

4 Megapixel

NETWORK CAMERA

User Manual

Please read this instruction carefully for correct use of the product and preserve it for reference purposes

- Please use the specified power supply to connect.
- Do not attempt to disassemble the camera; in order to prevent electric shock, do not remove screws or covers.
- There are no user-serviceable parts inside. Please contact the nearest service center as soon as possible if there is any failure.
- Avoid from incorrect operation, shock vibration, heavy pressing which can cause damage to product.
- Do not use corrosive detergent to clean main body of the camera. If necessary, please use soft dry cloth to wipe dirt; for hard contamination, use neutral detergent. Any cleanser for high grade furniture is applicable.
- Avoid aiming the camera directly towards extremely bright objects, such as, sun, as this may damage the image sensor.
- Please follow the instructions to install the camera. Do not reverse the camera, or the reversing image will be received.
- Do not operate it incase temperature, humidity and power supply are beyond the limited stipulations.
- Keep away from heat sources such as radiators, heat registers, stove, etc.
- Do not expose the product to the direct airflow from an air conditioner.
- This is product instructions not quality warranty. We may reserve the rights of amending the typographical errors, inconsistencies with the latest version, software upgrades and product improvements, interpretation and modification. These changes will be published in the latest version without special notification.
- When this product is in use, the relevant contents of Microsoft, Apple and Google will be involved in. The pictures and screenshots in this manual are only used to explain the usage of our product. The ownerships of trademarks, logos and other intellectual properties related to Microsoft, Apple and Google belong to the above-mentioned companies.
- This manual is suitable for IR water-proof network camera. All pictures and examples used in the manual are for reference only.

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1 Introduction

This IP-CAMERA (short for IP-CAM) is designed for high performance CCTV solutions. It adopts state of the art video processing chips. It utilizes most advanced technologies, such as video encoding and decoding technology, complies with the TCP/IP protocol, SoC, etc to ensure this system more stable and reliable.

This product is widely used in banks, telecommunication systems, electricity power departments, law systems, factories, storehouses, uptowns, etc. In addition, it is also an ideal choice for surveillance sites with middle or high risks.

Main Features

- ICR auto switch, true day/night
- 3D DNR, digital WDR
- ROI coding
- Support BLC, Defog, Anti-flicker
- Support smart phone, iPad, remote monitoring

Surveillance Application



2 IE Remote Access

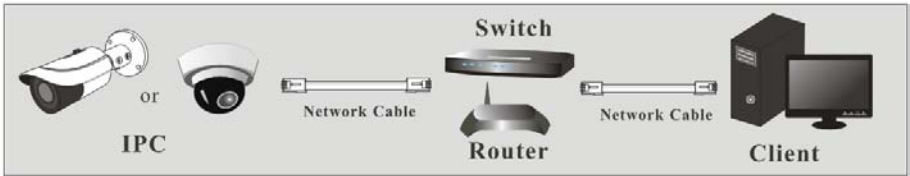
You may connect IP-Cam via LAN or WAN. Here only take IE browser (6.0) for example. The details are as follows:

2.1 LAN

In LAN, there are two ways to access IP-Cam: 1. access through IP-Tool; 2. directly access through IE browser.

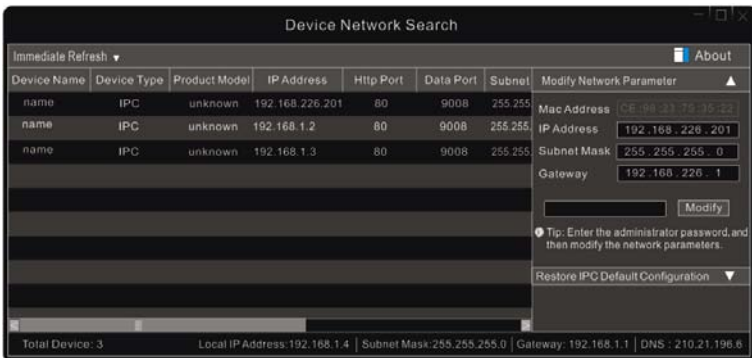
2.1.1 Access through IP-Tool

Network connection:

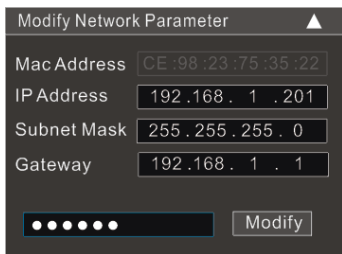


① Make sure the PC and IP-Cam are connected to the LAN and the IP-Tool is installed in the PC from the CD.

② Double click the IP-Tool icon on the desktop to run this software as shown below:



③ Modify the IP address. The default IP address of this camera is 192.168.226.201. Click the information of the camera listed in the above table to show the network information on the right hand. Modify the IP address and gateway of the camera and make sure its network address is in the same local network segment as that of the computer. Please modify the IP address of your device according to the practical situation.



For example, the IP address of your computer is 192.168.1.4. So the IP address of the camera shall be changed to 192.168.1.X. After modification, please input the password of the administrator and click “Modify” button to modify the setting.



The default password of the administrator is “**123456**”.

④ Double click the IP address and then the system will pop up the IE browser to connect IP-CAM. IE browser will auto download the Active X control. After downloading, a login window will pop up as shown below.



Input the username and password to log in.



The default username is “**admin**”; the default password is “**123456**”.

2.1.2 Directly Access through IE

The default network settings are as shown below:

IP address: **192.168.226.201**

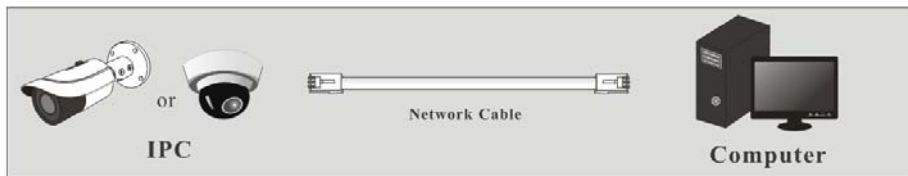
Subnet Mask: **255.255.255.0**

Gateway: **192.168.226.1**

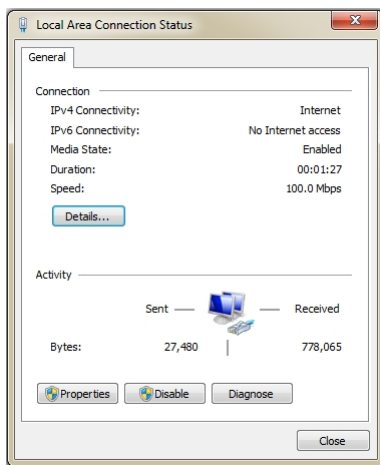
HTTP: **80**

Data port: **9008**

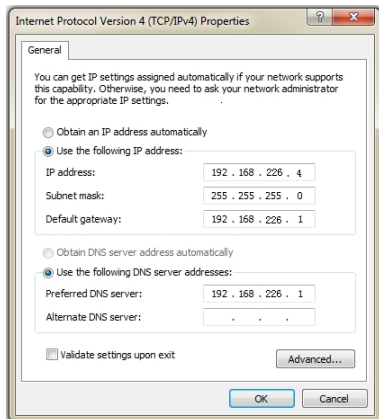
You may use the above default settings when you log in the camera for the first time. You may directly connect the camera to the computer through network cable.



① Manually set the IP address of the PC and the network segment should be as the same as the default settings of the IP camera. Open the network and share center. Click “Local Area Connection” to pop up the following window.



Select “Properties” and then select internet protocol according to the actual situation (for example: IPv4). Next, click “Properties” button to set the network of the PC.



- ② Open the IE browser and input the default address of IP-CAM and confirm. The IE browser will download Active X control automatically.
- ③ After downloading Active X control, the login dialog box will pop up.
- ④ Input the default username and password and then enter to view.

2.2 WAN

➤ Access through the router or virtual server



- ① Make sure the camera is well connected via LAN and then log in the camera via LAN and go to Config→Network→Port menu to set the port number.

Port	Server	DDNS	SNMP	RTSP	UPnP	Email	FTP
HTTP Port	<input type="text" value="80"/>						
Data Port	<input type="text" value="9008"/>						
RTSP Port	<input type="text" value="554"/>						
<input type="button" value="Save"/>							

Port Setup

- ② Go to Config →Network→TCP/IP menu to modify the IP address.

IPv4 IPv6 PPPoE Config IP Change Notification Config

Obtain an IP address automatically

Use the following IP address

IP Address

Subnet Mask

Gateway

Preferred DNS Server

Alternate DNS Server

IP Setup

③ Go to the router’s management interface through IE browser to forward the IP address and port of the camera in the “Virtual Server”.

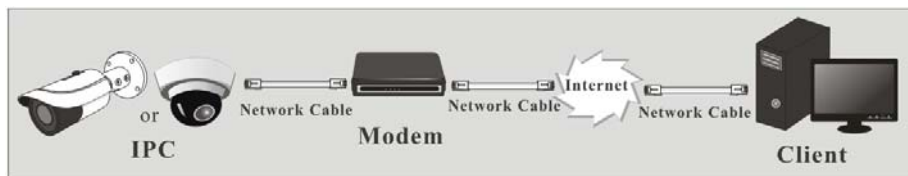
Port Range					
Application	Start	End	Protocol	IP Address	Enable
1	9007	to 9008	Both	192.168.1.201	<input checked="" type="checkbox"/>
2	80	to 81	Both	192.168.1.201	<input checked="" type="checkbox"/>
3	10000	to 10001	Both	192.168.1.166	<input type="checkbox"/>
4	21000	to 21001	Both	192.168.1.166	<input type="checkbox"/>

Router Setup

④ Open the IE browser and input its WAN IP and http port to access.

➤ **Access through PPPoE dial-up**

Network connection



You may access the camera through PPPoE auto dial-up. The setting steps are as follow:

- ① Go to Config→Network→Port menu to set the port number.
- ② Go to Config →Network→TCP/IP→PPPoE Config menu. Enable PPPoE and then input

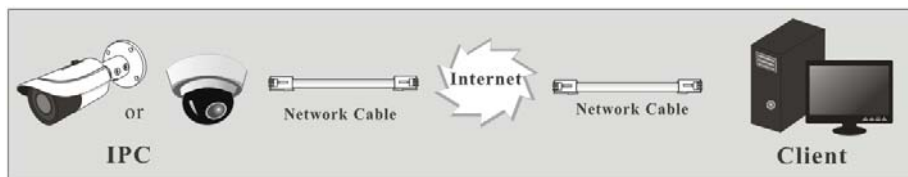
the user name and password which you can get from your internet service provider.

IPv4	IPv6	PPPoE Config	IP Change Notification Config
<input checked="" type="checkbox"/> Enable			
User Name	<input type="text" value="xxxxxxx"/>		
Password	<input type="password" value="•••••"/>		
<input type="button" value="Save"/>			

- ③ Go to Config →Network→DDNS menu. Before you configure the DDNS, please apply for a domain name first. Please refer to DDNS configuration for detail information.
- ④ Open the IE browser and input the domain name and http port to access.

➤ **Access through static IP**

Network connection

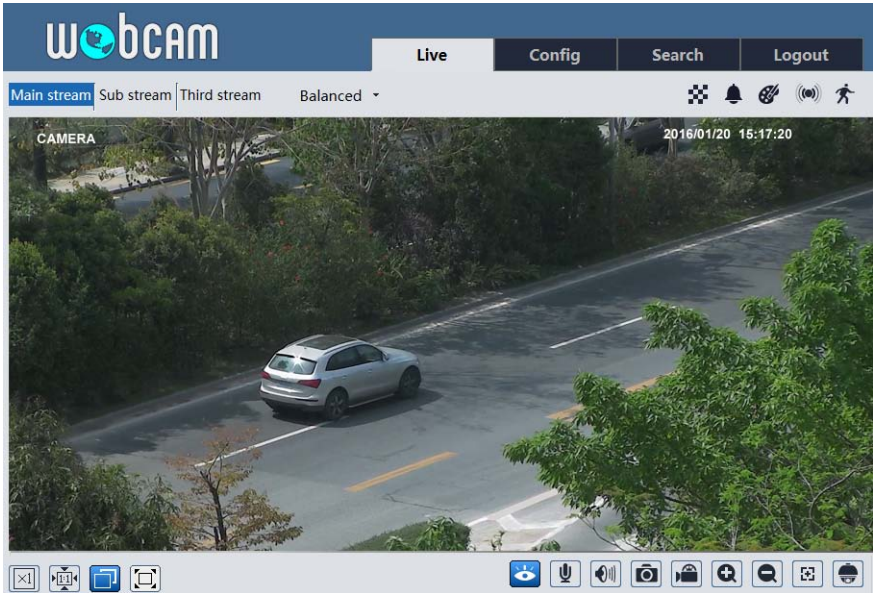


The setting steps are as follow:

- ① Go to Config→Network→Port menu to set the port number.
- ② Go to Config →Network→TCP/IP menu to set the IP address. Check “Use the following IP address” and then input the static IP address and other parameters.
- ③ Open the IE browser and input its WAN IP and http port to access.

3 Remote Preview

After you log in, you will see the following window.








The following table is the instructions of the icons on the remote preview interface.

Icon	Description	Icon	Description
	Original size		Scene change indicator icon
	Appropriate size		Abnormal clarity indicator icon
	Auto		Color abnormal indicator icon
	Full screen		Sensor alarm indicator icon
	Start/stop live view		Motion alarm indicator icon
	Start/stop two-way audio		Zoom in
	Enable/disable audio		Zoom out
	Snap		AZ control (only available for the model with auto varifocal lens)
	Start/stop recording		PTZ control























- When motion detection alarm is triggered, the people icon will turn red.
- In full screen mode, double click to exit.




Click AZ control button to unfold AZ control panel. The descriptions of the control panel are as follows:

Icon	Description	Icon	Description
	Zoom -		Zoom +
	Focus -		Focus +
	One key focus		

Click PTZ extended button to unfold PTZ control panel. In remote preview interface, you can view the image from every direction by controlling PTZ panel.

The descriptions of the control panel are as follows:

Icon	Description	Icon	Description
	Click it to rotate the dome diagonally up-left		Click it to rotate the dome diagonally up-right.
	Click it to rotate the dome upwards.		Click it to stop rotating the dome.
	Click it to rotate the dome towards left		Click it to rotate the dome towards right.
	Click it to rotate the dome diagonally down-left		Click it to rotate the dome diagonally down-right.
	Click it to rotate the dome downwards.		Drag the scroll bar to adjust rotating speed of the dome.
	Click it to zoom out the live image.		Click it to zoom in the live image.
	Focus -		Focus +
	Iris -		Iris +
	Auto scan		Wiper
	Light		Radom scan
	Group scan		Preset

Select preset and click  to call the preset. Select and set the preset and then click  to save the position of the preset. Select the set preset and click  to delete it.

4 Remote Live Surveillance

4.1 System Configuration

The “System” configuration includes four submenus: Basic Information, Date and Time, Local Config and Storage.

4.1.1 Basic Information

In the “Basic Information” interface, you can check the relative information of the device.

Device Type	xxxx
Brand	xxxx
Software Version	4.1.1.0(8234)
Software Build Date	2016-11-10
Kernel Version	20161109
Hardware Version	1.3
Onvif Version	2.3
OCX Version	1.1.3.5
MAC	00:18:ae:12:ab:1d

4.1.2 Date and Time

Go to Config→System→Date and Time. Please refer to the following interface.

Zone	Date and Time
Time Zone:	GMT+08 (Beijing, Hong Kong, Shanghai, Taipei) ▼
	<input type="checkbox"/> DST

You can select the time zone and DST as required.

Click “Date and Time” tab to set the time mode.

Zone	Date and Time
Time Mode:	
<input checked="" type="radio"/> Synchronize with NTP server NTP server: <input type="text" value="time.windows.com"/>	
<input type="radio"/> Synchronize with computer time Date: <input type="text" value="2016-08-11"/> Time: <input type="text" value="10:44:20"/>	
<input type="radio"/> Set manually Date: <input type="text" value="2016-08-11"/> <input type="text" value="10:44:13"/>	
<input type="button" value="Save"/>	

4.1.3 Local Config

Go to Config→System→Local Config. You can set the storage path of the captured pictures and video records. You can also enable or disable the video audio.

Picture Path	<input type="text" value="C:\Users\Administrator\Favorites"/>	<input type="button" value="Browse"/>
Record Path	<input type="text" value="C:\Users\Administrator\Favorites"/>	<input type="button" value="Browse"/>
Video Audio Settings	<input type="radio"/> Enable <input checked="" type="radio"/> Disable	

4.1.4 Storage

Go to Config→System→Storage to go to the interface as shown below.

SD Card	Record
Capacity	<input type="text" value="3325 MB"/>
Used Capacity	<input type="text" value="3325 MB"/>
Remaining Capacity	<input type="text" value="0 MB"/>
State	<input type="text" value="Normal"/>
<input type="button" value="Pop Up"/> <input type="button" value="Format"/>	

The first time you use the SD card, you should click “Format” button to format the SD card. Click “Pop Up” button to stop writing data to SD card. Then the SD card can be ejected safely.



Note: Using of SD card function should be coordinated with motion or sensor alarm. When alarm is triggered, the system will automatically snap picture and save the picture or record into SD card.

Go to Config→System→Storage→Record to go to the interface as shown below. You can set the SD card record stream. Set the pre record time if you enable pre record. Click “Save” button to save the settings.

Pre Record Time: Set the time to record before the actual recording begins.

4.2 Image Configuration

Image Configuration includes Display, Video/Audio, OSD, Video Mask and ROI Config (the lens control function is available for the models with auto varifocal lens).

4.2.1 Display Configuration

Go to Image→Display interface as shown below. You may set and adjust the picture’s brightness, contrast, hue and saturation, etc.

Brightness: Set the brightness level of the camera’s image.

Contrast: Set the color difference between the brightest and darkest parts.

Hue: Set the total color degree of the image.

Saturation: Set the degree of color purity. The purer the color is, the brighter the image is.

Sharpness: Set the resolution level of the image plane and the sharpness level of the image

edge.

Noise Reduction: Decrease the noise and make the image more thorough. Increasing the value will make the noise reduction effect better but it will reduce the image resolution.

Backlight Compensation:

- Off: close the backlight compensation function. It is the default mode.
- WDR
 - ◆ As to the WDR scene, WDR will help the camera provide clear images when there are both very bright and very dark areas simultaneously in the field of the view by lowering the brightness of the highlight area and increasing the brightness of the lowlight area. High, middle and low can be selected.
 - ◆ There will be some record lost in a few seconds during mode changing from non-WDR to WDR mode.
- HLC: lower the brightness of the whole image by suppressing the brightness of the image's highlight area and reducing the size of the halo area.
- BLC: the exposure will begin automatically according to the scene for the goal of seeing the darkest area of the image.

Antiflicker:

- Off: Close the anti-flicker function.
- 50Hz: Make sure the horizontal stripes will not appear in the image while the device is adjusting the exposure automatically according to the brightness of the scene when the electric supply is 50Hz.
- 60Hz: Make sure the horizontal stripes will not appear in the image while the device is adjusting the exposure automatically according to the brightness of the scene when the electric supply is 60Hz.

White Balance: Adjust the color temperature according to the environment automatically.

Frequency: 50Hz and 60Hz can be optional.

Day/night Mode: Please choose the mode as needed.

Sensitivity: High, middle and low can be selected.

Infrared Mode: You may choose "ON", "OFF" and "Auto" as required.

Exposure Mode: You may choose "Auto" or "Manual" as required.

Corridor Pattern: You can change the direction of the video image by using this function. 0, 90, 180 and 270 are available. The default value is 0. The video resolution should be 1080P or under 1080P if you use this function.

Image Mirror: Reverse the current video image right and left.

Image Flip: Turn the current video image upside down.

4.2.2 Video / Audio Configuration

Go to Image→Video / Audio interface as shown below. In this interface, you can set the resolution, frame rate, bitrate type, video quality and so on subject to the actual network condition.

Index	Stream Name	Resolution	Frame Rate	Bitrate Type	Bitrate(Kbps)	Video Quality	I Frame Interval	Video Compression	Profile
1	Main stream	2560x1440	30	CBR	3072	Medium	120	H265	Main Profile
2	Sub stream	352x240	30	CBR	512	Highest	120	H264	High Profile
3	Third stream	704x480	30	CBR	768	Higher	120	H264	High Profile

Send Snapshot Size: (2560x1440)

Video encode slice split

Watermark Watermark content: XXX

Click “Audio” tab to go to the interface as shown below.

Video Audio

Audio Encoding: G711A Audio Type: MIC

Save

Three video streams can be adjustable.

Resolution: The higher the resolution is, the clearer the image is.

Frame rate: The higher the frame rate is, the more fluently the video is. However, more storage room will be taken up.

Bitrate type: Including CBR and VBR. CBR means that no matter how changeable the video resources are, the compression bitrate keeps constant. This will not only facilitate the image quality better in a constant bitrate but also help to calculate the capacity of the recording. VBR means that the compression bitrate can be adjustable according to the change of the video resources. This will help to optimize the network bandwidth.

Bitrate: Please choose it according to the actual network situation.

Video Quality: When VBR is selected, you need to choose image quality. The higher the image quality you choose, the more bitrate will be required.

I Frame interval: It is recommended to use the default value. If the value is over high, the read speed of the group of pictures will be slow resulting in the quality loss of the video.

Video Compression: H264 and H265 are optional. Higher quality of image can be transferred under limited network bandwidth by using H265 video encoding, however, higher quality of the hardware is required.

Profile: Baseline, main/high profiles are optional. Baseline profile is mainly used in interactive application with low complexity and delay. Main/high profile is mainly used for higher coding requirement.

Send Snapshot: Please select it according to the actual situation.

Video encode slice split: If enabled, you may get more fluency image even though using the low-performance PC.

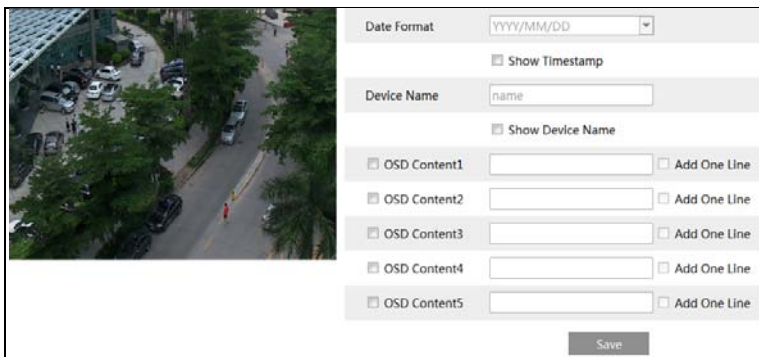
Watermark: If enabled, input the watermark content. You may check the watermark when playing back the local record in the search interface, lest the record files is tampered.

Audio Encoding: G711A and G711U are selectable.

Audio Type: MIC and LIN are selectable.

4.2.3 OSD Configuration

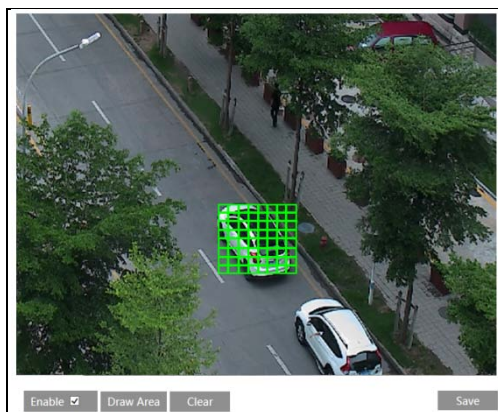
Go to Image→OSD interface as shown below.



You may set time stamp, device name and OSD content here. After enabling the corresponding display and entering the content, drag them to change their position. Then click “Save” button to save the settings.

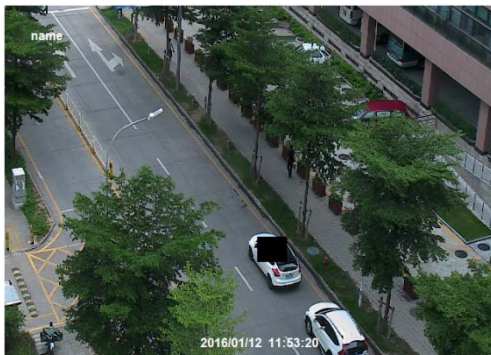
4.2.4 Video Mask

Go to Image→Video Mask interface as shown below. You can set 4 mask areas at most.



To set up video mask:

1. Enable video mask.
2. Click “Draw Area” button and then drag the mouse to draw the video mask area.
3. Click “Save” button to save the settings.
4. Return to the live to see the following picture.

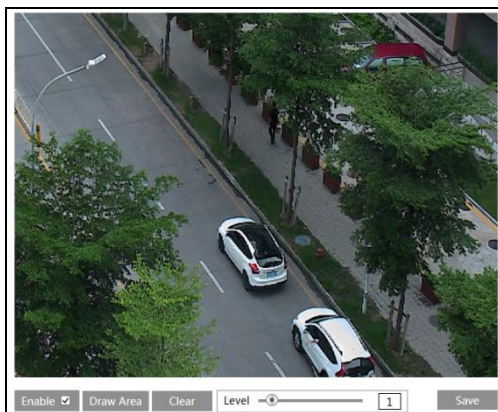


Clear the video mask:

Go to video mask interface and then click “Clear” button to delete the current video mask area.

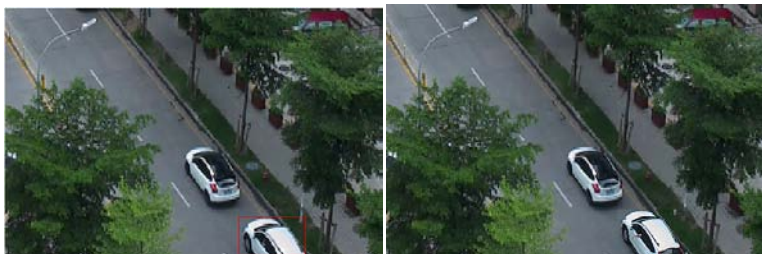
4.2.5 ROI Configuration

Go to Image→ROI Config interface as shown below.



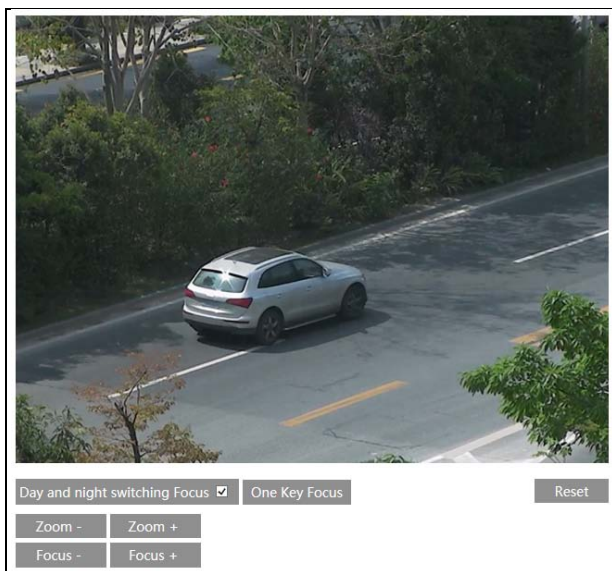
1. Check “Enable” and then click “Draw Area” button.
2. Drag the mouse to set the ROI area.
3. Set the level.
4. Click “Save” button to save the settings.

Now, you will see the selected ROI area is clearer than other areas especially in low bitrate condition.



4.2.6 Lens Control

This function is only available for the model with auto varifocal lens. You may adjust zoom and focus manually and choose the focus mode or one key focus.



4.3 PTZ Configuration

Go to PTZ→Protocol interface as shown below.

Protocol	PELCOD ▾
Address	1
Baud-Rate	2400 ▾
Save	

Set the protocol, address and baud rate according to the PTZ.

4.4 Alarm Configuration

Alarm configuration includes four submenus: Motion Detection, Alarm In, Alarm Out and Alarm Server.

4.4.1 Motion Detection

Go to Alarm→Motion Detection to set motion detection alarm.

1. Check “Enable Alarm” check box to activate motion based alarm, choose alarm holding time and set alarm trigger options.

Alarm Out: If selected, this would trigger the external relay output on detecting a motion based alarm.

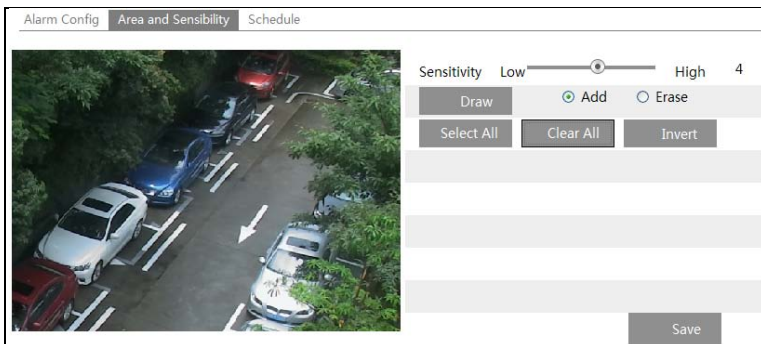
Trigger Snap: If selected, the system will snap images on an alarm and save the images in SD card.

Trigger SD Recording: If selected, the record will be triggered and saved in SD card on an alarm.

Trigger Email: If “Trigger Email” and “Attach Picture” checkbox is checked (email address shall be set first in the Email configuration interface), the captured pictures and triggered event will be sent into those addresses.

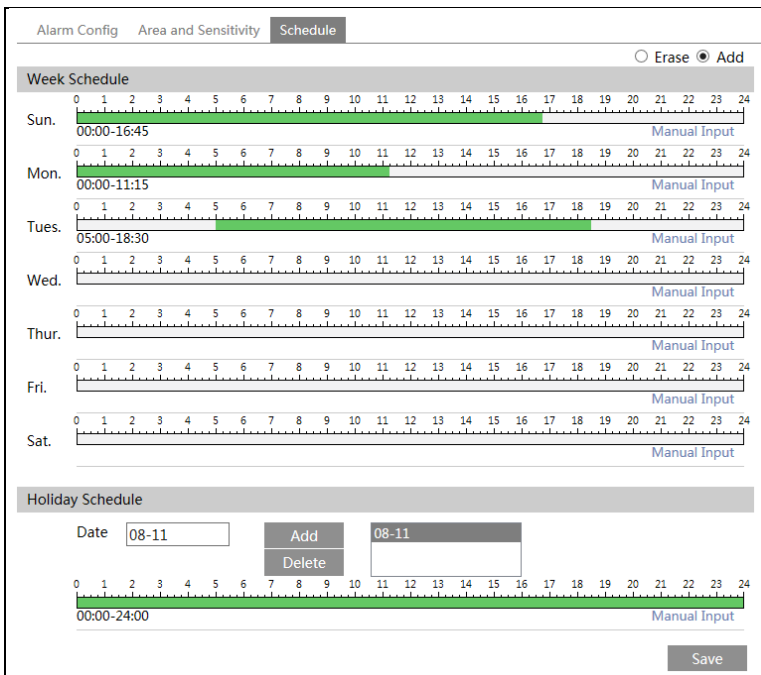
Trigger FTP: If “Trigger FTP” and “Attach Picture” checkbox is checked, the captured pictures will be sent into FTP server address. Please refer to FTP configuration chapter for more details.

2. Set motion detection area and sensitivity. Click “Area and Sensitivity” tab to go to the interface as shown below.



Move the “Sensitivity” scroll bar to set the sensitivity.
 Select “Add” and click “Draw” button and drag mouse to select the motion detection area;
 Select “Erase” and drag the mouse to clear motion detection area.
 After that, click “Save” to save the settings.

3. Set the schedule of the motion detection. Click “Schedule” tab to go to the interface as shown below.



Week schedule

Set the alarm time from Monday to Sunday for alarm everyday in one week. The lengthwise

means one day of a week; the rank means 24 hours of a day. Green means selected area. Blank means unselected area.

“Add”: Add the schedule for a special day.

“Erase”: Delete holiday schedule.

Day schedule

Set alarm time for alarm in some time of a special day, such as holiday.

Set a date at the “Date” box, click “Add” button to add that date to the list box on the right side and then drag the scroll bar to set the schedule of that day.

Select a date in the list box on the right side, and click “Delete” to remove the schedule on that day.

Click “Save” button to save the settings.

Note: Holiday schedule is prior to Week schedule.

4.4.2 Alarm In

To set sensor alarm (alarm in):

Go to Config→Alarm→Alarm In interface as shown below.

1. Enable alarm and set the alarm type, alarm holding time and sensor name.
2. Set alarm trigger options. The setting steps are the same with that of motion detection. Please refer to motion detection chapter for details.
3. Click “Save” button to save the settings.
4. Set the schedule of the sensor alarm. The setting steps of the schedule are the same with that of motion detection. Please refer to motion detection chapter for details.

4.4.3 Alarm Out

Go to Config→Alarm→Alarm Out interface as shown below:

Alarm Out	Alarm Holding Time	Manual Operation
<input type="text" value="alarmOut1"/>	<input type="text" value="30 Seconds"/>	<input type="button" value="On"/> <input type="button" value="Off"/>

Select alarm holding time at the “Alarm Holding Time” pull down list box.

Click “On” to trigger alarm out. Click “off” to stop alarm out.

Click “Save” button to save the settings.

4.4.4 Alarm Server

Go to Alarm→Alarm Server interface as shown below.

You may input the alarm server address and port. When the alarm happens, the camera will automatically transfer the alarm event to the alarm server. If the alarm server is not used, there is no need for you to configure here.

Server Address	<input type="text"/>
Port	<input type="text" value="0"/>
<input type="button" value="OK"/>	

4.5 Event Configuration

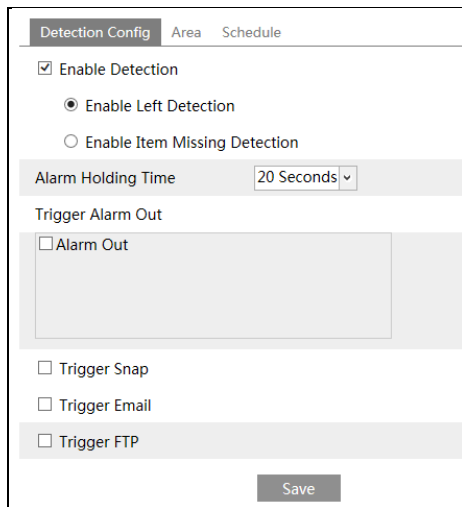
Event configuration includes four submenus: Object Removal, Exception, Line Crossing and Intrusion.

Note: Some software versions of this series of cameras may not support the following functions. Please take actual displayed interface as final.

4.5.1 Object Removal

To set object removal:

Go to Config→Event→Object Removal interface as shown below.



1. Enable object removal detection and then select the detection type.

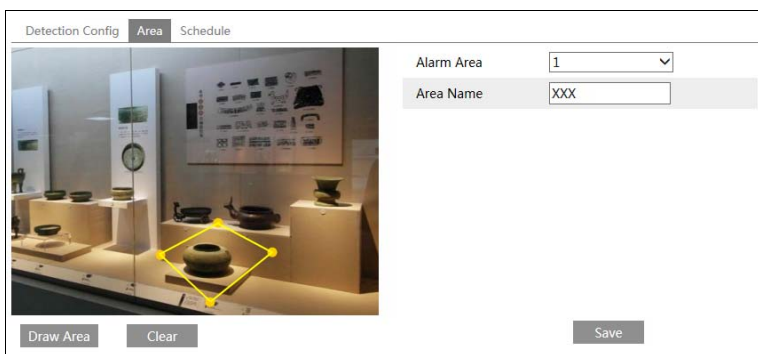
Enable Left Detection: The relevant alarms will be triggered if there are items left in the pre-defined alarm area.

Enable Item Missing Detection: The relevant alarms will be triggered if there are items missing in the pre-defined alarm area.

2. Set the alarm holding time and alarm trigger options. The setting steps are the same as that of motion detection. Please refer to motion detection chapter for details.

3. Click “Save” button to save the settings.

4. Set the alarm area of the object removal detection. Click “Area” tab to go to the interface as shown below.



Set the alarm area number and then input the alarm area name. You can add 4 alarm areas at most.

Click “Draw Area” button and then click around the area where you want to set as the alarm area in the image (the alarm area should be a closed area). Click “Stop Draw” button to stop

drawing. Click “Clear” button to delete the alarm area. Click “Save” button to save the settings.

5. Set the schedule of the object removal detection. The setting steps of the schedule are the same with that of motion detection. Please refer to motion detection chapter for details.

※ Application Scenario Illustration

1. Object removal detection cannot determine the objects’ ownership. For instance, there is an unattended package in the station. Object removal detection can detect the package itself but it cannot determine whether it is an ownership package.
2. Try not to enable object removal detection when light changes greatly in the scene.
3. Try not to enable object removal detection if there are complex and dynamic environments in the scene.
4. Adequate light and clear scenery are very important to object removal detection.
5. Please contact us for more detailed application scenarios.

Here we take some improper application scenarios for instance.

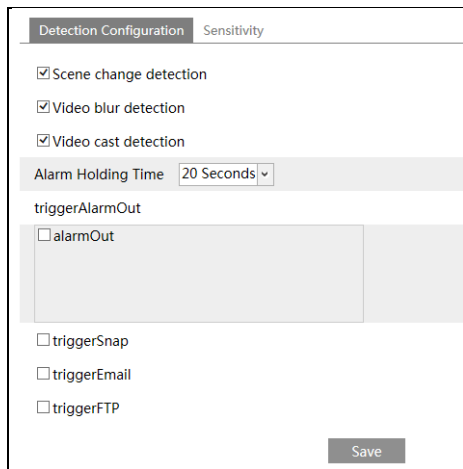


There are so many trees near the road and cars running on the road, which make the scene too complex to detect the removal objects.

4.5.2 Exception

To set exception detection:

Go to Config→Event→Exception interface as shown below.



1. Enable the relevant detection as required.

Scene Change Detection: The relevant alarms will be triggered if the scene of the monitor video has changed.

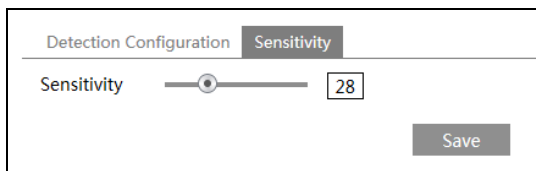
Video Blur Detection: The relevant alarms will be triggered if the monitor video is blurry.

Video Cast Detection: The relevant alarms will be triggered if color cast happens to the monitor video.

2. Set the alarm holding time and alarm trigger options. The setting steps are the same with that of motion detection. Please refer to motion detection chapter for details.

3. Click “Save” button to save the settings.

4. Set the sensitivity of the exception detection. Click “Sensitivity” tab to go to the interface as shown below.



Drag the slider to set the sensitivity value or directly input the sensitivity value in the textbox. Click “Save” button to save the settings.

The sensitivity value of Scene Change Detection: The higher the value is, the more sensitive the system responds to the amplitude of the scene change.

The sensitivity value of Video Blur Detection: The higher the value is, the more sensitive the system responds to the defocus of the device image. You should just the value according to the real situation.

The sensitivity value of Video Cast Detection: The higher the value is, the more sensitive the system responds to the color cast of the device image. You should also consider other factors.

※ Application Scenario Illustration

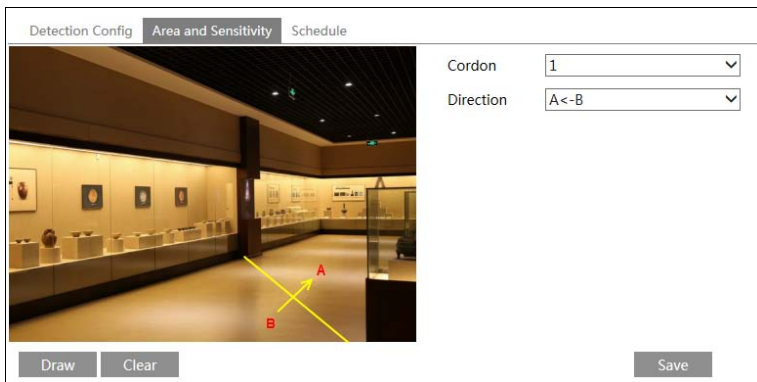
1. Auto-focusing function should not be enabled for exception detection.
2. Try not to enable object removal detection when light changes greatly in the scene.
3. Please contact us for more detailed application scenarios.

4.5.3 Line Crossing

Line Crossing: The relevant alarms will be triggered if someone or something crosses the pre-defined alarm lines.

Go to Config→Event→Line Crossing interface as shown below.

1. Enable line crossing alarm and set the alarm holding time.
2. Set alarm trigger options. The setting steps are the same with that of motion detection. Please refer to motion detection chapter for details.
3. Click “Save” button to save the settings.
4. Set area and sensitivity of the line crossing alarm. Click “Area and Sensitivity” tab to go to the interface as shown below.



Set the cordon number and direction. You can add 4 cordons at most.

Direction: A<->B, A->B and A<-B optional. It is the crossing direction of the intruder who crosses over the alarm line.

A<->B: The alarm will be triggered when the intruder crosses over the alarm line from B to A or from A to B.

A->B: The alarm will be triggered when the intruder crosses over the alarm line from A to B.

A<-B: The alarm will be triggered when the intruder crosses over the alarm line from B to A.

Click “Draw” button and then drag the mouse to draw a cordon in the image on the left side. Click “Stop” button to stop drawing. Click “Clear” button to delete the cordons. Click “Save” button to save the settings.

5. Set the schedule of the line crossing alarm. The setting steps of the schedule are the same with that of motion detection. Please refer to motion detection chapter for details.

※ Application Scenario Illustration

1. Auto-focusing function should not be enabled for line crossing detection. If enabled, the video image will change so greatly that the algorithm will stop working temporarily.
2. Try not to enable line crossing detection when light changes greatly in the scene.
3. Try to install the camera at a certain angle of depression.
4. Adequate light and clear scenery are very important to line crossing detection.
5. Adjust the camera to make the detection area in the center of the video image. Make sure no obstructions are in the main crossing area. It is strongly recommended to make the obstructions (like trees, bushes, flags, etc.) outside the detection area.
6. Please contact us for more detailed application scenarios.

Here we take some improper application scenarios for instance.



There are so many trees near the road and cars running on the road, which make the scene too complex to detect the crossing objects.

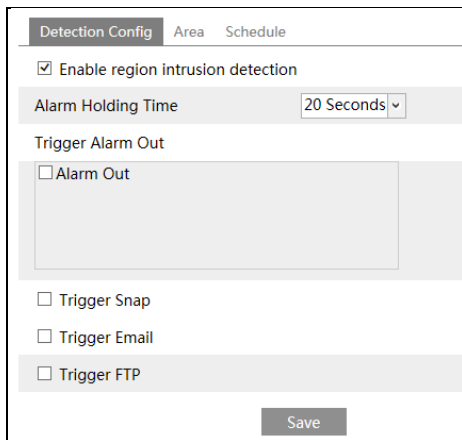


The ground is covered with vegetation; at the right of the fence is a gym where people pass by frequently. The above mentioned environment is too complex to detect the crossing objects.

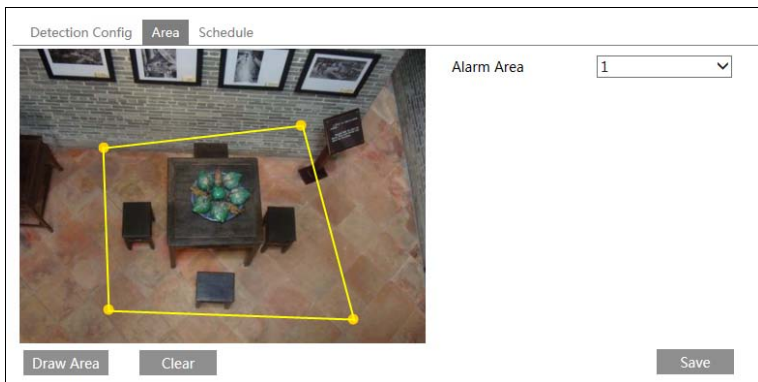
4.5.4 Intrusion

Intrusion: The relevant alarms will be triggered if someone or something intrudes into the alarm areas or moves in the pre-defined alarm areas.

Go to Config→Event→Intrusion interface as shown below.



1. Enable region intrusion detection alarm and set the alarm holding time.
2. Set alarm trigger options. The setting steps are the same with that of motion detection. Please refer to motion detection chapter for details.
3. Click “Save” button to save the settings.
4. Set the alarm area of the intrusion detection. Click “Area” tab to go to the interface as shown below.



Set the alarm area number on the right side. You can add 4 alarm areas at most. Click “Draw Area” button and then click around the area where you want to set as the alarm area in the image on the left side (the alarm area should be a closed area). Click “Stop Draw” button to stop drawing. Click “Clear” button to delete the alarm area. Click “Save” button to save the settings.

5. Set the schedule of the intrusion detection. The setting steps of the schedule are the same with that of motion detection. Please refer to motion detection chapter for details.

※ Application Scenario Illustration

1. Auto-focusing function should not be enabled for intrusion detection. If enabled, the video image will change so greatly that the algorithm will stop working temporarily.
2. Try not to enable intrusion detection when light changes greatly in the scene.
3. Try to install the camera at a certain angle of depression.
4. Adequate light and clear scenery are very important to intrusion detection.
5. Adjust the camera to make the detection area in the center of the video image. The detected object should be in the detection area for about two seconds at least. Make sure no obstructions are in the main crossing area. It is strongly recommended to make the obstructions (like trees, bushes, flags, etc.) outside the detection area.
6. Please contact us for more detailed application scenarios.

Here we take some improper application scenarios for instance.



The camera's angle of depression is not wide enough; there are so many trees in the scene. The above mentioned environment is too complex to detect the intrusion.



The camera's angle of depression is not wide enough; the street lamps at night lead to light interference; the swaying trees in a windy day lead to random interference. All the above mentioned factors make the scene improper for intrusion detection.

4.6 Network Configuration

4.6.1 TCP/IP

Go to Config→Network→TCP/IP interface as shown below. There are two ways for network connection.

Use IP address (take IPv4 for example)-There are two options for IP setup: obtain an IP address automatically by DHCP protocol and use the following IP address. Please choose one of the options for your requirements.

Use PPPoE-Click “PPPoE Config” tab to go to the interface as shown below. Enable PPPoE and then enter the user name and password from your ISP.

You can choose either way of the network connection. If you use PPPoE to connect internet, you will get a dynamic WAN IP address. This IP address will change frequently. You may use the function of IP change notification.

Click “IP Change Notification Config” to go to the interface as shown below.

Trigger Email: when the IP address of the device is changed, a new IP address will be sent to the appointed mailbox automatically

Trigger FTP: when the IP address of the device is changed, a new IP address will be sent to FTP server.

4.6.2 Port

Go to Config→Network→Port interface as shown below. HTTP port, Data port and RTSP port can be set.

Port	Server	DDNS	SNMP	RTSP	UPnP	Email	FTP
HTTP Port	<input type="text" value="80"/>						
Data Port	<input type="text" value="9008"/>						
RTSP Port	<input type="text" value="554"/>						
<input type="button" value="Save"/>							

HTTP Port: The default HTTP port is 80. It can be changed to any port which is not occupied.

Data Port: The default data port is 9008. Please change it as required.

RTSP Port: The default port is 554. Please change it as required.

4.6.3 Server Configuration

This function is mainly used for connecting network video management system.

Port	Server	DDNS	SNMP	RTSP	UPnP	Email	FTP
<input checked="" type="checkbox"/> Enable							
Server Port	<input type="text" value="10"/>						
Server Address	<input type="text"/>						
Device ID	<input type="text" value="1"/>						
<input type="button" value="Save"/>							

1. Check “Enable”.
2. Check the IP address and port of the transfer media server in the ECMS/NVMS. Then enable the auto report in the ECMS/NVMS when adding a new device. Next, input the remaining information of the device in the ECMS/NVMS. After that, the system will auto allot a device ID. Please check it in the ECMS/NVMS.
3. Input the above-mentioned server address, server port and device ID in the responding boxes. Click “Save” button to save the settings.

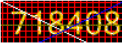
4.6.4 DDNS

If your camera is set to use PPPoE as its default network connection, DDNS should be set for network access. Before you set the DDNS, please make sure you have registered a domain name on the DDNS server.

1. Go to Config→Network→ DDNS.

Port	Server	DDNS	SNMP	RTSP	UPnP	Email	FTP
<input checked="" type="checkbox"/> Enable							
Server Type	mintdns ▾						
Server Address	www.dvrddns.com						
User Name	<input type="text"/>						
Password	<input type="text"/>						
Domain	<input type="text"/>						
							Save

2. Apply for a domain name. Take www.dvrddns.com for example. Input www.dvrddns.com in the IE address bar to visit its website. Then click “Registration” button.

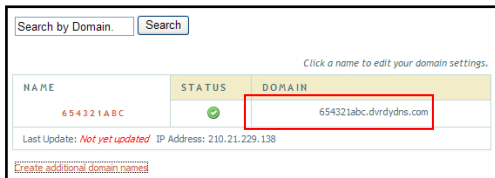
NEW USER REGISTRATION	
USER NAME	<input type="text" value="xxxx"/>
PASSWORD	<input type="password" value="•••••"/> ?
PASSWORD CONFIRM	<input type="password" value="•••••"/>
FIRST NAME	<input type="text" value="xxx"/>
LAST NAME	<input type="text" value="xxx"/>
SECURITY QUESTION.	My first phone number. ▾
ANSWER	<input type="text" value="xxxxxxx"/>
CONFIRM YOU'RE HUMAN	 New Captcha <input type="text"/> Enter the text you see above
<input type="button" value="Submit"/> <input type="button" value="Reset"/>	

Create domain name.

You must create a domain name to continue.

Domain name must start with (a-z, 0-9). Cannot end or start, but may contain a hyphen and is not case-sensitive.

After you successfully request your domain name, you will see your domain in the list.



3. Input the username, password, domain you apply for in the DDNS configuration interface.
4. Click “Save” button to save the settings.

4.6.5 SNMP

To get camera status, parameters and alarm information and remotely manage the camera, you can set the SNMP function. Before using the SNMP, please download the SNMP software and set the parameters of the SNMP, such as SNMP port, trap address.

1. Go to Config→Network→SNMP.
2. Check the corresponding version checkbox (Enable SNMPv1, Enable SNMPv2, Enable SNMPv3) according to the version of the SNMP software you download.
3. Set the “Read SNMP Community”, “Write SNMP Community”, “Trap Address”, “Trap Port” and so on. Please make sure the settings are the same as that of your SNMP software.

Note: Please use the different version in accordance with the security level you required. The higher the version is, the higher the level of the security is.

SNMP v1/v2	
<input type="checkbox"/> Enable SNMPv1	
<input type="checkbox"/> Enable SNMPv2	
Read SNMP Community	<input type="text"/>
Write SNMP Community	<input type="text"/>
Trap Address	<input type="text" value="..."/>
Trap Port	<input type="text" value="0"/>
Trap community	<input type="text"/>
SNMP v3	
<input type="checkbox"/> Enable SNMPv3	
Read User Name	<input type="text"/>
Security Level	<input type="text" value="auth, priv"/>
Authentication Algorithm	<input checked="" type="radio"/> MD5 <input type="radio"/> SHA
Authentication Password	<input type="text"/>
Private-key Algorithm	<input checked="" type="radio"/> DES <input type="radio"/> AES
Private-key Algorithm	<input type="text"/>
Write User Name	<input type="text"/>
Security Level	<input type="text" value="auth, priv"/>
Authentication Algorithm	<input checked="" type="radio"/> MD5 <input type="radio"/> SHA
Authentication Password	<input type="text"/>
Private-key Algorithm	<input checked="" type="radio"/> DES <input type="radio"/> AES
Private-key Algorithm	<input type="text"/>
Other Settings	
SNMP Port	<input type="text" value="0"/>

4.6.6 RTSP

Go to Config→Network→RTSP.

Port Server DDNS SNMP **RTSP** UPnP Email FTP

Enable

Port

RTSP Address

Allow anonymous login (No username or password required)

Save

1. Select “Enable”.
2. **RTSP Port:** Access port of the streaming media. The default number is 554.
3. **RTSP Address:** The RTSP address you need to input in the media player.
4. Check “Allow anonymous login...”.

4.6.7 UPNP

If you enable this function, you can quickly access the camera via LAN and you don’t need to configure the port mapping when the camera is connected to the WAN via the router.

Go to Config→Network→UPnP. Enable UPnP and then input UPnP name.

Port Server DDNS SNMP RTSP **UPnP** Email FTP

Enable

UPnP Name

Save

After you enable it and set the UPnP name, you will see the UPnP name by clicking “Network” on the desktop of your computer which is in the same local area network. Then double click this name to access the camera quickly.

4.6.8 Email

If you need to trigger Email when an alarm happens or IP address is changed, please set the Email here first.

Go to Config→Network →Email.

Port Server DDNS SNMP RTSP UPnP **Email** FTP

Sender

Sender Address

User Name

Password

Server Address

Secure Connection ▼

SMTP Port Default

Send Interval(S) (0-3600)

Clear Test

Recipient

Recipient Address

Add Delete

Save

Sender Address: sender’s e-mail address.

User name and password: sender’s user name and password.

Server Address: The SMTP IP address or host name.

Select the secure connection type at the “Secure Connection” pull-down list according to actual needs.

SMTP Port: The SMTP port.

Send Interval(S): Set it as needed.

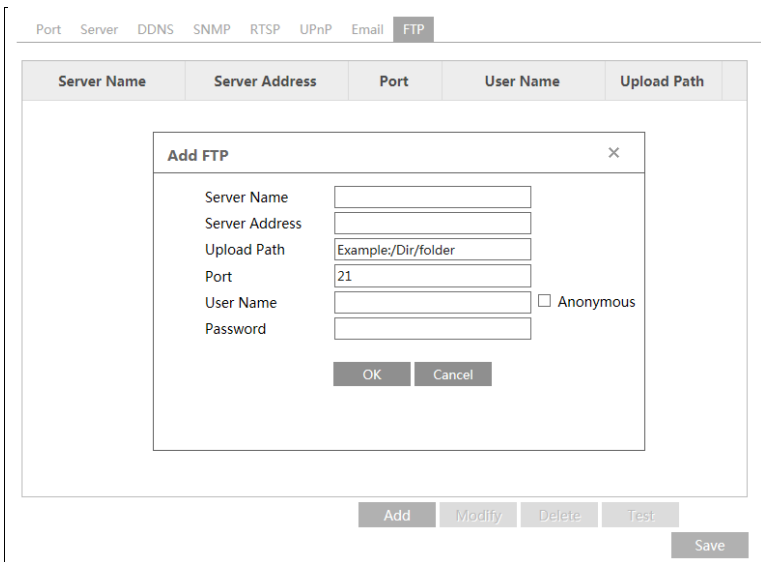
Click “Test” button to test the effectiveness of the account.

Recipient Address: receiver’s e-mail address.

4.6.9 FTP

After you set the FTP server, the captured pictures on an alarm will be uploaded to the FTP server.

Go to Config→Network →FTP.



To Add FTP:

Server Name: The name of the FTP.

Server Address: The IP address or domain name of the FTP.

Upload Path: The path of uploading the files.

Port: The port of the FTP.

Use Name and Password: The username and password are used to login the FTP.

4.7 Security Configuration

4.7.1 User Configuration

Go to Config→Security→User interface as shown below.

Add Modify Delete			
Index	User Name	User Type	Binding MAC
1	admin	Administrator	

Add user:

1. Click “Add” button to pop up the following textbox.

The 'Add User' dialog box includes the following fields and controls:

- User Name:
- Password:
- Confirm Password:
- User Type: (dropdown menu)
- Bind MAC:
- Buttons: OK, Cancel

2. Input user name in “User Name” textbox.
3. Input letters or numbers in “Password” and “Confirm Password” textbox.
4. Choose the use type.
5. Input the MAC address of the PC in “Bind MAC” textbox.

After binding physical address to the IP-CAM, you can access the device on this PC only. If the MAC address was “00:00:00:00:00:00” which means it can be connected to any computers.

6. Click “OK” button and then the new added user will display in the user list.

Modify user:

1. Select the user you need to modify password and physical address in the user configuration list box.
2. The “Edit user” dialog box pops up by clicking “Modify” button.

The 'Edit User' dialog box includes the following fields and controls:

- Modify Password
- User Name:
- Old Password:
- New Password:
- Confirm Password:
- Bind MAC:
- Buttons: OK, Cancel

3. Input old password of this user in the “Old Password” text box.
4. Input new password in the “New password” and “Confirm Password” text box.
5. Input computer’s MAC address as required.
6. Click “OK” button to save the settings.

Delete user:

1. Select the user you want to delete in the user configuration list box.

2. Click “Delete” button to delete the user.

Note: The default super administrator cannot be deleted.

4.7.2 Online User

Go to Config→Security→Online User. You can view the user who is viewing the live video.

4.7.3 Block and Allow Lists

Go to Config→Security→Block and Allow Lists interface as shown below.

The screenshot shows two configuration sections. The first section, 'IP Address Filter Settings', has a checked box for 'Enable IP address filtering'. Below it, the radio button for 'Block the following IP address' is selected. There is an empty list box on the left, 'Add' and 'Delete' buttons on the right, and an input field containing '0.0.0.0'. The second section, 'Block the following MAC Address', has a checked box for 'Enable MAC address filtering'. Below it, the radio button for 'Block the following MAC address' is selected. There is an empty list box on the left, 'Add' and 'Delete' buttons on the right, and an input field containing '00:00:00:00:00:00'. A 'Save' button is located at the bottom right of the second section.

Setting steps are as follows:

Check “Enable IP address filtering” check box.

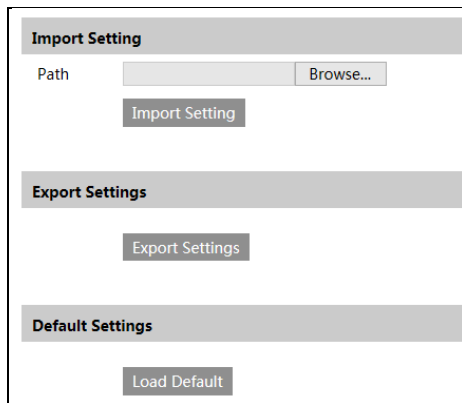
Select “Block the following IP address”, input IP address in the IP address list box and click “Add” button. The operation step of “Allow the following IP address” and MAC address filter settings are the same with “Block the following IP address”.

After you set the IP address or MAC address, the system will block or allow the user using the added IP address or MAC address to access the camera.

4.8 Maintenance Configuration

4.8.1 Backup and Restore

Go to Config→Maintenance→Backup & Restore.



● **Import & Export Settings**

You can import or export the setting information from PC or to device.

1. Click “Browse” to select save path for import or export information on PC.
2. Click “Import Setting” or “Export Setting” button.

● **Default Settings**

Click “Load Default” button to restore all system settings to default status.

4.8.2 Reboot

Go to Config→Maintenance→Reboot.

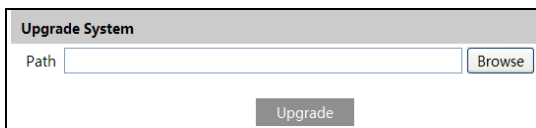
Click “Reboot” button to reboot the device.

Timed Reboot Setting:

Enable “Time Settings”, set the date and time and then click “Save” button to save the settings.

4.8.3 Upgrade

Go to Config→Maintenance→Upgrade. In this interface, you can upgrade the system.



1. Click “Browse” button to select the save path of the upgrade file
2. Click “Upgrade” button to start upgrading the application program.
3. The device will restart automatically
4. After you successfully update the software, click “OK” button to close IE and then re-open IE to connect IP-Cam.

Caution! You can’t disconnect to PC or close the IP-CAM during upgrade.

4.8.4 Operation Log

To query and export log:

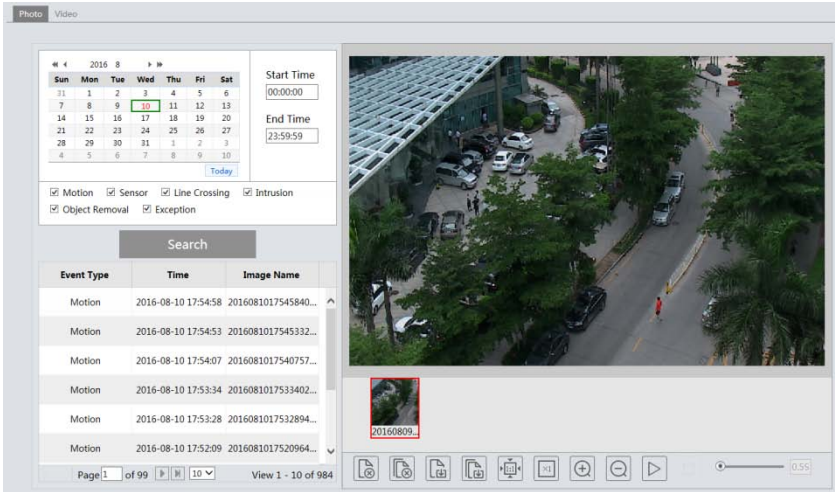
1. Go to Config→Maintenance→Operation Log.

Main Type:	<input type="text" value="All log"/>	Sub Type:	<input type="text" value="All log"/>		
Start Time:	<input type="text" value="2015-07-14 00:00:00"/>	End Time:	<input type="text" value="2015-07-14 23:59:59"/>	<input type="button" value="Search"/>	<input type="button" value="Export"/>
Index	Time	Main Type	Sub Type	User Name	Login IP
1	2015-07-14 11:15:18	Operation	Log in	admin	192.168.12.53
2	2015-07-14 11:12:02	Exception	Disconnected		192.168.12.53
3	2015-07-14 19:12:17	Exception	Disconnected		192.168.12.52

2. Select the main type, sub type, start and end time.
3. Click “Search” to view the operation log.
4. Click “Export” to export the operation log.

5.1 Photo Search




Click Search→Photo to go to the interface as shown below. You can search the images saved in the SD card.



1. Set time: Select date and choose the start and end time in the top left corner.
2. Check events.
3. Click “Search” button to search the photos.
4. Click a file name in the list to view captured photos as shown above.

The descriptions of the buttons are shown as follows.

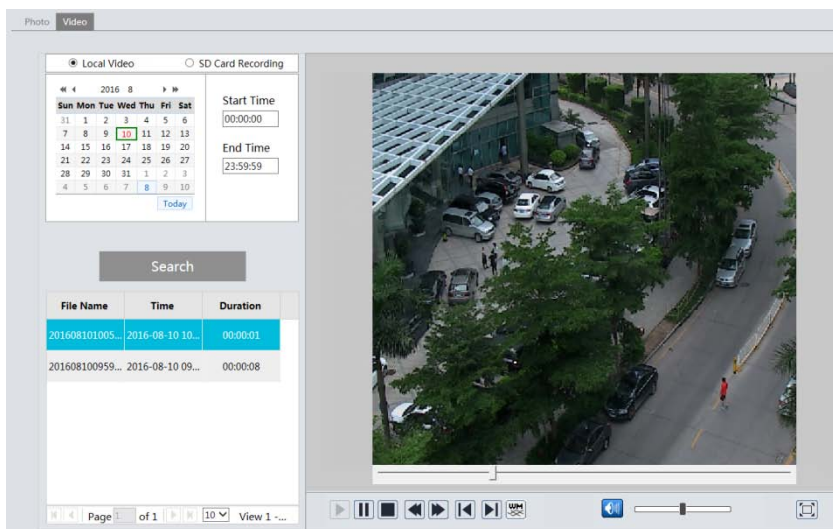
Icon	Description	Icon	Description
	Close: Select a picture and click this button to close this picture.		Close all: Click this button to close all pictures viewing.
	Save: Click this button to select the save path of the picture on the PC for saving the current picture.		Save all: Click this button to select the save path of the pictures on PC for saving all pictures.
	Fit size: The picture will fit on screen by clicking this button.		Actual size: Click this button to display the actual size of the picture.
	Zoom in: Click this button to amplify the picture.		Zoom out: Click this button to zoom out the picture.

Icon	Description	Icon	Description
	Slide show play: Click this button to play the picture in slide show mode.		Stop: Click this button to stop slide show.
	Play speed: Play speed of the slide show.		







5.2 Video Search



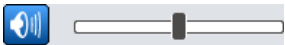

5.2.1 Local Video Search

Click Search→Video→Local Video to go to the interface as shown below. You can play the local video record. Before playing, please set the storage path of the video record in the local configuration interface and make sure there are record files.



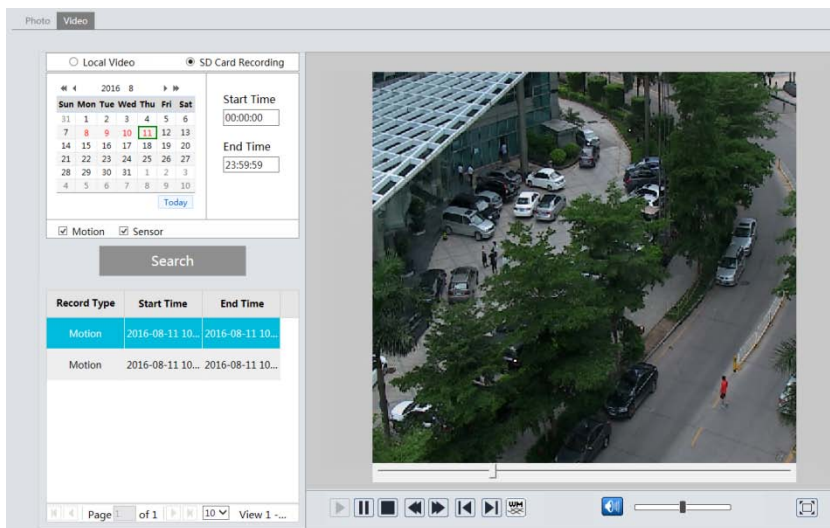
Choose the date and the start time and end time and then click “Search” button to search the record files. Double click the record file to play the record. The descriptions of the buttons on the playback interface are as follows.

Icon	Description	Icon	Description
	Play button. After pausing the video, click this button to continue playing.		Pause button.
	Stop button.		Speed down.
	Speed up.		Click it to play the previous record.

Icon	Description	Icon	Description
	Click it to play the next record.		Open/close watermark.
	Click it to enable / disable audio; drag the slider to adjust the volume after enabling audio.		Full screen. Click it to display full screen. Double click to exit full screen.

5.2.2 SD Card Video Search

Click Search→Video→SD Card Recording to go to the interface as shown below. You can search the record saved in the SD card.



Before you search the SD record, you should trigger the SD recording in motion detection alarm or alarm input alarm (see Motion Detection Trigger or Alarm Input Trigger for detail information).

Set the date and the start and end time, select the record type and then click “Search” button to search the record. Double click the searched file name to play the record.

Please refer to Local Video Search for the descriptions of the buttons on the playback interface.

Appendix 1 Q & A

Q: How to find my password if I forget it?

A: Reset the device to the default factory settings.

Default IP: 192.168.226.201; User name: admin; Password: 123456

Q : Fail to connect devices through IE browser, why?

A: Network is not well connected. Check the connection and make sure it is connected well.

B: IP is not available. Reset the valid IP.

C: Web port number has been revised: contact administrator to get the correct port number.

D: Exclude the above reasons. Recover default setting by IP-Tool.

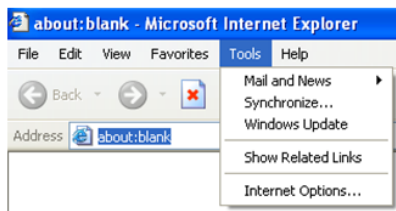
Q : IP tool cannot search devices, why?

A: It may be caused by the anti-virus software in your computer. Please exit it and try to search device again.

Q : IE cannot download ActiveX control. How can I do?

a. IE browser blocks ActiveX. Please do setup as below.

① Open IE browser and then click Tools-----Internet Options....

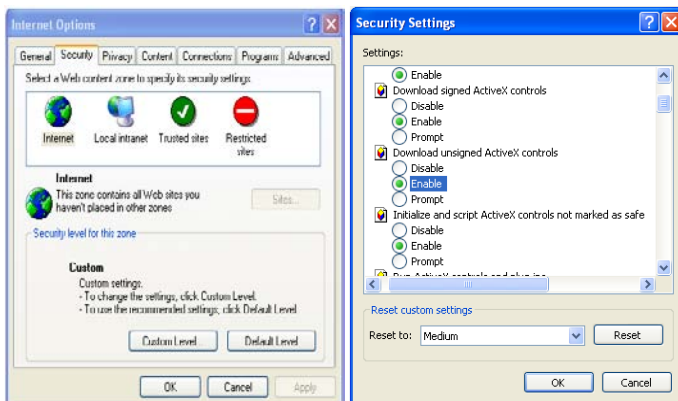


② Select Security-----Custom Level....

③ Enable all the sub options under "ActiveX controls and plug-ins".

④ Then click OK to finish setup.

b. Other plug-ins or anti-virus blocks ActiveX. Please uninstall or close them.



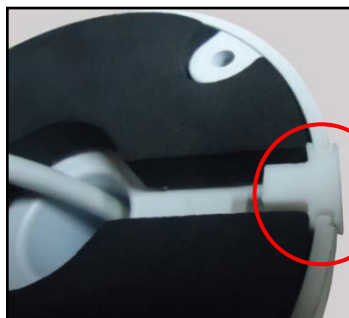
Q: No sound can be heard, why?

A: Audio input device is not connected. Please connect and try again.

B: Audio function is not enabled at the corresponding channel. Please enable this function.

Appendix 2 Installation of Water-proof Rubber Plug

In order to improve the water-proof effect, the rubber plugs are attached to some network bullet cameras. You may mount the rubber plugs to the mounting base of the camera as required when installing. The installation instructions are as follows.



Please mount the rubber plug to the gap of the mounting base.



Please let the camber surface of the rubber plug mount outside.

Appendix 3 Specifications

Specification /Model		Network Box Camera
Camera	Image Sensor	1/3 " CMOS
	Image Size	2688×1520
	Electronic Shutter	1/25s~1/100000s
	Auto Iris	Fixed Iris
	Min. Illumination	0.05lux@F1.2, AGC ON: 0lux with IR
	Lens Mount	C/CS
	Day&Night	ICR
	WDR	120dB
	BLC	Support
	HLC	Support
	Defog	Support
Digital NR	3D DNR	
Image	Video Compression	H.265/H.264/MJPEG
	H.265 Type	Main Profile @Leve4.1 High Tier
	Video Bit Rate	64Kbps~10Mbps
	Resolution	4MP (2592 ×1520), 2K(2560×1440), 3MP(2304×1296), 1080P, 720P, D1, CIF, 480×240
	Main Stream	60Hz: 4MP(1~30fps)/ 2K(1~30fps)/3MP(1~30fps)/ 1920×1080(1~30fps)/1280×720(1~30fps) 50Hz: 4MP (1~25fps)/ 2K (1~25fps)/3MP(1~25fps)/1920×1080(1~25fps)/1280×720(1~25fps)
	Image Settings	Saturation, Brightness, Chroma, Contrast, Wide Dynamic, Sharpen, NR, etc. adjustable through client or web browser
	ROI	Support
Interfaces	Network	RJ45
	Video	CVBS output (BNC ×1)
	Auido	MIC IN×1; MIC OUT×1
	Storage	Support SD card, up to 128 GB
	RS485	Support
	Alarm	1CH alarm input; 1 CH alarm output
Fucntion	Remote Monitoring	IE browser, CMS remote control
	Online Connection	Support simultaneous monitoring for up to 10 users and multi-stream transmission
	Network Protocol	TCP/IP, UDP, DHCP, NTP, RTSP, PPPoE, DDNS, SMTP, FTP
	Interface Protocol	ONVIF, GB-T/28181-2011
	Storge	SD card storage; network remote storage
	Smart Alarm	Motion alarm; sensor alarm
	Power	DC12V/PoE (AC24V optional)
	Power Consumption	< 2.5W
	Operating Environment	Temperature: -20°C~50°C; Humidity: 10%~90%
	Dimension (mm)	70×145×60 (W×D×H)
	Weight (net)	400g
	Installation	Wall mounting

Specification /Model		50m IR Water-proof Bullet Network Camera	
Camera	Image Sensor	1/3 " CMOS	
	Image Size	2688×1520	
	Electronic Shutter	1/25s~1/100000s	
	Auto Iris	Fixed Iris	
	Min. Illumination	0.05lux@F1.2, AGC ON: 0lux with IR	
	Lens	3.3~12mm@F1.4,angle of view: 80°~38°	
	Lens Mount	Ø14	
	Day&Night	ICR	
	WDR	120dB	
	BLC	Support	
	HLC	Support	
	Defog	Support	
	Digital NR	3D DNR	
Angle Adjustment	Any angle		
Image	Video Compression	H.265/H.264/MJPEG	
	H.265 Type	Main Profile @Leve4.1 High Tier	
	Video Bit Rate	64Kbps~10Mbps	
	Resolution	4MP (2592 ×1520), 2K(2560×1440), 3MP(2304×1296), 1080P, 720P, D1, CIF, 480×240	
	Main Stream	60Hz: 4MP(1~30fps)/ 2K(1~30fps)/3MP(1~30fps)/ 1920×1080(1~30fps)/1280×720(1~30fps) 50Hz: 4MP (1~25fps)/ 2K (1~25fps)/3MP(1~25fps)/1920×1080(1~25fps)/1280×720(1~25fps)	
	Image Settings	Saturation, Brightness, Chroma, Contrast, Wide Dynamic, Sharpen, NR, etc. adjustable through client or web browser	
	ROI	Support	
Interfaces	Network	RJ45	
	Video	CVBS output (BNC ×1)	
	Auido	MIC IN×1; MIC OUT×1	
	Storage	Support TF card, up to 128 GB	
	RS485	Support	
	Alarm	1CH alarm input; 1 CH alarm output	
Fuction	Remote Monitoring	IE browser, CMS remote control	
	Online Connection	Support simultaneous monitoring for up to10 users and multi-stream transmission	
	Network Protocol	TCP/IP, UDP, DHCP, NTP, RTSP, PPPoE, DDNS, SMTP, FTP	
	Interface Protocol	ONVIF, GB-T/28181-2011	
	Storge	TF card storage; network remote storage	
	Smart Alarm	Motion alarm; sensor alarm	
Others	IR Distance	30~50 m	
	Protection Grade	IP66	
	Power	DC12V/PoE	
	Power Consumption	<2.5W(ICR OFF); < 6.5W(ICR ON)	
	Operating Environment	Temperature: -20°C~50°C; Humidity: 10%~90%	
	Dimension (mm)	Ø109mm×284mm	Ø110mm×294mm
	Weight (net)	1115g	1180g
	Installation	Wall mounting; pendent mounting	

Specification /Model		Vandal-proof	Dome Netowrk	Camera
Camera	Image Sensor	1/3 " CMOS		
	Image Size	2688×1520		
	Electronic Shutter	1/25s~1/100000s		
	Auto Iris	Fixed Iris		
	Min. Illumination	0.05lux@F1.2, AGC ON: 0lux with IR		
	Lens	3.3~12mm@F1.4, angle of view: 80°~38°		
	Lens Mount	Ø14		
	Day&Night	ICR		
	WDR	120dB		
	BLC	Support		
	HLC	Support		
	Defog	Support		
Digital NR	3D DNR			
Angle Adjustment	Pan: 0°~360°; Tilt: 0°~77°; Rotation:0°~360°			
Image	Video Compression	H.265/H.264/MJPEG		
	H.265 Type	Main Profile @Leve4.1 High Tier		
	Video Bit Rate	64Kbps~10Mbps		
	Resolution	4MP (2592 ×1520), 2K(2560×1440), 3MP(2304×1296), 1080P, 720P, D1, CIF, 480×240		
	Main Stream	60Hz: 4MP(1~30fps)/ 2K(1~30fps)/3MP(1~30fps)/ 1920×1080(1~30fps)/1280×720(1~30fps) 50Hz: 4MP (1~25fps)/ 2K (1~25fps)/3MP(1~25fps)/1920×1080(1~25fps)/1280×720(1~25fps)		
	Image Settings	Saturation, Brightness, Chroma, Contrast, Wide Dynamic, Sharpen, NR, etc. adjustable through client or web browser		
ROI	Support			
Interfaces	Network	RJ45		
	Video	CVBS output (BNC ×1)		
	Auido	MIC IN×1; MIC OUT×1		
	Storage	Support TF card, up to 128 GB		
	RS485	Support		
Alarm	1CH alarm input; 1 CH alarm output			
Fuction	Remote Monitoring	IE browser, CMS remote control		
	Online Connection	Support simultaneous monitoring for up to10 users and multi-stream transmission		
	Network Protocol	TCP/IP, UDP, DHCP, NTP, RTSP, PPPoE, DDNS, SMTP, FTP		
	Interface Protocol	ONVIF, GB-T/28181-2011		
	Storge	TF card storage; network remote storage		
	Smart Alarm	Motion alarm; sensor alarm		
Others	IR Distance	20~30 m		
	Protection Grade	IP66&IK10		
	Power	DC12V/PoE		
	Power Consumption	< 2.5W(ICR OFF); < 5W(ICR ON)		
	Operating Environment	Temperature: -20°C~50°C; Humidity: 10%~90%		
	Dimension (mm)	Ø150mm×114mm	Ø161mm×137.3 mm	
	Weight (net)	1030g	1260g	
Installation	Pendent mounting (wall mounting available with junction box and bracket)			