

4MP INDOOR MICRO DOME

HARDWARE MANUAL



OE- C1011D4 4MP Indoor Micro Dome Camera User Manual

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Important Safeguards

Read Instructions

Read all of the safety and operating instructions before using the product.

Retain Instructions

Save these instructions for future reference.

Attachments / Accessories

Do not use attachments or accessories unless recommended by the appliance manufacturer as they may cause hazards, damage product and void warranty.

Installation

Do not place or mount this product in or on an unstable or improperly supported location. Improperly installed product may fall, causing serious injury to a child or adult, and damage to the product. Use only with a mounting device recommended by the manufacturer or sold with the product. To insure proper mounting, follow the manufacturer's instructions and use only mounting accessories recommended by manufacturer.

Power source

This product should be operated only from the type of power source indicated on the marking label.

Precautions

Operating

Before using, make sure power supply and others are properly connected.

While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and then contact your local dealer.

Handling

Do not disassemble or tamper with parts inside the camera.

Do not drop or subject the camera to shock and vibration as this can damage camera.

Care must be taken when you clean the clear dome cover. Scratches and dust will ruin the image quality of your camera. Do not use strong or abrasive detergents when cleaning the camera body. Use a dry cloth to clean the camera when it is dirty. In case the dirt is hard to remove, use a mild detergent and wipe the camera gently.

Installation and Storage

Do not install the camera in areas of extreme temperatures in excess of the allowable range; install the camera in areas with temperatures within the camera's operating temperature, including the following: $-31^{\circ}F \sim 140^{\circ}F$ ($-35^{\circ} \sim 60^{\circ}C$)

Avoid installing in humid or dusty places. The relative humidity must be below 95%.

Avoid installing in places where radiation is present.

Avoid installing in places where there are strong magnetic fields and electric signals.

Avoid installing in places where the camera would be subject to strong vibrations.

Never face the camera toward the sun. Do not aim at bright objects. Whether the camera is in use or not, never aim it at the sun or other extremely bright objects. Otherwise the camera may be smeared and damaged.

Cleaning

If the video image becomes blurry or smudged in areas, it may be because the lens cover requires cleaning.

To clean the lens cover:

- Use hand soap or a non-abrasive detergent to wash off dirt or fingerprints.
- Use a microfiber cloth or non-abrasive fabric to dry the dome bubble.
 - Important: Failure to use the recommended cleaning materials may result in a damaged or scratched lens cover. A damaged lens cover may negatively impact image quality and cause unwanted IR light reflecting into the lens.

To clean the camera body:

- Use a dry or lightly dampened cloth to clean the camera body.
- Do not use strong or abrasive detergents.

Regulation

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Compliance is evidenced by written declaration from our suppliers, assuring that any potential trace contamination levels of restricted substances are below the maximum level set by EU Directive 2002/95/EC, or are exempted due to their application.

Warning

DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

Caution



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Introduction

OVERVIEW

The OE-C1011D4 is a compact HD indoor IP dome camera equipped with a 4MP 2.8mm fixed lens that provides crisp and clear images. True WDR and true Day/Night provide superior images in varied lighting environments. Adaptive IR technology prevents overexposure of objects close to the camera further enhancing the low light performance. Progressive Smart Compression reduces network throughput and storage requirements without impacting overall video quality and retention. The OE-C1011D4 includes a wide range of accessories allowing it to be mounted in a broad range of applications.

The OE-C1011D4 is ONVIF[™] profile S/G/T compliant and fully compatible with the OpenEye Web Services platform, allowing multiple users to concurrently view high quality images and perform remote setup using a Web browser.

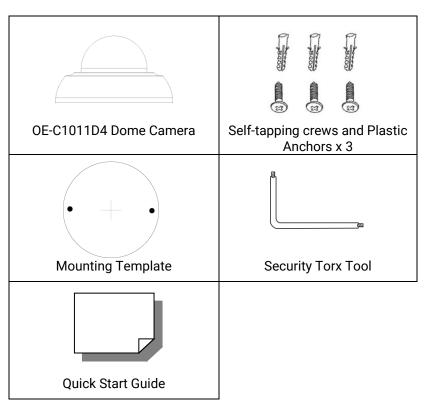
PRODUCT FEATURES

- 2.8mm Fixed Lens
- Built-in microphone
- Adaptive IR
- Progressive Smart Compression
- True WDR image processing
- Accessory Compatibility
- Internal Cable Connection
- NDAA Compliant
- Optional Paintable Dome Cover (Free Upon Request)

Getting Started

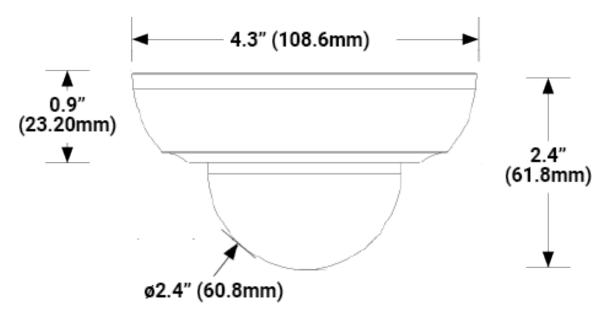
BOX CONTENTS

Before proceeding, please confirm that the box contains the items listed here. Please contact your dealer for assistance if any item is missing or has defects.

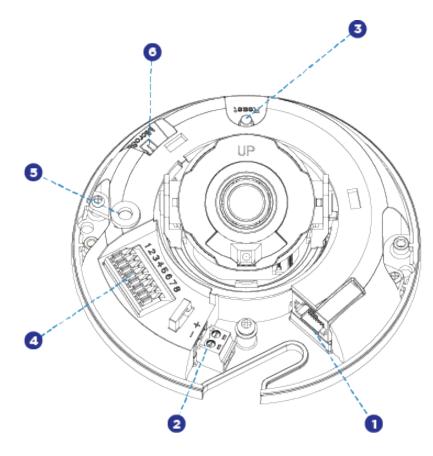


CAMERA OVERVIEW

CAMERA DIMENSIONS



CONNECTIONS



Pin	Connection	Definition			
1	RJ-45	For network and PoE connections			
2		1 12vDC +	- Power connection		
2	Power (12vDC)	2 GND -	Power connection		
3	Reset Button	 To restore the camera to factory defaults: Disconnect power for 30 seconds. Reconnect power and wait 30 seconds. Press and hold the reset button for 20 seconds. 			
		1 Audio Out +	Audio connection		
		2 GND	Ground connection		
		3 Audio In +	Audio connection		
4	Alarm & Audio I/O	4 GND	Ground connection		
4	Aldini & Audio 1/0	5 Alarm Input	Alarm connection		
		6 GND	Ground connection		
		7 Alarm Output +	Alarm connection		
		8 Alarm Output -	Alarm connection		
5	Built-in Microphone				
6	microSD Card Slot	Insert the microSD card into the slot to store videos and snapshots			

POWER CONNECTION

Note

For an adequate power connection, use a 12vDC adaptor. Alternatively, you can power the camera by PoE if a Power Sourcing Equipment (PSE) switch is available. Ensure that the camera's power cable is correctly and firmly connected.



OpenEye recommends against using more than one power source at a time. Do not use a PoE power source when providing the camera with 12vDC power.

If using Power over Ethernet (PoE), make sure Power Sourcing Equipment (PSE) is in use in the network.

NETWORK CAMERA MANAGER

OpenEye Network Camera Manager (NCM) is a software tool that allows you to quickly and easily connect and configure your OpenEye IP Cameras. This software allows you to apply the camera password, assign IP addresses, configure video settings, and update firmware on multiple cameras at once.

NCM is pre-installed on all OpenEye Recorders and is also available for download www.OpenEye.net for installation on your personal computer or laptop. Network Camera Manager is a Java application, this allows it to be installed on Windows and Linux operating systems.

LAUNCHING NETWORK CAMERA MANAGER

Apex Windows Platforms

Network Camera Manager can be found on the desktop.

Linux Platforms

In the Apex Settings menu, go to the Cameras page and click Advanced.

FINDING NETWORK DEVICES

Click Refresh to reload the Device List.

To narrow your search by Camera Model or Network, use the Model Filter and Networks dropdowns.

	etwork Camera Manager					- 🗆 ×
					NETWORK CA	MERA MANAGER Version: 2.3.0.92
	Model	Name	IP Address	MAC	Web Page	Firmware
	OE-C7564-AWR_RevB	OE-C7564-AWR_RevB	192.168.51.12	00:D0:89:19:35:A4	Load	A
	OE-C6123-W2	OE-C6123-W2	192.168.51.16	00:D0:89:17:22:8B	Load	
	OE-C7032-WR	OE-C7032-WR	192.168.51.13	4C:91:7A:67:65:B9	Load	
	OE-C7088-AWR	OE-C7088-AWR	192.168.51.14	E4:F1:4C:0C:57:57	Load	
Mod	del Filter (All)	letworks Devices Found: Devices Selecte		Find ONVIF Detection		O Refresh

A Mac Address search is also available if you are looking for a specific device.

USERNAME AND PASSWORD

*OpenEye IP cameras ship without a default password.

Username: admin

Note Passwords must be 9-32 characters including at least two elements of the following three: digits, letters, and special characters.

The admin user password can be set using the following methods:

- 1. OpenEye recorders running Apex 2.1 or newer will automatically set a new unique password if:
 - Connected to an M-Series recorder with a built in PoE switch.
 - Connected to a network switch through the camera network port and selected then added in setup, if a new password has not already been set.

 Note
 You can set your Default Camera Password under the General Settings page within Setup > System Settings > General Settings. For instructions on defining your unique camera password, visit: https://www.openeye.net/support/faqs/default-camera-password

- 2. Connect to the camera directly through a Web Browser and follow the onscreen prompts.
- 3. Use the Network Camera Manager (NCM) Utility.

Note The NCM Software Manual can be found at https://www.openeye.net/ncm-manual.

Note Refer to your Apex recorder manual or quick start guide for instruction on adding cameras.

VIEWING A NETWORK CAMERA

Click Load in the row of the desired camera.

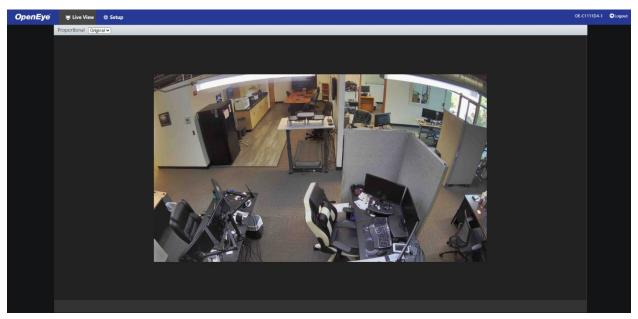
Enter a new Admin password.

- Passwords must be 9-32 characters and include at least two of the following three elements:
 - Digits
 - o Letters
 - Special Characters



Change Password	
Change Password	
Username	admin
Password	
	9 to 32 characters including at least two
	elements of the following three: digits,
	letters, and special characters
	Weak Medium Strong
Confirm	
Confirm	
	OK

Live View



The camera displays a live view using the MJPEG stream for setup purposes.

Proportional - Select the image ratio for the live preview image (Original, Stretch, Scale)

Setup - Go to the Setup tab to access the camera menus

Logout – Log out the current user

SETUP & CONFIGURATION

BASIC CAMERA SETTINGS

Basic Information

The Basic Information tab displays the product model, firmware, network, and MAC address for the connected camera, along with the current camera Status.

Basic Camera Settings	Basic Info					
Basic Info	Basic Info					
Image	Model	OE-C1111D4-1				
Video	Firmware Version	IPC_G6107-B0001P86D1806C80				
Network	Hardware Version	A				
Time	Boot Version	V0.1				
Network Settings	Serial No.	210235TGDJ3205000000				
Streaming Settings	Network Settings	10.0.22.13/255.255.252.0/10.0.23.156				
Picture Settings	MAC Address					
Event Settings						
Storage Settings	Status					
Security Settings	System Time	2020/9/29 11:39:10				
Maintenance	Operation Time	0 Day(s) 4 Hour(s) 26 Minute(s)				
	Refresh					

The nested Image, Video, Network, and Time tabs are shortcuts to the more advanced menu options further down the Setup list. For more information about these tabs, see the appropriate sections later in the manual.

NETWORK SETTINGS

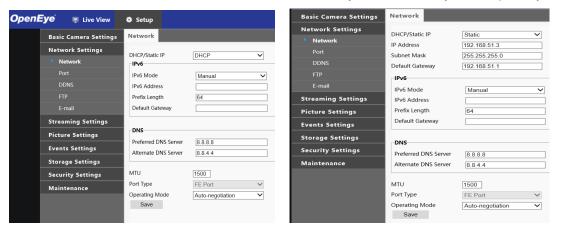
Network

The Network tab allows you to configure the connected camera network settings.

DHCP IP Address

The default static IP address of the camera is 192.168.51.2, and the default subnet mask is 255.255.255.0. DHCP is turned on by default.

If a DHCP server is used in the network, the IP address of your camera may be assigned dynamically.



Static IP Address

To set up a new static IP address:

- 1. Select Static from the DHCP/Static IP dropdown option.
- 2. Enter the IP Address, Subnet Mask, and Default Gateway.

*Note - Make sure that the IP address of the camera is unique in the network.

3. Save

IPv6 Address Configuration

1. Enter the IPv6 Address, set the Prefix Length and Default Gateway.

*Note - Make sure that the IP address of the camera is unique in the network.

2. Save

DNS

Set your Preferred DNS Server and Alternate DNS Server.

Port

Basic Camera Settings	Port				
Network Settings	HTTP Port	80			
Network	HTTPS Port	443			
Port					
Polit	RTSP Port	554			
DDNS	Note: Modifyin	g the RTSP port numbe	er will cause the device	to restart.	
FTP	Save				
E-mail					
Streaming Settings	Port Mapping	⊖ On ● Off	_		
Picture Settings	Mapping Type	Automatic 🗙	•		
Event Settings	Port Type	External Port	External IP Address	Status	
-	HTTP Port	80	0.0.0.0	Inactive	
Storage Settings	RTSP Port	554	0.0.0.0	Inactive	
Security Settings	Server Port	81	0.0.0.0	Inactive	
Maintenance	HTTPS Port	443	0.0.0.0	Inactive	
	Save				

HTTP Port – Configure your relevant port number.



If the HTTP port number has been occupied already, a "Port conflicts" message will display. Ports 23, 81, 82, 85, 3260, and 49152 are occupied by default.

HTTPS Port - The default HTTPS Port is 443; setting range: 1024 ~65535.

RTSP Port - The default RTSP port is 554; setting range: 1024 ~65535.



Note No port number can be used in duplication on more than one item.

Port Mapping

To enable Port Mapping:

Note

- 1. Toggle **On** for **Port Mapping**.
- 2. Use the Mapping Type dropdown menu to select a type.
- 3. If selecting Manual, the external ports must be configured.



Note If the configured port is already occupied, then the Status will show as inactive and a new port must be selected.

4. Save

DDNS

Basic Camera Settings	DDNS	
Network Settings	DDNS Service	⊖ On ● Off
Network	DDNS Service	NO-IP V
Port	Server Address	www.noip.com
DDNS	Domain Name	
FTP	Username	
E-mail	Password	•••••
Streaming Settings	Confirm	
Picture Settings	Save	
Event Settings		
Storage Settings		
Security Settings		
Maintenance		

- 1. Enable DDNS Service.
- 2. Select a DDNS Type.
- 3. Enter Server Address, Domain Name, Username and Password.
- 4. Save

FTP

Use FTP (file transfer protocol) to upload snapshots from network cameras to a specified server.

Basic Camera Settings	General			
Network Settings	Server Parameters			
Network	Server IP	0.0.0	Upload Images	
Port	Port No.	21	Overwrite Storage	
DDNS	Username		Overwrite At(image)	1000
FTP	Password	••••••	Test	
E-mail		1		
Streaming Settings	Snapshot Image			
Picture Settings	Save To Root Directory Disable	\\ Disable \\	Disable	a v
Event Settings	File Name			
Storage Settings	Separator	v		
Security Settings	No. Naming B	Element		
Maintenance	1 None 2 3 4 5 - - Save Note: Overwrite will take play	•		

To configure FTP:

- 1. Set the **Server IP** address and **Port No.** for the FTP server, **Username** and **Password** used to upload images to the FTP server, select **Upload Images**, **Overwrite Storage** and set **Overwrite At** (threshold for overwriting images).
- 2. Set the path for saving snapshots on the FTP server and the file name format.

Example: set path as Preset No.\\IP Address\\Date\\Hour(s), and set file name as Preset No.-PTZ Zoom-PTZ Latitude-PTZ Longitude.jpg.

3. Save.

Email

The camera can send an e-mail via Simple Mail Transfer Protocol (SMTP) when a variety of events occur. Two sets of SMTP accounts can be configured. Each set includes SMTP Server, Account Name, Password and E-mail Address settings. For SMTP server, contact your network service provider for more specific information.

Basic Camera Settings	E-mail		
Network Settings			
Network	Sender		
Port	Name]
DDNS	Address]
FTP	SMTP Server]
E-mail	SMTP Port	25]
Streaming Settings	TLS/SSL	🔿 On 💿 Off	
Picture Settings	Snapshot Interval(s)	2 ~	🗹 Attach Image
Event Settings	Server Authentication	◉ On ◯ Off	
Storage Settings	Username]
	Password	•••••]
Security Settings			
Maintenance	Recipient		
	Name1]
	Address1		Test
	Name2]
	Address2		Test
	Name3]
	Address3		Test
	Save		

Parameter	Description
	When enabled, the e-mail will be encrypted using TLS (Transport Layer Security) or Secure Socket Layer (SSL) to protect privacy.
TLS/SSL	First it tries to send through an SSL connection. If the SMTP server supports SSL, the e- mail will be sent through the SSL connection; otherwise, it tries to send using STARTTLS.
Attach Image	When enabled, the e-mail will contain 3 instant snapshots as attachment according to the Capture Interval.
Username/Password	Username and password of the registration email address. The password allows the following special characters $\ : * ? : " < > % &$

STREAMING SETTINGS

Video

The video settings menu configures the camera's video settings, including **Resolution**, **Frame Rate**, **Bit Rate**, and the **Image Quality**.

Basic Camera Settings	Video					
Network Settings	Resolution and Frame R	ate Mode 2	688*1520*30	~		
Streaming Settings	Main Stream			Z Enable Sub Stream		
Video	Video Compression	H.264	~	Video Compression	H.264	~
Snapshot	Resolution	2688*1520	~	Resolution	640*360	~
Audio	Frame Rate(fps)	15	~	Frame Rate(fps)	10	~
ROI	Bit Rate(Kbps)	2304 [1	28~16384]	Bit Rate(Kbps)	512	[128~16384]
Media Stream	Bitrate Type	VBR	\checkmark	Bitrate Type	VBR	~
Picture Settings	Image Quality	Bit Rate	Quality	Image Quality	Bit Rate	Quality
Event Settings	Smart Encoding	Basic Mode	~	I Frame Interval	10 [5 ~ 250]
Storage Settings				GOP	IP	~
Security Settings				Smoothing	Clear	Smooth
Maintenance						
	Save					

To configure camera streams:

Note

Use the dropdown menus to configure the Video Compression, Resolution, Frame Rate, Bitrate Type, Smart Encoding, and GOP.

- 1. Check to Enable Sub Stream and configure if desired.
- 2. Save

Smart Encoding – Turn on Smart Encoding to enable H.264+ encoding to reduce bit rate. It is recommended not to set the frame rate below 10FPS when smart compression is enabled.

Resolution and Frame Rate – Use the dropdown menu to select the base resolution and frame rate for the main stream.



Higher frame rate will increase video smoothness but will increase file size and bandwidth usage. Lowering the frame rate will conserve file size and bandwidth usage at the expense of video smoothness.

Video Compression - H.264, H.265, and MJPEG are available for video compression.

Image Quality – If the Encoding Mode is set to VBR, you can adjust the quality level for images by moving the sliding bar. The Quality side of the bar improves video quality, and the Bit Rate side of the bar reduces Bit rate.

I-Frame Interval / GOP – The Group of Pictures setting allows you to modify the frame structure of the video stream. This setting changes the frequency of the I-frames that occur within the stream of P-frames. Increasing this number increases the number of P-frames between each I-frame, decreasing the file size of the stream, but increasing the risk of video decoding errors. It is recommended setting the GOP to be approximately twice the frame rate.

Smoothing – Configure the amount of video smoothing. Moving the sliding bar toward Smooth increases the level of smoothing but may affect image quality.



Note In a poor network environment, you can increase smoothing to get more fluid video.

Stream URLs / RTSP

It is possible to connect to OpenEye IP cameras using third party software like VLC media player.

To connect some types of software will need to know the stream URL. All OpenEye IP cameras can deliver two RTSP streams.

The RTSP stream URL format is as follows:

rtsp://[USER]:[PASSWORD]@[IP ADDRESS]:[RTSP PORT]/media/video[STREAM]

[USER] - This is the username to access your device

[PASSWORD] - This is the password to the user

[IP ADDRESS] - This is the IP address of your device

[RTSP PORT] - This is the RTSP port of your device; the default RTSP Port is 554

[STREAM] -

- Primary Stream: video1
- Sub-stream: video2

Example:

[USER]	admin
[PASSWORD]	1\$S!9#6v\$\$\$1
[IP ADDRESS]	192.168.51.51
[RTSP PORT]	554
[STREAM]	1

RTSP Stream URL - rtsp://admin:1\$S!9#6v\$\$\$1@192.168.51.51:554/media/video1

Snapshot

The Snapshot tab is used to configure the settings for timed or continual snapshots.

Basic Camera Settings	Snapshot		
Network Settings	Resolution	720*576	
Streaming Settings	Most Large(KB)	300	
Video	Scheduled Snapshot		
Snapshot	Snapshot Interval	1	
Audio	Number to Snapshot Snapshot Mode	1 ▼ ● Schedule ◎ Repeat	
ROI	No.	Snapshot Time	
Media Stream	1	14:20:00	
Picture Settings	2	14:21:00	
Events Settings	3	14:22:00	
Storage Settings			
Security Settings			
Maintenance			
	Save		

To configure Snapshots:

- 1. Use the dropdowns to select the desired **Resolution**, **Snapshot Interval**, and the **Number of Snapshots**.
- 2. If you desire Scheduled Snapshots, select **Schedule** Snapshot Mode, and designate snapshot times.
- 3. Save

Parameter	Description
Snapshot Interval	Interval between two snapshots. For example, with Snapshot Interval set to 1 and Number of Snapshot set to 2, the camera will take 2 snapshots (take one first and then take another after 1 second).
Number to Snapshot	Currently 1, 2, and 3 snapshots are allowed.
	Schedule : You need to set a snapshot time, e.g., 19:12:00, which means the camera takes a snapshot at 19:12:00.
Snapshot Mode	Repeat : Allows you to set an interval (unit: sec). For example, according to the settings shown in the figure above, 60 seconds must elapse before the camera takes another two snapshots.

Audio

The Audio tab allows you to configure the audio encoding settings for your camera.

Basic Camera Settings	Audio	
Network Settings	Audio Input	
Streaming Settings	Audio Input	● On 〇 Off
Video Snapshot Audio ROI Media Stream Picture Settings	Access Mode Input Gain Audio Compression Sampling Rate(KHz) Noise Suppression Audio 1	Line/Mic ▼ 128 [0~255] G.711U ▼ 8 ▼ • On Off ✓ Mic ▼ ■ ✓
Event Settings Storage Settings Security Settings Maintenance	Audio 2 Audio Output Audio Output Save	Line Chable

To configure Audio setup:

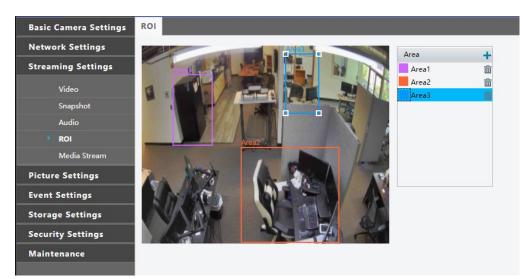
- 1. Configure the Audio settings as desired.
- 2. Save

Note Only one Audio Channel can be active at a time. It is recommended to configure only channel
 1. If the additional channel is needed, please contact customer support for advanced settings.

Parameter	Description
Audio Input	No audio data will be encoded when Off is selected. Note : It is recommended to select Off if you do not need audio. This can improve device performance to some extent.
Access Mode	Line/Mic
Audio Compression	Two options: G.711U, G.711A. G.711U and G.711A support 8K sampling rate only.
Input Gain	Audio signal amplification for sampling. The greater the gain, the greater amplification.
Noise Suppression	Used to reduce noise in images. To enable noise suppression, select On .
Audio 1 / Audio 2	Audio output channel(s). To enable audio input, select Enable .

Region of Interest (ROI)

When Region of Interest (ROI) is enabled, the system ensures the image quality for the ROI first if the bit rate is insufficient.



To enable ROI:

- 1. Click + on the Area box.
- 2. Arrange the ROI square as desired in the camera image. Click and drag to move the square and use the corner markers to expand the square. The interior of the ROI square will be considered the ROI.
- 3. Click + again to add additional ROIs.
- 4. Click the trash icon to delete a created ROI.

Changes will be saved automatically.

Media Stream

You can display the established media streams from a camera. You can also set the camera to transmit code streams by the UDP or TCP protocol to a specified IP address and port number.

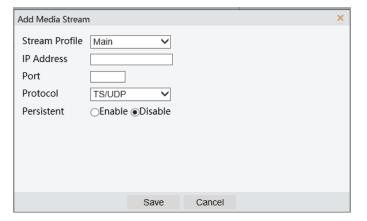
ic Camera Settings	Media Stream					
work Settings	Stream Profile	Protocol	Destination IP	Destination	Persistent	+
aming Settings	Sub Stream	ТСР	10.0.70.108	44216	Disable	命
Video	Main Stream	тср	10.0.70.108	44218	Disable	
Snapshot	Main Stream	ТСР	10.0.22.37	58529	Disable	曲
Audio	Sub Stream	тср	10.0.22.37	59558	Disable	曲
ROI Media Stream ure Settings rage Settings urity Settings ntenance	Main Stream Multicast Addres Port Sub Stream Multicast Addres Port	0				

To configure media streams:

1. Click the + on the right side of the title bar and the Add Media Stream page will appear.

Stream Profile	IP Address	Port	Protocol	Persistent	+	

2. Select a **Stream Type**, and then set the **IP Address** and **Port Number** of the unicast or multicast group for the decoding device that receives audio and video streams from the camera.



3. Toggle **Persistent** to **Enable** if you want the device to establish the media stream that you have just configured automatically upon each subsequent restart.

4. Save

5. Click the trashcan icon to **delete** a created media stream.

Stream Profile	IP Address	Port	Protocol	Persistent	+
Main	10.0.30.165	80	UDP	Disable	曲

PICTURE SETTINGS

Image

The Image tab allows you to configure the setting for the camera image as seen in Live View. When adjusting your image settings, the changes will be saved automatically and will display in the camera image preview window.

Basic Camera Settings	Image	
Network Settings		
Streaming Settings	Timage Enhancement	
Picture Settings	Brightness 128	
Image	Saturation 128	
On-Screen Display	Contrast 128	
Privacy Mask	Sharpness 128	
Event Settings	2D Noise Reduction 128	
Storage Settings	3D Noise Reduction 128	
Security Settings	Image Rotation Normal	
Maintenance	Exposure	
	-^ Smart Illumination	
	-^ White Balance	
	-* Advanced	

Image Enhancement

Use the sliding scales to adjust the Image settings or set a numeric value in the value box. The dropdown Image Rotation menu will rotate the camera image.

* Image Enhancement		
ininge annancentert		
Brightness		128
Saturation		123
Contrast		118
Sharpness		128
2D Noise Reduction		128
3D Noise Reduction		128
Image Rotation	Normal	\sim

Exposure

By default, the Exposure Mode is set to Automatic. Other options include Custom, Indoor 50hz, Indoor 60hz, and Manual. Using Custom or Manual allows you to manually configure the shutter and gain control.

* Exposure	
Exposure Mode	Automatic V
Shutter(s)	1/100 🗸
Gain	0
Slow Shutter	● On ◯ Off
Slowest Shutter	1/15 🗸
Compensation	0
Metering Control	Center-Weighted Average Metering 🗸
Day/Night Mode	● Automatic ○ Day ○ Night
Day/Night Sensitivity	Medium 🗸
Day/Night Switching(s)	3
WDR	Automatic V
WDR Level	5
Suppress WDR Stripes	⊖ Off On
WDR Open Sensitivity	5
WDR Close Sensitivity	5

Parameter	Description			
Exposure Mode	 Automatic: The camera automatically adjusts exposure according to the environment. Custom: The user sets exposure as needed. Indoor 50Hz: Reduce stripes by limiting shutter frequency. Indoor 60Hz: Reduce stripes by limiting shutter frequency. Manual: Finetune image quality by setting shutter, gain and iris manually. Low Motion Blur: Control the minimum shutter to reduce motion blur in faces captured in motion. 			
Shutter (s)	 Shutter is used to control the light that comes into the lens. A fast shutter speed is ideal for scenes in quick motion. A slow shutter speed is ideal for scenes that change slowly. <i>Note:</i> You can set a shutter speed when Exposure Mode is set to Manual or Shutter Priority. If Slow Shutter is set to Off, the reciprocal of the shutter speed must be greater than the frame rate. 			
Gain	Control image signals so that the camera outputs standard video signals according to the light condition. Note: You can set this parameter only when Exposure Mode is set to Manual or Gain Priority .			
Slow Shutter	Improves image brightness in low light conditions.			
Slowest Shutter	Set the slowest shutter speed that the camera can use during exposure. Note: You can set this parameter only when Slow Shutter is set to On .			
Compensation	Adjust the compensation value as required to achieve the desired effects.Note: You can set this parameter only when Exposure Mode is not set to Manual.			
Metering Control	 Set the way the camera measures the intensity of light. Center-Weighted Average Metering: Measure light mainly in the central part of images. Evaluative Metering: Measure light in the customized area of images. Face Metering: Adjust image quality in poor lighting conditions by controlling the brightness of captured face in Face scene. Note: You can set this parameter only when Exposure Mode is not set to Manual. 			
Day/Night Mode	Automatic: The camera outputs the optimum images according to the light condition. In this mode, the camera can switch between night mode and day mode automatically. Night: The camera provides high-quality black and white images using the existing light Day: The camera provides high-quality color images using the existing light.			
Day/Night Sensitivity	Light threshold for switching between day mode and night mode. A higher sensitivity means that the camera is more sensitive to the change of light and becomes more easily to switch between day mode and night mode. Note: You can set this parameter only when Day/Night Mode is set to Automatic.			
Day/Night Switching(s)	Set the length of time before the camera switches between day mode and night mode after the conditions for switching are met. Note: You can set this parameter only when Day/Night Mode is set to Automatic.			

	Enable WDR to distinguish the bright and dark areas in the same image. Note: You can set this parameter only when Exposure Mode is neither Customize nor Manual and when Image Stabilizer is disabled.		
WDR			
	After enabling the WDR function, you can improve the image by adjusting the WDR level.		
WDR Level	Note: Use level 7 or higher when there is a high contrast between the bright and dark areas of the scene. In the case of low contrast, it is recommended to disable WDR or use level 1-6.		
Suppress WDR Stripes	When enabled, the camera can automatically adjust slow shutter frequency according to the frequency of light to minimize stripes that may appear in images.		

Smart Illumination

* Smart Illumination		
Smart Illumination	● On ⊖ Off	
Lighting Type	Infrared	~
Control Mode	Overexposure Restrain	~
Illumination Level	0	

Parameter	Description
Lighting Type	• Infrared: The camera uses infrared light illumination.
Control Mode	 Global Mode: The camera adjusts IR illumination and exposure to achieve balanced image effects. Some areas might be overexposed if you select this option. This option is recommended if monitored range and image brightness are your first priority. Overexposure Restrain: The camera adjusts IR illumination and exposure to avoid regional overexposure. Some areas might be dark if you select this option. This option is recommended if clarity of the central part of the image and overexposure control are your first priority. Manual: This mode allows you to manually control the intensity of IR illumination.
Illumination Set the intensity level of the IR light. Level The greater the value, the higher the intensity. 0 means that the IR light is turned off. Note: You can set this parameter only when Control Mode is set to Manual.	

White Balance

White balance is the process of offsetting unnatural color cast in images under different color temperatures so as to output images that best suit human eyes.

White Balance	Auto	-
Red Offset		1
Blue Offset		14

Parameter	Description	
White Balance	 Adjust the red or blue offset of the image: Auto/Auto2: The camera adjusts the red and blue offset automatically according to the light condition (the color tends to be blue). If the images are still unnaturally red or blue in Auto mode, please try Auto2. Fine Tune: Allow you to adjust the red and blue offset manually. Outdoor: Suitable for outdoor environment with a relatively greater color temperature range. Locked: Lock the current color temperature without change. Sodium Lamp: The camera adjusts red and blue offset automatically according to the light condition (the color tends to be red). 	
Red Offset	Adjust the red offset manually. Note : You can set this parameter only when White Balance is set to Fine Tune .	
Blue Offset	Adjust the blue offset manually. Note : You can set this parameter only when White Balance is set to Fine Tune .	

Advanced

▼ Advanced		
Defog	Off 🗸	
Defog Intensity	5	

Defog – Adjust the clarity of images captured in fog or haze conditions.

- Use the Defog dropdown menu to turn Defog **On** or **Off**.
- Slide the **Defog Intensity** bar to the desired position (1 is the minimum intensity and 9 is the maximum intensity).



Note The Defog function is only available when WDR is disabled.

On-Screen Display

Up to 4 on-screen displays (OSD) can be configured for the camera image.

Basic Camera Settings	Live View			
Network Settings		Enable No. Overlay O	SD Content	X-Axis Y-Axis
Streaming Settings			ob content	2 3
Picture Settings		2		75 3
Image		3		2 75
On-Screen Display		4		0 0
Privacy Mask		Display Style		
Event Settings	a bank to the first the	Effect	Background 🗸	
Storage Settings	AN MAR REAL	Font Size	Medium	
Security Settings		Min. Margin	None 🗸	
Maintenance		Date Format	MM/dd/yyyy	dd=Day; dddd=Day of the week; M=Month; y=Year
		Time Format	HH:mm:ss 👻	h/H=12/24 Hour; tt=A.M. or P.M.; mm=Minute; ss=Second

To add an on-screen display:

Note

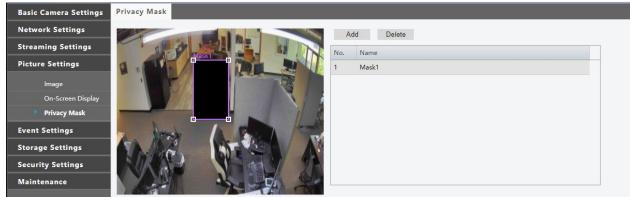
- 1. Select the position and content of the OSD.
 - a. **Position**: Click the desired box in the Live View area. After the cursor shape is changed, click and hold the button to move the box to the desired position. To set the position precisely, use the X and Y coordinates.
 - b. **Overlay OSD Content**: The drop-down list provides Time, Preset and Serial Info. You may also select Custom and enter the content you want.
- 2. After you have completed the settings, a message appears to indicate the successful settings.
- 3. To cancel OSD for an area, clear the OSD content in the Overlay OSD Content column.



To view the OSD in the web browser Live View, you must refresh the browser after setting the OSD for the changes to take effect.

Privacy Mask

Add a privacy mask to your camera image to hide desired areas from view.



To **add** a privacy mask:

- 1. Click Add.
- 2. Click and drag the newly generated **mask square** to the desired location on the camera image. Arrange and resize the mask as needed.

To **delete** a privacy mask:

- 1. Select the desired mask from the Privacy Mask list.
- 2. Click Delete.

Changes will be saved automatically.

EVENTS SETTINGS

Alarms

Motion Detection

Motion detection is used to detect motion in a specified area during a period of time. The use of motion detection requires setting a detection area, detection sensitivity, object size, and history. When these requirements are met, the motion detection alarm will activate.

Basic Camera Settings	Motion Detection Alarm Input Alarm Output	
Basic Camera Settings Network Settings Streaming Settings Picture Settings Event Settings * Alarms Storage Settings		Detection Area Area Area Area Sensitivity Lov High 1 Object Size Email Lov Lov Love Love I
Security Settings Maintenance		Alam Parameters Suppress Alam(s) I5 Clear Alam(s) Trigger Actions Alam Output Record Video to SD Card Upload to FTP Trigger E-mail Snapshot to SD Card
		C Enable Schedule
		Armed Unarmed Edit
		0 1 2 3 4 5 9 7 10

To configure Motion Detection:

- 1. Click and drag the **detection box** to the desired location on the camera image and use the corner markers to adjust the size of the detection box as desired.
- 2. Use the **Sensitivity** and **Object Size** slider bars to adjust the motion detection parameters as desired.

Sensitivity – This determines how many pixels have to change in order for the alarm to consider motion to have occurred.

Object Size – This determines the area within the camera image that the motion must exceed in order for the alarm to consider motion to have occurred.

Alarm Parameters

Suppress Alarm – After an alarm is triggered, the same alarm will not be reported again within the designated time.

Clear Alarm – After the alarm is triggered:

- a) If the same alarm is not triggered within the set time, the alarm will be cleared and the same alarm can be reported again.
- b) If the same alarm is triggered within the set time, the alarm will not be cleared until the suppress alarm time expires. Then the same alarm can be reported again.

Select the **Trigger Actions** to occur once the motion detection alarm has been triggered.

Trigger Actions

Alarm Output - This setting is the alarm output interface linked to motion detection alarm.

Note: When an alarm is reported, the camera triggers alarm output so as to trigger actions by a third-party device.

Record Video to SD Card - With Record Video to SD Card selected, the camera will automatically upload video to the microSD card when an alarm is triggered.

Note: This option is only available if the camera has a microSD card installed.

Upload to FTP - With Upload to FTP selected, the camera will automatically upload snapshots to the specified FTP server when an alarm is triggered.

Note: Make sure you have completed FTP and Snapshot before using this function.

Trigger E-mail - With Trigger E-mail selected, the camera will automatically send snapshots to the specified E-mail address when an alarm is triggered.

Note: Make sure you have completed E-Mail setup before using this function.

Snapshot to SD Card - With Snapshot to SD Card selected, the camera will automatically upload snapshots to the microSD card when an alarm is triggered.

Note: This option is only available if the camera has a microSD card installed.

Enable Schedule

Select the check box and set the start and end times during which motion detection alarm is enabled. You can directly drag the mouse to draw a plan and click Edit to edit time periods in the table. The camera reports alarms during the specified period(s) only. You can select from Monday to Sunday and set four periods for each day.

Save

Alarm Input

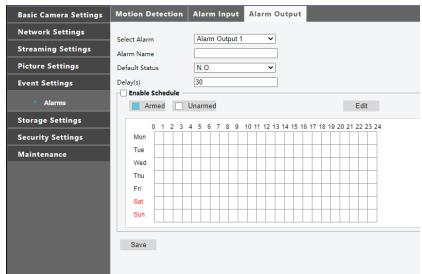
Basic Camera Settings	Motion Detection Alarm Input Alarm Output
Network Settings	Select Alarm Alarm Input 1
Streaming Settings	Select Alarm Alarm Input 1 Alarm Name 1
Picture Settings	Alarm ID
Event Settings	Alarm Type N.O.
Alarms	Alarm Input On On Off
Storage Settings	T rigger Actions Alarm Output Record Video to SD Card Upload to FTP Trigger E-mail Snapshot to SD Card
Security Settings	
Maintenance	Enable Schedule Edit 0 1 2 3 4 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 Mon Tue Image: Compare the state of th
	Save

To configure Alarm Input:

- 1. Select Alarm, Alarm Name and Alarm ID.
- Select N.O. or N.C. according to the type of the third-party alarm input device (For example, if the third-party alarm input device is normally open, you need to select N.O. here) so that the camera can receive alarm information.
- 3. Set actions to be triggered by an input alarm and the plan. For the detailed steps, see the descriptions of triggered actions in Configuring Motion Detection Alarm.
- 4. Save

Alarm Output

After an alarm output is triggered by a motion detection alarm, audio alarm, or other third-party configured alarm, the camera can trigger an alarm output to a third-party device.



To configure Alarm Output:

- 1. Select Alarm and the Alarm Name.
- 2. Select N.O. as the Default Status and set the Delay.
- 3. If desired, **Enable Schedule**. See the *Motion Detection* section for more information about the Alarm Schedule.
- 4. Save

Caution Follow the power-on sequence for alarm output third-party devices and cameras carefully to avoid damaging camera components.

Check that the alarm Status is set to **N.O.** (default setting), and that the camera and the alarm output device are powered off.

After completing the connection, power on the alarm output device first, and then power on the camera.

STORAGE SETTINGS

Storage

OpenEye IP cameras include an integrated microSD[™] card (Memory Card) slot that can be used to record video or images. The card slot is compatible with a microSD[™] card up to 512GB.

Basic Camera Settings	Storage	
Network Settings	Storage Medium Memory Card V Format Enable	
Streaming Settings	Storage Medium Status: No card	
Picture Settings	Total Capacity 0 MB, Free Space 0 MB.	
Event Settings	Allocate Capacity	
Storage Settings	Video(MB) 0 (The remaining capacity is used for image storage.) Common Snapshot(MB) 0	
Storage		
JPEG Download	Video Storage Info	
Recording Download	Storage Policy OManual Storage Planned Storage Off	
Security Settings	When Storage Full Overwrite Stop Post-Record(s) 60	
Maintenance	Save	
Storage Settings Storage JPEG Download Recording Download	Video Storage Info Storage Policy Manual Storage Planned Storage Off When Storage Full Overwrite Stop Post-Record(s) 60	

Note - Formatting the microSD card causes the camera to restart

Note - Camera date and time must be synced with system or server to insure accurate recording timestamps

Format

To format the memory card, check **Enable** and to confirm the operation. The system will restart when the format is completed.

Allocate Capacity

Video (MB) – Enter the amount of storage space to be allocated only to video recordings.

Common Snapshot (MB) – This is the remaining storage after video recordings which will be used to store snapshot images.

Video Storage Info

Storage Policy

Manual Storage - records video to the SD card continuously.

Planned Storage – camera records video to the memory card during the specified periods. (shown below)

Off - No recorded video will be saved to the SD card.

When Storage Full

Overwrite – When the SD card is full, new data will begin overwriting oldest data.

Stop – When the SD card is full, video recording will stop writing to the SD card.

Post-Record(s) – For alarm-triggered recording; this is the length of time (seconds) that recording continues after the end of the alarm. Enter an integer range of [30–1800].

Save

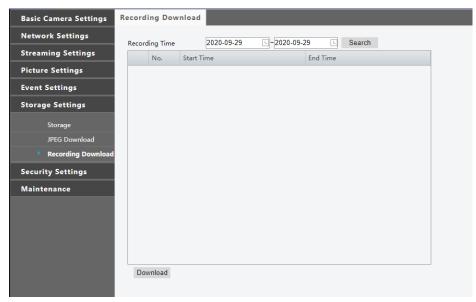
JPEG Download

Basic Camera Settings	JPEG Download		
Network Settings	Refresh Export Images Delete		
Streaming Settings	Photo List		
Picture Settings	tings Total Capacity for Common Snapshot 0 MB,Free Space 0 MB.		
Event Settings	⊟ 🔄 10.0.22.13		
Storage Settings	🗟 🗹 🧫 CommonServer		
Storage			
JPEG Download			
Recording Download			
Security Settings			
Maintenance			

Use Export Images to download snapshots taken by the camera. Refresh the list to update Photo List or Delete to delete images from the selected folder.

Recording Download

Recording download page allows you to search a selected date range for video and snapshots recorded to the microSD card.



- 1. Search for video within a specified period. The results will be shown in a list below.
- 2. Select your video and click **Download**.

SECURITY SETTINGS

User

Basic Camera Settings	User		
Network Settings	Add Edit Delete		
Streaming Settings	No. Username	User Type	
Picture Settings	1 admin	Admin	
Events Settings			
Storage Settings			
Security Settings			
User			
Network Security			
Watermark			
Maintenance			

There are two types of users:

Administrator – referred to as "admin" in this manual. The default name of the administrator is **admin**, which cannot be modified. Admin has full permission and can manage all users and devices. Only one admin user is allowed.

Common User – referred to as "user" in this manual. User only has permission to play live and recorded video.

Up to 20 common users are allowed.

Add

Username and passwords are limited to 32 characters with no spaces permitted. There is a maximum of twenty user accounts.

- 1. Type the new Username and User Type.
- 2. Type a **Password**, and then confirm the password.
- 3. Save

Edit

- 1. Select the **Username** on the **User list**.
- 2. Click Edit.
- 3. Modify the password in the resulting window.
- 4. Save

Delete

- 1. Select the Username on the User list.
- 2. Click **Delete** to remove the user.
- 3. Click **OK** in the confirmation window.

Network Security

You can use the Network Security tab to set a secure channel for data transmission.

Basic Camera Settings	HTTPS		
Network Settings	ITTPS On Off		
Streaming Settings	SSL Certificate Browse Upload		
Picture Settings	Save		
Events Settings	RTSP Authentication Digest		
Storage Settings	ITTP Authentication Digest •		
Security Settings	Save		
User	P Address Filtering On On		
Network Security	iltering Mode Whitelist 🔻		
Watermark	No. IP Address +		
Maintenance			
	Save		

To configure Network Security:

- 1. Enable HTTPS by selecting On or click Browse to upload your custom SSL certificate if desired.
- 2. Save

RTSP and HTTP Authentication

Use the Authentication dropdown menus to select the appropriate mode, and then click Save.

IP Address Filtering

IP Address filtering allows you to forbid access from specified IP addresses to your camera.

1. Select On.

Note

- 2. Select a Filtering Mode, and then click the + symbol to add the desired IP addresses to the list.
- 3. Save



If the Filtering Mode is set to **Whitelist**, only the specified IP addresses are allowed to access the camera. If the Filtering Mode is set to **Deny Access**, the specified IP addresses are denied access. Up to 32 IP addresses can be added to the list.

Watermark

Use the Video Watermark to encrypt the camera image and protect the video from being deleted or modified.

📮 Live View 🗳	setup
Basic Camera Settings	Watermark
Network Settings	Watermark 💿 On 🖲 Off
Streaming Settings	Watermark Content
Picture Settings	Save
Events Settings	
Storage Settings	
Security Settings	
User	
Network Security	
Watermark	
Maintenance	
1. Select	On to enable watermark, and input Watermark Content .

2. Save

MAINTENANCE

Time

Basic Camera Settings	Time	
Network Settings	Sync Mode	Svnc with NTP Server
Streaming Settings	Time Zone	(UTC-08:00) Pacific Time(US & Canada)
Picture Settings	System Time	2020-09-29 18:01:51
Event Settings	Set Time	2020-09-29 18:00:17 🕒 Sync with Computer Time
Storage Settings	NTP Server	
Security Settings	NTP Server Address	2.cctv.pool.ntp.org
Maintenance	Update Interval(s)	600
Time		
Maintenance	Save	
	DST	
	DST	○ On Off
	Start Time	Apr 💙 First 💙 Sun 💙 02 🗸 h
	End Time	Oct 💙 Last 💙 Sun 💙 02 🗸 h
	DST Bias	60mins 👻
	Save	

By default, the time setting **Sync Mode** will be set to **Sync with NTP Server**.

Manually Setting or Synchronizing the System Time

- 1. Select a Sync Mode.
- 2. Set the correct **Time Zone** and **System Time**. You may also click **Sync with Computer Time** to synchronize the time settings of your camera with that of your PC.
- 3. Save

Synchronizing with the NTP Server

- 1. Set Sync Mode to Sync with NTP Server, and then set the NTP Server Address, Port and Update Interval(s).
- 2. Click Save. The camera will periodically synchronize time with the NTP server.

Setting the DST

- 1. Select **On** for **DST**, set the **Start Time**, **End Time**, and **DST Bias**.
- 2. **Save**

Maintenance

Basic Camera Settings	Maintenance				
Network Settings	Software Upgrade				
Streaming Settings	Local Upgrade	Browse Upgrade			
Picture Settings	Config Management				
Event Settings	Default	Restore all settings to defaults without keeping current network and user settings.			
Storage Settings	Importing	Browse Import			
Security Settings	Exporting	Export			
Maintenance	Diagnosis Info				
Time	Export Diagnosis Info	Export			
Maintenance	Collect Image Debugging Info				
	Device Restart				
	Restart	Restart device			

Software Upgrade

To update your camera software, click **Browse**, select the software file, click **Open**, and then click **Upgrade**.



Note The software file must be a .zip file.

Device Restart

This will restart your camera.

Config Management

- 1. To import configurations that you have backed up, click **Browse**, select the configuration file, and then click **Import**.
- 2. To export current system configurations, click **Export**.
- To restore default configurations, click **Default** and then confirm the operation. The device will
 restart and restore the default configurations. Clicking **Default** with the check box selected will
 default all camera and camera network settings.

Diagnosis Info

Diagnostic Information includes logs and system configuration. You can export diagnostic information to your PC.



Note Diagnostic information is exported to the local folder as a compressed file. You will need to decompress the file, and then open the file using a text editor.

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