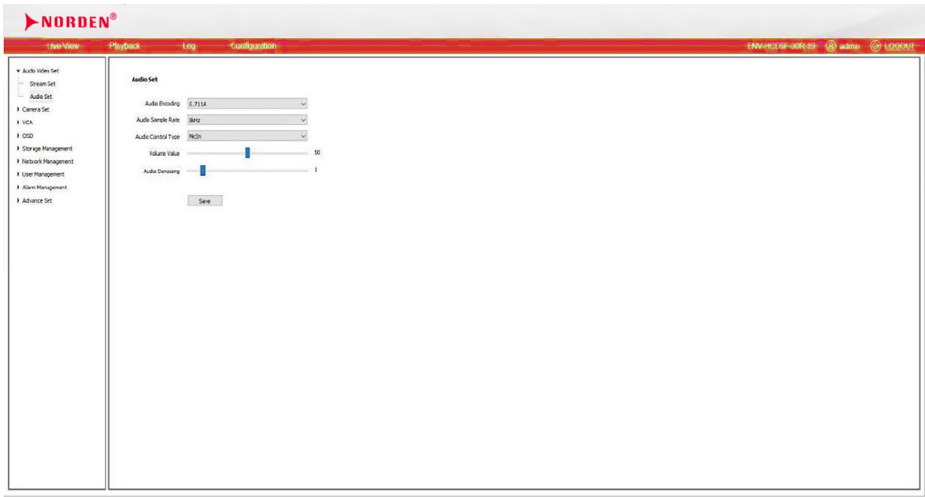
Stream Set-export

Click the [Export Parameters] button to export the current video parameter settings to the specified location. (Default storage address: D:\Neoconservative\Ideogram.DAT) It can be imported to other equipment of the same model in the future.

Stream Set -import

Click the [Import Parameters] button to read the backup file from the specified path and import it to the current equipment, to quickly configure the video parameters.

5.7.2. Audio Set



Interface of audio parameter setting

Parameters	Description
Channel selection	Select the channel whose parameters need to be configured. (Supported by some models)
Audio coding	Select the required audio coding method from the [Audio Coding] drop-down list, and then switch to the specified coding method. (The coding methods supported by different models are slightly different, please refer to the actual interface)
Audio sampling rate	Select the required audio sampling rate from the drop-down list, such as 8kHz, 32kHz and 48kHz.
Audio control type	Select the type of equipment used for sound acquisition. If you use an active microphone (Level V signal) to acquire audio, please select [Line In] mode. If you use the built-in MIC (Level signalmen) to acquire audio, please select [Mic In] mode. (The audio control types supported by different models are different, please refer to the actual interface)
Input volume (Volume value)	You can adjust the volume of microphone or MIC. The smaller the value is, the smaller the volume is the larger the value is, the greater the volume is.

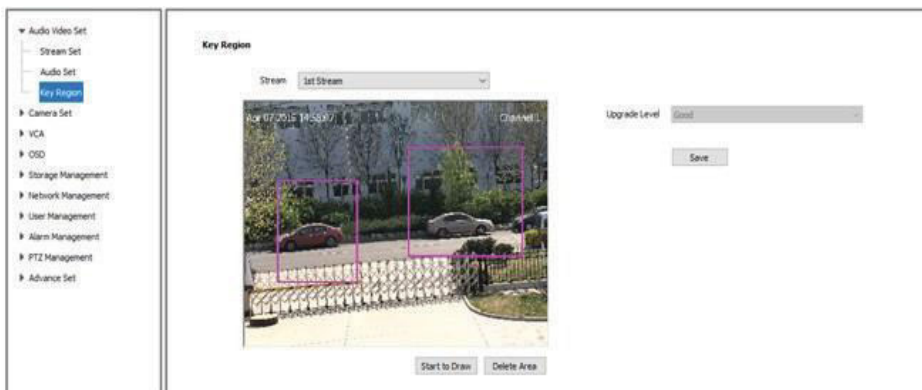
Parameters	Description
Audio noise reduction	User can set the filtering level of ambient noise. When the value is 0, the audio noise reduction function is turned off. The larger the value is, the higher the noise filtering level is. (Supported by some models)
Audio output type	According to the actual application, set the audio output type of the front-end equipment, such as [Built-in Speaker], [External Sound Source] and [Off]. (Supported by some models)
Output volume (Volume value)	User can adjust the volume of the built-in speaker or external sound source. The smaller the value is, the smaller the volume is the larger the value is, the greater the volume is. (Supported by some models)
Output volume (Volume value)	It is used to suppress the echo caused when the sound of front-end speaker is acquired by MIC, which can improve the audio quality of intercom. (Supported by some models)

After setting, click the [Save] button to take effect.

Description:

- (1) Audio parameters are limited to the models that support audio input/output functions.
- (2) Some audio parameters will take effect only after the equipment is restarted.

5.7.3. Key Region



Interface of key area setting

By setting [Key Area], user can focus on monitoring certain designated areas in the pictures, so that the quality of pictures in these areas is better than that in other areas. (Some models support [Key Area], the number of key areas supported by different models is slightly different)

Parameters	Description
Channel selection	Select the channel whose parameters need to be configured. (Supported by some models)
Code stream type	Select the code stream to be set from the [Code Stream Type] drop-down list.
Type selection	According to actual needs, select [Fixed Area] and [Dynamic Tracking]. (Supported by some models)
Upgrade level	According to the actual needs, set the quality of pictures in the key areas, such as [best], [better], [good], [Common] and [bad].

Draw key areas

- (1) Click [Start Drawing] and drag the mouse on the video screen to draw [Key Area].
(For some models, user can draw [Key Area] by dragging the mouse on the video screen)
- (2) You can modify the shape of the [Key Area] by dragging the top corner of the area. (Supported by some models)
- (3) Click [Clear Line] or [Delete Area] to delete the previously drawn area and redraw it.
- (4) After setting, click the [Save] button to take effect.

5.7.4. Picture Parameters

Used to set the resolution of the image captured. You can set the highest resolution supported by the equipment. Select the resolution from the drop-down list and click [Save] to make it take effect. (Supported by some models)

5.8 Camera Set

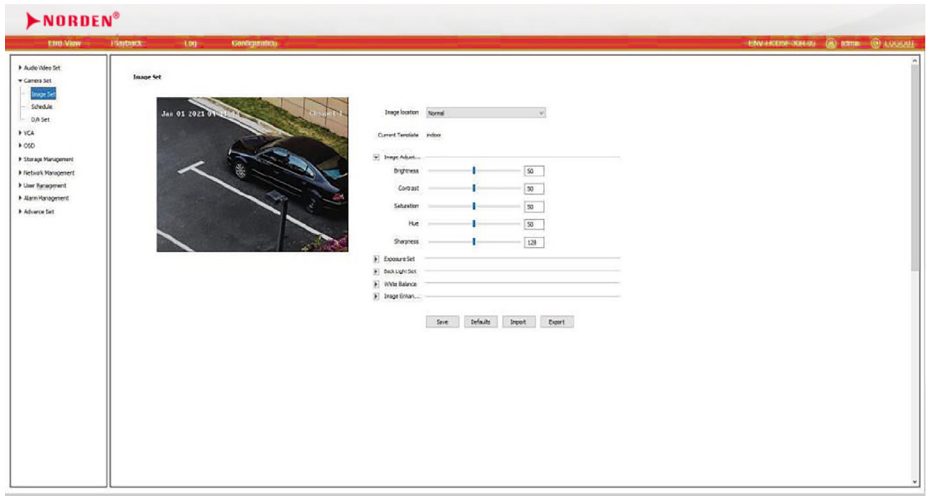
5.8.1. Image Set

Description:

- (1) On the HD parameter page, the camera can achieve the best display effect by adjusting the video parameters of camera.
- (2) Double-click the preview window on the left to watch in full screen, to confirm whether the video has reached the target effect. Double-click again to exit the full screen.
- (3) After setting HD parameters, click the [Save Template] button to save the parameters and make it take effect.

Image Set

The applications of HD parameters are reflected in the form of templates, and the system provides several sets of commonly used templates for use. The HD parameters of each template are independent of each other, and the parameters of the second template will not be affected after modifying the HD parameters of the first template, so please confirm the current template before modifying the parameters.



HD parameter interface


Parameters	Description
Aperture mode	Select the corresponding aperture mode according to the actual lens type of camera. (Supported by some models, the aperture modes supported by different models are slightly different, please refer to the actual interface)
Channel selection	Select the channels for which parameters need to be configured. (Supported by some models)
Current template	Select the template you want to set from the drop-down list, such as [Indoor] and [Outdoor].
Template name	If user is not satisfied with the current name, you can define a new name for the template in the edit box.
Functions	Set advanced functions according to actual needs, such as [Distortion Correction] and [Remote Zoom-in]. (Supported by some models)

Parameters	Description
Field of vision	Adjust the slider behind [Field of Vision] to set the [Field of Vision] parameter under the current template. The larger the value is, the wider the field of vision is, and the more things you will see. (Supported by some models)
Intensity	Adjust the slider behind [Intensity] to set the [Distortion Correction] or [Remote Zoom-in] parameter under the current template. The larger the value is, the more obvious the effect of [Distortion Correction] or [Remote Zoom-in] is. (Supported by some models)

Image Set - Image adjustment


Click the button next to [Image Adjustment] to expand the [Image Adjustment] interface. The user can adjust the slider behind the parameter name to set the video parameters such as brightness, contrast, saturation, chroma and sharpness of the picture under the current template.

Image Set - Exposure Set

Click the  button next to [Exposure] to expand the [Exposure] setting interface.

Parameters	Description
Shutter speed	If the maximum exposure time is set, the image brightness may be affected. If the exposure time is too long, smearing may be caused to moving images. If the exposure time is too short, video image will become dark.
Automatic gain	If the maximum gain is set, image brightness may be affected. (Many noise points may be caused if the gain is too large)
Brightness control	Set the brightness of image. The larger the value is, the brighter the image is.
AE adjustment	Set the speed of AE adjustment according to actual needs.


Image Set - Backlight SET

Click the  button next to [Backlight] to expand the [Backlight] setting interface.

Parameters	Description
Smart IR	It is mainly used in infrared night vision scenes. When the picture is overexposed, turn on this function to reduce the brightness automatically and thus avoid overexposure.
Glare suppression	It is mainly used in road monitoring scenes. It can suppress the glare such as car headlights after being turned on, thus reducing the effect of glare.


Parameters	Description
Ultra-wide dynamic strategy	<p>Set the ultra-wide dynamic strategy according to actual needs, such as [Off], [Backlight Compensation], [Ultra-Wide Dynamic Auto], [Ultra-Wide Dynamic Manual], etc.</p> <p>Select [Backlight Compensation], select the check box of [Set Backlight Compensation Area], and drag the mouse on the video screen to draw the compensation area.</p> <p>Select [Ultra-Wide Dynamic Auto] or [Ultra-Wide Dynamic Manual], and drag the [Ultra-Wide Dynamic Level] slider to set the wide dynamic level that meets the needs of scene. The greater the value is, the more obvious the effect is.</p>

Image Set - White Balance

Click the  button next to [White Balance] to expand the [White Balance] setting interface. Select the required white balance mode from the [White Balance Adjustment] drop-down list, such as [Auto], [Semi-Auto], [Sunny Day], [Fluorescent Light], [Warm Light], [Incandescent Light], [Natural Light], [Locked White Balance], [Manual], etc.

If [Semi-Auto] and [Manual] are selected, the red, green and blue color gains can be adjusted to meet the requirements. R is the red gain, G is the green gain, and B is the blue gain.

Image Set - image enhancement

Click the  button next to [Image Enhancement] to expand the [Image Enhancement] setting interface.

Parameters	Description
Image style	Set the image style according to actual needs, such as [Adaptive], [Natural], [Bright], [Soft] and [Colorful].
Indoor mode and outdoor mode	Select [Outdoor], [Indoor] and other modes according to actual needs.
Fog transmission	Select [On], [Close] and other options according to actual needs.

Parameters	Description
Digital noise reduction	<p>Set digital noise reduction according to actual needs, such as [Off], [Normal Mode] and [Expert Mode].</p> <p>Select [Normal Mode] and drag the slider next to [Noise Reduction Level] to set the noise reduction level. The larger the value is, the higher the digital noise reduction level is.</p> <p>Select [Expert Mode], and drag the sliders next to [Spatial Noise Reduction Level] and [Time Domain Noise Reduction Level] to set the spatial noise reduction level and time domain noise reduction level. The larger the value is, the higher the digital noise reduction level is.</p>

Note: After setting the HD parameters, click the [Save Template] button to save the settings.

Image Set -export

Click the [Export Parameters] button to export the current HD parameter settings to the specified location (default storage address: D:\NetVideoBrowser\ HDPPara.dat) for import to other equipment of the same model in the future.

Image Set - import

Click the [Import Parameters] button to read the high-definition parameter backup file from the specified path (default storage address: D:\NetVideoBrowser\ HDPPara.dat), set various parameters of the current equipment, and realize rapid configuration.

Image Set - restore default

Click the [Restore Default] button to restore the parameters of each template to the factory default settings.

5.8.2. Image adjustment

Some models support image adjustment, so user can restore distorted images by adjusting parameters. [Current Template] There are multiple templates. The following parameters can be set when a custom template is selected.

[Correction Intensity] Correct the entire picture.

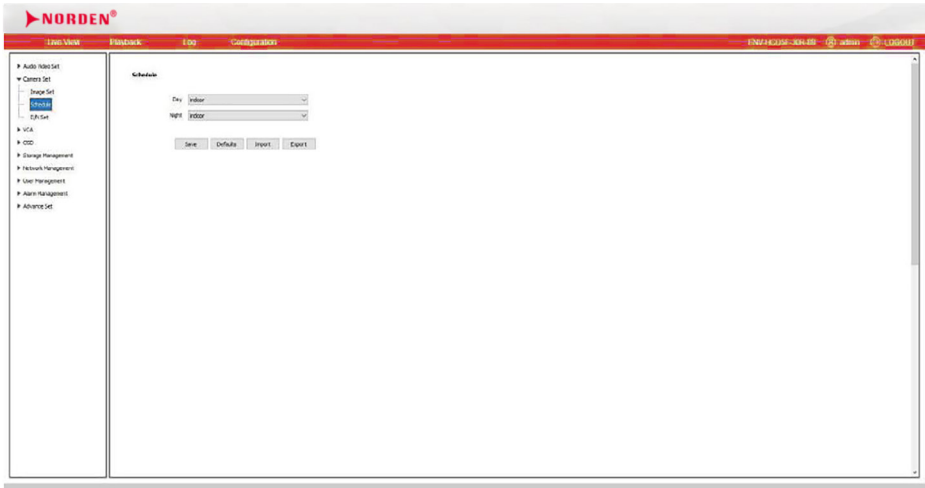
[Horizontal Field of View] Adjust the horizontal field of view.

[Vertical Field of View] Adjust the vertical field of view.

[Far-End Zoom-in] Enlarge the upper image to make the far-end target clearer.

5.8.3. Schedule

Users can use different templates for equipment at different time periods by means of using HD template, to ensure that the effects of videos are the best in different time periods. Currently there are two types of template settings, as shown in the figure below. (Supported by some models)



Schedule interface

Users can use different templates for equipment at different time periods by means of using HD template, to ensure that the effects of videos are the best in different time periods.

[Day]: Set the HD template during the day.

[Night]: Set the HD template at night.

Click the [Save] button to save and make it take effect.

Schedule-export

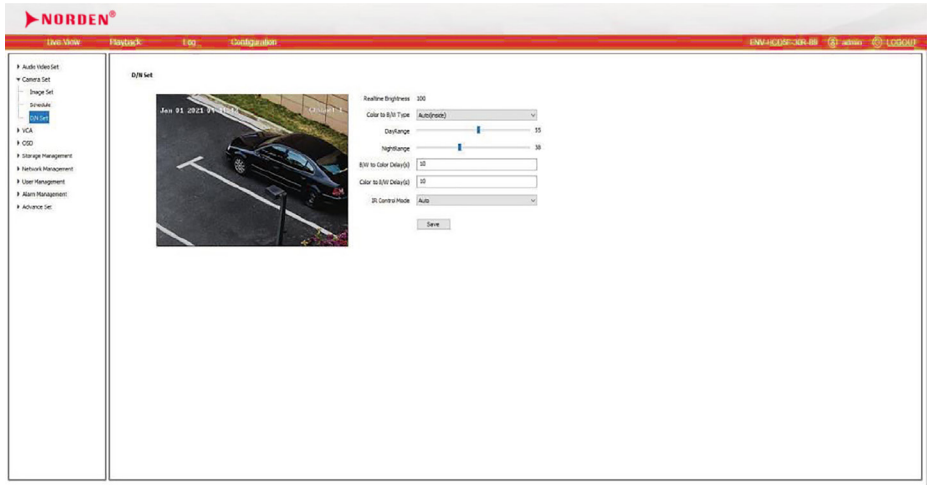
Click the [Export] button to export the current HD template settings to the specified location (default storage address: D:\NetVideoBrowser\ HDSchedulePara.dat) for import to other equipment of the same model in the future.

Schedule-import

Click the [Import] button to read the HD template backup file from the specified path (default storage address: D:\NetVideoBrowser\ HDSchedulePara.dat), set various parameters of the current device, and thus achieve rapid configuration.

5.8.4. D/N Set

Through [Color to Black] ([Fill Light Mode] for some models) setting, the equipment can be switched between day mode and night mode according to the set rules. (The functions supported by different models may be different, please refer to the actual interface)



Color to black setting interface

Parameters	Description
Channel selection	Select the channel whose parameters need to be configured. (Supported by some models)
Real-time brightness value	Display the brightness value of the current environment. The larger the value is, the higher the brightness is. (Supported by some models)
Color to black type (Type of fill light)	[Color to Black Type] [Fill Light Type] for some models. User can select the required switching rule from the drop-down list, such as [Color], [Black and White], [Timing], [Internal Synchronization], [External Synchronization], [Adaptive], [Alarm Sync], [White Light On], [White Light Off] and [Fill Light Mode]. (The color to black strategies supported by different models are slightly different, please refer to the actual interface)
[Colored]	The video of the camera is always in colored mode. For models with infrared light, the infrared light is always off.
[Black and White]	The video of camera is always in black and white mode. For models with infrared light, the infrared light is always on.

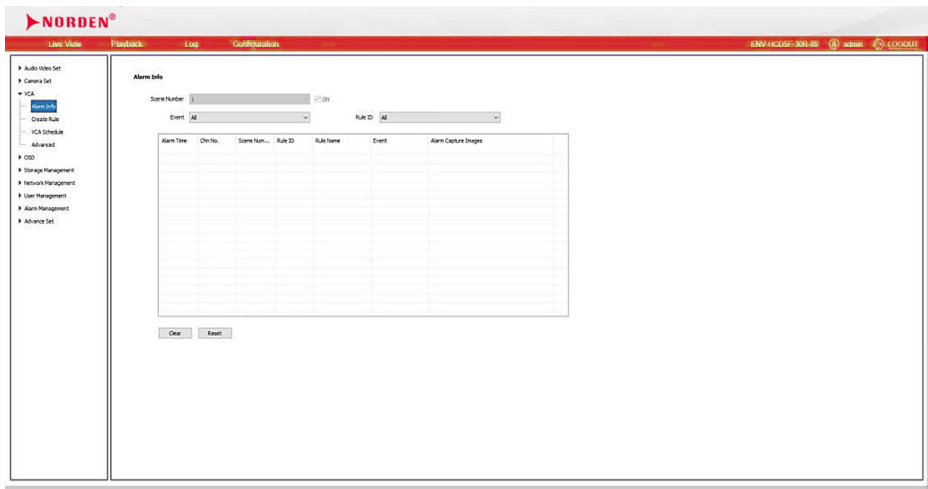
Parameters	Description
[Timing]	The camera can be switched between colored / turn off fill light or black and white / turn on fill light mode according to [Day Time] and [Nighttime].
[Internal Sync] / [External Sync]	The camera can be switched between colored mode or black and white mode according to [Day Brightness Value] and [Night Brightness Value]. When the video brightness is higher than [Day Brightness Value], the video is in colored / turn off light mode; when the video brightness value is lower than [Night Brightness Value], the video is in black and white / turn on fill light mode. (Supported by some models)
[Alarm Sync]	The camera can be switched between colored mode or black and white mode according to the status of synchronous interface of alarm. High level is used for colored mode, and low level is used for black and white mode. (Supported by some models)
[Adaptive]	The camera can be automatically switched between black and white mode or colored mode according to the scene. (Supported by some models)
White Light On] / [White Light Off]	Manually turn on/off the white highlight LED fill light of camera. (Supported by some models)
[Fill Light Mode]	The fill light of equipment is automatically turned on/off according to the external brightness value. The images of equipment are always in colored mode.
Day brightness value	Drag the slider beside to set the light intensity threshold for turning off the fill light. If the ambient light intensity exceeds this value, turn off the fill light (Supported by some models)
Night brightness	Drag the slider next to it to set the light intensity threshold of the fill light. If the ambient light intensity is smaller than this value, turn on the fill light (supported by some models)
Black to color delay	Some models are set with [White Light Off Delay]. After the set ambient light intensity is greater than [Daylight Brightness Value], delay the time to turn off the fill light, wait for the ambient light intensity to become stable, and prevent from repeatedly turning on/off the fill light. (Supported by some models)
Color to black delay	Some models are set with [White Light on Delay]. After the set ambient light intensity is smaller than [Nightlight Brightness Value], delay the time to turn on the fill light, wait for the ambient light intensity to become stable, and prevent from repeatedly turning on/off the fill light. (Supported by some models)
Infrared light brightness / White light brightness	Drag the slider next to it to set the brightness of the infrared light/white light. The larger the value is, the greater the brightness is. (Supported by some models)
White light control mode	User can manually turn on/off the white light, or automatically control white light switch. (Supported by some models)

After the setting is completed, click the [Save] button to save the setting and make it take effect.

5.9 SMART ANALYTICS

Some models support [Intelligent Analysis]. Camera can be used to perform alarms and statistics on events that occur in the monitoring scene by means of setting [Intelligent Analysis]. Some models support [Transportation Business]. Under [Transportation Business] mode, [Intelligent Analysis] will fail. Because the intelligent algorithms supported by different models are different, the setting interfaces and menu contents may be not exactly same. Please refer to the actual interface. The scene environment has a great impact on the accuracy of the automatic recognition of equipment. If the scene environment is very complicated and the lighting conditions are poor, it is recommended to not turn it on.

5.9.1. Alarm Info



Alarm information interface

[Event] You can choose to view the alarm information of one or all intelligent analysis events.

[Rule number] You can choose to view the alarm conditions of some or all rules.

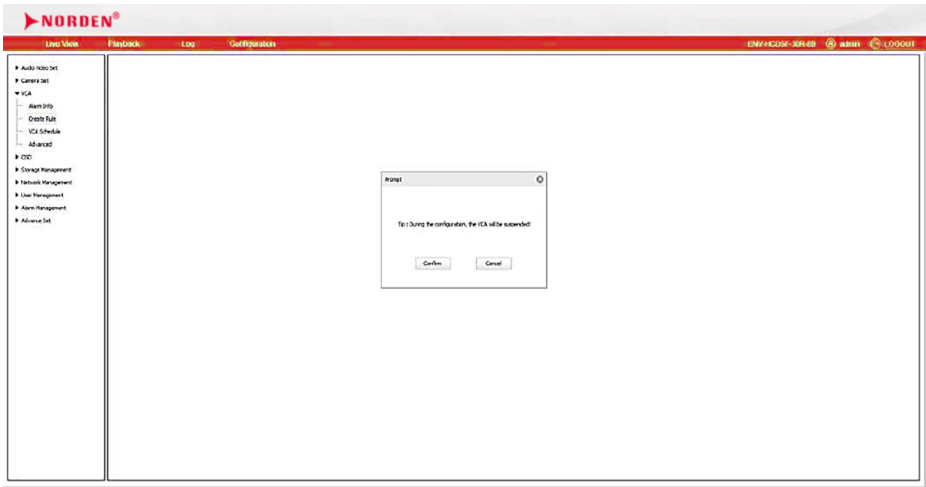
[Reset]: Clear the number of times of events corresponding to the channel rule, and count from 1 when the event occurs again.

[Clear]: Clear the alarm information displayed in the current list.

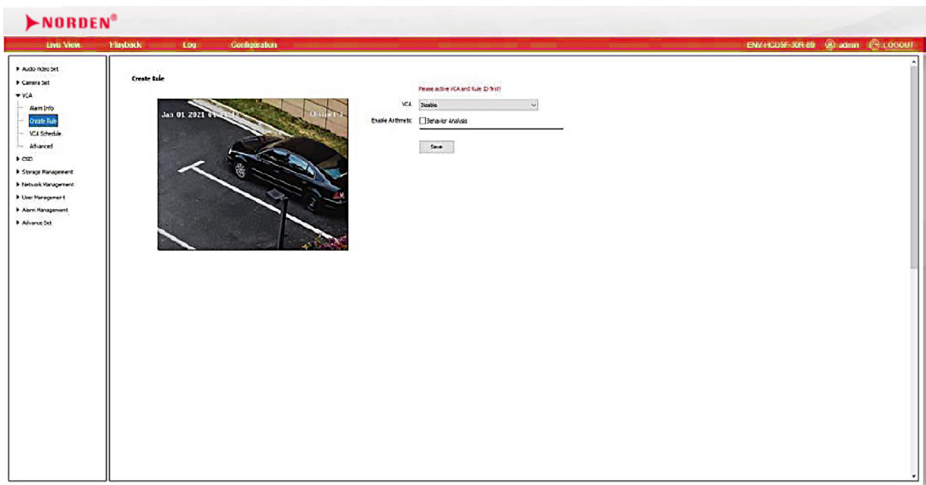
5.9.2. Create Rule

[Create Rule] are used to set the scene, algorithm type and rules for intelligent analysis. A prompt will pop up after entering [Event Parameters], and use can modify parameters by clicking [OK]; user can only view parameters but cannot modify them by clicking [Cancel].

Note: After entering [Event Parameters], intelligent analysis will be suspended. After exiting the scene setting, intelligent analysis will be restarted.



Event parameters-prompt interface



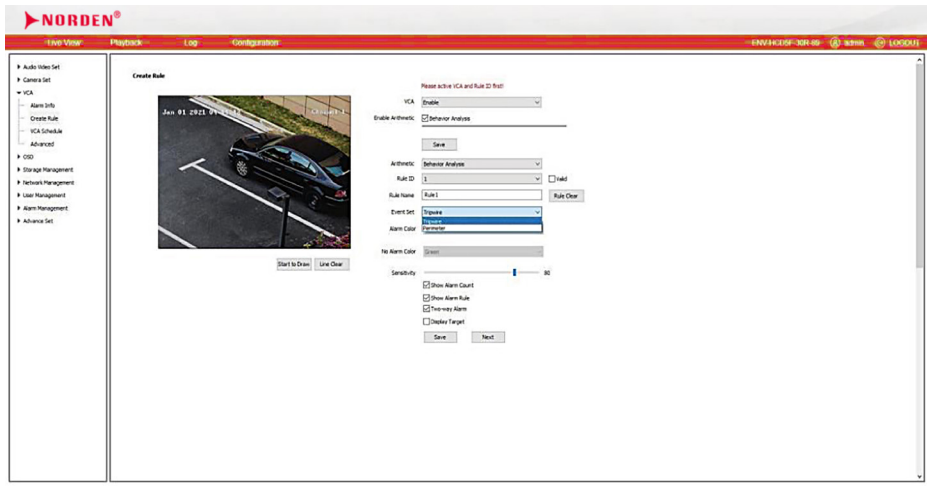
Event parameters-setting interface

The equipment supports multiple algorithms, such as [Behavior Analysis], [Crowd Gathering], [Face Detection], [People Counting] and [Position Detection]. User can check [Enable Intelligent Analysis] first, check the algorithm, click [Save Algorithm], and then set algorithm parameters one by one.

Description:

- (1) Different models support different algorithms. Please refer to the actual interface.
- (2) Some algorithms are mutually exclusive with others. Other algorithms can be enabled simultaneously. Please refer to the actual interface.
- (3) Select the corresponding algorithm in [Algorithm Configuration] and set the parameters of algorithm.
- (4) Check [Valid] in the algorithm parameters to make the algorithm take effect.
- (5) After the algorithm is set, you need to further set the arming and alarm in [Alarm Settings].

5.9.2.1 [Create Rule] [Behavior Analysis] (Supported by some models)



Interface of behavior analysis settings

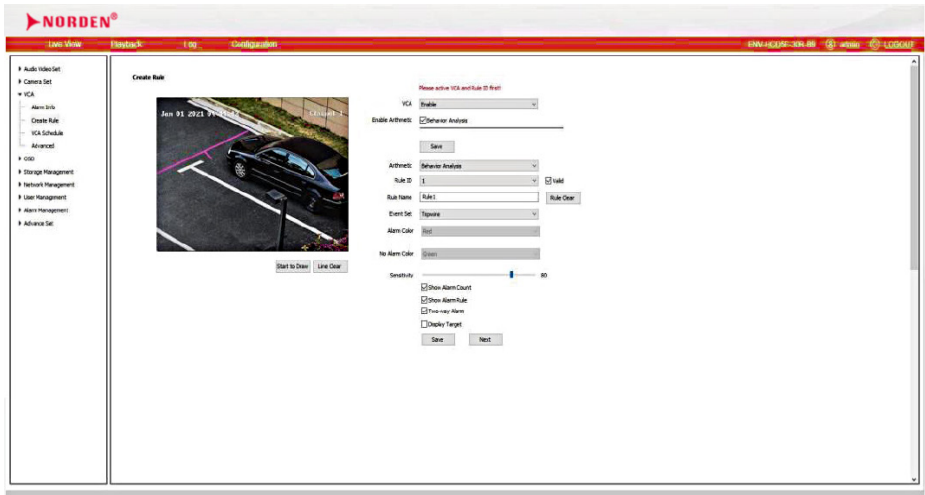
[Behavior Analysis] algorithm includes a variety of sub-algorithms, such as [Trip Wire], [Double Trip Wire], [Perimeter], [Item Left], [Item Lost], [Wandering], [Running], [Parking], [Alert] and [Heat Map].

Note:

- (1) The sub-algorithms supported by different models are slightly different. Please refer to the actual interface
- (2) Sub-algorithms can be repeated, and multiple sub-algorithms can be enabled simultaneously.
- (3) Click the right mouse button to end drawing area.
- (4) The total number of enabled sub-algorithms cannot exceed 8.

- After the setting is completed, click “Save”, and click “Next” or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

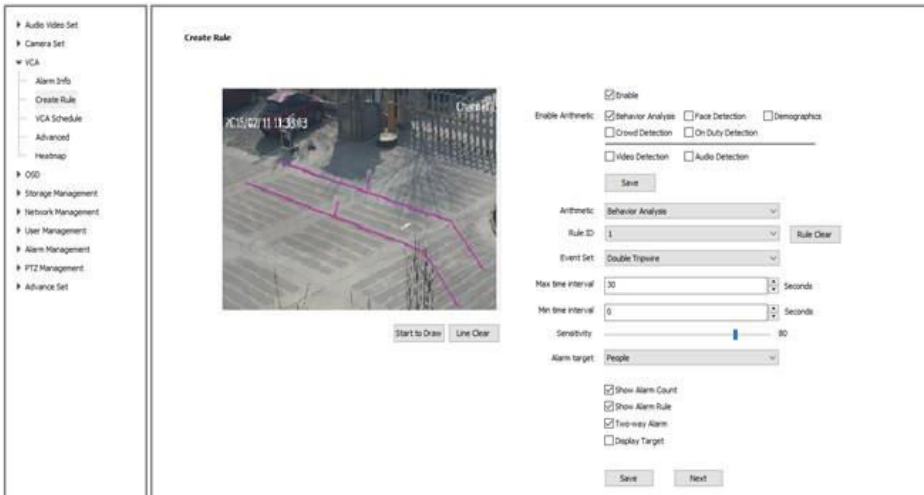
5.9.2.2 [Create Rule] [Behavior Analysis] [Trip Wire]



Behavior analysis- interface of trip wire setting

- Select the rule number, set the event as trip wire, and check [Enable] to enable the rule.
- Draw a rule line and indicate the direction in which it is forbidden to cross with the arrows on the rule line.
- Set the proportion, which indicates the size (area percentage) of the target in the screen.
- Set whether to display statistics and rules, and whether to alarm in both directions.
- After the setting is completed, click “Save”, and click “Next” or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

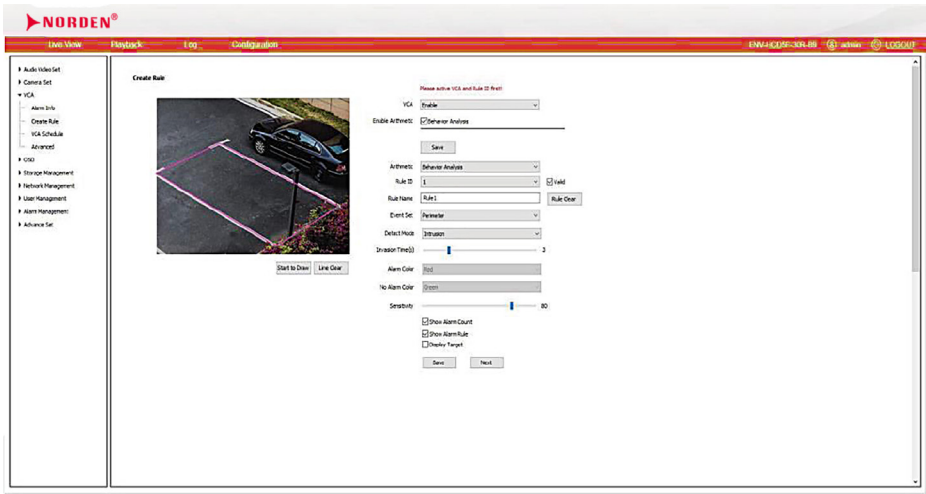
5.9.2.3 [Create Rule] [Behavior Analysis] [Double Trip Wire]



Behavior analysis-interface of double trip wire setting

- (1) Select the rule number, set the event as double trip wire, and check [Enable] to enable the rule.
- (2) Draw 2 rule lines and indicate the direction in which it is forbidden to cross with the arrows on the rule line. The directions of the 2 rule lines should be the same. An alarm will be issued when crossing two lines continuously within the specified time.
- (3) Set the maximum and minimum time intervals, which means the time range of crossing two rule lines consecutively.
- (4) Set the proportion, which indicates the size (area percentage) of the target in the screen.
- (5) Sets whether to alarm in both directions.
- (6) After the setting is completed, click "Save", and click "Next" or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

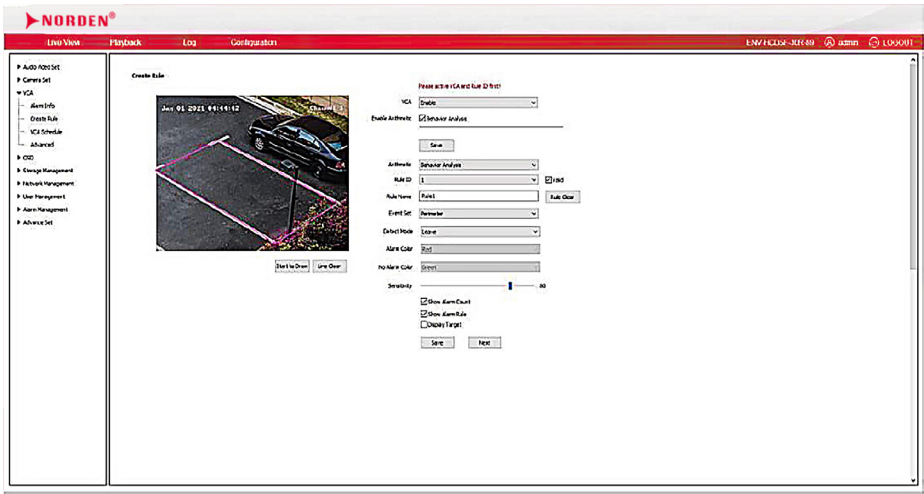
5.9.2.4 [Create Rule] [Behavior Analysis] [Perimeter]



Behavior analysis-interface of perimeter setting

- (1) Select the rule number, set the event as the perimeter, and check [Enable] to enable the rule.
- (2) Draw the perimeter detection area.
- (3) Select the detection mode. In entry mode, an alarm will be triggered in the area where the target entered; in leaving mode, an alarm will be triggered in the area where the target left; in intrusion mode, an alarm will be triggered when the target is kept in the detection area for the time specified for intrusion.
- (4) Set the proportion, which indicates the size (area percentage) of the target in the screen.
- (5) Set the intrusion time, which means that an alarm will be triggered when the target is kept in the detection area for the time specified.
- (6) After the setting is completed, click "Save", and click "Next" or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

5.9.2.5 [Create Rule] [Behavior Analysis] [Item Left]



Behavior analysis-interface of perimeter setting

- (1) Select the rule number, set the event as item left, and check [Enable] to enable the rule.
- (2) Draw the item left detection area. When the item left and item lost are enabled simultaneously, the detection areas should not overlap.
- (3) Set the proportion, which indicates the size (area percentage) of the effective target in the picture.
- (4) Set the alarm time: indicate that an alarm will be triggered when the target is kept in the left state in the picture for the time specified.
- (5) After the setting is completed, click "Save", and click "Next" or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

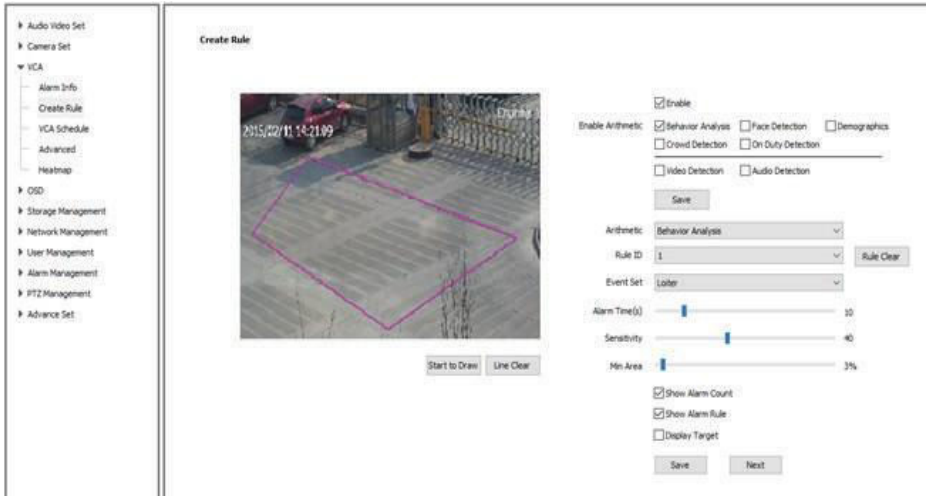
5.9.2.6 [Create Rule] [Behavior Analysis] [Item Lost]



Behavior analysis-interface of item lost setting

- (1) Select the rule number, set the event as item lost, and check [Enable] to enable the rule.
- (2) Draw the item left detection area. When the item lost and item left are enabled simultaneously, the detection areas should not overlap.
- (3) Set the proportion, which indicates the size (area percentage) of the target in the screen.
- (4) Set the alarm time: indicate that an alarm will be triggered when the target is kept in the lost state in the picture for the time specified.
- (5) After the setting is completed, click “Save”, and click “Next” or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

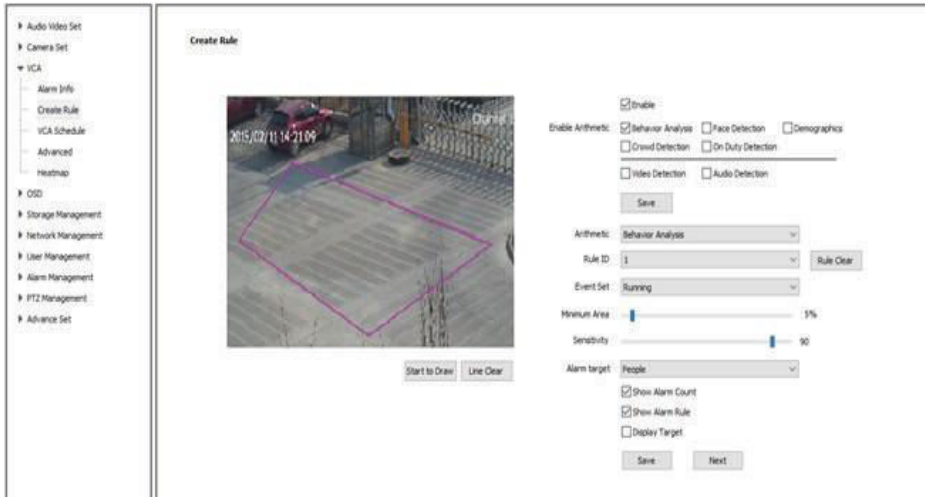
5.9.2.7 [Create Rule] [Behavior Analysis] [Wandering]



Behavior analysis-interface of wandering setting

- (1) Select the rule number, set the event as wandering, and check [Enable] to enable the rule.
- (2) Draw a wandering detection area.
- (3) Set the alarm time: indicate that an alarm will be triggered when the target is kept in the wandering state in the picture for the time specified.
- (4) Set the minimum area: indicate that an alarm will be triggered when the movement range (area percentage) of target in the detection area reaches the area.
- (5) Set the sensitivity. The larger the value is, the more sensitive it is.
- (6) After the setting is completed, click "Save", and click "Next" or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

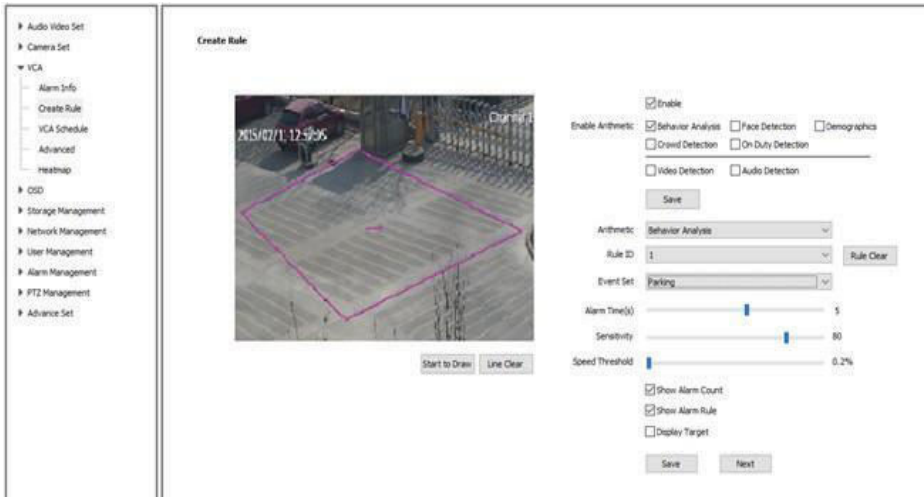
5.9.2.8 [Create Rule] [Behavior Analysis] [Running]



Behavior analysis-interface of running setting

- (1) Select the rule number, set the event as running, and check [Enable] to enable the rule.
- (2) Draw a running detection area.
- (3) Set the alarm time: indicate that an alarm will be triggered when the target is kept in the running state in the picture for the time specified.
- (4) Set the minimum moving distance: indicate that it will enter the running state when the moving speed (percentage/second) of the target in the picture is greater than this speed.
- (5) Set the proportion, which indicates the size (area percentage) of the target in the screen.
- (6) After the setting is completed, click "Save", and click "Next" or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

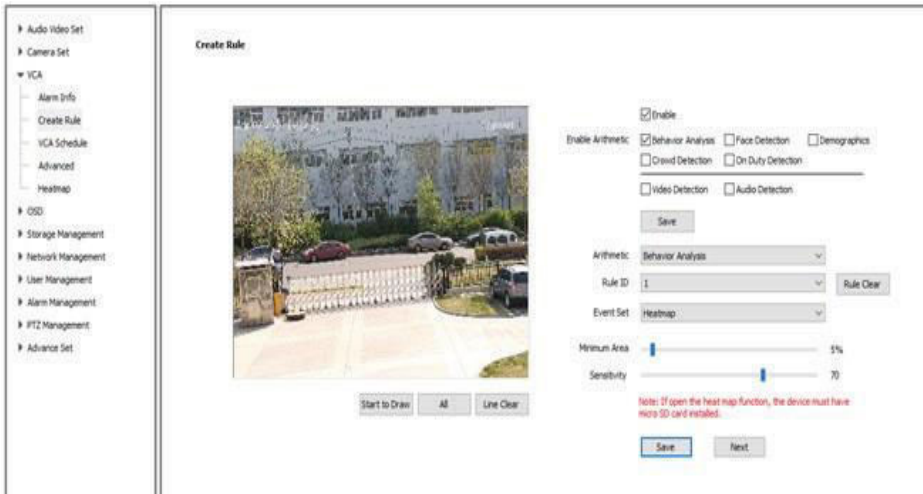
5.9.2.9 [Create Rule] [Behavior Analysis] [Stop]



Behavior analysis-interface of parking setting

- (1) Select the rule number, set the event as parking, and check [Enable] to enable the rule.
- (2) Draw the parking detection area.
- (3) Set the alarm time: indicate that an alarm will be triggered when the target is kept in the parking state in the picture for the time specified.
- (4) Set the proportion, which indicates the size (area percentage) of the target in the screen.
- (5) Set the speed threshold: indicate that it will enter the parking state when the moving speed (per centage/second) of the target in the picture is smaller than this speed.
- (6) After the setting is completed, click "Save", and click "Next" or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

5.9.2.10 [Create Rule] [Behavior Analysis] [Heat Map]



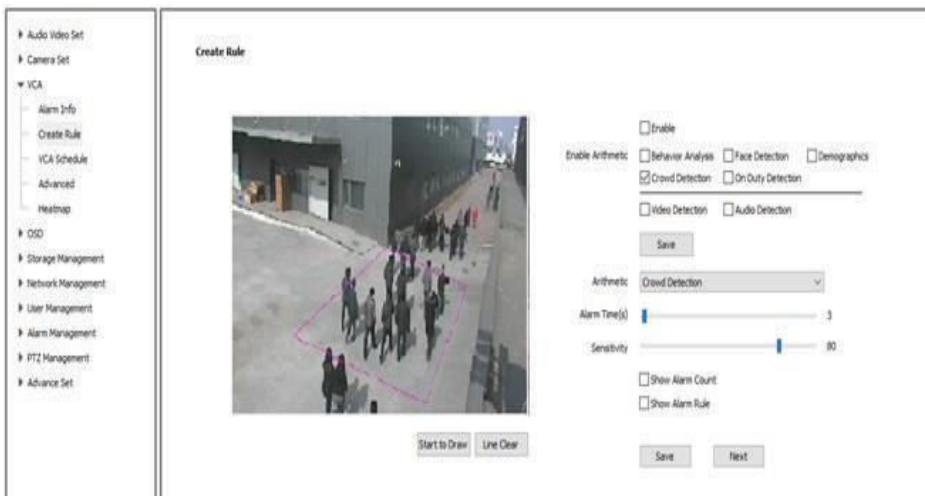
Behavior analysis-interface of heat map setting

- (1) Select [Rule Number] to define the serial number of algorithms. If user is not satisfied with the current rule name, you can algorithmically define a new name in the [Rule Name] edit box.
- (2) Select [Heat Map] in the [Event Setting] drop-down menu, and check [Enable] to enable the rule.
- (3) Click [Clear Rules] to clear the current settings and reset the rules.
- (4) Click [Start Drawing] to draw the detection area in the image, click the left mouse button to confirm the range of detection area, and click the right mouse button to end drawing.
- (5) Click [Select All] to set the entire image as the detection area.
- (6) Click [Clear Drawn Line] to clear the rule line and draw again.
- (7) [Minimum Moving Distance per Second]: It indicates the speed at which the target is moving and the ratio of the moving distance per second to the entire image (percentage). When the target moving speed is smaller than [Minimum Moving Distance per Second], the heat will not be accumulated.
- (8) [Sensitivity]: Drag the [Sensitivity] slider to set the sensitivity of algorithm recognition. The larger the value is, the more sensitive it is.
- (9) After the setting is completed, click "Save", and then click "Next" to configure [Alarm Setting]. See[Alarm Setting] for details.

5.9.2.11 [Create Rule] [Behavior Analysis] [Warning]

- (1) Select the rule number, name the rule, select [Enable] to enable the rule, and click [Clear Rule] to completely delete the rule, and set the event as alert.
- (2) Draw the alert detection area, click the [Start Drawing] button, draw the area, click the left mouse button to set the turning point of drawn area, and click the right mouse button to end drawing the line in the area.
- (3) Set the sensitivity. The larger the value is, the more sensitive it is.
- (4) Setting the dwell time, which indicates that relevant linkage will be triggered when the target is kept in the detection area for the time specified.
- (5) Set whether to display alarm statistics, alarm rules and display targets.
- (6) Click "Save", and then click "Next" to link to the interface of alarm setting.

5.9.2.12 [Create Rule] [Crowd Gathering] (supported by some models)



Behavior analysis- interface of crowd gathering setting

- (1) Draw the crowd gathering detection area.
- (2) Set the alarm time, which indicates that the alarm will be triggered after the alarm status continues to reach this time specified.
- (3) Set the proportion, which indicates that the crowd density (area percentage) in the picture will enter the alarm status when it reaches this value.
- (4) After the setting is completed, click "Save", and click "Next" or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

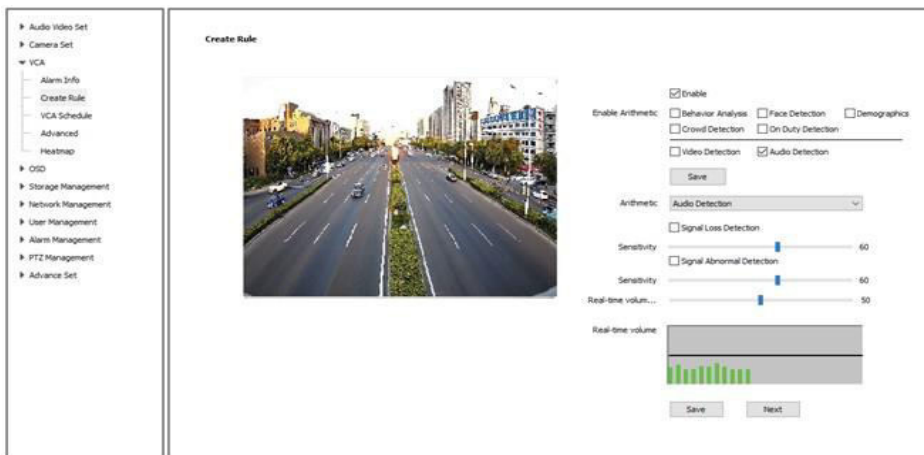
5.9.2.13 [Create Rule] [Video Diagnosis] (supported by some models)



Interface of video diagnosis setting

- (1) Set whether to diagnose the suppositional focus or scene change.
- (2) Set the sensitivity. The larger the value is, the more sensitive it is.
- (3) After the setting is completed, click "Save", and click "Next" or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

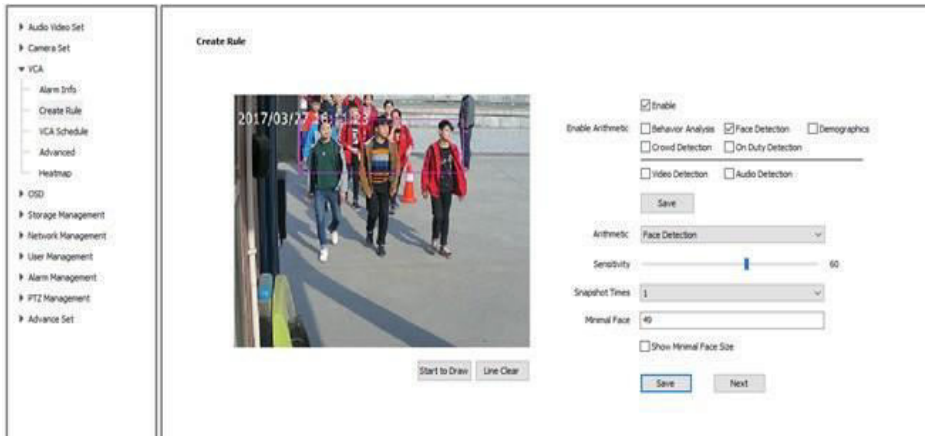
5.9.2.14 [Create Rule] [Audio Abnormality Detection] (Supported by some models)



Interface of audio abnormality detection setting

- (1) Set whether to enable signal loss detection and signal abnormality detection.
- (2) Set the sensitivity. The larger the value is, the more sensitive it is.
- (3) After the setting is completed, click “Save”, and then click “Next” to configure [Alarm Setting]. See 5.9.3 [Alarm Setting] for details.

5.9.2.15 [Create Rule] [Face Detection] (Supported by some models)



Interface of face detection setting

- (1) Draw the face detection area, click the right mouse button to end drawing.
- (2) It needs to set [Pushing Strategy], [Number of Pictures Captured], [Capture Mode] and [Face Exposure Brightness] for some models.
- (3) It needs to set face size for some models (the percentage of a single face in the entire picture).
- (4) It needs to check [Show Minimum Face Size] for some models, drag the rectangular frame in the preview area, and set [Minimum Face Size (Pixels)].
- (5) Set the sensitivity. The larger the value is, the more sensitive it is. The detection rate will improve, and the false detection will increase. (Supported by some models)
- (6) After the setting is completed, click “Save”, and click “Next” or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.

Description:

- (1) [Face exposure] is to set the reference brightness for face exposure. When a face is recognized in the preview picture, equipment can automatically adjust the face brightness according to the reference brightness value. The larger the face brightness value is, the brighter the entire preview screen is. The value shall not be set too low or too high. When [Face Exposure] is set for some models, [Wide Dynamic] will be turned off.

- (2) In [Capture Mode], if [Full Capture Mode] is selected, the capture rate will be increased; if [High Quality Mode] is selected, the false capture rate will be reduced; if [User Defined] is selected, adjust [Comprehensive Quality] to set the capture sensitivity. The smaller the value is, the higher the capture rate is the larger the value is, the lower the false capture rate is.
- (3) The setting interfaces and menu contents of different models of cameras may be not exactly same, and please refer to the actual interface.

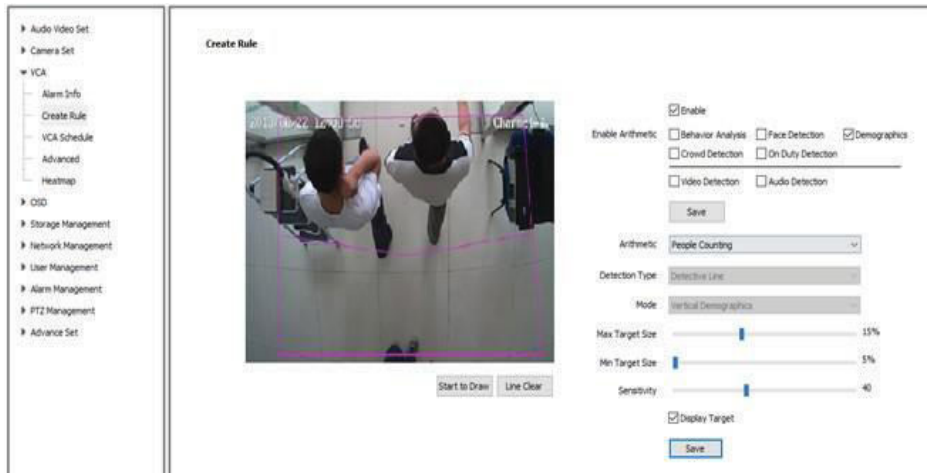
Note:

To achieve the best detection effect, please meet the following requirements as far as possible before installing the camera:

- (4) Ensure that the light of scene is adequate.
- (5) Recommended monitoring distance: 4.0-15.0 meters.
- (6) The relationship between camera installation requirements and lens values is as follows:

Overlooking angle of camera: $10^{\circ} \pm 3^{\circ}$	Installation height: $H=0.18 * D + 1.5$ (m)
Horizontal deflection angle of camera: $<10^{\circ}$	Maximum detection width: 2.5 (m)
Lens focal length selection: $f = 2.8 * D$ (mm)	D is the distance from the camera installation position to the entrance of personnel (m)

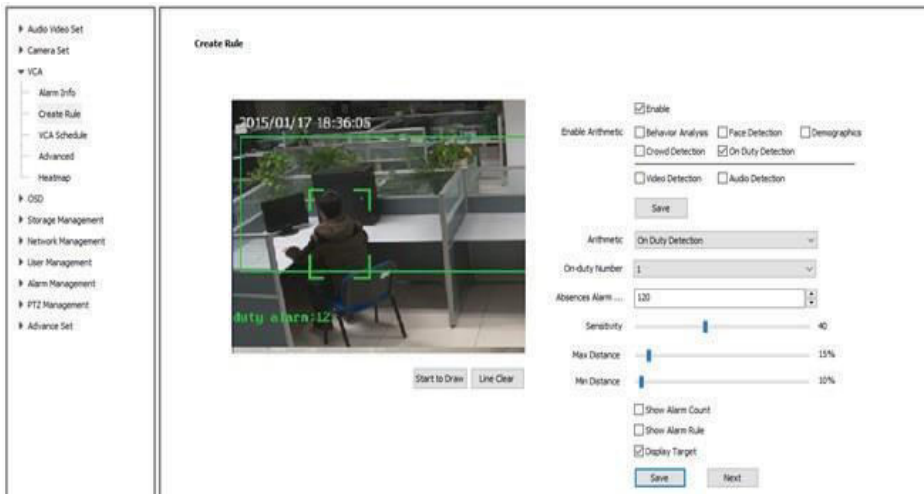
5.9.2.16 [Create Rule] [People Counting] (Supported by some models)



Interface of people counting setting

- (1) Draw people counting detection area.
- (2) Draw a counting line, which indicates the decision line for the target to enter and leave the area.
- (3) Set the maximum and minimum target size, which indicates the percentage of the target width in the picture.
- (4) Set the sensitivity. The larger the value is, the more sensitive it is. The detection rate will improve, and the false detection will increase.
- (5) After the setting is completed, click “Save”, and click “Next” or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details

5.9.2.17 [Create Rule] [Position Detection] (Supported by some models)

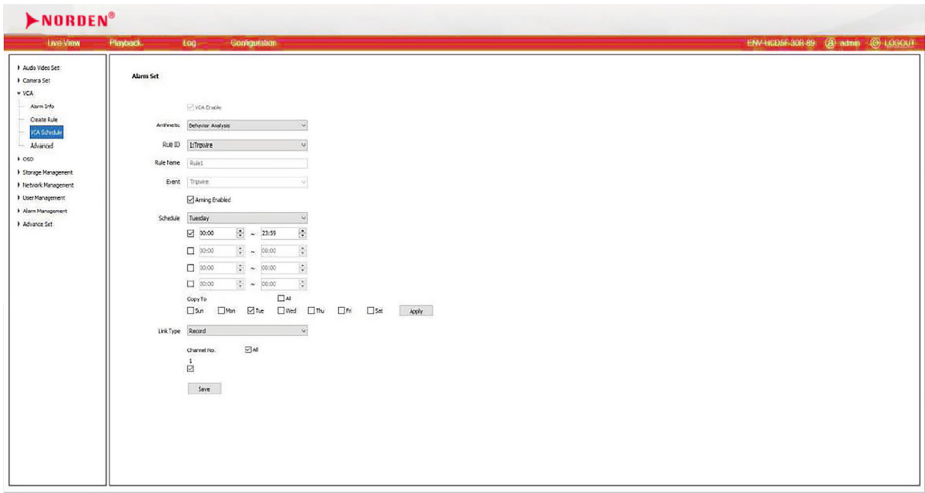


Interface of position detection setting

- (1) Draw the position detection area.
- (2) Set the number of people on duty and support single position and double position.
- (3) Set the alarm time for leaving position, which indicates that an alarm will be triggered when the target is kept in the state of leaving position for the time specified.
- (4) Set the sensitivity. The larger the value is, the more sensitive it is. The detection rate will improve, and the false detection will increase.
- (5) Set the maximum and minimum target sizes, which indicates the size (percentage) of the target in the picture.
- (6) After the setting is completed, click “Save”, and click “Next” or [Alarm Settings] for configuration. See 5.9.3 Alarm Settings for details.


5.9.3. SMART ANALYTICS Schedule

Select [Rule Number] or [Algorithm Configuration] to view or set the corresponding linkage alarm. (The interfaces of different models may be slightly different, please refer to the actual interface)

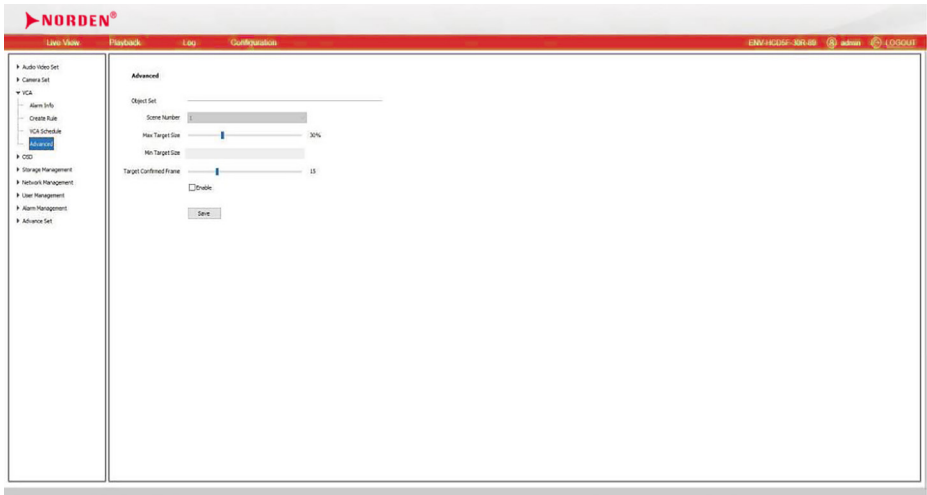


Alarm setting interface

- (1) After selecting [Rule Number], the rule name and event type will be refreshed automatically.
- (2) Check [Enable] arming: indicate that the rule or algorithm has taken effect
- (3) Arming setting: set the schedule for making the rule or algorithm take effect
- (4) By setting [Linkage Type], alarm linkage can be realized when an alarm is given. Optional types include linkage alarm output, linkage video, linkage capture, linkage PTZ, linkage face exposure and linkage face ROI. Different models may support different functions, please refer to the actual interface. The function description is as follows.

Parameters	Description
Alarm Output	Through [Alarm Management]- [Alarm Output] interface, set the alarm port and alarm port output mode, such as [Normally Open] alarm or [Normally Closed] alarm. (Supported by some models)
Video	Record video when an alarm is given and save it in U disk or SD card.(Supported by some models)
Snapshot	Capture the image when the alarm occurs and save it in a USB flash drive or SD card. (Supported by some models)
PTZ	Control the PTZ to the specified preset position through RS485. (Supported by some models)
Face exposure	When a face is recognized in the preview picture, the device will automatically adjust face brightness according to the reference brightness value. The larger the face brightness value is, the brighter the preview picture is. (Supported by some models)
Face ROI	Code of face region of interest: it is suitable for the operating environment with low bitrate. When a face is recognized in the preview picture, the equipment will automatically set the face as the region of interest, to improve the image quality of face. (Supported by some models)
Sound	When an alarm is given, the speaker will make a warning tone. (Supported by some models) The equipment is provided with several warning tones. To customize the warning tones, please click  , and download and install AudioMaker.exe, and then record and upload the video through AudioMaker.exe.
White light	White light will strobe when an alarm is given. (Supported by some models)

After the setting is completed, click the [Save] button to save the parameter settings and make it take effect.



Interface of advanced parameters

Note: Advanced parameter settings can only be commissioned under the guidance of our technical staff. (Supported by some models)

5.10 Alert Settings

Some models support [Alert Settings], and user can select an alert plan based on the actual situation on site or preferences. After selecting to customize a plan, user can set the selected scene, including rule name, triggered target, arming time setting and linkage type. The setting interfaces and menu contents of different models may be not exactly same, please refer to the actual interface.

Alert settings-plan management

Check [Enable] first, draw a warning area in the preview window, and then select the corresponding plan template according to actual needs. After selecting to customize a plan, user can set the rule name, sensitivity, arming time, linkage type and alert tone.

Alert settings-plan management



Interface of plan management setting

5.11 Face Detection

Some models support [Face Detection]. In [Face Detection], user can set [Face Statistics], [Event Parameters] and [Alarm Settings]. Before using [Face Statistics], user need to set [Event Parameters] and [Alarm Settings]. The setting interfaces and menu contents of different models may be not exactly same. Please refer to the actual interface.

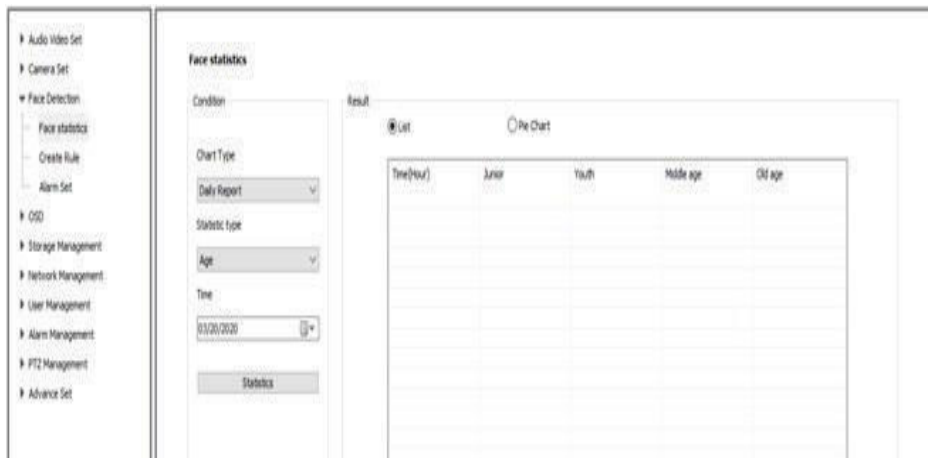
Note: To achieve the best detection effect, please meet the following requirements as far as possible before installing the camera:

- (1) Ensure that the light of scene is adequate.
- (2) Recommended monitoring distance: 4.0-15.0 meters.
- (3) The relationship between camera installation requirements and lens values is as follows:

Overlooking angle of camera: $10^{\circ} \pm 3^{\circ}$	Installation height: $H=0.18 * D + 1.5$ (m)
Horizontal deflection angle of camera: $<10^{\circ}$	Maximum detection width: 2.5 (m)
Lens focal length selection: $f = 2.8 * D$ (mm)	D is the distance from the camera installation position to the entrance of personnel (m)

5.11.1. Face Statistics

On this interface, user can view and export the statistical data stored on the network camera SD card/ micro-SD card/USB disk. (The storage media supported by different models may be not exactly same, please refer to the actual interface)



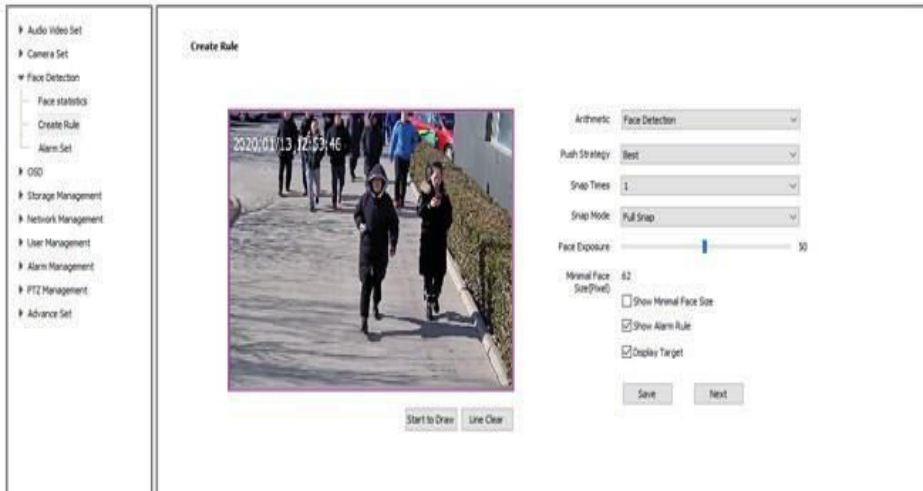
Interface of face statistics

Description:

- (1) To use the [Face Statistics] function, user must enable the [Face Detection] algorithm in [Face Detection]-[Event Parameters], and enable [Face Detection] in [Face Detection]-[Alarm Settings] to start arming.
- (2) By setting query conditions (report type, statistical type, and statistical time), user can quickly make statistics of face detection results. Statistical results can be displayed in a list or pie chart. Click the [Export] button to export and save the data locally.

5.11.2. Event Parameter

When [Event Parameters] is set, the camera will pause the face detection algorithm.



Interface of event parameter setting

- (1) Draw a face detection area, click the “Start Drawing” button to start drawing the area, click the left button to define the area, and click the left button to exit the drawing. Users need to click “Clear Line” before drawing a new one.
- (2) According to actual needs, set parameters such as [Algorithm Configuration], [Pushing Strategy], [Number of Pictures Captured], [Capture Mode], [Face Exposure Brightness] and other parameters.
- (3) It needs to set face size for some models (the percentage of a single face in the entire picture), and it needs to set face exposure brightness for some models.
- (4) After the setting is completed, click [Save], and then click [Next] to configure [Alarm Settings].

Description:

- (1) [Capture Mode]: the equipment will filter according to the comprehensive quality of the pictures captured, and only the pictures that meet the standards can be uploaded.
- (2) [Face Exposure Brightness]: it refers to the reference brightness of face exposure. When a human face is recognized in the preview picture, the equipment can automatically adjust the face brightness according to the reference brightness value. The larger the face brightness value is, the brighter the entire preview screen is, so it shall not be set too low or too high.

Note: To achieve the best detection effect, please meet the following requirements as far as possible before installing the camera:

- (1) Ensure that the light of scene is adequate.
- (2) Recommended monitoring distance: 4.0-15.0 meters.
- (3) The relationship between camera installation requirements and lens values is as follows:

Overlooking angle of camera: $10^{\circ} \pm 3^{\circ}$	Installation height: $H=0.18*D+1.5$ (m)
Horizontal deflection angle of camera: $<10^{\circ}$	Maximum detection width: 2.5 (m)
Lens focal length selection: $f = 2.8 * D$ (mm)	D is the distance from the camera installation position to the entrance of personnel (m)

5.11.3. Alarm Settings



Alarm setting interface

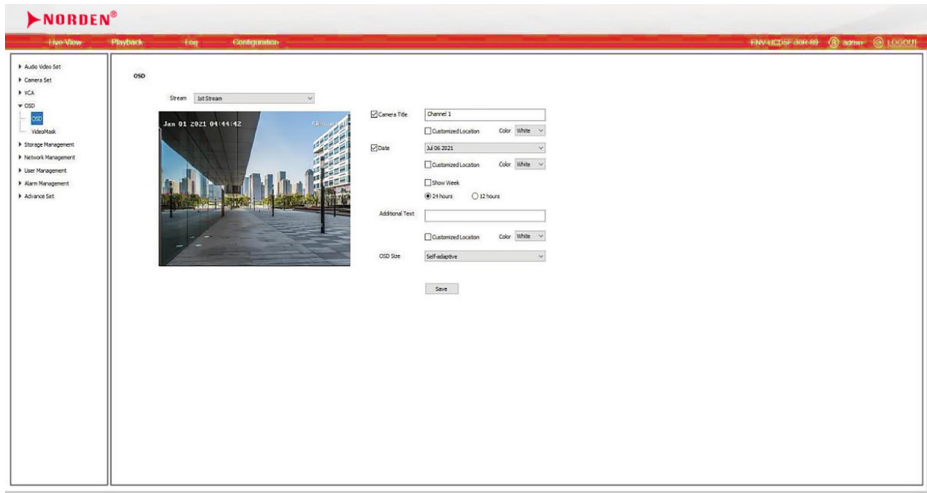
- (1) After selecting [Algorithm Configuration], the rule name and event type will be refreshed automatically.
- (2) After checking [Enable Arming], the rule or algorithm will take effect
- (3) Arming setting: set the schedule for making the rule or algorithm take effect
- (4) By setting [Linkage Type], set the alarm linkage when an alarm is given. (The functions supported by different models may be not exactly same, please refer to the actual interface)
- (5) [Linkage Type] Function description:

Parameters	Description
Alarm Output	Through the [Alarm Management]-[Alarm Output] interface, set the alarm output mode, such as [Always On] alarm or [Normally Off] alarm. (Supported by some models)
Video	Record video when an alarm is given and save it in U disk or SD card. (Supported by some models)
Snapshot	Capture the image when the alarm occurs and save it in a USB flash drive or SD card. (Supported by some models)
Face exposure	When a face is recognized in the preview picture, the device will automatically adjust face brightness according to the reference brightness value. The larger the face brightness value is, the brighter the preview picture is. (Supported by some models)
Face ROI	Code of face region of interest: it is suitable for the operating environment with low bitrate. When a face is recognized in the preview picture, the equipment will automatically set the face as the region of interest, to improve the image quality of face. (Supported by some models)

5.12 OSD

5.12.1. Character Overlay

Users can overlay text on the video screen to convey more information.



Interface of character overlay setting

Character overlay-channel name

- (1) Select the [Channel Name] check box to overlay the channel name in the video.
- (2) Set the channel name in the input box to the right of [Channel Name].
- (3) Set the color of channel name through the [Color] drop-down list.
- (4) To change the position of channel name in the video, first select the [Custom Position] check box, and then specify a new position in the small video window with the mouse.

Character overlay-date and time

- (1) Select the [Date and Time] check box to overlay the date and time on the picture.
- (2) Support 11 date formats for selection.
- (3) To include the day of week in the date, select the [Show Day of Week] check box.
- (4) Support to display time in 24-hour system or 12-hour system.
- (5) Set the color of the date and time through the [Color] drop-down list.
- (6) To change the position of the date and time in the video, first select the [Custom Position] check box, and then then specify a new position in the small video window with the mouse.

Character overlay-additional information

- (1) Select the additional character area number to be set from the drop-down list of [Additional Information]. (Supported by some models)
- (2) Enter the contents to be overlapped in the text box, which can include Chinese characters, English and commonly used punctuation marks. Some models support peripheral mode. Click [Insert] to superimpose peripheral information. The number of words supported by different models is different. Some models do not support line feed, please refer to the actual interface.
- (3) Set the color of character through the [Color] drop-down list.
- (4) To change the position of character in the video, first select the [Custom Position] check box, and then specify a new position in the small video window with the mouse.

Character overlay-character size

User can set the size of overlapped characters, select the character size (unit: pixels) from the [Character Size] drop-down list, and select [Adaptive] by default, to let the system automatically adjust the character size.

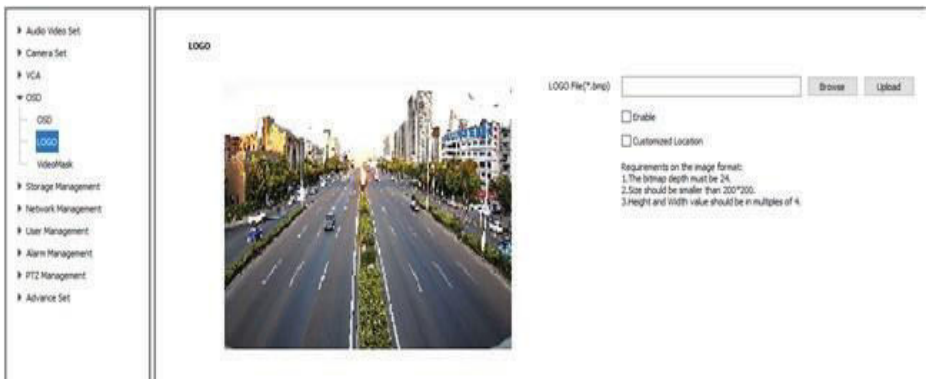
Character overlay-font type

User can select vector font or dot matrix font. (Supported by some models)

After all the above parameters are set, click [Save] to make it take effect.

5.12.2. LOGO

User can overlap the LOGO picture on the picture as required. (Supported by some models)



Interface of LOGO overlay setting

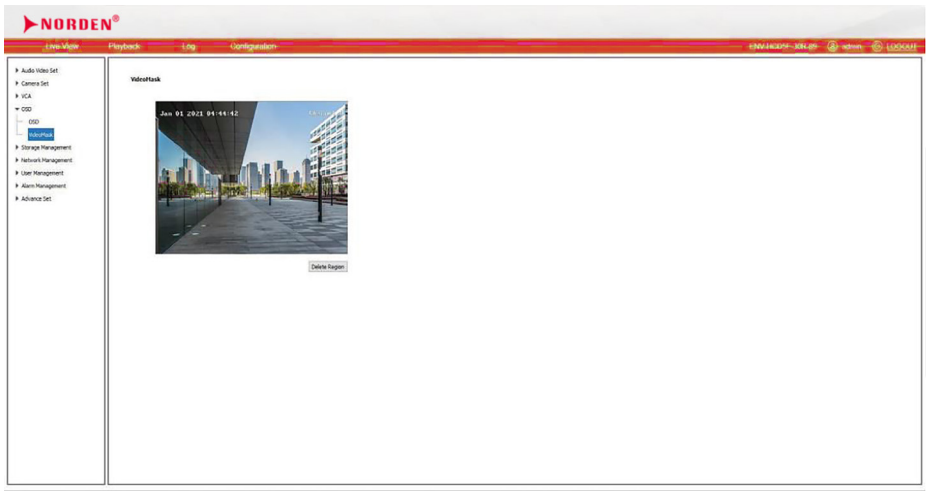
- (1) Enter the path of picture file in the [LOGO File] input box or click the [Browse] button to find the required LOGO picture from the pop-up window.
- (2) After clicking the [Upload] button, the picture will be uploaded to the equipment, and the equipment will restart automatically after uploading the picture.
- (3) After the equipment is restarted, select the [Enable] check box to overlay the LOGO picture on the video. If the [Enable] check box is canceled, the LOGO will not be displayed.
- (4) When [Enable] is selected, select the [Custom Position] checkbox and click on the video picture with the mouse to specify a new display position for the LOGO.

Note:

- (1) The LOGO picture must be a bitmap file in bmp format. The bitmap depth is 24, the size is smaller than 200 * 200 pixels, and the height and width are divisible by 4. Please use a picture that meets the requirements.
- (2) Overlapped LOGO will automatically remove its black and white background.

5.12.3. Video Mask

Set the area not displayed in the video screen to protect the privacy information. (Multiple occlusion areas are supported)



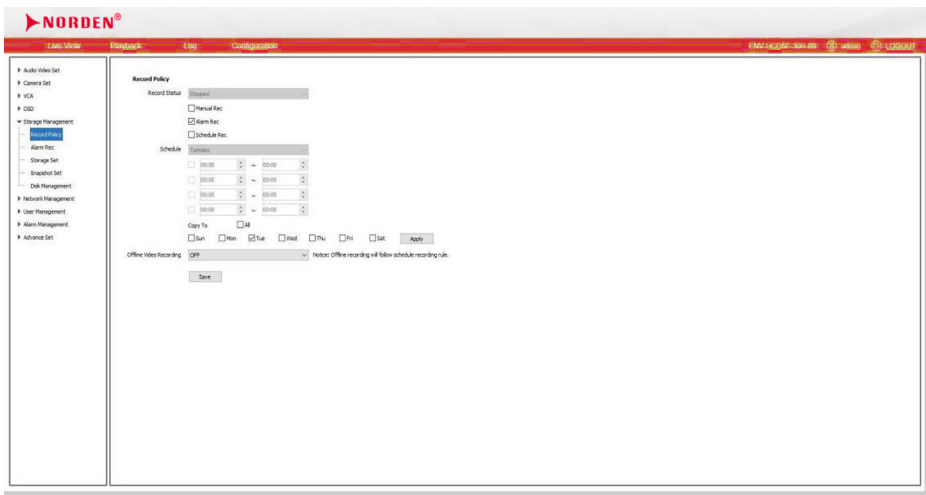
Video occlusion (Privacy occlusion) setting interface

- (1) Select the channel to draw the occluded area in the [channel selection] drop-down list. (Some models are supported)
- (2) Drag the mouse to draw the occlusion area on the small video screen.
- (3) If you need to delete the drawn area, click the delete area button to delete all the set areas and then redraw.
- (4) Some models support “video occlusion area list”. Click [add area] at the bottom of the list to set occlusion area. Some models support the shape adjustment of the four corners of the occlusion area by dragging. Click clear line to cancel the currently checked area and redraw the line; Check the check box before a video occlusion area, and then click delete area to delete the corresponding occlusion area.

5.13 Storage Management

It is used to set the relevant parameters of cameras (such as micro-SD card, SD card, U disk) supporting front-end storage. (Some models are supported)

5.13.1. Record Policy



The screenshot displays the 'Record Policy' configuration page in the Nordentech web interface. The left sidebar contains a tree view of system settings, with 'Record Policy' selected under 'Storage Management'. The main panel is divided into several sections:

- Record Status:** Contains three checkboxes: 'Manual Rec.', 'Alarm Rec.', and 'Schedule Rec.'.
- Schedule:** A table with columns for start and end times, each with a dropdown menu. The table is currently empty.
- Copy To:** A section with a 'Copy To' label and a grid of checkboxes for different storage destinations: 'Start', 'Non', 'Full', 'Hard', 'Nv', 'Hd', 'Ssd', and 'Sd'. An 'Apply' button is located to the right.
- Offline Video Recording:** A dropdown menu currently set to 'OFF', with a note below it stating 'Notice: Offline recording will follow schedule recording rule.' A 'Save' button is positioned below the dropdown.

Video recording policy setting interface

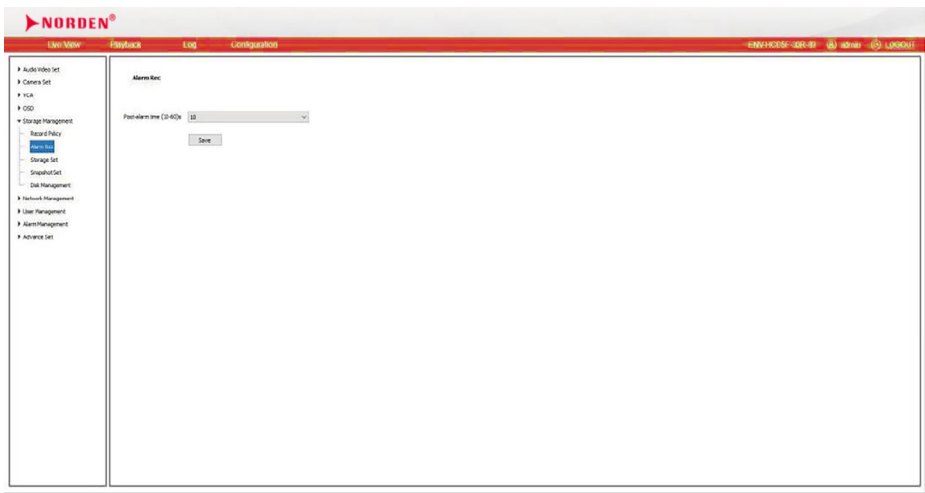
- (1) video recording status displays the current recording status of the device.
- (2) Select manual recording to start recording, and then stop recording after canceling.
- (3) After alarm recording is set successfully, start recording when there is alarm information and stop recording after the alarm disappears.
- (4) When timing recording is selected, four time periods can be set for timing recording. Select application to set the current date timing recording time parameter to the selected date.
- (5) After off network recording is turned on, when the network is off, the recording would be conducted according to the time period of [timed recording].
- (6) Save the set Recording Policy parameters.

Description:

- (1) off network recording requires that the device supports front-end storage, and [timed recording] fails after off network recording is turned on.
- (2) Timing recording is also known as routine recording

5.13.2. Pre-Alarm Recording

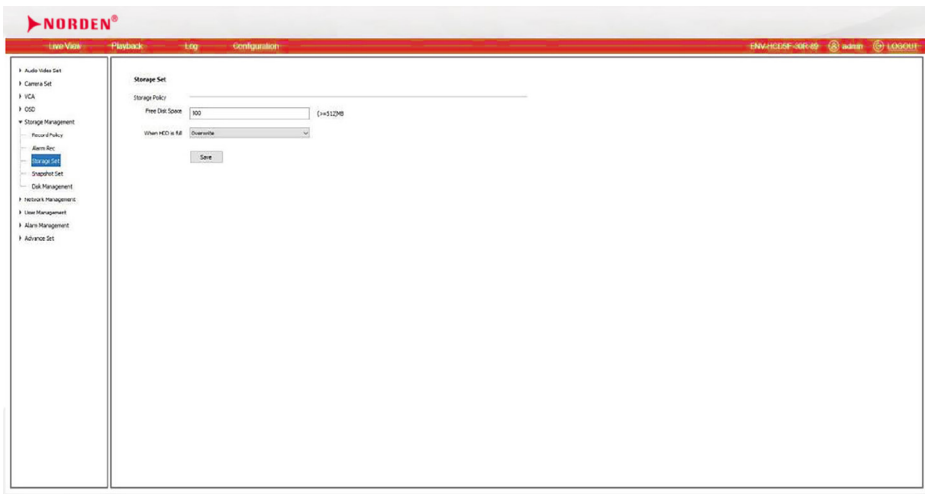
After the [Alarm Pre-recording] function is enabled, the video information before the alarm occurs and after the alarm disappears within the support time range of the equipment can be saved in the corresponding alarm video.



Alarm pre recording setting interface

- Select [alarm pre recording] and turn on the [alarm pre recording] function.
- After [alarm pre recording] is enabled, you can select [pre recording] and [delay recording] to set the corresponding time (pre recording time supports 5, 10, 15 seconds, and delay recording time supports 10, 15, 30, 60 seconds).
- Select [save] to save the set [alarm pre recording] parameters.

5.13.3. Storage Set



Storage setting interface

Storage settings - disk policy (supported by some models)

- (1) [recording quota (G)] sets the amount of disk space occupied by the recording file. If it is 0, it means that the device dynamically allocates space.
- (2) [image quota (G)] sets the size of the disk space occupied by the snapshot image file. If it is 0, it means the device dynamically allocates space.
- (3) Click [save] after setting.

Storage settings - storage policy

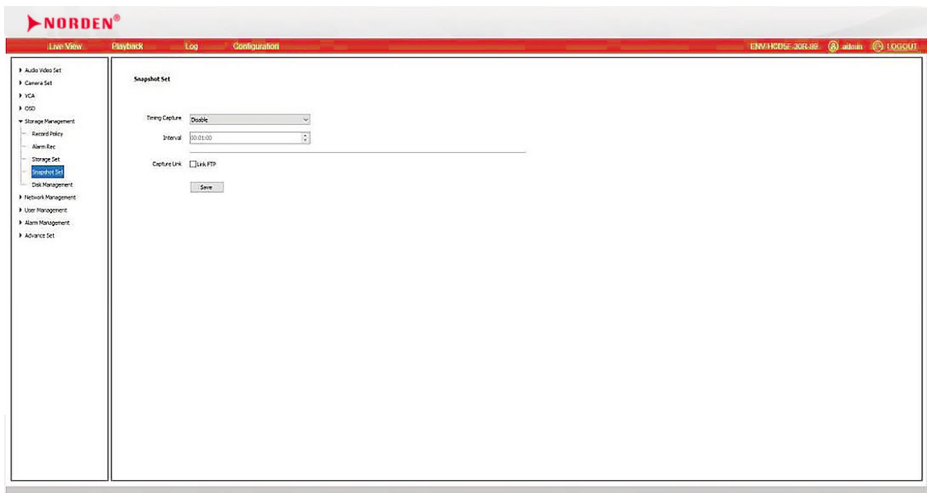
Enter the conditions that trigger the [save policy], in the edit box of [remaining disk space]. When the remaining disk space reaches the set value, there are three [save policies]:

- (1) Stop recording: no more video packaging operation.
- (2) Circular deletion: delete the earliest video file to create space for the latest video.

- (3) Cycle deletes (except alarm file): delete the earliest video file (except alarm video) to create space for the latest video.

After setting, click [save] to take effect.

5.13.4. Snapshot Set

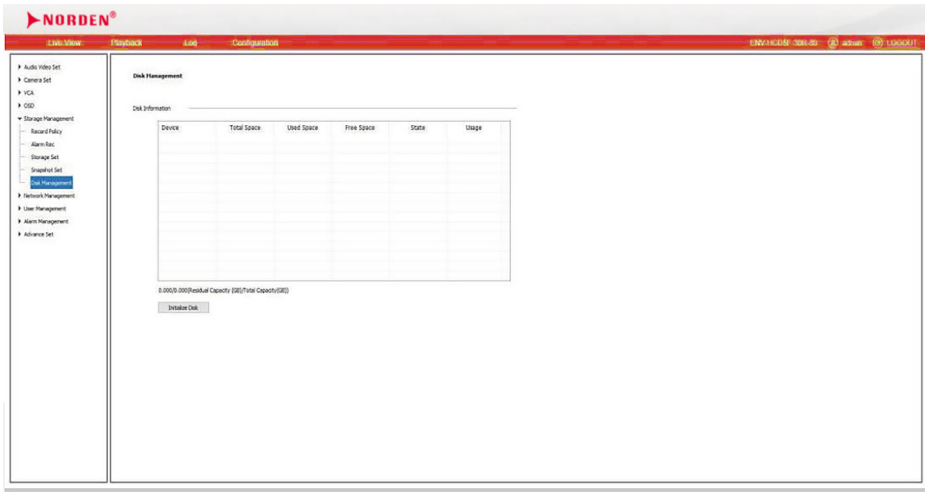


Snapshot setting interface

- (1) [snapshot resolution] set the resolution of the snapshot image to the maximum resolution supported by the device. (Some models are supported)
- (2) [JPEG quality] and [image size limit] set the parameters of the snapshot picture, the higher quality, the bigger picture, the better picture quality, it is not recommended to modify. (some models are supported)
- (3) When [timed snapshot] is enabled, set the snapshot [interval], unit: second.
- (4) Select [linkage FTP], take a picture and upload it to the FTP server.
- (5) Select [linkage email], take a picture and send it to the designated email.
- (6) Click [save] saves the parameter settings of [snapshot settings]

5.13.5. Disk management

Displays front-end storage device usage information.



Disk management interface [initialize disk] format the disk.

5.13.6. Network Storage

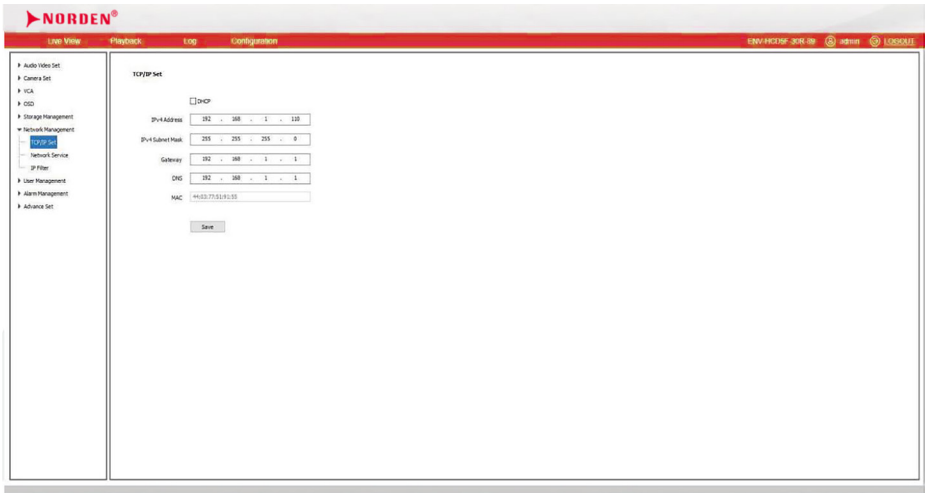
FTP upload

Some models support FTP upload function, which can upload the recognized face image to the designated FTP server.

- (1) Open by checking the [enable] option.
- (2) Enter the IP and port number of the FTP server in [server address] and [port]
- (3) Enter account number, password, and path. If you need to store in multi-level directory, you can set directory structure and corresponding subdirectories. The subdirectory name supports [device IP], [channel name],[snapshot time],[user defined], etc.
- (4) If you need to upload the original image, please check [upload background image]. Otherwise, only face images will be uploaded.
- (5) Click [save] after setting.
- (6) Click [test] to verify whether the setting is successful.

5.14 Network Management

5.14.1. TCP/IP Set



Wired network setting interface

- (1) [IPv4] users can set the IPv4 address, subnet mask, gateway and [DNS] of the device.
- (2) [IPv6] some devices support IPv6. Users can see the IPv6 address of the device on the page.
- (3) [physical address] the user can view the MAC address of the device.
- (4) [MTU] set the size of MTU, ranging from 500 to 1500, and the default is 1500. After setting, click [save] to save the setting.
- (5) [network card rate] select the mode and rate of the network card from the drop-down list. The unit of the rate is MB. The default value is [auto detect]. It is not recommended to modify. (some models are supported)
- (6) [working mode]: you can set [network card 2] to [network redundancy] or [multiple access setting] mode. (Only supported by devices with dual network cards)
- (7) [network redundancy]: the two network cards of the camera have the same IP address, and camera can be accessed by connecting any network interface.
- (8) [multiple access setting]: the two network cards of the camera can set independent IP address and the camera can work in two different local area networks.

Note:

- (1) It is not recommended to connect 2 network ports of multiple network card devices to the same switch. (only for devices supporting dual network card)
- (2) After some devices modify the network number, the device will restart automatically.

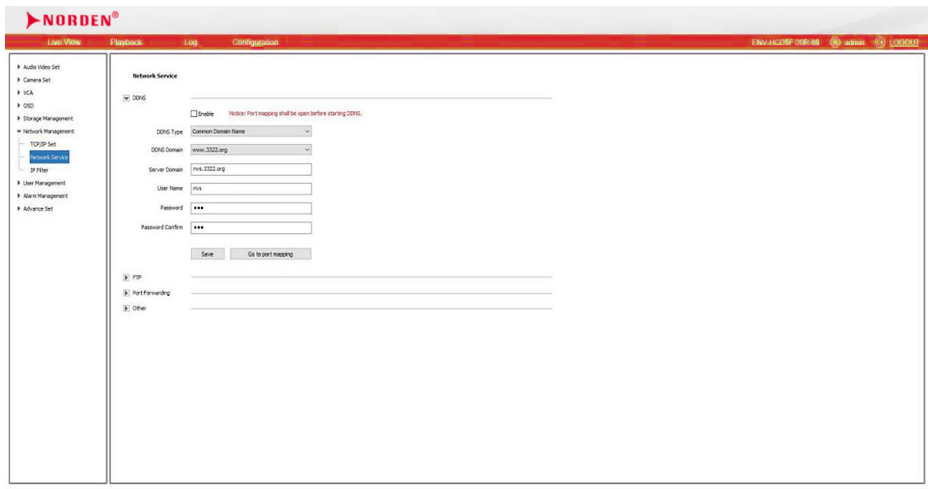
5.14.2. Wireless Network (supported by some models)

- (1) [wireless mode] is [Client mode].
- (2) [wireless status] shows whether there is a wireless network card and whether the device is online.
- (3) [search] click [search] to search the wireless router in the surrounding environment.
- (4) [disconnect] select the router connected to the device and click [disconnect] to disconnect the router.
- (5) Double click the found router or [manually] enter the ESSID of the router and enter the password.
[advanced options]:
 - (1) [security type] you can select [auto], [none],[wpa-psk],[wpa2-psk].
 - (2) [key format selection] you can select [auto],[hex],[ASCII].
 - (3) [key type] can choose [auto], [TKIP], [AES].
 - (4) [set IP information manually] if it is not checked, the device will automatically obtain the IP after saving; if it is checked, set the IP manually.
 Click "save" after setting, and the setting will take effect after device restart. The IP information of the device can be viewed in the [advanced options] of [wireless network]

5.14.3. Network Service

Network services - DDNS

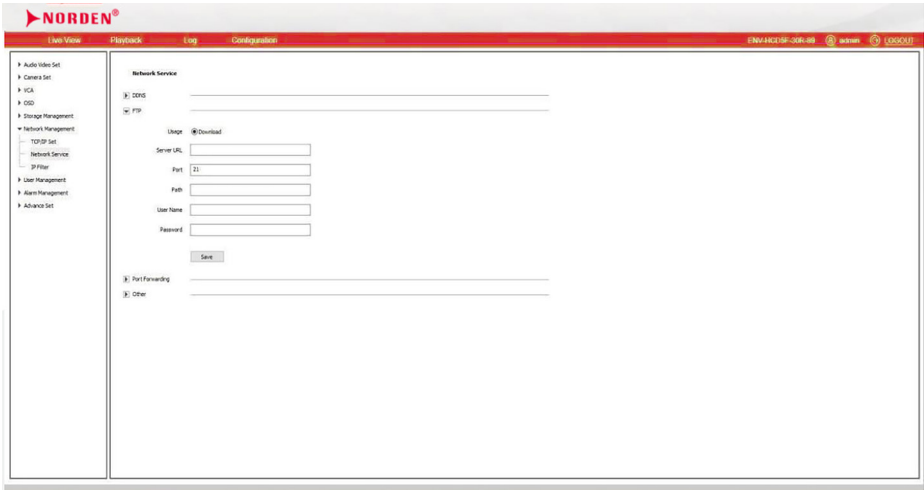
After [enable] DDNS, modify [device domain number], select [server address] to be set, [change port]
[account number] and [password] , and then click [save] can set the DDNS network server information.



Network service - DDNS setting interface

Network services - FTP

After [enable] DDNS, modify [device domain number], select [server address] to be set, change [port],[account number] and [password], and then click [save] can set the DDNS network server information.



Network service- FTP setting interface

Network service- PPPoE

After [enable] PPPoE function, change [account] and [password] and [save] to set PPPoE network server information. (supported by some models)



Network service- PPPoE setting interface

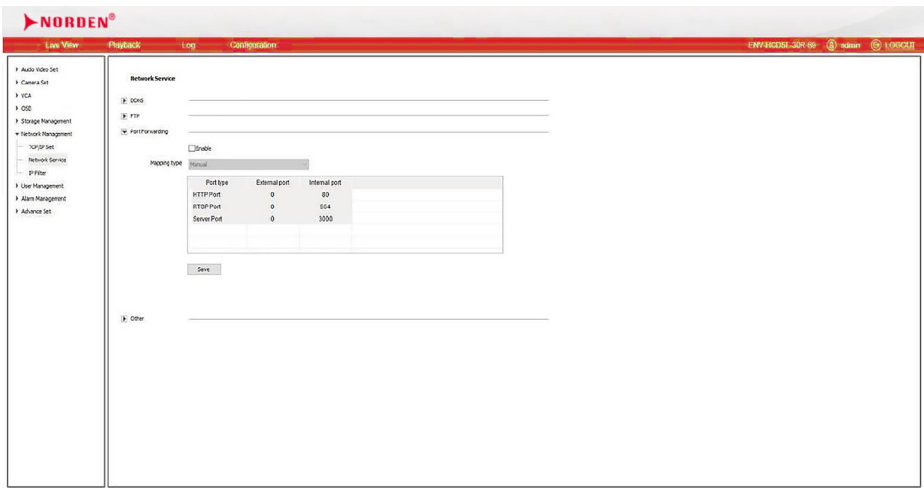
Network services- NTP

After changing [server address],[port] and [time interval],click [save] can set NTP network server information.

Network services - multicast

Input the multicast [IP address] (range: 224.0.0.0-239.255.255.255), input the port number (range 1-65535), and click Save to restart the device. (supported by some models)

If it is AV (audio/video), please log in after the equipment is restarted, select [configuration],[AV audio/video) parameters], [audio parameters],[audio coding], select AAC_LC-32K or AAC_LC- 48K, click save, the equipment will restart automatically and take effect. Open VLC software, click network streaming, enter “UDP: // @ IP address: port number” in the URL, and click play.

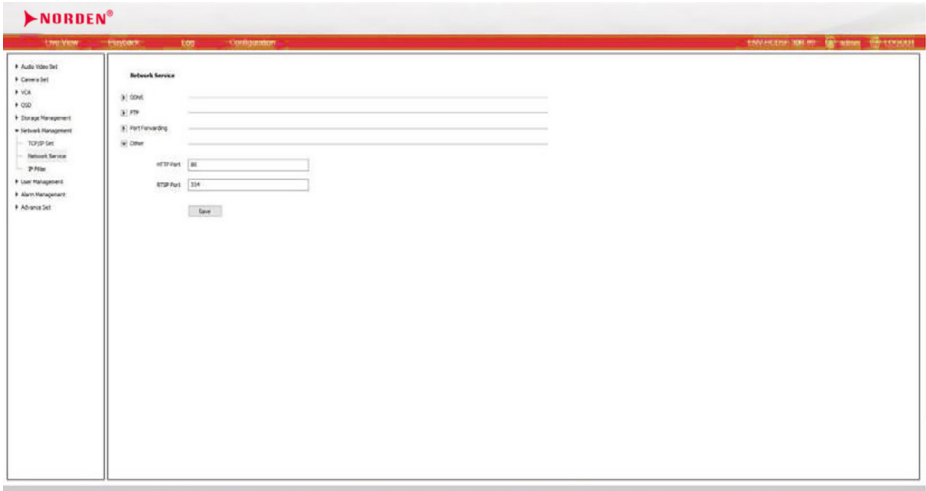


Port Type	External port	Internal port
RTP Port	0	50
RTSP Port	0	514
Server Port	0	3000

Network service-multicast setting interface

Network service -QoS

Partial models support it. Input DSCP parameters in the input box of [bitstream DSCP], disconnect & reconnect the video stream parameters to take effect. [signaling DSCP] input DSCP parameters in the input box, and save the parameters, and the parameters are reserved. Click [save] to save the parameters.



Network service -QoS setting interface

Network services-other



Network service-other setting interface

Network service- HTTP port

Enter [HTTP port number] in the input box on the page, restart the device, and then modify the HTTP port number.

Network service -HTTPS port

Enter [HTTPS port number] in the input box on the page, restart the device, and then modify the HTTPS port number. (Supported by some models)

Network service -RTSP port

Input [RTSP port number] in the input box on the page, restart the device, and then modify the RTSP port number

Network services -UPnP

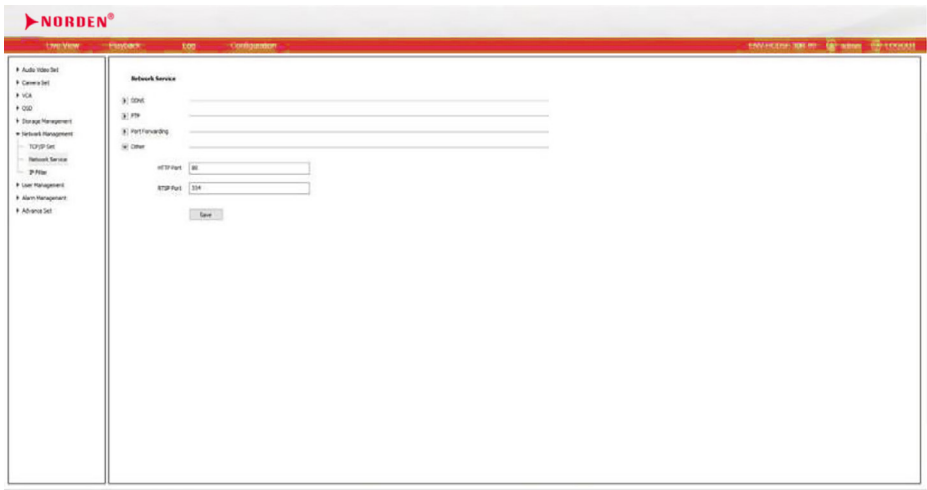
Select the [use UPnP] check box, and then restart the device to use the UPnP function. Cancel the [use UPnP] check box, and then restart the device to disable the UPnP function.

Network services -SNMP

Select the [use SNMP] check box and restart the device to use the SNMP protocol. Cancel the [use SNMP] check box and restart the device to disable the SNMP protocol. (SNMP are supported by some models)

5.14.4. IP Filter

The blacklist and whitelist, also known as [IP filtering], are provided to enable users to manage access rights more flexibly.



Black and whitelist (IP firewall) setting interface

Black and whitelist - black list

If the user wants to shield some IP addresses and prohibit them from accessing the device, he can select the [blacklist] button, input the IP addresses to be shielded one by one, click the [add] button, add them into the list, and finally click the [save] button, the blacklist will take effect. At this time, the login request from any IP in the list will be rejected, regardless of whether its user name and password are correct or not.

Users can specify up to 16 IP addresses to be masked in the blacklist. If the user wants to block some IP addresses and prohibit them from accessing the device, he can select the [blacklist] button, then input the IP addresses to be blocked one by one in the input box below, click [add] button, add them to the list, and finally click [save] button, the blacklist will take effect. At this time, the login request from any IP in the list will be rejected, regardless of whether its username and password are correct or not. Users can specify up to 16 IP addresses to be masked in the blacklist.

Note: when using the blacklist, if you add your own IP address, you will no longer be able to log in to the device once the settings take effect. So when using blacklist, please don't add your own IP to the list.

Black and whitelist - white list

If you want to allow only a few trusted IPs to access the device, you can select the [white list] button, and then enter the trusted IP addresses one by one in the input box below, click [add] to join the list, and finally click [save] to make the white list effective. At this time, only login from a number of IP specified in the list will be allowed (of course, the username and password must also be correct), and login requests from other strange IP will be rejected, regardless of whether the user name and password are correct or not. Users can specify up to 16 trusted IP addresses in the whitelist.

Note: when using the whitelist, if you forget to add your own IP address, you will no longer be able to log in to the device once the settings take effect. So when using the white list, remember to add your own IP address to the list.

Black and whitelist - Disabled

At any time, just select the [disable] button and click the [save] button to cancel all previously set blacklists and whitelists and stop filtering any IP address. At this time, although the IP previously specified in the blacklist or whitelist is still displayed in the list, it will no longer work until the user enables the blacklist or whitelist again.

Black and whitelist - delete

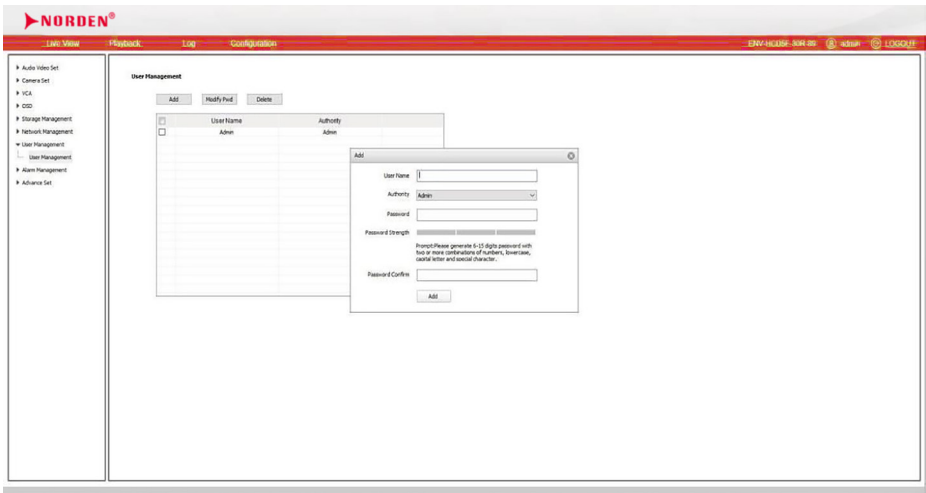
Whenever you need to delete some IPs from the list, just select the check box on the left of these IPS and click [delete].

Note: IP filtering can only be performed when users log in. If some users who want to block have successfully logged in to the device when setting the blacklist and whitelist, then the blacklist and whitelist cannot prevent them from continuing to access the device, only when they try to log in again after exiting. Therefore, it is recommended to restart the device every time the blacklist and whitelist are configured, so as to Wblock all illegal users who have logged in at that time.

5.15 User Management

User management -add user

To add a new user, you need to enter the username, password and permission. The username and password can only be entered in English letters and numbers. The user permissions include browse, browse + control, browse + control + settings, and administrator. After the above three items are filled in, click the [save] button.

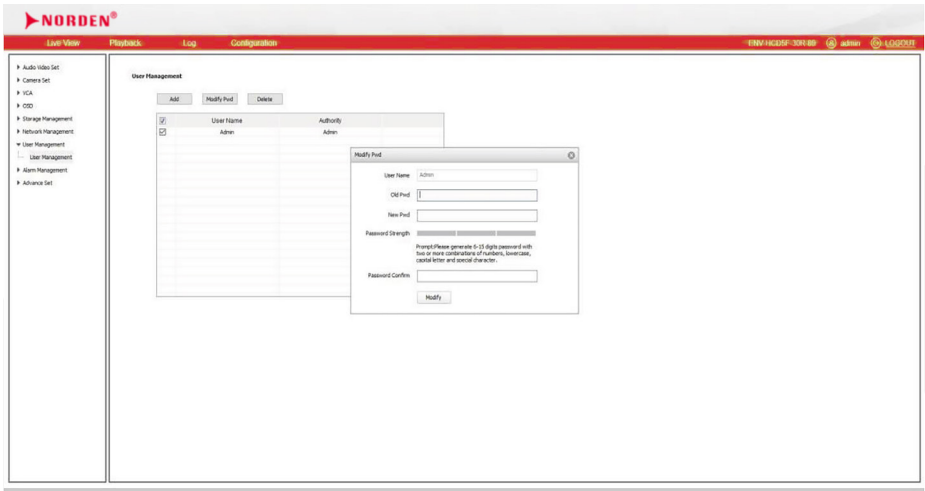


Add user interface

Note: only users with administrator rights can add and modify users.

User management - change password

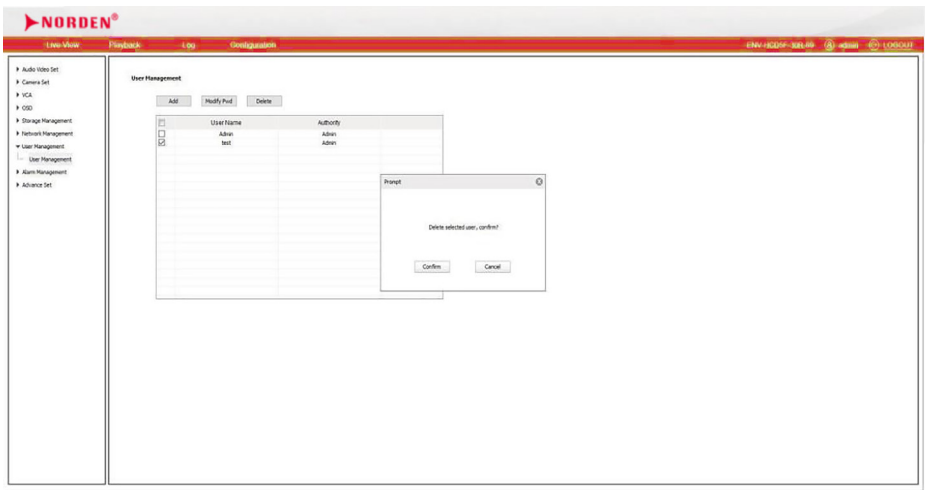
Check the password user to be modified in the user list, click [modify password] to open the password modification interface, input the correct old password, new password and confirm the password, and then click [modify]



Modify password interface

User management - delete user

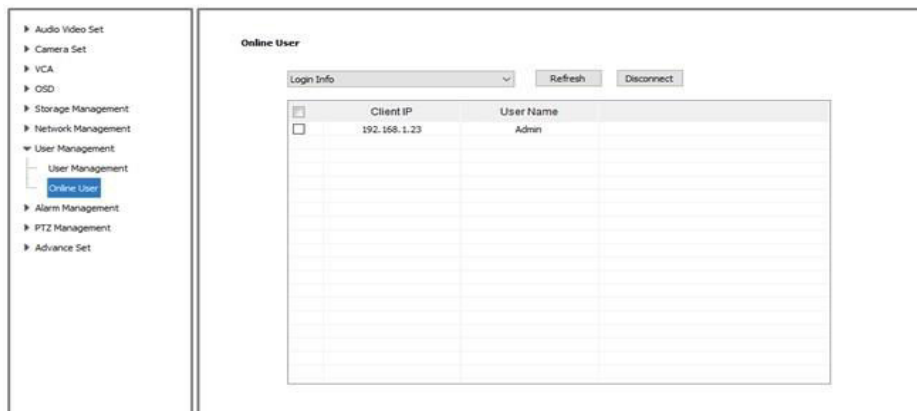
Check a user in the user list, click [delete] and a prompt box will pop up, click OK.



Delete user interface

User management - online users (supported by some models)

Select [login information] / [connection information] to display the IP address, user name and other information of the client that logs in or connects to the device in the list. Check the corresponding client and click [disconnect] to forcibly disconnect the client from the device.



The screenshot shows the 'Online User' interface. On the left is a navigation menu with 'Online User' selected. The main area has a 'Login Info' dropdown, 'Refresh', and 'Disconnect' buttons. Below is a table with the following content:

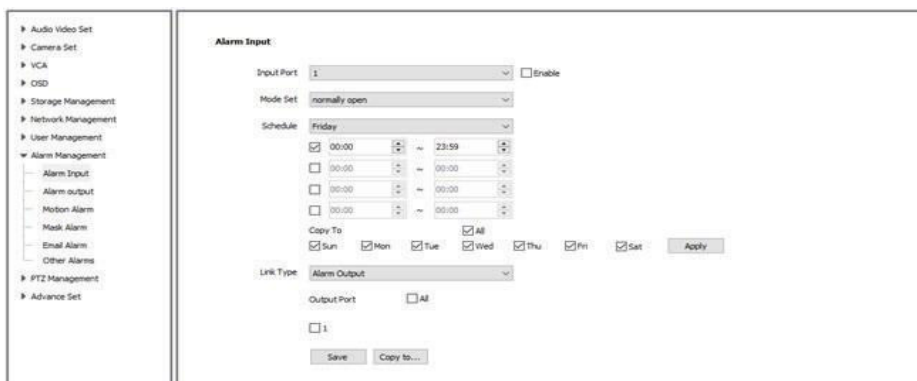
<input type="checkbox"/>	Client IP	User Name
<input type="checkbox"/>	192.168.1.23	Admin
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		

Online user interface

5.16 Alarm Management

5.16.1. Alarm Input

Set port alarm detection related parameters. (Supported by some models)



The screenshot shows the 'Alarm Input' configuration interface. The left navigation menu has 'Alarm Input' selected. The main area contains the following settings:

- Input Port: 1 (dropdown), Enable
- Mode Set: normally open (dropdown)
- Schedule: Friday (dropdown)
- Schedule table:

<input checked="" type="checkbox"/>	00:00	↔	23:59
<input type="checkbox"/>	00:00	↔	00:00
<input type="checkbox"/>	00:00	↔	00:00
<input type="checkbox"/>	00:00	↔	00:00
- Copy To: All
- Days: Sun, Mon, Tue, Wed, Thu, Fri, Sat
- Link Type: Alarm Output (dropdown)
- Output Port: All
- 1
- Buttons: Save, Copy to...

Alarm input setting interface

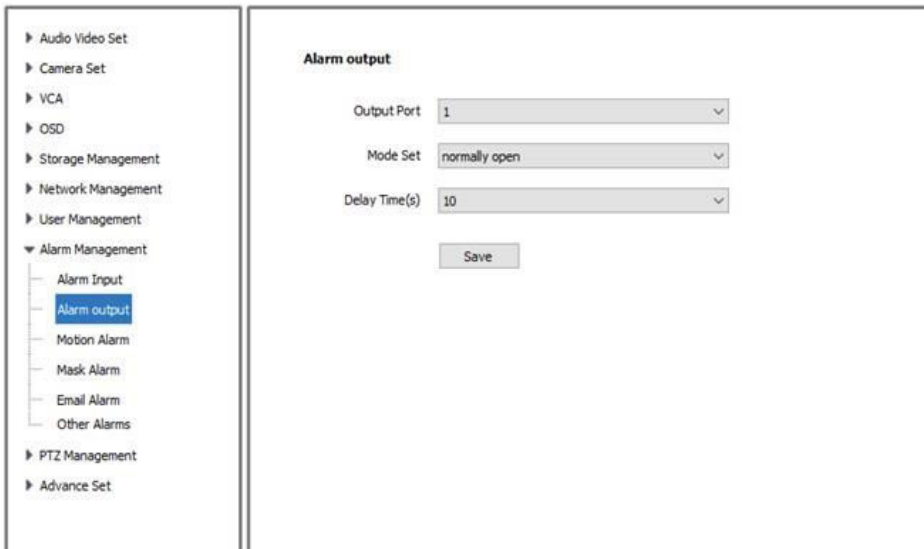
- (1) Select the alarm input port, check the [enable] check box to enable the port alarm detection function and uncheck to turn off the port alarm detection function.
- (2) [mode setting] supports closed-circuit alarm and open circuit alarm, wherein [closed-circuit alarm] refers to the alarm when the disconnected line is short circuited, and similarly [open circuit alarm] refers to the alarm when the connected line is disconnected.
- (3) The user can set [deployment setting] as required, and only detect the alarm within the set date and time period.
- (4) Set the [linkage type] to realize the alarm linkage after triggering the alarm, such a [linkage output],[linkage PTZ],[linkage snapshot] and [linkage external trigger]. (the linkage types supported by different models are different, please select based on real needs.)
- (5) Click [save] to save the corresponding parameter settings.

Description:

- (1) Alarm input and alarm linkage output are limited to products that support alarm input / output function.
- (2) [External linkage trigger] is only available when [traffic business]. (see: advanced options---system maintenance ---resource allocation.

5.16.2. Alarm Output

Set the alarm output mode of alarm input linkage. (supported by some models)



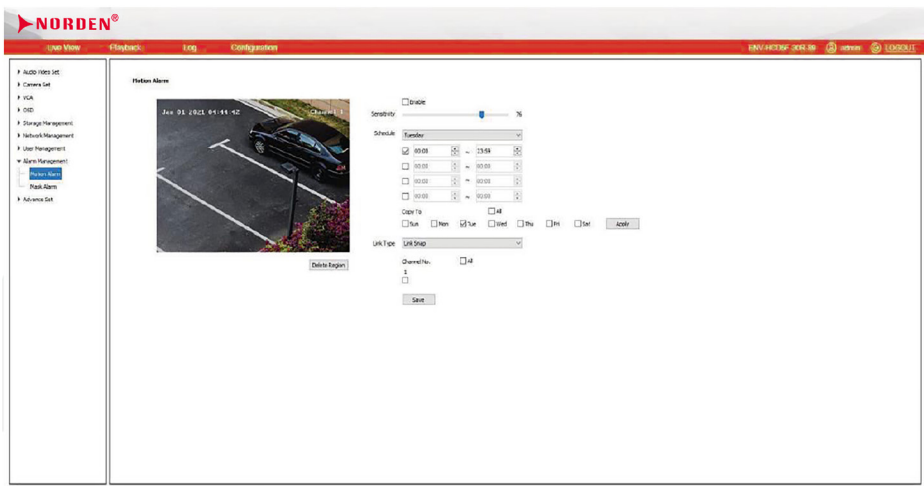
Alarm output setting interface

The user can choose to set two modes of [closed circuit alarm] and [open circuit alarm].The extended time when the output port is in alarm state can be set through [delay time (seconds)].

Note: the alarm linkage output is limited to products that support the alarm input / output function.

5.16.3. Motion Alarm

The user sets the mobile alarm area. When there is an object moving in the setting area, the video preview interface will prompt the video mobile alarm, and the corresponding alarm linkage will be carried out according to the setting.

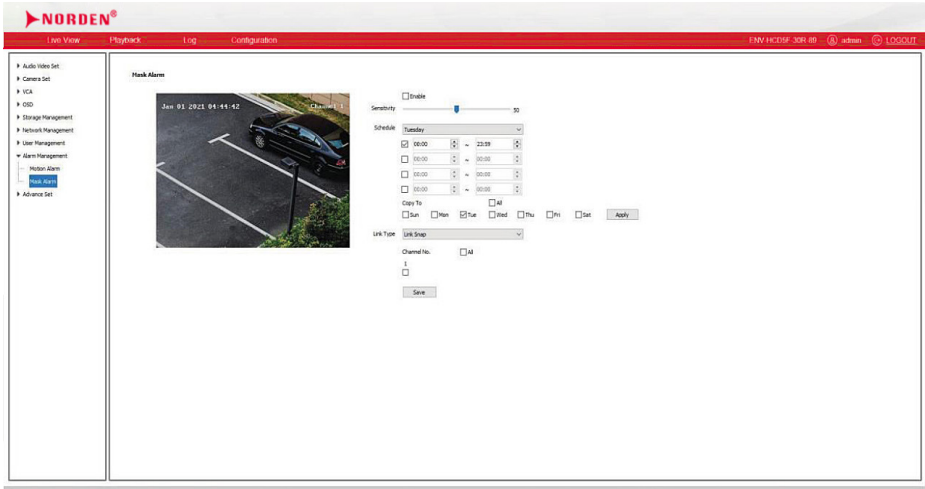


Mobile alarm setting interface

- (1) [enable] mobile alarm detection, drag the left mouse button in the video screen to draw the area to detect mobile alarm. Click [delete area] to delete the mobile alarm detection area.
- (2) Set the mobile alarm sensitivity. The higher the general value is, the more sensitive the mobile alarm detection is, and the false alarm rate will increase.
- (3) The user can set [deployment setting] as required, and only detect the alarm within the set date and time period.
- (4) Set the [linkage type] to realize the alarm linkage after triggering the alarm. It supports [linkage alarm output],[linkage dual lights] and [linkage snapshot].Some models support [linkage alarm output],[linkage dual lights] are only limited to dual light models. In black and white mode at night, the mobile alarm triggers to turn on the white light, and at the same time, the working mode can be selected at this time. In black and white mode, the infrared light continues to be on,and in color mode, the infrared light turns off. After the mobile alarm is released, the dual lights are off and the state before the alarm is restored.
- (5) Set [channel selection].
- (6) Click [save] to save the corresponding parameter settings.

5.16.4. Mask Alarm

After the occlusion alarm is turned on, when the image in the video screen is blocked, the alarm situation is detected according to the sensitivity.

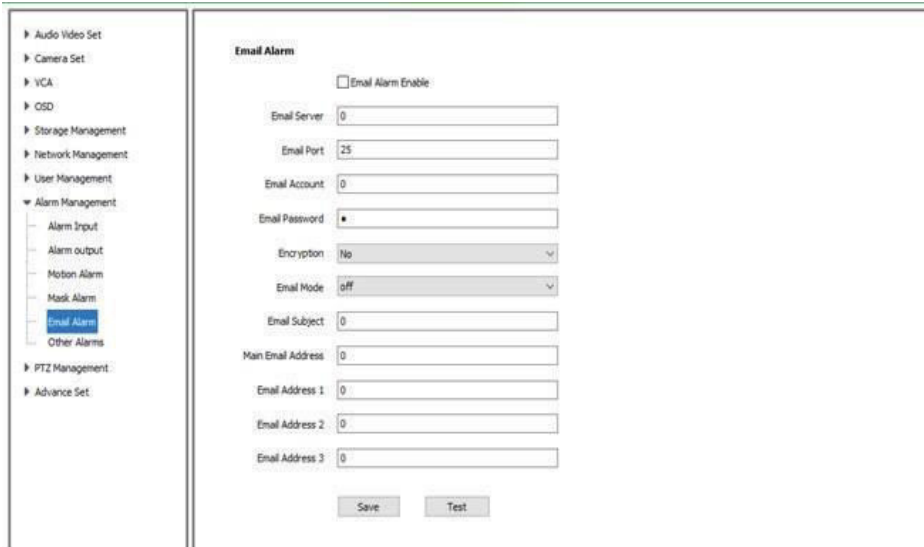


Block alarm setting interface

- (1) Check the [enable] check box to turn on the video blocking alarm detection function, and uncheck to turn off the video blocking alarm detection function.
- (2) The higher the general value is, the more sensitive the video occlusion alarm detection will be, and the false alarm rate will increase.
- (3) The user can set [deployment setting] as required, and only detect the alarm within the set date and time period.
- (4) Set [linkage type] to realize the alarm linkage after triggering the alarm. You can select [linkage snapshot],[linkage output],[linkage PTZ], etc. (different models support different linkage functions please refer to the actual interface.)
- (5) Set [channel selection].
- (6) Click [save]to save the corresponding parameter settings.

5.16.5. Email Alarm

After the user enables email alarm, the email server will automatically send the alarm email to the email address set by the user when an alarm occurs. (supported by some models)



Email Alarm

Email Alarm Enable

Email Server: 0

Email Port: 25

Email Account: 0

Email Password: *

Encryption: No

Email Mode: off

Email Subject: 0

Main Email Address: 0

Email Address 1: 0

Email Address 2: 0

Email Address 3: 0

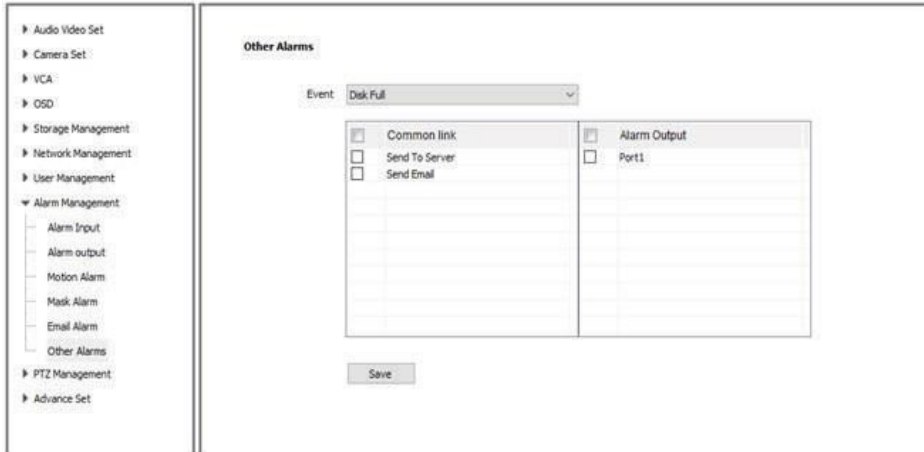
Save Test

Mail alarm setting interface

- (1) Check the [enable email alarm] checkbox.
- (2) Set the email server address (some models display “SMTP server”): the address input format is smtp.xx.com, where XX represents the email server and is the login email of the account, such as smtp.163.com.
- (3) The port defaults to 25.
- (4) The account and password are the user name and password of the email server.
- (5) Login is recommended for login mode.
- (6) The encryption mode can be none, SSL or TLS.
- (7) After setting the subject and CC email address, click [save] to save the current settings.

5.16.6. Other Alarm

Some models support abnormal alarm. For exception types, you can select [disk full],[disk read / write error],[IP address conflict] and [MAC address conflict]. As required, you can set [regular linkage] and [linkage output]. In [regular linkage], you can set [upload center] and send ([IP address conflict] and [MAC address conflict] cannot be set.) [linkage output] port number can be selected.



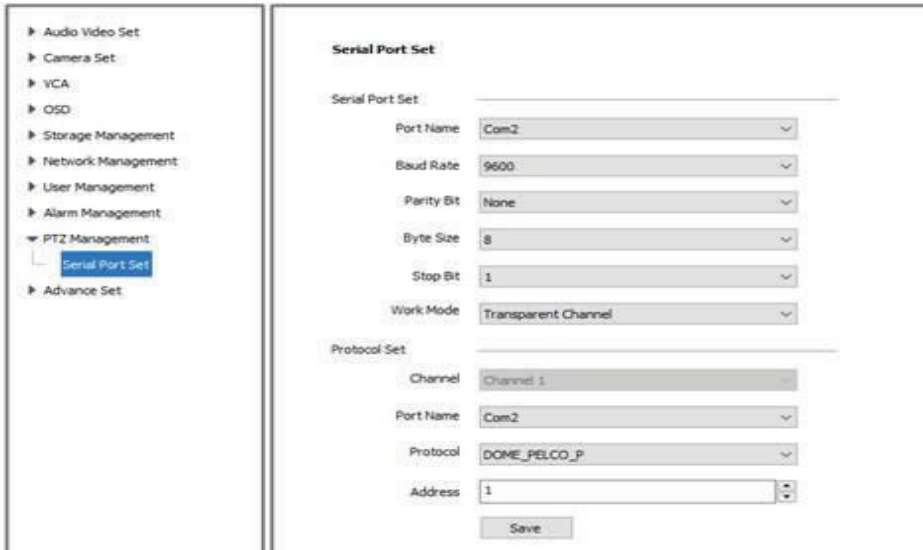
Abnormal alarm setting interface

5.17 PTZ Management

Some models support serial port settings, including [serial port settings] and [protocol settings]. [serial port setting] requires the user to select [serial port number],[baud rate],[check bit],[data bit],[stop bit] and [working mode]. For [protocol setting],you need to select [channel number],[serial port number],[protocol] and [address].

Note:

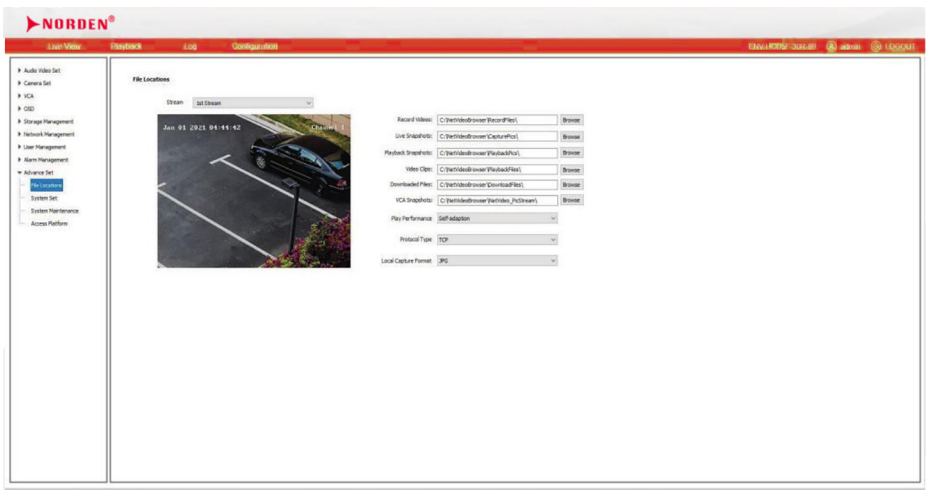
- (1) The interface and menu of different models are slightly different. Please refer to the actual interface.
- (2) Some models support the baud rate option.



PTZ management setting interface

5.18 Advanced Set

5.18.1. File Locations



Local setting interface

File Locations - frame rate and bitstream display

Select the corresponding channel bitstream type in [bitstream type]. Some models also need to check the [display frame rate and code stream information] checkbox to display the frame rate and code stream information of the channel on the video interface. (some models support [display frame rate and bitstream information])

File Locations - local file save path settings

Click Browse to set the saving location of the corresponding file.

File Locations - playback performance

It is used to set the balance of video fluency and delay in ie. you can select [shortest delay],[good real-time performance],[balance] and [good fluency].

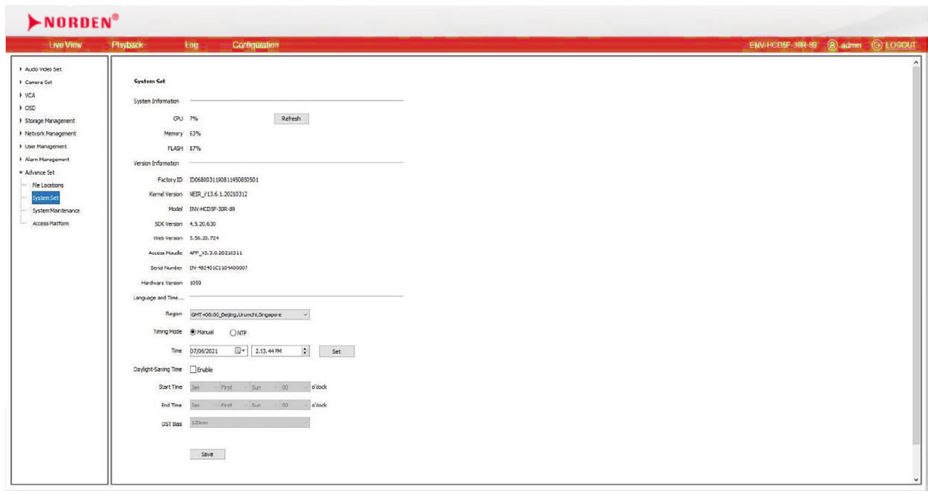
File Locations - protocol type

The local IE browsing video supports three connection modes: TCP, UDP and multicast.

File Locations - local snapshot format

Some models support setting local snapshot format, JPG and BMP can be selected.

5.18.2. System Set



System setting interface

System set - system information

Display the current system resource usage of the device, including [CPU],[memory] and[[flash].

System set - version information

Display the current version information of the device, such as [factory number],[kernel version], [SD-Kversion],[web page version],[docking module],[traffic business version], etc. (version information of different models is slightly different, please select based on real needs)

System set - time zone

Users can click [synchronize]to set system time,[time zone] and [daylight saving time]. (Some models support daylight saving time)

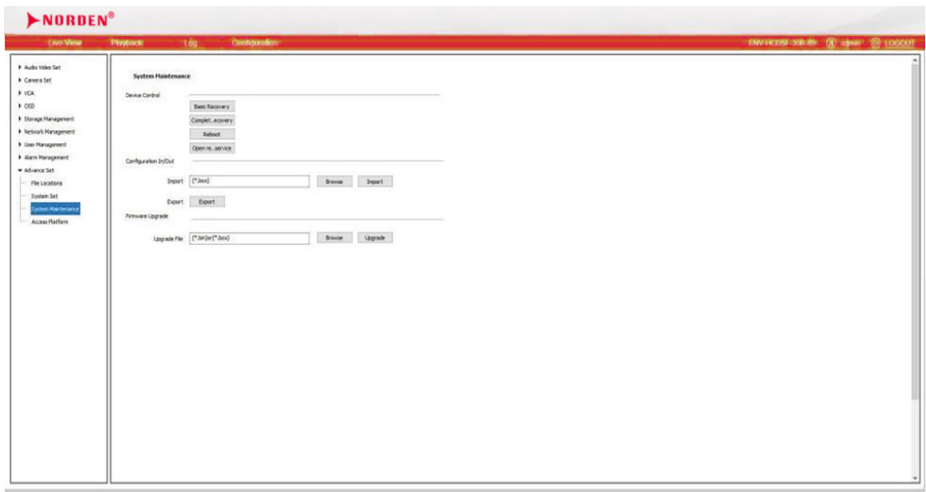
5.18.3. System Maintenance

The system maintenance interface consists of [equipment version upgrade],[parameter import / export]and [system maintenance].

System maintenance - equipment control

Users can [restore default],[simple restore],[restore factory],[restart device],[aperture correction],[lens reset], [disable / enable ABF], [turn on / off remote service] and other operations. (different models support slightly different functions, please select based on real needs)

Note:Some models support the ABF function, which is enabled by default. In order to prevent misoperation triggering ABF, resulting in unclear image, please click [disable ABF] to temporarily turn off this function.Click[enable ABF] to restart.



System maintenance interface

System maintenance - version upgrade

Users can choose the local legal. Box or. Bin file to upgrade the device remotely.

Steps	Description
1	Connect computers and devices to the same local area network, and modify their IP addresses to the same network segment
2	Use the upgrade tool software provided by our company, or the IE browser provided by windows, enter the device address, and log in according to: configuration advanced Options - system maintenance - version upgrade - browse
3	Select the kernel program file (*. bin) and start upgrading the kernel. After upgrading, the device will restart automatically. Kernel programs usually need to be upgraded twice
4	Select the web program file (*. box) and start upgrading the web page. After upgrading, the device will restart automatically
5	Log in the device again, and check the program version to confirm whether the upgrade is successful according to configuration - advanced Options - system settings - version information

System maintenance - parameter import / export

Used for equipment maintenance, mainly divided into 3 categories:

- (1) [alarm]: alarm time and linkage item setting information, excluding intelligent analysis.
- (2) [intelligent analysis]: related settings of intelligent analysis, including rules, time periods, etc.
- (3) [system setting]: setting information other than alarm and intelligent analysis, including character superposition, video recording strategy, network setting, etc.
[prompt tone]: preview or record the prompt tone of the camera. (supported by some models)
Select the prompt tone in the drop-down menu and click the button to preview. Select [user defined prompt tone] and a button will appear for downloading AudioMaker.exe (a tool for recording prompt tone).

Description:

- (1) After you install AudioMaker.exe on your computer, you can record a new tone on your computer.(computer must support audio input)
- (2) The length of the tone should be less than 20 seconds.
- (3) Through the drop-down menu in the upper right corner of the AudioMaker interface, you can select the language of the interface, and click the help beside to call up the usage of AudioMaker.
- (4) After recording, click the "start packing" button in the lower left corner of AudioMaker interface to generate an upgrade file of NVSS? Audio? VX. X.x.box, and download it to the camera through the [version upgrade] of the camera.

System maintenance - resource allocation

Some models support. According to the actual application of the camera, you can select the corresponding [start service], such as [monitoring service] and [traffic service].

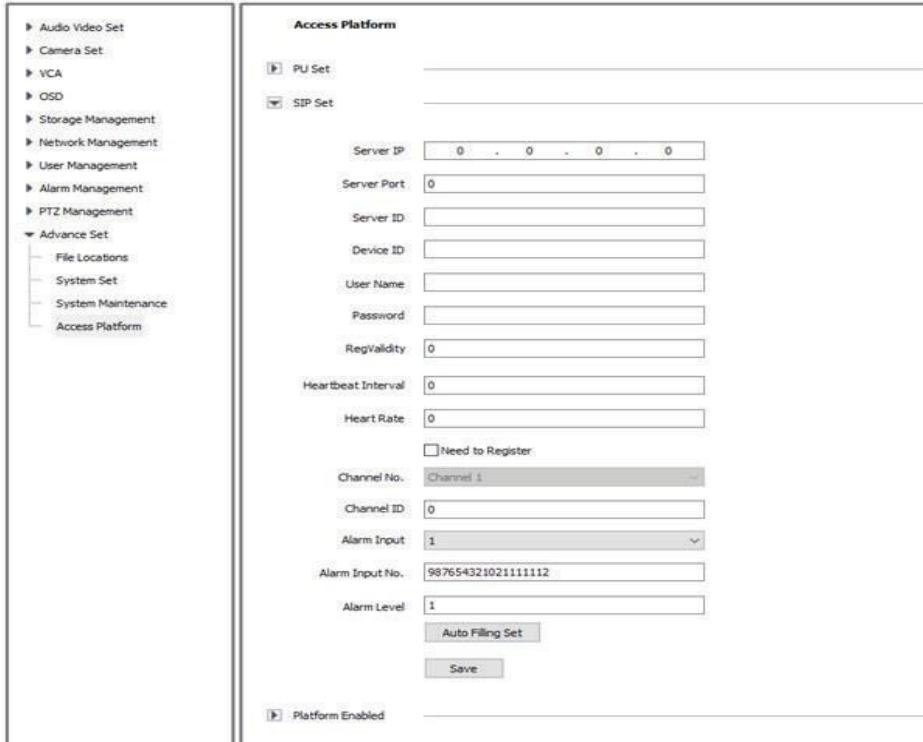
Note:

- (1) After selecting [monitoring business], the [traffic parameter] setting will be invalid.
- (1) After selecting [transportation business], the [intelligent analysis] setting will be invalid. [alarm input] will be changed to [ground induction coil], and [alarm output] will be changed to [exit / entrance gate]. (see: alarm management - alarm input)

5.18.4. Access Platform

Access Platform - SIP settings

The SIP protocol can be accessed to other platforms by setting corresponding parameters.



The screenshot shows a web-based configuration interface for 'Access Platform'. On the left is a navigation menu with categories like Audio Video Set, Camera Set, VCA, OSD, Storage Management, Network Management, User Management, Alarm Management, PTZ Management, and Advance Set. The 'Advance Set' category is expanded to show 'File Locations', 'System Set', 'System Maintenance', and 'Access Platform'. The main area is titled 'Access Platform' and contains the following settings:

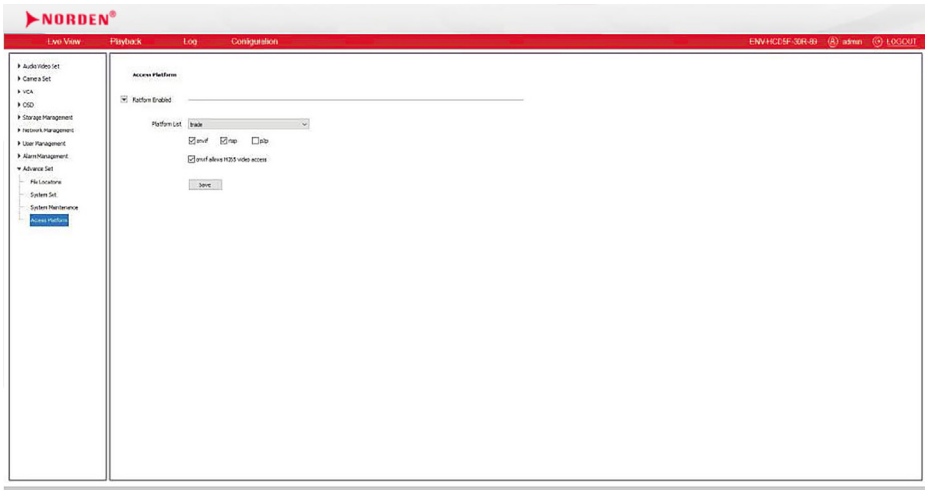
- PU Set**: A text input field.
- SIP Set**: A dropdown menu.
- Server IP**: A text input field with a dotted decimal mask (0 . 0 . 0 . 0).
- Server Port**: A text input field with the value 0.
- Server ID**: A text input field.
- Device ID**: A text input field.
- User Name**: A text input field.
- Password**: A text input field.
- RegValidity**: A text input field with the value 0.
- Heartbeat Interval**: A text input field with the value 0.
- Heart Rate**: A text input field with the value 0.
- Need to Register**: A checkbox.
- Channel No.**: A dropdown menu with 'Channel 1' selected.
- Channel ID**: A text input field with the value 0.
- Alarm Input**: A dropdown menu with '1' selected.
- Alarm Input No.**: A text input field with the value 987654321021111112.
- Alarm Level**: A text input field with the value 1.
- Auto Filling Set**: A button.
- Save**: A button.
- Platform Enabled**: A checkbox.

Platform access- SIP setting interface

Access Platform - platform enable

Support the docking protocol of different platforms, and select according to the actual application. (different models support different platforms, please refer to the actual interface.)

[P2P] (mobile P2P function module), [onvif] (onvif protocol function module), [RTSP] / [RTMP] (real-time message transmission protocol function module), [CGI] (public interface application function module), [trade] (application docking function main module), click [save] after setting, some devices will automatically restart and take effect.



Platform access -platform enabling interface

Note: some models can switch platforms directly. For other models, you need to uncheck [enable] on the old platform, then select a new platform and check [enable]

■ 6 Simple Troubleshooting

6.1 System Failure

6.1.1 unidentified USB flash disk or micro-SD card Possible causes:

- (1) Plug and unplug the U disk or micro-SD card and operate in case of power failure.
- (2) There is a problem with the partition information of the disk, which causes the device to be unrecognized and needs to be reformatted.
- (3) The card is loose, unplug it again after power failure, and then start the equipment.

6.1.2 unrecognized wireless network card

Possible causes:

- (1) Plug and unplug the wireless network card, which needs to be operated in case of power failure.
- (2) The static electricity causes the network card to enter the protection state, so the equipment needs to be powered on again.
- (3) The working state of the wireless network card is unstable, and the hardware of the wireless network card is faulty, which needs to be replaced; it is necessary to obtain the latest list of wireless network cards supported from the company.

6.2 Network Failure

6.2.1 the device is powered on and cannot be searched in the IP searcher

Troubleshooting steps:

- (1) Confirm whether the camera is powered on normally, whether the host network card and driver are normal, whether the network cable connection is normal, and whether the network topology connection is smooth.
- (2) Connect the host computer and HD network camera directly with the cross-network cable. If it still fails, reset and retest the camera.
- (3) Restart the searcher software or select the IP in the same network segment with the device.
- (4) Restart the computer.
- (5) If there are spare hosts and HD network cameras, they can be replaced for testing.
- (6) Check whether the equipment has passed the 4G card networking.
- (7) If you still have any questions, please contact us.

6.2.2 image cannot be connected normally in IE

- (1) Download and install IE control for the first login.
- (2) Add the device IP to the trusted address.
- (3) Re install IE control.

6.2.3 After logging in the network front-end product, it is found that the video is not the video of the front-end product

Possible causes: there are network devices with the same IP and MAC addresses in the network.

Troubleshooting steps:

- (1) Disconnect the network connection of the current device, Ping the corresponding IP, and check whether there is a return packet.
- (2) Use a searcher to search for devices with duplicate IP addresses, disconnect the device network, and then search for verification.
- (3) For public network connection, the port selected during login is the port mapped to other devices.

6.2.4 the camera can be pinged but cannot log in normally Possible causes:

- (1) Port 3001 is blocked by firewall.
- (2) The port number used for login is incorrect.
- (3) Incorrect username and password for login.
- (4) Too many clients connected, the number of device connections is full.
- (5) The camera has set up a black and whitelist, and is forbidden to log in from the current computer. You need to modify the settings first.
- (6) Check whether the listening port of the device is the same as the port connected and used on the software through the searcher.

6.2.5 UDP cannot connect to video Possible cause :

- (1) Other clients on the same machine have connected to the video.
- (2) The port of UDP conflicts with that of other application programs of the computer. Modify the device IP to test.

6.2.6 The videos of two network front-end products are alternately connected or disconnected Possible causes:

- (1) IP address conflict can be viewed by Searcher.
- (2) MAC address conflict can be checked by Searcher.
- (3) The IP address conflicts with the IP address of other computers.

6.3 Operation Failure

6.3.1 video cannot be connected normally in IE Troubleshooting steps:

- (1) Confirm that the host IP address and the network camera address are set in the same network segment, if not in the same network segment, change to the same network segment.

Note: For example, in different network segments, the routing of these two network segments must be ensured.

- (2) Confirm the version of IE, it is recommended to install IE 6 and above.
- (3) Confirm the normal installation of the video card driver and DirectX, it is recommended to install the latest video card driver and DirectX.
- (4) Temporarily shut down the anti-virus software and software firewall for further testing; temporarily shut down the system's own firewall for further testing.
- (5) Delete the previously downloaded control when connecting, reconnect and download the installation control test.
- (6) Replace the main engine for test.
- (7) If you still have any questions, please contact us.

6.3.2 unable to connect sub code stream Possible causes:

There are too many other clients connected, and the number of connections is full

6.4 Control Failure

6.4.1 in ie, it can normally control the PTZ with 485 connections, but it cannot be controlled in the software

Troubleshooting steps: please confirm that the correct protocol, address and baud rate have been selected in the software.

Possible causes:

- (1) Please confirm that the address setting in the software is correct.
- (2) If easy7 software is used, ensure that "system settings- [host] interface - Video Channel - Equipment [address and protocol] content settings are correct";
- (3) If there are still problems, please contact our after-sales technical personnel.

6.5 Video Failure

6.5.1 the software can connect the video normally, but the image is unstable, intermittent, frame loss and other phenomena

Troubleshooting steps:

- (1) Exit the software, check the CPU utilization of the machine, and eliminate the cause of insufficient configuration of the machine itself or whether the host is poisoned.
- (2) Ping the device to see if there is packet loss.
- (3) Use the bandwidth test software to test the network bandwidth. If the bandwidth is insufficient or unstable, please contact the network operator.
- (4) When the network bandwidth is insufficient and the video fluency is guaranteed, we first consider reducing the resolution of the image; in the case of not changing the resolution, in the IE image quality setting, change to the variable bit rate mode, and increase the values of the best quality and the worst quality in the image quality, so as to appropriately reduce the video quality.
- (5) Whether the system performance is insufficient due to too many functions being turned on, such as character stacking, key area, intelligent analysis and other functions occupying the performance, first turn off some functions and then verify whether the video is normal again.

6.5.2 If the video connection display is normal, but the image is black screen or seriously distorted

Other features: no character superimposition, or the image is seriously distorted but can display normally after zooming in

Possible causes:

- (1) DirectX version is lower than 9.0c.
- (2) The video card driver is incorrect, resulting in the DirectX acceleration function not starting, windows The performance of Server 2003 is more obvious.
- (3) Full screen occlusion is set.

6.5.3 If the video can be connected under IE, but the display in the software is abnormal Troubleshooting steps:

- (1) Confirm whether the software version is correct.
- (2) Confirm the correctness of "IP address" and "server type" of "server edit information" in the software; it is recommended to adopt "main code stream + TCP" mode in LAN, and WAN can adopt "bystream + TCP" mode.
- (3) Confirm that the video is connected to the main interface of the software.
- (4) Restart the software and connect.

6.6 Audio Failure

6.6.1 If video browsing and control are normal, but there is no front-end audio Troubleshooting steps:

- (1) Confirm that the driver and wiring of the corresponding sound card of the host are correct, and you can play music to test whether it works.
- (2) Confirm that "audio and video stream" is selected instead of "video stream".
- (3) Verify the correctness of front-end pickup equipment and wiring.
- (4) Refer to 6.6.2 audio signal weak solution.

6.7 Alarm Failure

6.7.1 no alarm output Troubleshooting steps:

- (1) Confirm that the input and output signal wiring mode of the alarm is correct, ensure that the signal is the switch signal, and do not connect the wiring wrongly or falsely.
- (2) Check whether the port setting of the network video server is correct and whether the enabling setting of the input and output ports is correct through IE.
- (3) Confirm whether the alarm input and output equipment are normal;

6.8 Parameters does not take effect after settings

6.8.1 abnormal power off after parameter setting

Possible cause: parameters can be saved normally only after 1 minute of setting, unless automatic restart or IE click [system restart], abnormal power failure, etc. may cause parameters not to be saved normally.

6.8.2 failure to restart the system as required

Possible cause: some parameters have been changed. You need to restart the system, otherwise it may not take effect.

6.9 Others

6.9.1 the capacity of the used U disk computer on the camera becomes smaller

Possible cause: when the camera formats the U disk and micro SD card, special partition operations are carried out, resulting in part of the capacity cannot be recognized on the computer. If you want to continue to use ordinary storage media, you need to reformat it on your computer.

- (1) Download the installation software BOOTICE.EXE.
- (2) Insert the USB stick or micro SD card to be formatted into the computer. Open the software, select the corresponding U disk in the target disk, and then select partition management - > repartition and format - > select USB-FDD mode - > select FAT32 or NTFS system format - > input volume label, such as "U disk" - > finally click OK to finish the U disk repartition.

■ 7 After-sales Services

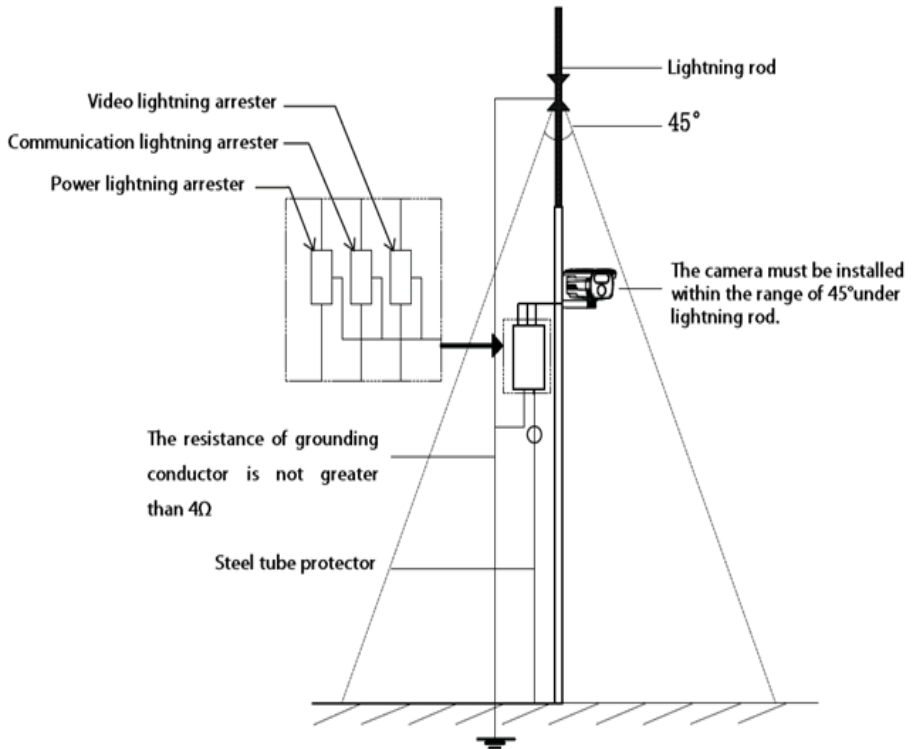
For the high-definition network series camera produced in our company, we promise one-year warranty. During the product warranty period, the company provides free maintenance services, but in case of the following circumstances, the material cost and labor cost shall be charged as appropriate:

- (3) The camera is damaged due to the operation not in accordance with the user manual.
- (4) Lightning, fire and irresistible natural disasters.
- (5) Damage caused by matching problems due to poor product design of other manufacturers.
- (6) Due to our continuous adoption of new technology, product parameters are subject to change without notice.

Appendix I Lightning Protection and Surge Protection

Lightning and surge protection shall be considered for outdoor cameras. On the premise of ensuring electrical safety, the following lightning protection measures can be taken:

- The signal transmission line must be kept at least 50 meters away from the high-voltage equipment or high-voltage cable.
- Outdoor wiring shall be routed under the eaves as much as possible.
- For the open area, the sealed steel pipe must be buried for wiring, and the steel pipe shall be grounded at one point, and the overhead wiring is absolutely prohibited.
- In strong thunderstorm area or high induced voltage area (such as high-voltage substation), additional high-power lightning protection equipment and lightning rod must be installed.
- The lightning protection and grounding design of outdoor devices and lines must be considered in combination with the lightning protection requirements of buildings, and meet the requirements of relevant national standards and industry standards.
- The system must be equipotential grounded. The grounding device must meet the double requirements of system anti-interference and electrical safety and shall not be short circuited or mixed connected with the zero line of the strong current network. When the system is grounded separately, the grounding impedance shall not be greater than 4Ω , and the cross-sectional area of the grounding conductor shall not be less than 25mm^2 .
- During the installation, always check;
 - (1) Whether the camera bracket is metal and grounded, and the pigtail is grounded.
 - (2) Whether the PSE switch is grounded or not.
 - (3) Connecting PoE: the difference between live line-to-ground voltage and zero line to ground voltage must be normal. The live line cannot be touched by a bracket.
 - (4) PoE and DC12V cannot be used at the same time.



Appendix 2: default parameters and recommended configuration

Default parameters of HD series webcam

[default IP parameters] IP address: 192.168.1.110; subnet mask: 255.255.255.0; Gateway: 192.168.1.1; DNS: 192.168.1.1

Username: admin Password: admin

[onvif protocol connection] VLC connection address: rtsp://192.168.1.2:554 Username: admin Password: admin

Recommended system configuration

Type	Recommended computer configuration
CPU	Intel Core i7 2600 quad core and above
Memory bar	4G and above
Hard disk space	>250G
operating system	Windows 7 and above
Browser	IE 8 and later
Direct X	10.X
Resolution	1920 × 1080 or higher
Network card	10 / 100 / 1000 Base-T Ethernet
Graphics card	Independent video card / video memory 512MW