PT CAMERA SERIES

User Manual

Applicable Models: W3-E / E3-X / LN-W400Z-FW
Applicable Objects: Used when user installs the device
Version: V1.1

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Foreword

The purpose of this document is to ensure that the user can correctly use the product to avoid operational hazards or property damage. Before using this product, please read it carefully and keep it for future reference.

Precautions for safe use:

- During the installation and use of the product, all the national and local electrical safety regulations must be strictly observed.
- Please use the power adapter provided by certified manufacturer. For the specific requirements of the power adapter, please refer to the Product Datasheet. It is suggested to equip each device with an independent adapter.
- According to the relevant national standards, when supplying power to weak current device, the power supply current should not exceed 8A and the power should not exceed 100W to prevent safety accidents.
- An easy-to-use power protection device should be incorporated into the building installation wiring.
- When installing on the wall or ceiling, make sure the product is securely fastened.
- If the product is not working properly, please contact the store where you purchased the product or the nearest service center. Do not disassemble or modify the product in any way. (Our company is not responsible for problems caused by unapproved modifications or repairs).
- Avoid installing the product in an environment with vibration or shock, and keep the product away from electromagnetic interference. (Ignoring this may cause damage to the product).
- Do not directly touch the heat dissipation parts of the product to avoid burns.
- Do not install indoor products in an environment where it may be exposed to water or other liquids.
- Please store the product in a dry environment without corrosive gas and direct sunlight.
- Do not use the product in extremely hot, cold, dusty, corrosive or high humidity environments. For specific temperature and humidity requirements, please refer to the Product Parameters Table.
- Avoid aiming the lens at strong light (e.g. lighting, sunlight, or laser beams); otherwise, the image sensor will be damaged.
- Avoid accumulation of heat and keep good ventilation around the product.
- Do not directly touch the image sensor. If it is necessary to clean the lens, please slightly dampen a piece of soft and clean cloth with alcohol and gently wipe off the dust and dirt; when the product is not in use, please attach the dust cover to protect the image sensor.
- It may face network security issues when the product is connected to the Internet, please strengthen the protection of personal information and data security. When you find that the product may have potential network security risks, please contact us in time.
- Please understand that it is your responsibility to reasonably configure all passwords and

other related product security settings, and to keep your username and password properly.

- Please keep all the original packaging materials of the product properly, so that when there is a problem, you may pack the product with the packaging materials and send it to the agent or the manufacturer. Accidental damage during transportation caused by non-original packaging materials is the responsibility of the user.

Regulatory Information

FCC Information

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

--Reorient or relocate the receiving antenna.

--Increase the separation between the device and receiver.

--Connect the device into an outlet on a circuit different from that to which the receiver is connected.

--Consult the dealer or an experienced radio/TV technician for help

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

FCC Radiation Exposure Statement

The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located for operating in conjunction with any other antenna or transmitter.

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.

Chapter I: Product Introduction

1.1 Product Description

ULUCU PT Camera Series web camera is the digital surveillance product that integrates various functions such as video capture, intelligent coding and compression and online transmission. The product adopts embedded operating system and high-performance hardware processing platform and can meet diversified industry demands.
You can access and manage locally or remotely through the client or browser, and set the camera parameters, functions, etc. to meet the demands of different scenes.

1.1.1 Product Characteristics

- Support 1080P FHD real-time preview
- Support pan, tilt control remotely
- Support H.265/H.264 protocol of encoding and decoding
- Built-in microphone, support voice intercom
- Support remote upgrade
- Support 2.4GHz WiFi
- Support PoE power supply (for W3-E)
- Support ONVIF protocol

1.1.2 Product Size and Appearance

Figure. W3-E Product Appearance Diagram

Figure. E3-E Product Appearance Diagram

1.2 Product Functions

1.2.1 Product Parameters

Function		Detail	
Product Model		**W3-E**	**E3-X**
Product Name		Cloud IP Camera	Cloud IP Camera
Camera	Image Sensor	1/2.7”CMOS	1/2.9”CMOS
	Min. Illuminance	Color: 0.01Lux B/W: 0Lux with IR on	
	Shutter	Automatic electronic shutter	
	Lens	4mm	
	Mount	M12	
	Day/Night Conversion Mode	ICR infrared filter type	
	Digital Denoise reduction	3D digital denoise	

Compression standard	Video Compression Standard	H.265: Main Profile	
		H.264:Baseline Profile / Main Profile	
	Video Compression Rate	128Kbps~8Mbps	
	Audio Compression Rate	G.711	
Image	Max. Image	1920 × 1080	
	Frame Rate	Up to 30fps	
	Multiple Stream	Dual Stream	
	Anti-flicker	Support	
	OSD	Time and date display, subtitles can be set	
	Motion Detection	Support	
	Image Settings	Brightness, contrast, saturation, etc. can be adjusted through the client or IE browser	
Interface	Ethernet	1* RJ45 10M/100M self-adaptive Ethernet interface	
	Audio Interface	1 * Built-in microphone 1 * Speaker	
	Power Interface	1 * DC 5V interface	
	Storage	Up to 256G	
Protocol	Onvif	Support	
	Internet	802.11a/b/g/n, TCP/UDP, ICMP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, NTP, IP, SSL/TLS	
	WiFi	2.4GHz WiFi	
General	Power Supply	DC5V / PoE power supply	DC5V
	Infrared Irradiation Distance	EXIR 15 m	

	Working Environment	Temperature: -10~50℃, humidity: <95% (non-condensing)	
	Power Consumption	4.0W MAX 5.0W MAX with IR on	4.5W MAX
	Dimensions (mm)	Φ91.7*120.5	Φ85*120
	Weight (kg)	0.3	0.23

1.3 Product Installation

1.3.1 Product Site Survey Description

Recommended installation height: 2.5m < H< 4m

Reference installation distance:

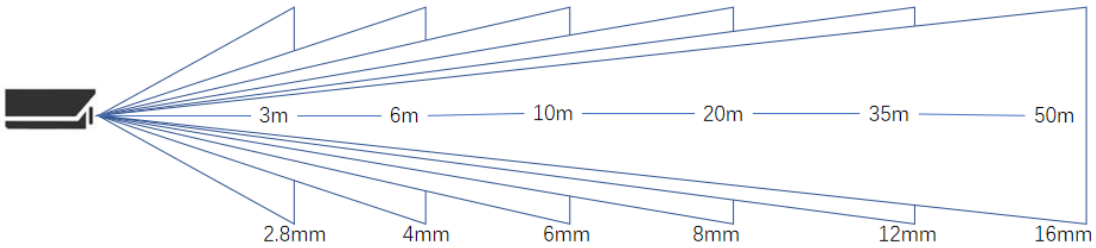


Figure. Reference site survey drawing

1.3.2 Determination of Product Installation Location

** Please make sure there is no obstruction in the camera scenes when installing*

Device installation location:

In normal lighting scenes, the device is recommended to be ceiling-mounted or hoisted at the central position above the monitoring scene, with an inclination angle of no more than 45° to ensure that it meets the requirements for covering height and width.

The following scenes may have an impact on the accuracy of the algorithm, and the installation location shall be adjusted flexibly:

- The camera is blocked with a large area of object in the scene
- The ground in the scene is easy to be highly reflective

1.3.3 Selection of Product Lens

U3 Series camera adopts fixed focal lengths to monitor fixed-range scenes, and uses fixed-focus lenses of 2.8mm, 4mm, 6mm etc. The smaller the focal length of the lens, the larger the field of view, and the farther away from the monitored object in visual effect.

Camera Model	Model	Recommended Installation Height	Lens Model	Covering Width	Recommended Distance
W3-E **E3-X**	2MP PT Camera	2.5-4m	4mm	~4m	6m

1.3.5 Installation Precautions

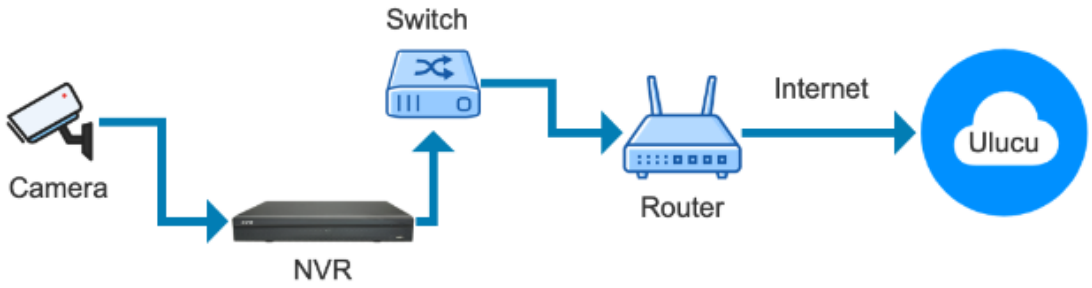
In order to ensure clear monitoring image, please refer to the following precautions and flexibly adjust and install the camera:

1. Try to install in the scene with uniform light, avoid backlight or exposure scene;
2. Try to adjust the lens towards the center of the monitoring range, which can maximize the effective field of view;
3. Avoid large obstacles in the scene;
4. It is recommended that the length of each network cable should not exceed 50m, so as to reduce transmission loss;
5. The installation shall be adjusted flexibly according to the preview image. Please refer to the last two chapters for the preview method.

Chapter II: Preparation for Product Operation

2.1 Wired Network Connection

The camera can be connected to the switch via network cable, or connected to NVR to achieve preview and settings:



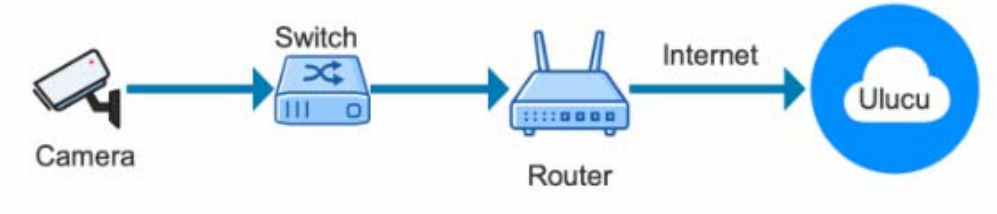


Figure. Connect the camera to the switch

** The camera and NVR must be connected to the same network switch (same network segment).*

1. Check the network IP, gateway and DNS of the installation environment:

Check it by connecting the computer network cable to the router or switch.

Open the computer Control Panel - Network and Internet - Network and Sharing Center, select Local Connection, check the IP network segment that the current computer automatically obtained which can access the external network and make a record (IP address, subnet mask, default gateway, DNS).

2. Modify the IP address of the camera and NVR host:

All cameras and recorders must be modified to the same network segment, and the IP, gateway, and DNS which can normally access the external network.

In order to prevent the IP address conflict between the device and other cash registers and WIFI networking devices, it is recommended to set the IP address to address after X.200 (for example, the NVR is set to 192.168.X.201, and the IP of the camera is set after X.202).

** The factory IP of the camera is 192.168.200.2, the user name is admin, and the password is ulucu888*

** The factory IP of the NVR is 192.168.200.3, the user name is admin, and the password is ulucu888*

See the next section for the method of modifying them.

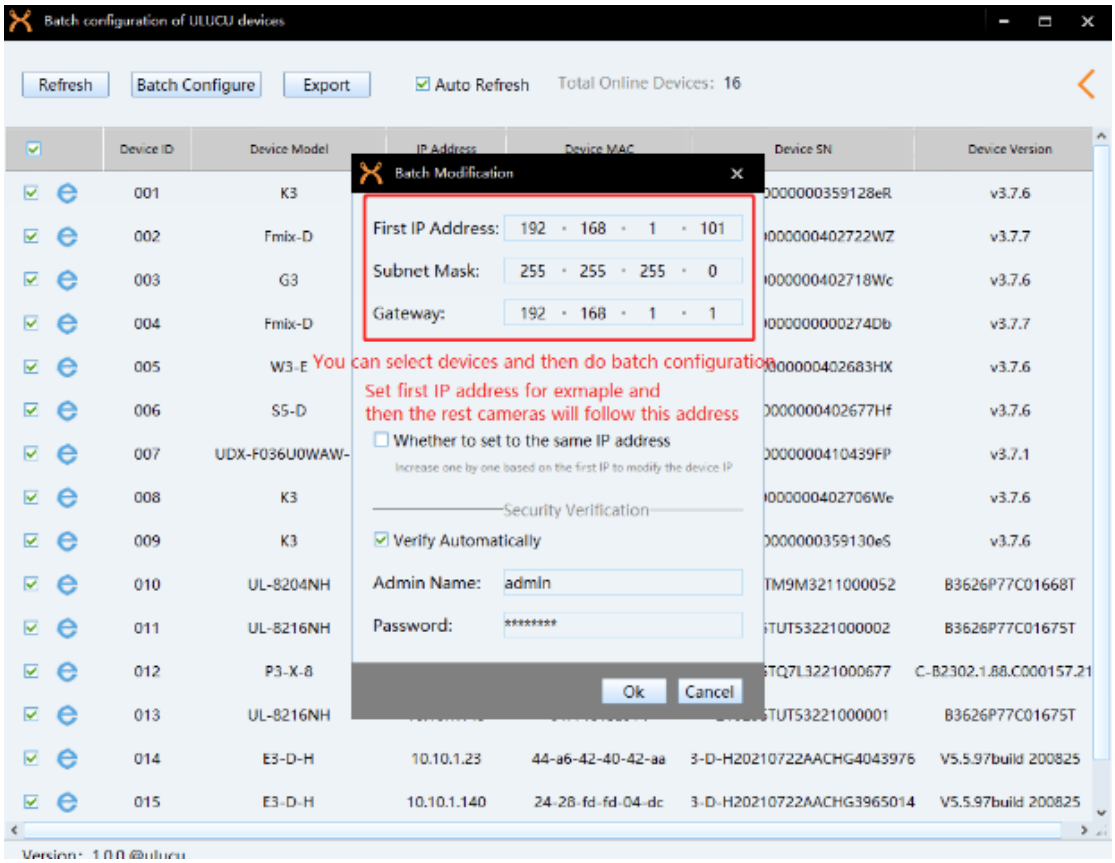
2.2 Basic Network Configuration

The IP address of the camera can be modified through the following two methods:

Method 1. Modify the IP address through tools (recommended)

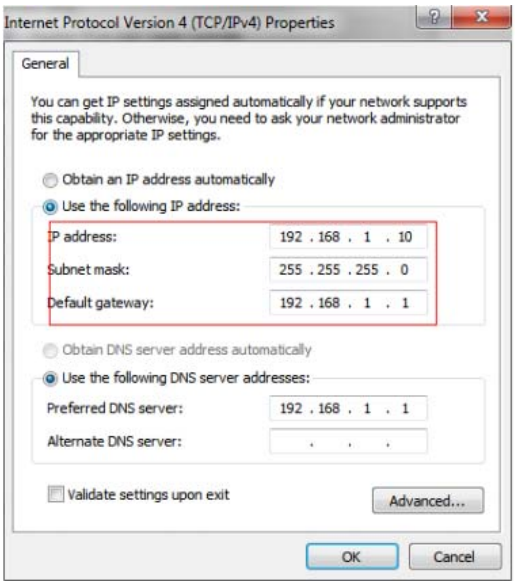
Download Ulucu Device Batch Configuration Tool at https://ulucu.notion.site/

Display all devices currently online in the local area network. After selecting the device, expand the configuration bar on the right, configure the required IP address and save it.



Method 2. Modify the IP address with local PC

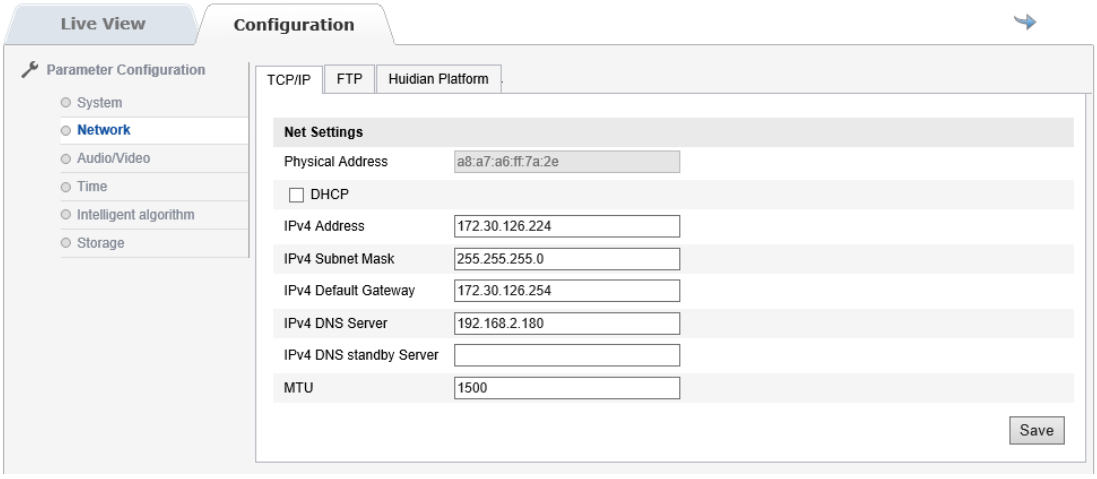
The PC and NVR must be connected to the same network switch (same network segment). Open the computer Control Panel - Network and Internet - Network and Sharing Center, select Local Connection, modify the computer IP address to 192.168.200.x, as shown below:



Access http://192.168.200.2 through the computer IE browser, enter the camera user name and

password to log in to the Web, select Configuration-Network Configuration-TCP/IP, set the IPv4 address, IPv4 subnet mask, IPv4 default gateway and DNS server, save the settings, and then log in with the new IP.

** After setting, remember to change the computer network card settings to the original parameters or to automatically obtain IP*



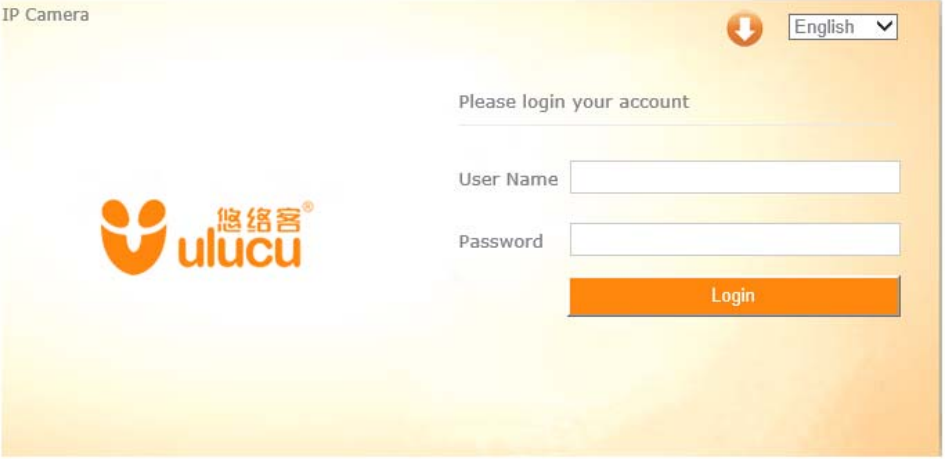
** In order to protect your personal privacy and corporate data, and avoid network security problems of camera products, it is recommended to set a password with high security level that meets security specifications.* After setting the IP address, modify the password at the web terminal or the user terminal.

Chapter III: Basic Function Operation

3.1 Web Login

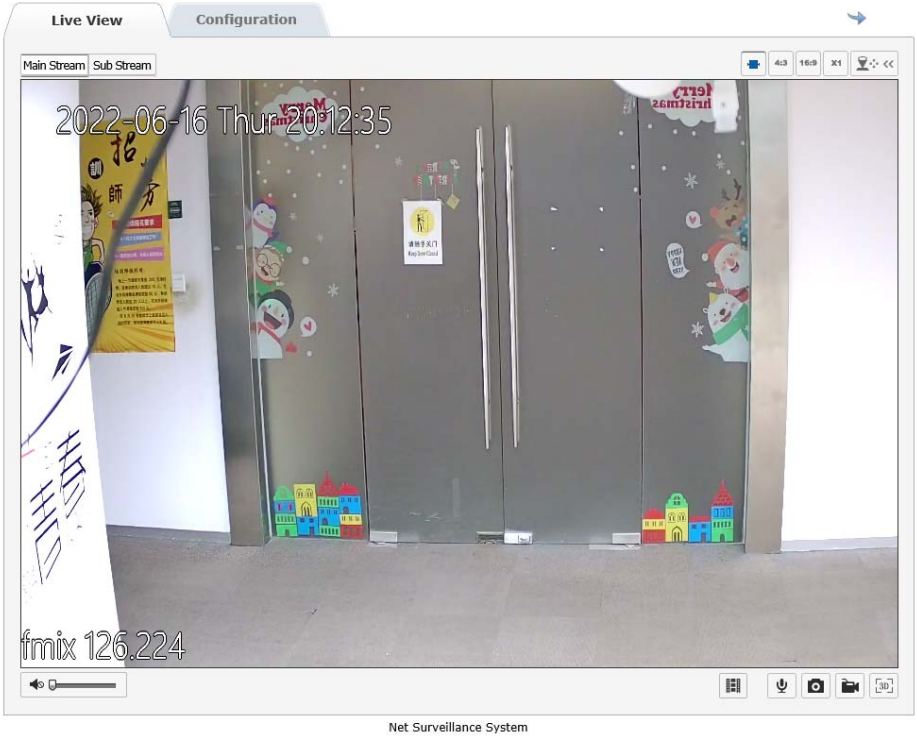
** Please log in to the device with IE browser and allow the plug-in to run for normal preview and settings.*

Access the IP address of the device with browser and enter the username and password to log in.



3.2 Live View

After successful login, you can see the following live view interface.



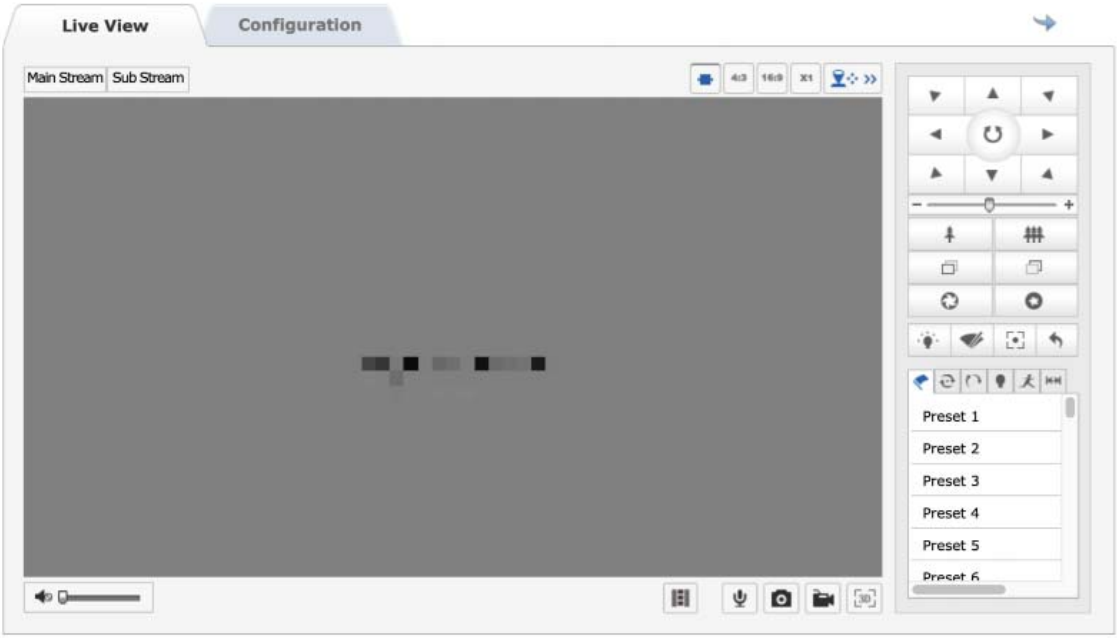
3.2.1 Live View Icon Description

Icon	Description
Main Stream Sub Stream	Switch primary and secondary streams as needed, the default is primary stream.
4:3 16:9 X1	Adjust the live view screen ratio, respectively: adaptive, 4:3, 16:9, original size

	Expand the PTZ operation bar (current U3 Series does not support PTZ control)
	Adjust live volume if the camera support audio-in.
	Intercom with live scene if the camera support audio-out.
	Take a screenshot of the current screen and save it locally
	Record the current screen and save it locally
	3D positioning (current U3 series does not support 3D positioning)
	Exit to the login interface

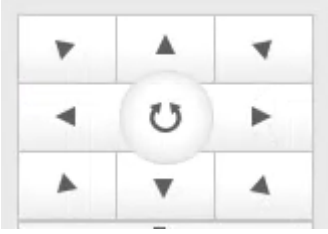
3.3 Pan, tilt control

Click pan/tilt panel to control the camera.



3.3.1 Pan, Tilt

Icon	Description

	Click the direction buttons to control the moving direction. Click the central button to enable auto scan.
	Adjust the speed.

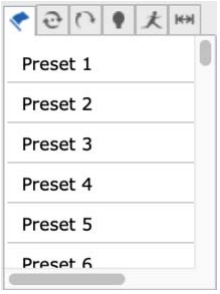
3.3.2 Pan, tilt settings

Preset Position:

Preset:

A preset is a predefined image position. You can click the call button from the preset list to quickly go to the desired image position.

Select a preset number from the preset list. Use the PTZ control buttons to move the lens to the interested position. Click to save the setting of the current preset. You can click to call the preset. Click to delete the chosen preset.



Patrol:

A patrol is a memorized series of preset function. Before configuring, you should make sure that the presets you want to add to the patrol have been defined.

Step1: Select a patrol number, click to add presets to this patrol.

Step2: Choose presets and set patrol time and speed.

Step3: Click to save the patrol settings

After settings, you can click to call the patrol, click to stop it, and click to delete.

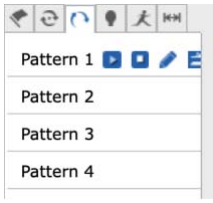
Pattern:

A pattern is a memorized series of pan, tilt, and preset functions.

Step1: Select a pattern number from the pattern list, click to activate recording the panning, tilting actions.

Step2: Use the PTZ controller buttons to move the lens to the interested positions.

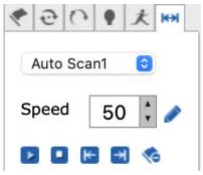
Step3: Click to save all the pattern settings.



After settings, you can click to call the pattern, click to stop it, and click to delete.

Auto scan:

You can set auto scan boundary and speed limit.

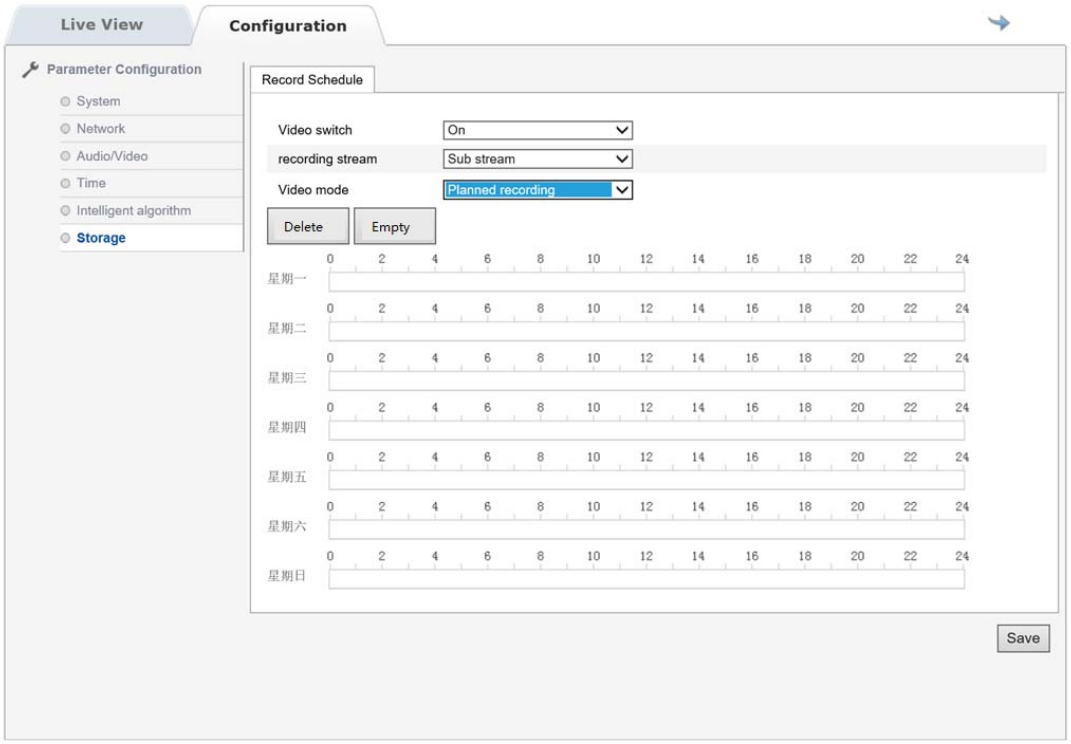


Icon	Description
Auto Scan1	Choose one scan settings
Speed 50	Ajust the scan speed, click to save
	Set the scan left / right boundary
	After settings, you can click buttons to preview, stop and delete settings

Chapter IV: System Function Operation

4.1 Recording Configuration

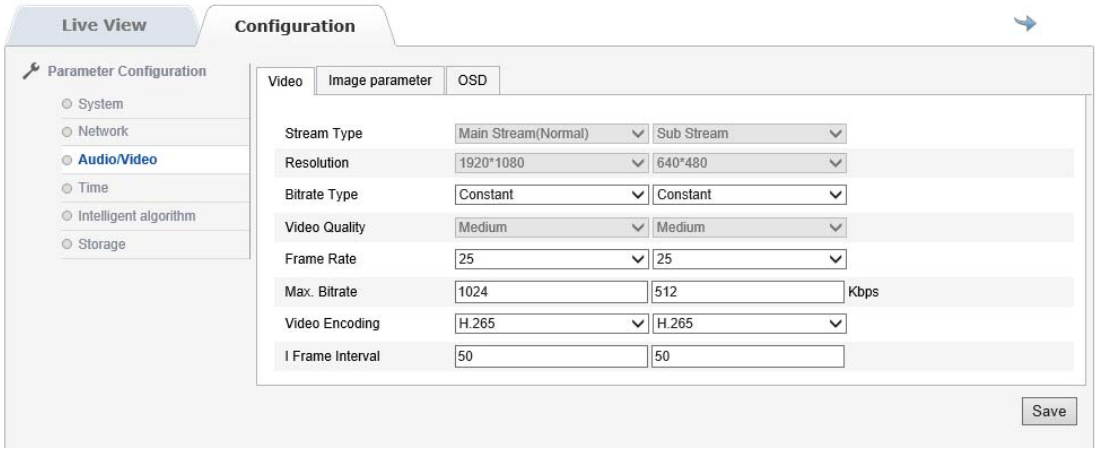
Set the video stream and mode on this page.
If scheduled recording is selected, drag the mouse to select the time period to be recorded on the timeline.



Chapter V: Audio and Video Parameters Configuration

5.1 Video Parameters

Set primary and secondary stream parameters on this page.

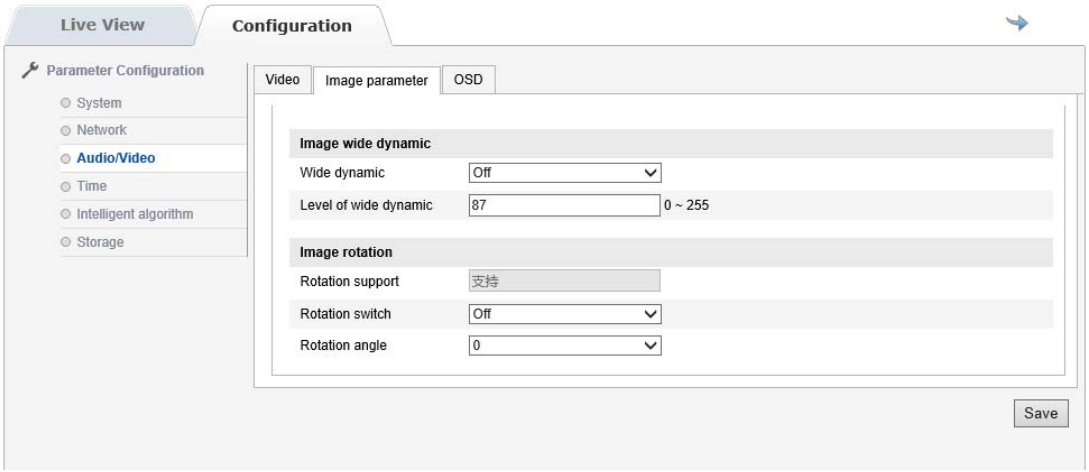


Settings	Description
Bit Rate Type	Constant bit rate/variable bit rate can be selected. Constant bit rate: The live view and recording bit rate is fixed, which is usually suitable for the environment with good network conditions.

	Variable bit rate: The live view and recording bit rate is adjusted according to the picture change. Usually, the bigger the picture change, the higher the occupied bit rate. It is usually suitable for the environment with general network bandwidth.
Video Frame Rate	The frame rate can be adjusted according to actual demands. Usually, the higher the frame rate, the smoother the picture.
Bit Rate Upper Limit	The highest bit rate limit when the bit rate changes.
Video Encoding	H.265/H.264 optional. H.265 saves about 50% bandwidth compared to H.264. Please note whether it is compatible with H.265/H.264 when using third-party NVR/software at the same time.
I-frame Interval	Usually the larger the interval between key frames, the more key contents contained in each I-frame.

5.2 Image Parameters

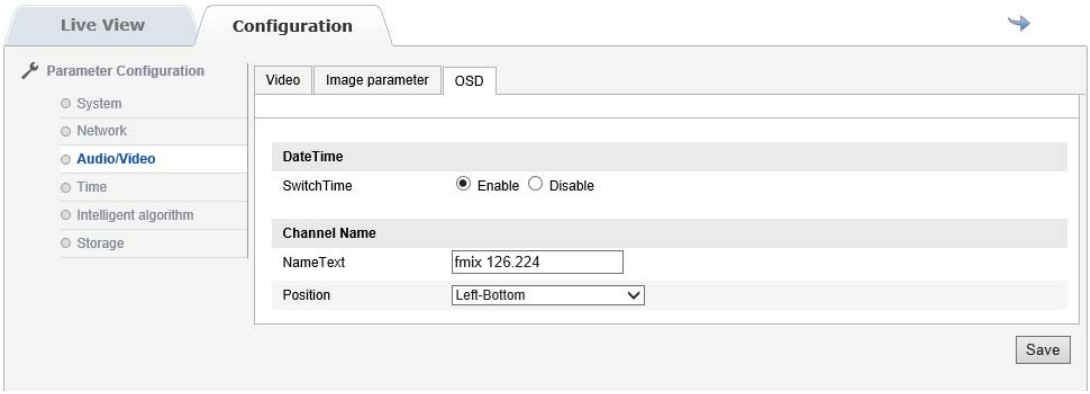
Adjust the image parameters on this page to achieve the most suitable picture.



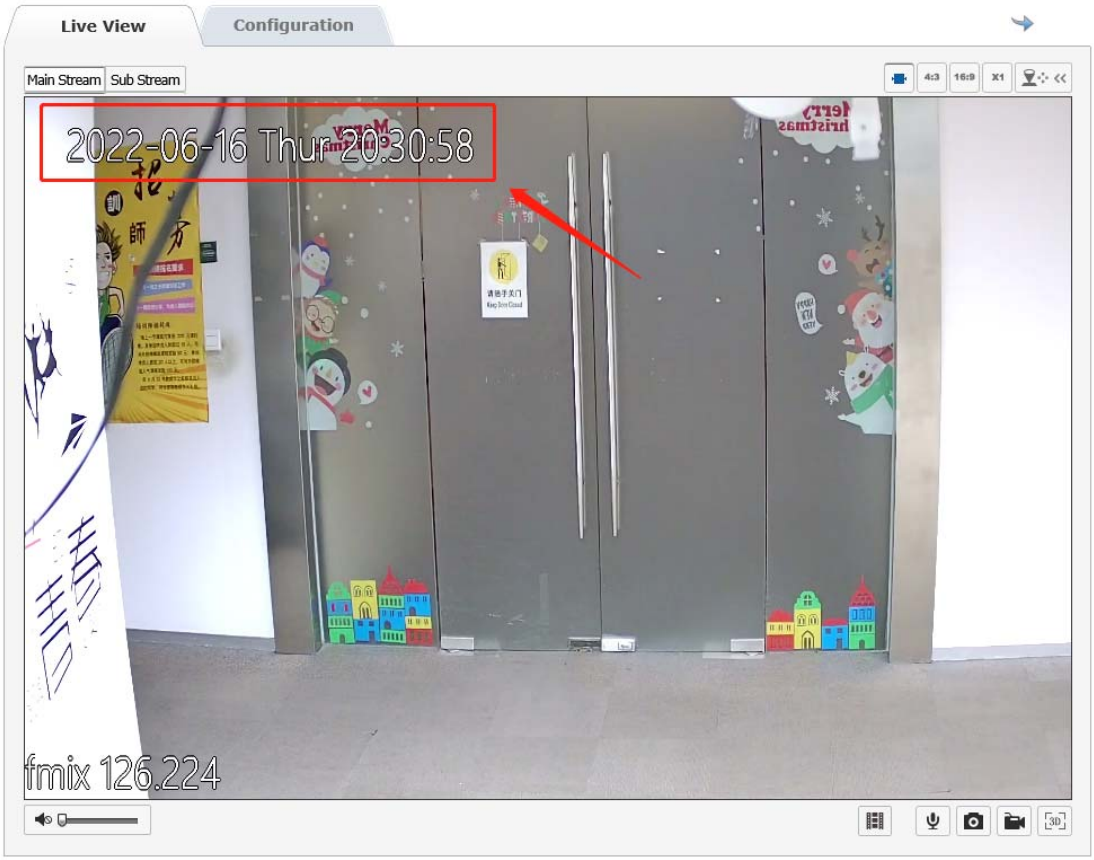
Settings	Description
Wide Dynamic Range	Wide dynamic range can be enabled/disabled according to the installation environment. Wide dynamic range is usually enabled in the backlit environment. The higher the level, the stronger the ability to process backlight images.
Image Rotation	According to the installation angle, rotate the screen to 90º, 180º, 270º, etc.

5.3 OSD Settings

OSD (On-screen display), set the screen OSD content and position on this page. The set OSD content will be displayed in the live view interface.



The preview effect is as shown in the red box below:



5.4 Audio Settings

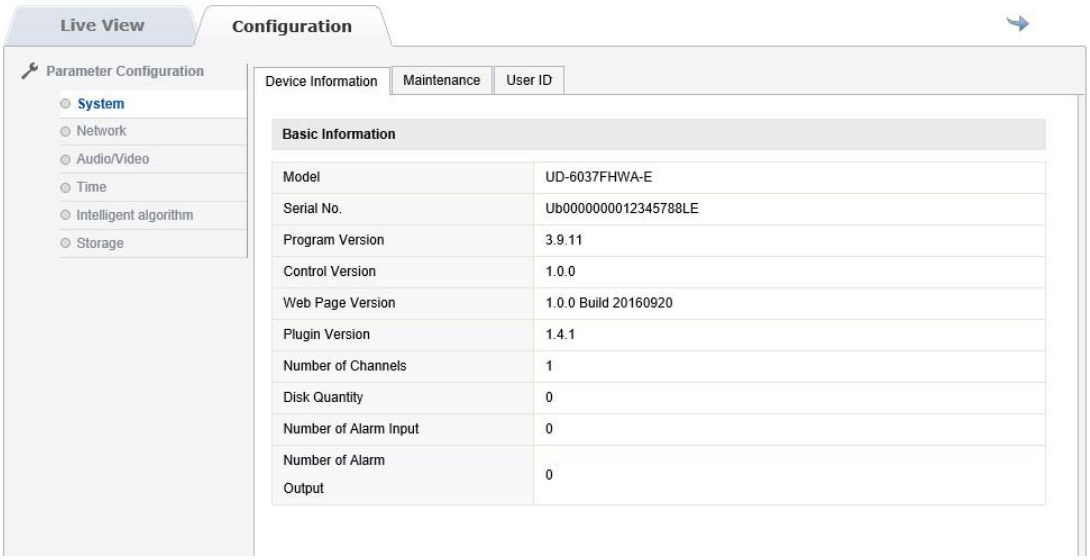
For devices with audio input/output, enable/disable audio on this page.

Chapter VI: System Parameters Configuration

6.1 System Settings

In the configuration interface - System, view and set the device information.

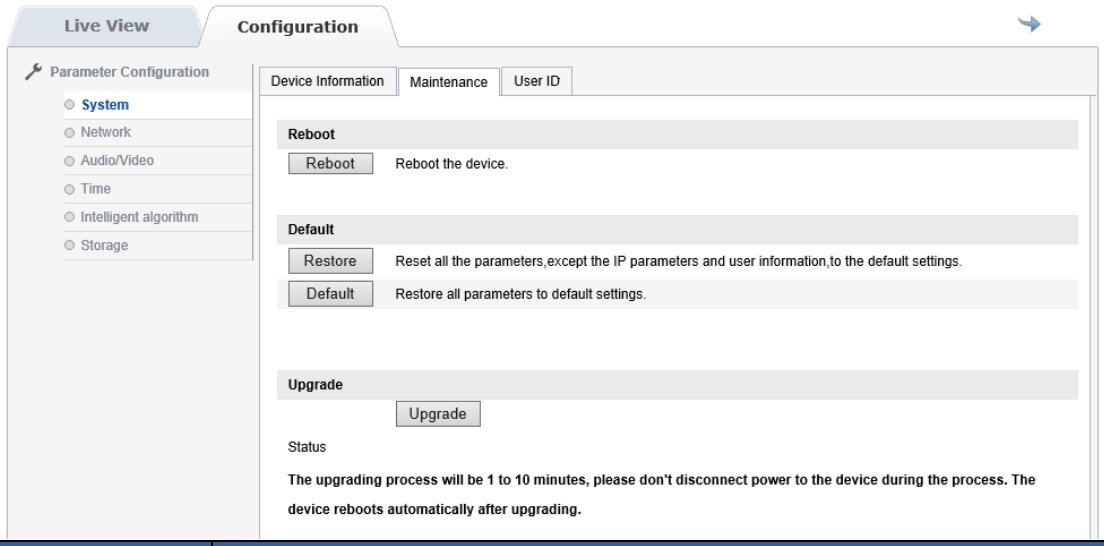
6.1.1 Device Information



Display basic device information on this page.

6.2 System Maintenance

Perform operations such as restarting the device, restoring factory settings, and upgrading the firmware version on this page.



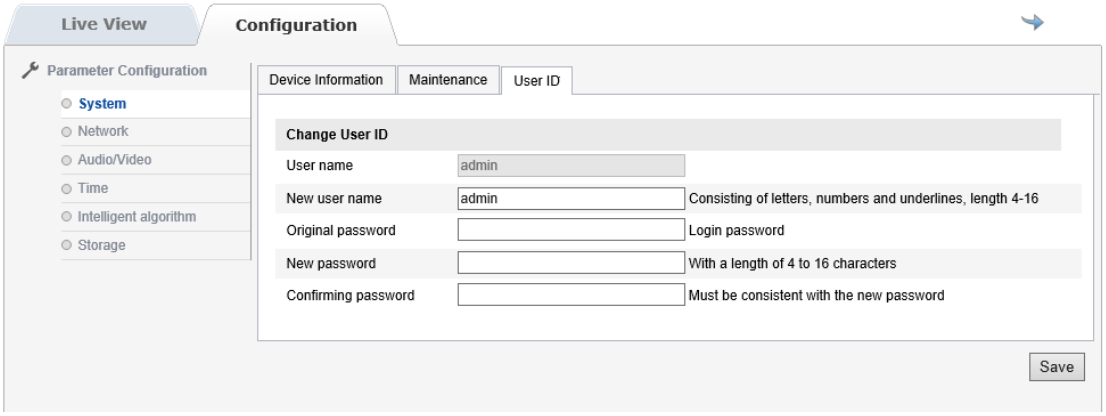
Settings	Description

Reboot	Restarting the device will not change any existing settings.
Restore	Keep the basic settings, such as IP, username and password, and other settings are restored to the initial state.
Default	Completely restore the system to its initial state.
Upgrade	After clicking Upgrade, upload the file package to be upgraded locally (provided by the ULUCU staff). During the uploading and upgrading process, make sure that the power supply of the device is connected, and the device will automatically restart after upgrading. ** Upgrade will not erase settings such as IP, username and password.*

6.3 User Management

Set the username and password on this page.

In order to protect your personal privacy and corporate data and avoid network security problems of camera products, it is recommended to set a password with high security level that complies with security specifications.



Chapter VII: Connect the Device to ULUCU Platform

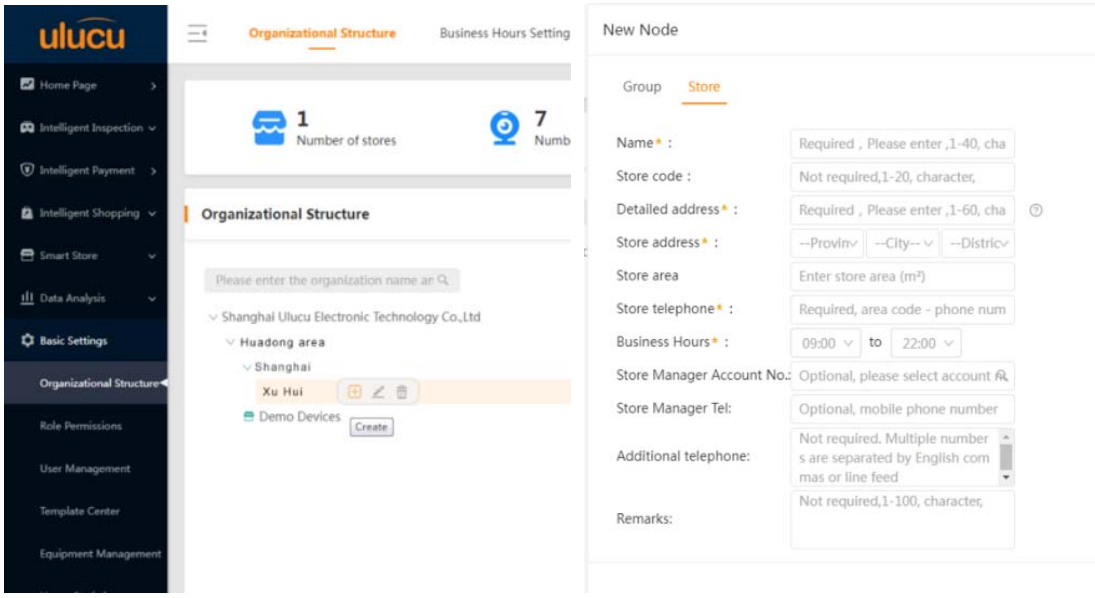
7.1 Install Client Software

- For PC: Download at www.ulucu.com
- For Android: Scan the QR code to download at www.ulucu.com or search "ULUCU" in the Android APP market to download
- For iOS: Search "ULUCU" in AppleStore to download

7.2 Add Device to the Platform

1. Add a store in the background of Huidian

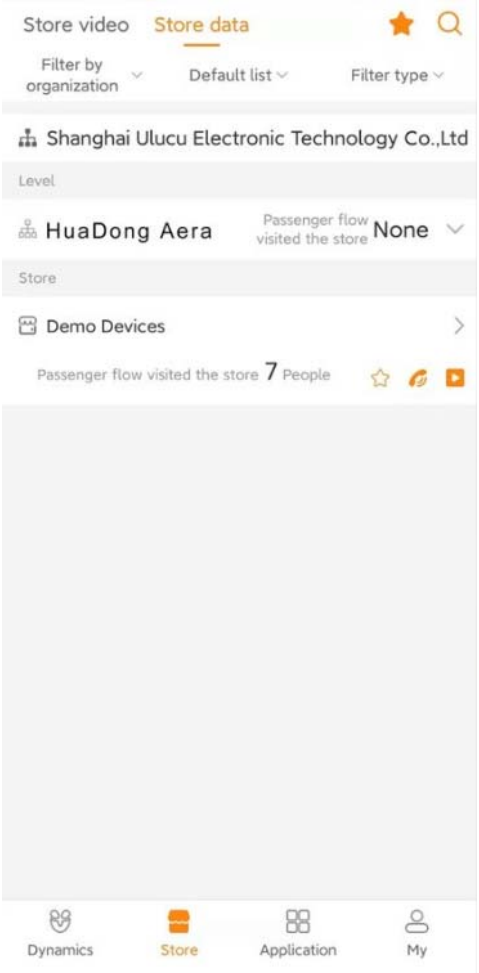
- Device should be added based on existing store
- Enterprise administrator account is required (get it from the corresponding sales and project manager)
- Visit http://g.ulucu.com to create a store

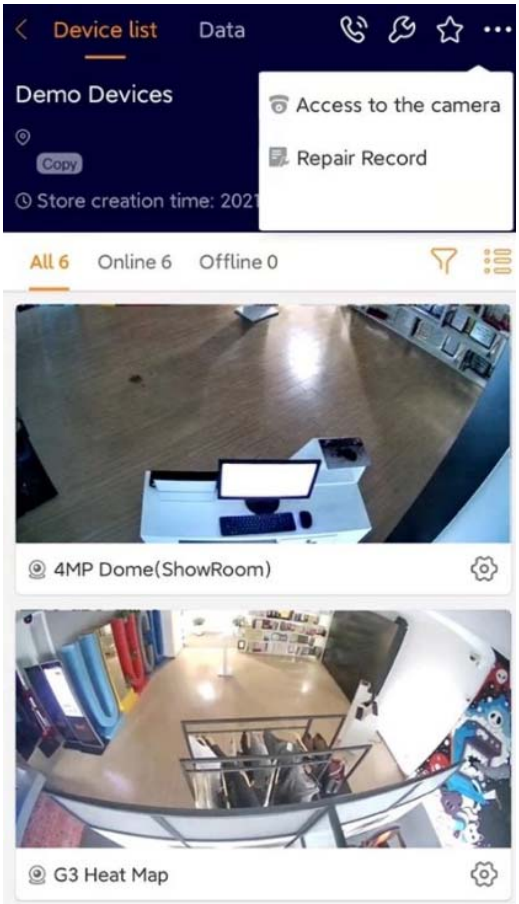


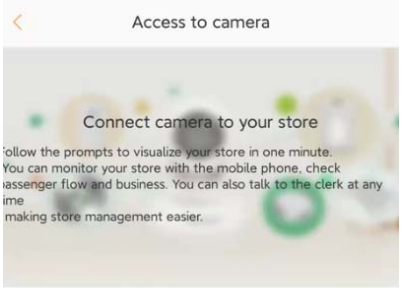
2. Directly connect the camera to the platform

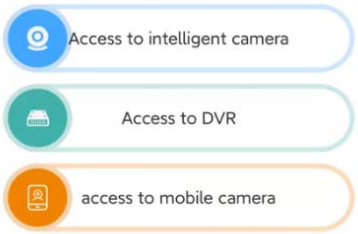
1) Activate the device in the APP

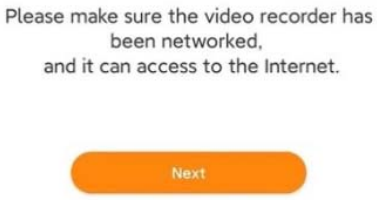
- Download and install the Huidian APP, log in to the account, enter the store and scan the QR code to add actions and perform operations



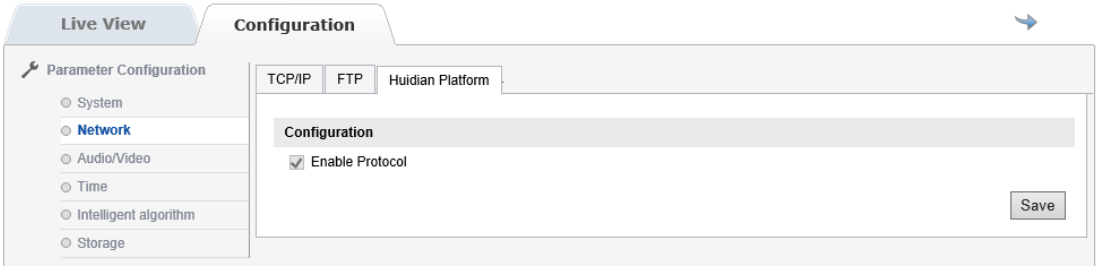








* If it fails to scan the QR code, please manually enter the SN number.

After connecting successfully, you can view the added device.

* If it is still unable to be added and used normally, please log in to the web terminal to check whether the camera has enabled the platform access permission