

5G IP Camera User Manual	Document Version	Pages
	V1.1.0	25

5G IP Camera XTEE50216

User Manual



Provided by Xingtera Inc. Santa Clara USA

Qualcomm Smart City Accelerator Program Member

FCC statements:

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.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user's authority to operate the equipment.

NOTE: This equipment 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 equipment 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 equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment 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 equipment and receiver.
- Connect the equipment 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.

Federal Communication Commission (FCC) Radiation Exposure Statement

When using the product, maintain a distance of 20cm from the body to ensure compliance with RF exposure requirements.

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Chapter 1 Brief Introduction of Product

1.1 General

IP Camera series provides a comprehensive range of security and surveillance solution to meet users' requirement. The cameras can be set up in a network and controlled or managed locally and remotely. Users can use it as an independent monitoring camera or connect to an NVR to build a surveillance system. With the APP and cloud platform, users will be able to access the camera on a mobile phone and other computer devices.

IP cameras use the high-performance CPU and other industrial-grade units, with the embedded real-time operating system as the software support platform. The cameras support H.265/H.264/MJPEG video compression algorithm and industry-leading HD dual-stream technology to achieve the highest level of video image quality under the limited network resources. It is fully functional, supporting for flexible and comprehensive alarm linkage mechanism, day and night auto switch, smart PTZ control and privacy masking, etc.*

The product has been widely used in the M2M industry of the IoT industrial chain, such as smart grid, intelligent transportation, smart home, finance, mobile POS terminals, supply chain automation, industrial automation, intelligent building, fire protection, public safety, environmental protection, meteorology, digital medical, telemetry, agriculture, forestry, water, coal, petrochemical and other related fields.

1.2 Word Definition

Word	Explanation
IPC	IP Camera
H.264	Advanced Video Coding (MPEG-4 AVC) is a block-oriented motion-compensation-based video compression standard.
H.265	High Efficiency Video Coding(HEVC), also known as H.265 and MPEG-H Part 2, is a video compression standard, designed as a successor to the widely used AVC (H.264 or MPEG-4 Part 10).
MJPEG	Motion JPEG (M-JPEG or MJPEG) is a video compression format in which each video frame or interlaced field of a digital video sequence is compressed separately as a JPEG image.
SIP	The Session Initiation Protocol (SIP) is a signaling protocol used for initiating, maintaining, and terminating real-time sessions that include voice, video and messaging applications.
WDR	Wide Dynamic Range (WDR) is a term used in the surveillance camera industry to refer to high-dynamic-range imaging.
RTSP	The Real Time Streaming Protocol (RTSP) is a network control protocol designed for use in entertainment and communications systems to control streaming media servers.

Chapter 2 IP Camera System

2.1 Features

2.1.1 Network

- ❖ Ethernet: 1*RJ45 10M/100M Ethernet Port
- ❖ Network Storage: NFS、CIFS/SMB
- ❖ Protocol: IPv4/IPv6, TCP, UDP, RTP, RTSP, RTCP, HTTP, HTTPS, DNS, DDNS, DHCP, FTP, NTP, SMTP

2.1.2 System

- ❖ Storage: Support Micro SD/SDHC/SDXC Card Local Storage, up to 128G
- ❖ Advanced Function: Motion Detection, Privacy Masking, Backlight Compensation, HLC, 2D DNR, 3D DNR, ROI, Anti-fog, White Balance, EIS, IP Address Filtering
- ❖ Event Trigger: Motion Detection, Network Disconnection, External Input, Audio Alarm, etc.
- ❖ Event Action: FTP Upload/SMTP Upload/SD Card Record or Snapshot
- ❖ System Compatibility: Onvif Profile S, GB/T28181

2.1.3 External Interface

- ❖ Power: DC-12v or POE
- ❖ Audio: 1*
- ❖ Alarm: 1 Alarm In+1 Alarm Out (Port can Drive 12V or 5V Relay)*
- ❖ Relay Out: 1 Relay OUT*
- ❖ ADC In: 1 8bit IN*
- ❖ UART Port: TTL@115200bps Or Expansion for RS485*

* = Optional

2.1.4 Cloud Platform

- ❖ Remote web server device management cloud platform for user to do remote status monitoring, configuration and update, etc.

2.1.5 Other Web Functions

- ❖ Local web server for device configuration, system maintenance, storage management, video monitoring, etc.
- ❖ Video Playback: Support video playback on web browser
- ❖ NTP: NTP with RTC, support timed reboot, scheduled power on or off
- ❖ Internet: Support IPv4 & IPv6, including static IP and DHCP.
- ❖ External PTZ: RS232/RS485 + Pelco-D

2.2 Performance

2.2.1 Streaming Concurrency

Support maximum 10 ways video real-time streaming when all 3 stream types are on. (Primary, Secondary and Tertiary stream. 2 ways 1080P, 1 way D1 30fps, using H264/H265/MJPEG)

2.3.1 Video Storage

Support 1 way SD card scheduled video recording & image capture, multi-way SD card alarm recording & capture.

Chapter 3 Operating Environment

3.1 Computer requirement

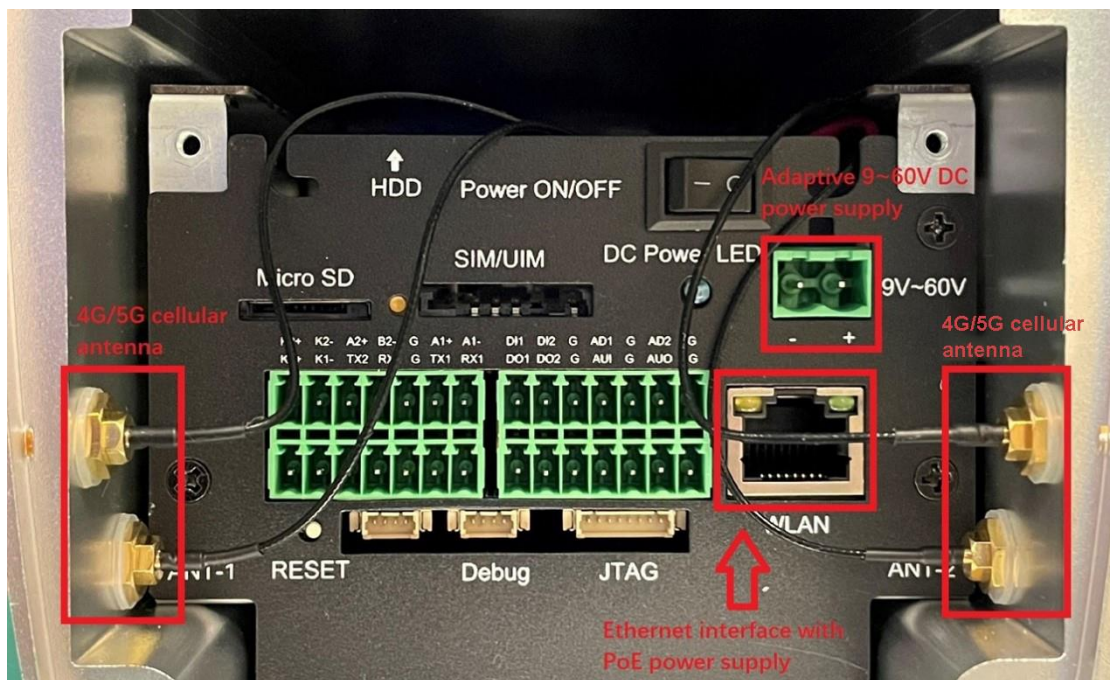
- ❖ Recommended Windows 8 and above.
- ❖ IE 11 or above.

3.2 Connection

3.2.1 Equipment power supply

IP camera supports PoE power supply and DC 9-60V wide voltage power supply. Users can choose one of the power supply modes to power the equipment. The power supply and network interface can be seen at the end of the camera after the screws around the cover plate are removed.

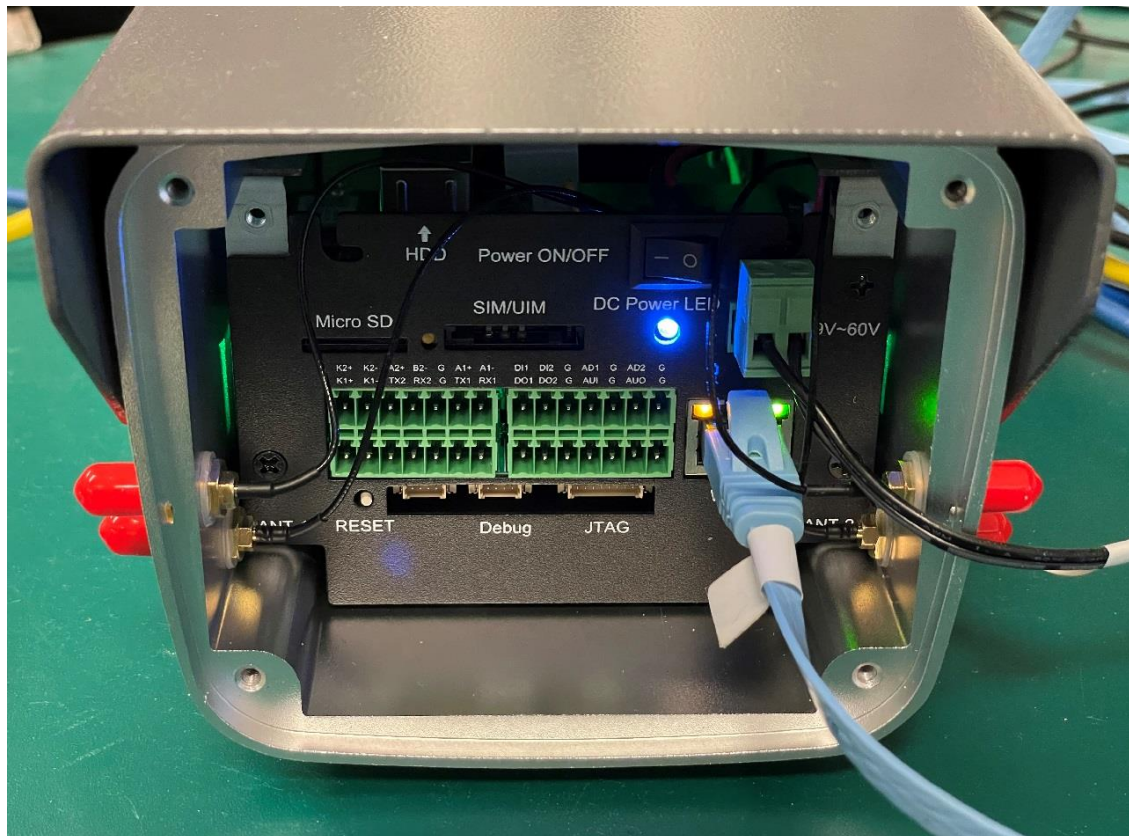
- Power interface diagram:



- Terminal Interface:



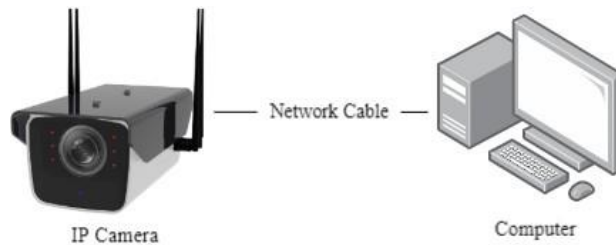
When the device is normally powered on, the infrared light at the front of the camera will flash quickly, and there will be a slight clicking sound inside the lens. At the same time, when the back cover is opened, it can be seen that there are lights inside.



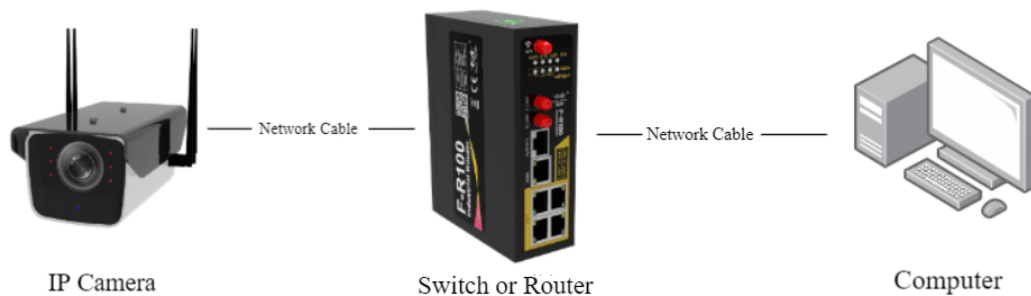
3.2.2 Network connection

The camera can be connected to the computer for debugging and configuration in the following ways:

1. Direct computer connection



2. Connect through a switch or router

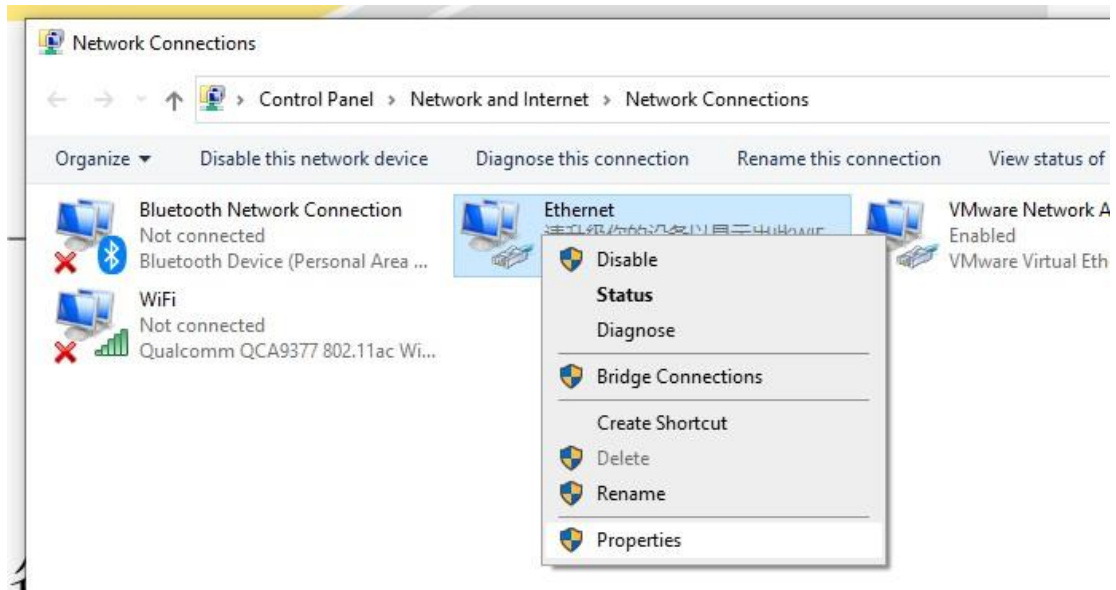


3.2.3 Access to devices

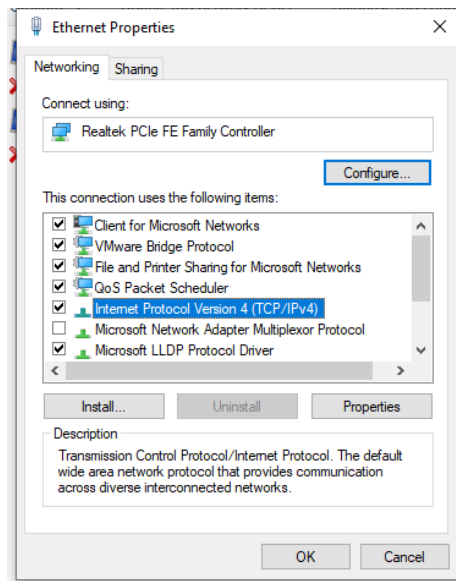
Factory default configuration page address of IPC is <http://192.168.1.100>. Default user name is admin, the password is admin. If the computer and the camera are in a different network segment so that customer cannot directly access the camera from the computer.

In the case of a direct computer connection, it is necessary to set a fixed IP address for the computer first. The specific operation is as follows:

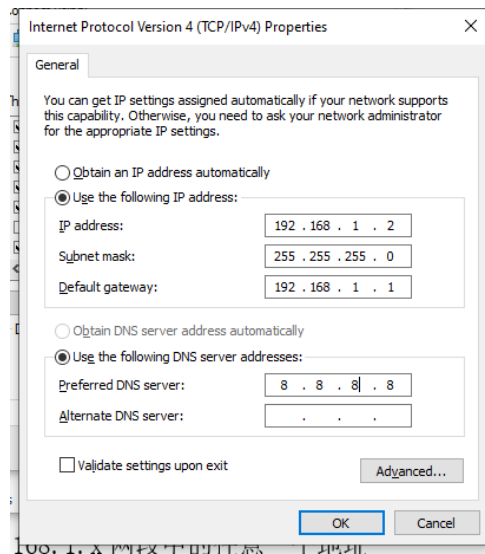
1. Open the Network Connections page of the computer and right-click the Ethernet and choose properties.



2. Modify IPv4.



- Set the COMPUTER IP to any address in 192.168.1.x network segment.



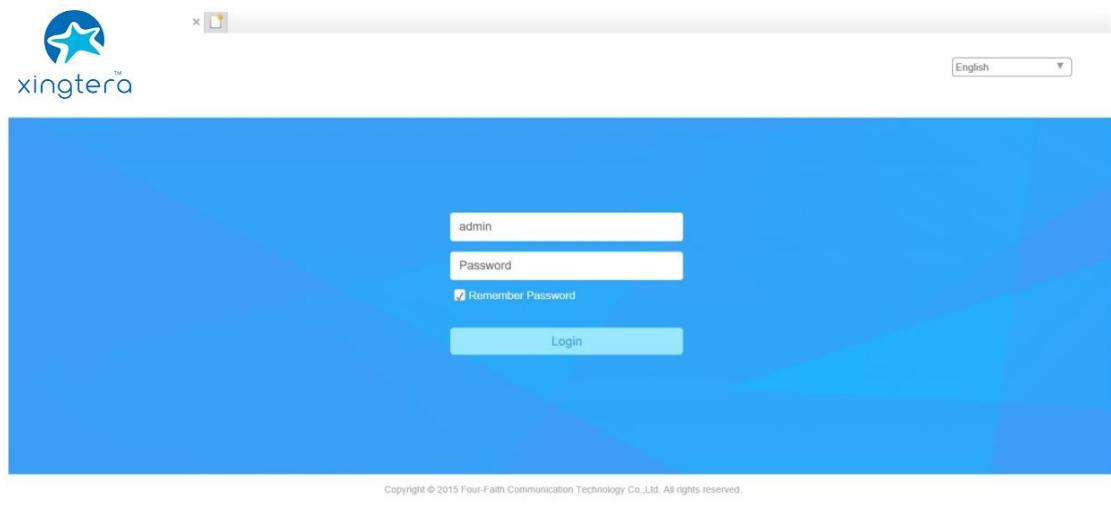
- Try to access the IP camera configuration web page <http://192.168.1.100> from Internet Explorer.

3.2.4 Device login

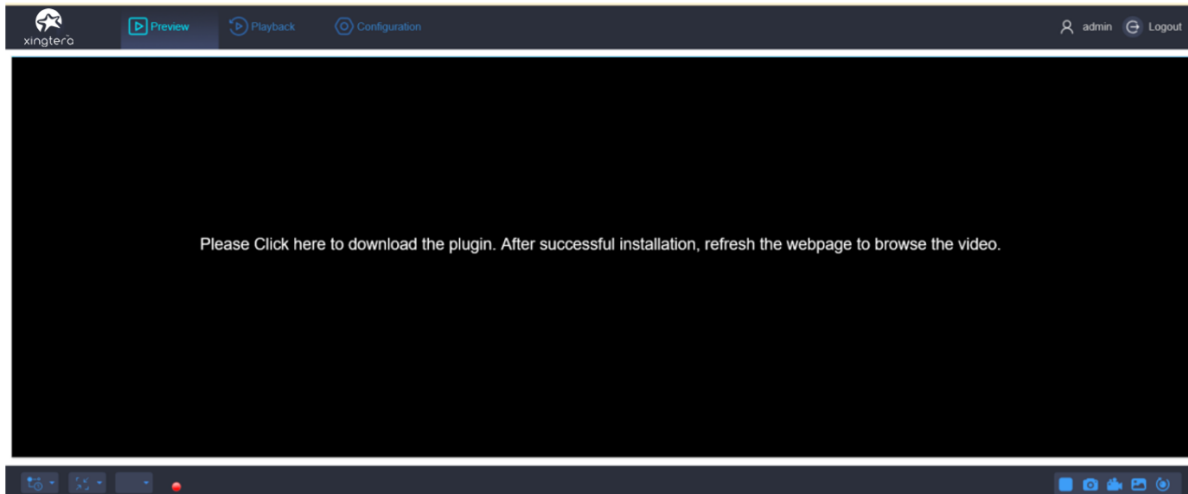
- Open IE browser (IE 8.0 or above) and enter the IP address of IPC.
- Enter ID and password to login.

Notice:

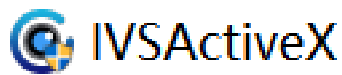
- Initial account of standard version: admin; Password: admin.



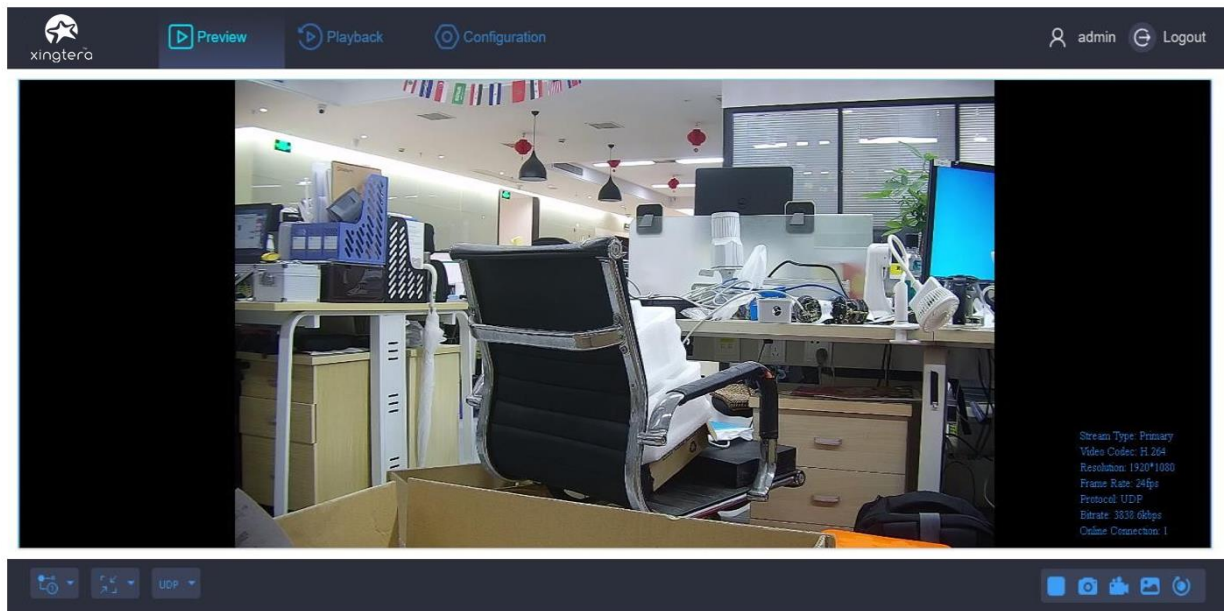
- The user needs to install the video plug-in when the user login to IE for the first time. Click and download the video player plug-in.



- After finish downloading, install the video plug-in.



- After finish installing the video plug-in, refresh the IE. Users can check real-time video monitoring on IE and user can operate different functions of IPC on this web interface.



Chapter 4 Main Function

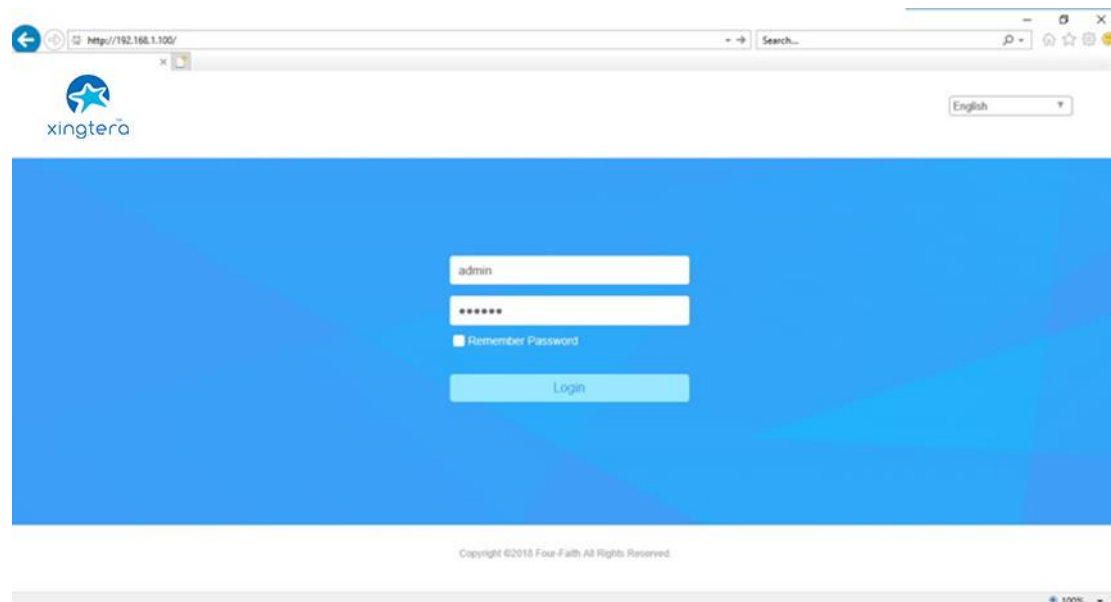
4.1 Local Web Management Portal

We recommend using Windows Internet Explorer to get the best user experience. You may require installing some plug-ins before you use the web portal.

4.1.1 Login

The default login credential is printed on a tag on your camera. The login IP address is 192.168.1.100, username is admin, and password is admin unless you have changed them before.

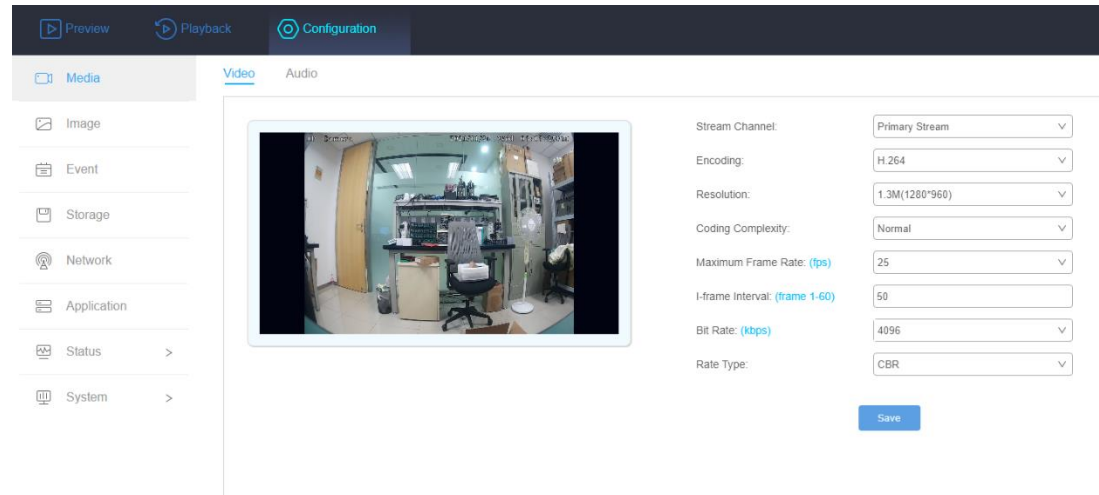
Type in the address and user info, click login to enter the management portal.



4.1.2 Configuration

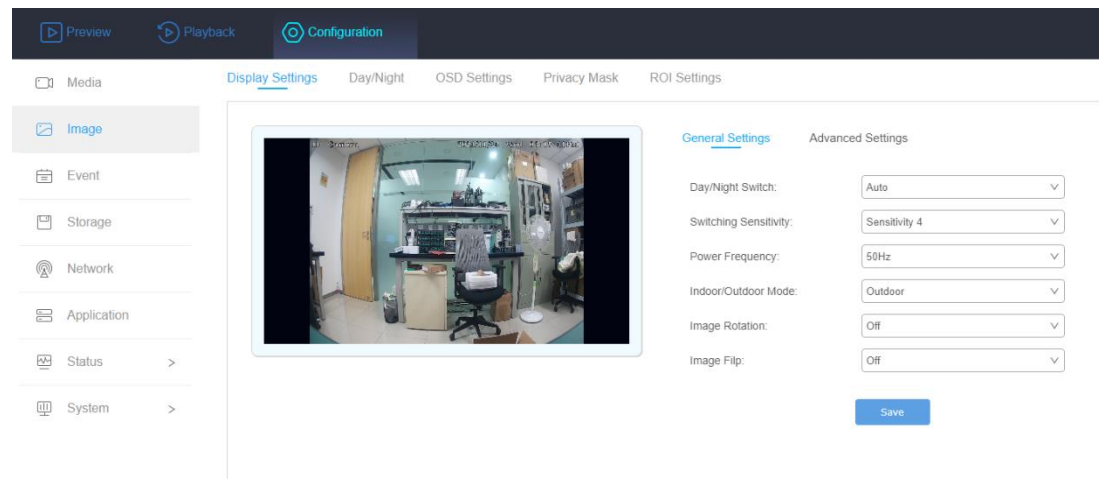
Click the 'Configuration' tab on the top menu, user can manage the IPC from the following page.

The side menu has list out all the items that user can configure. User can do detail configuration on the right side of the side menu after clicking the related item.



4.1.3 Display Setting

Support web video image adjustment, including Basic Settings, Day & Night Switch, OSD, Private Mask, ROI, etc.



4.1.4 Video Setting

Support video configuration, including Stream Type, Video Format, Resolution, Quality, Time, Bit Rate, CBR/VBR Type, etc.

Video

Audio



Stream Channel:

Primary Stream

Encoding:

H.264

Resolution:

1.3M(1280*960)

Coding Complexity:

Normal

Maximum Frame Rate: (fps)

20

I-frame Interval: (frame 1-60)

50

Bit Rate: (kbps)

2048

Rate Type:

CBR

Save

4.1.5 Real-time Video

Real-time video is supported in IPC web interface and user can control the IPC remotely at the same time.

Processes:

1. Login the IPC web interface.



English

admin

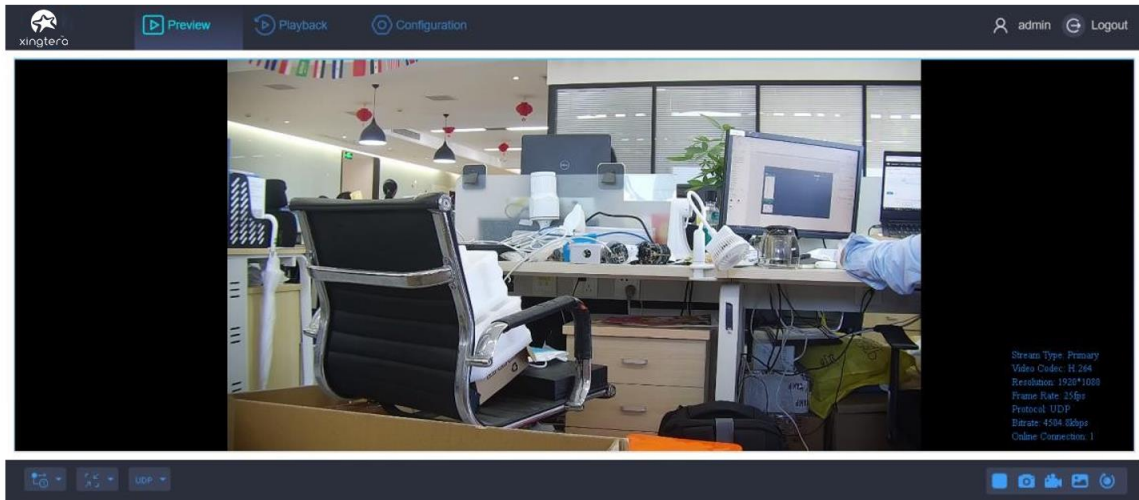
Password

☒ Remember Password

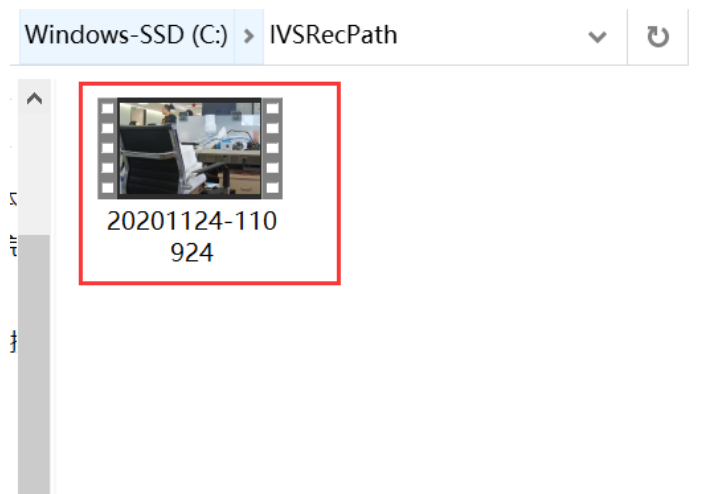
Login

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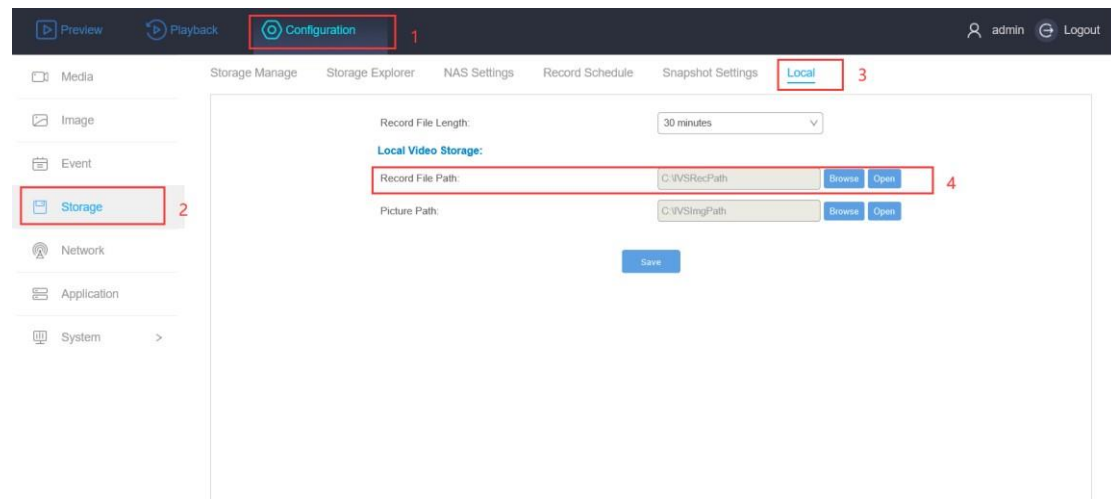
2. Click preview option on the top of the menu. At the lower right corner, user can remote control IPC such as play/stop live video, snapshots, video recording. Some cameras can support lens zoom, focus and other features.



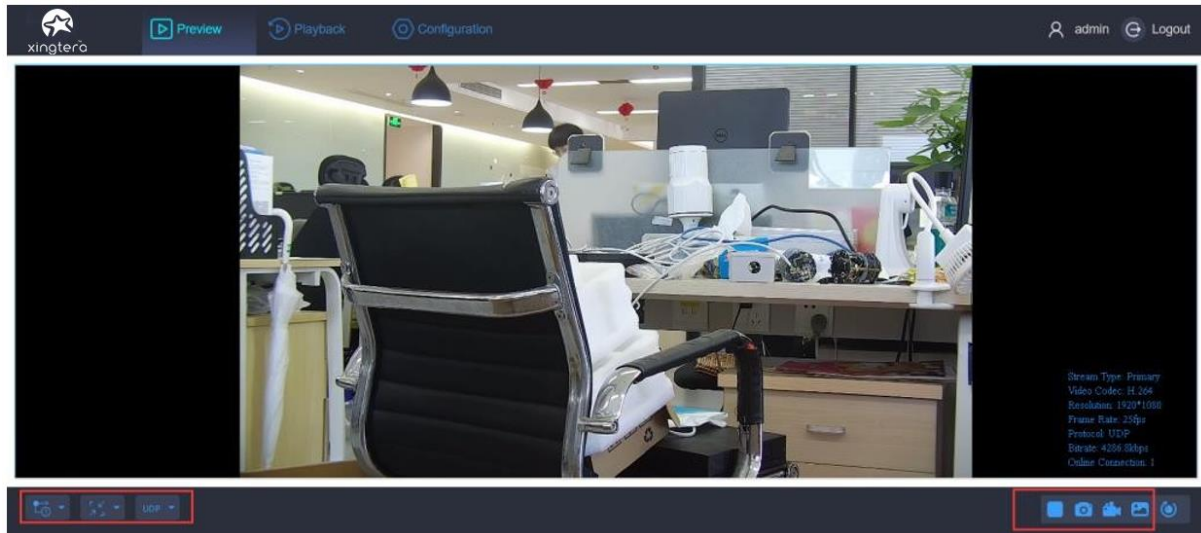
3. On the video preview interface, the recording videos and snapshot are stored on the local disk. After finish record the video or snapshot, the system will automatically pop up the local disk window of the recording video/snapshot so that users can view it at the same time.



4. User can setting the record video storage path on the IPC web interface.

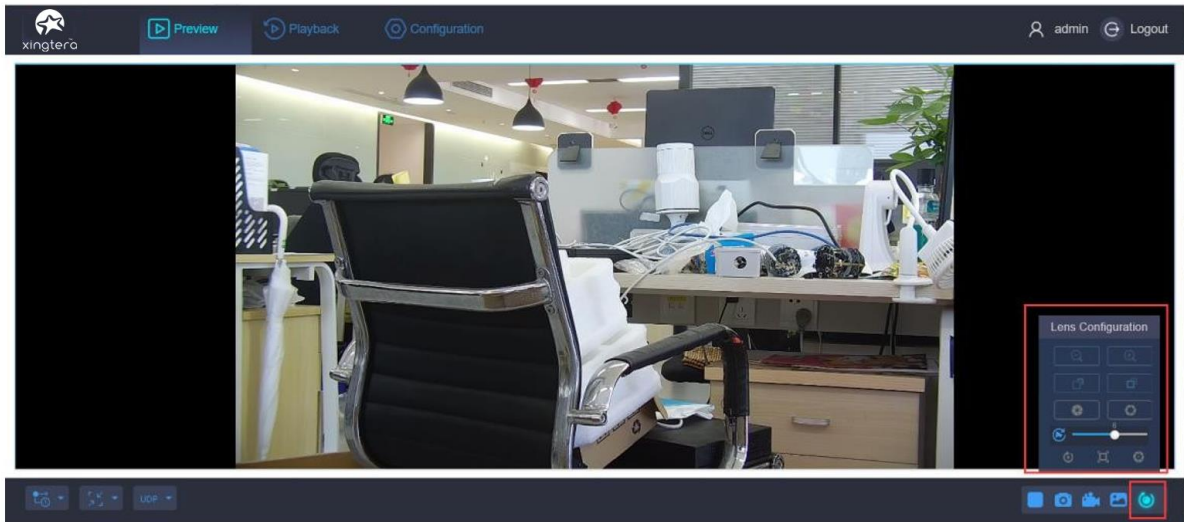


Buttons of image setting:



Button	Description
	Primary stream
	Secondary stream
	Window size
	Real size
	Full screen size
	Protocol setting
	Play
	Stop
	Snapshot
	Brightness
	Contrast
	Sharpness
	Noise reduction level
	Default
	Video recording
	Saturation

Buttons of IPC remote control:



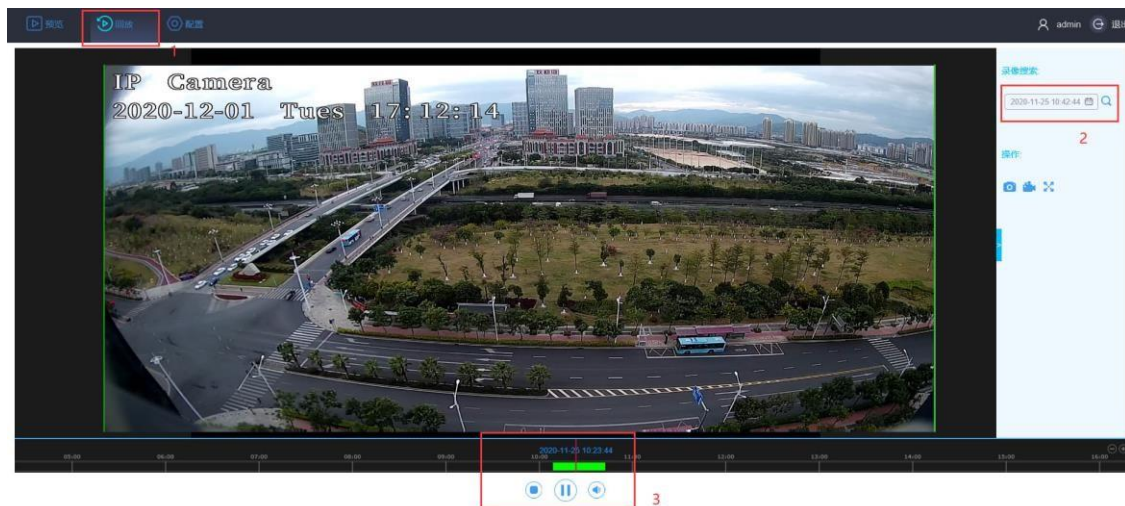
Button	Description
	Len configuration
	Zoom in
	Zoom out
	Focus increase
	Focus reduce
	Iris increase
	Iris reduce
	Focus speed
	Lens initialization
	Auxiliary focus
	Auto iris

4.1.6 Video Playback

The IPC web interface supports video playback function. User can use the IPC web interface to play the recorded video from the IPC storage directly. You may require to install plug-ins before you use this function.

Processes:

1. Click the playback on the top of menu.
2. Select the date and time on the right side.
3. Click the play button to playback the video.

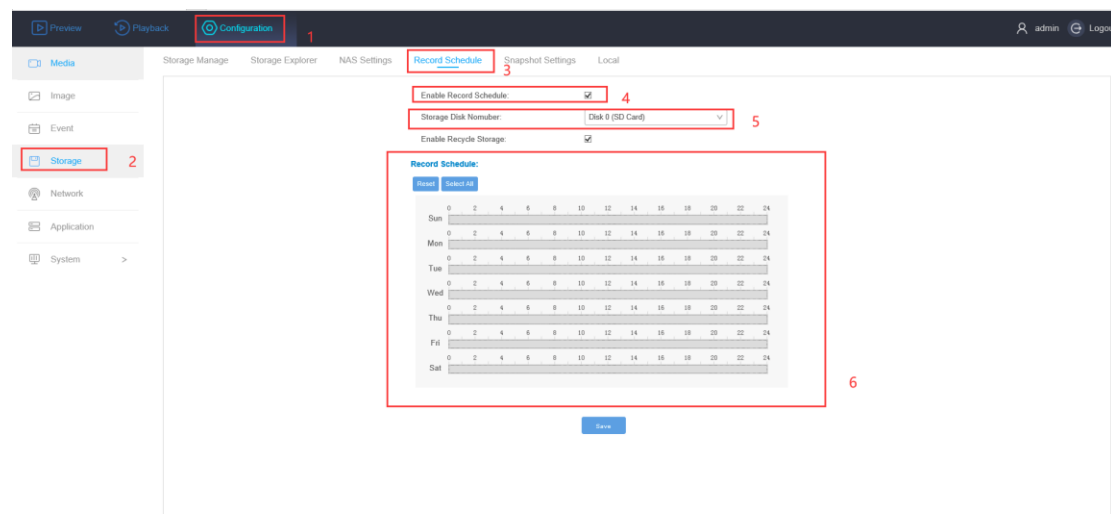


4.1.7 Video Record Schedule

User can set the recording schedule so that the IP camera can record automatically at regular intervals.

Processes:

1. Click the configuration on the top of menu.
2. Select the storage option on the left side.
3. Choose record schedule on the top.
4. Enable the record schedule.
5. Choose the disk.
6. Select the recording day & time period and save.



4.1.8 Alarm

The product supports various event alarm functions, by setting up some trigger conditions and the related actions to inform user to check and take action.

Motion Detection
>



Alarm Action

Enable: ☐

Sensitivity: Reset

Enable Alarm Record: ☐

Enable Alarm Snapshot: ☐

Storage Disk Number:

Upload Via SMTP: ☐

Select All
Clear All
Save

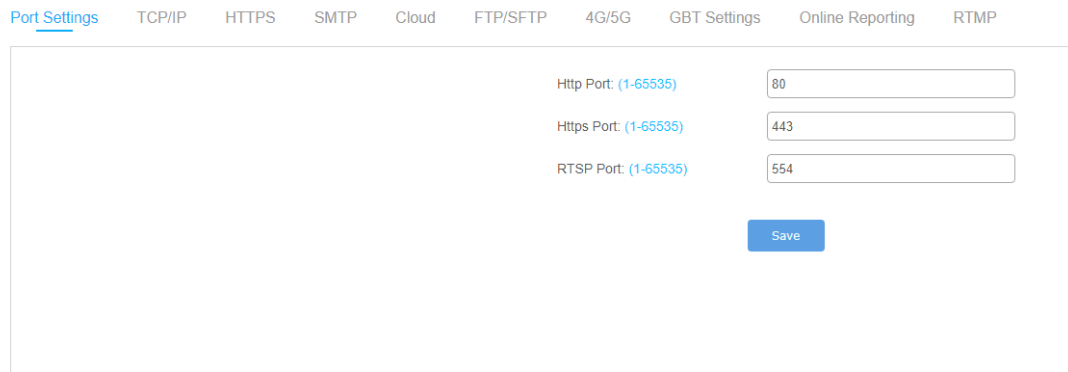
4.1.9 Storage Configuration

The product support storage management, storage configuration, file search, scheduled recording, scheduled image capture, etc.

[illegible]

4.1.10 Network Configuration

The communication port used by the device to transmit data can be configured on the port setting page. The default port numbers used by http/https/rtsp are 80/443/554.



Port Settings TCP/IP HTTPS SMTP Cloud FTP/SFTP 4G/5G GBT Settings Online Reporting RTMP

Http Port: (1-65535) 80

Https Port: (1-65535) 443

RTSP Port: (1-65535) 554

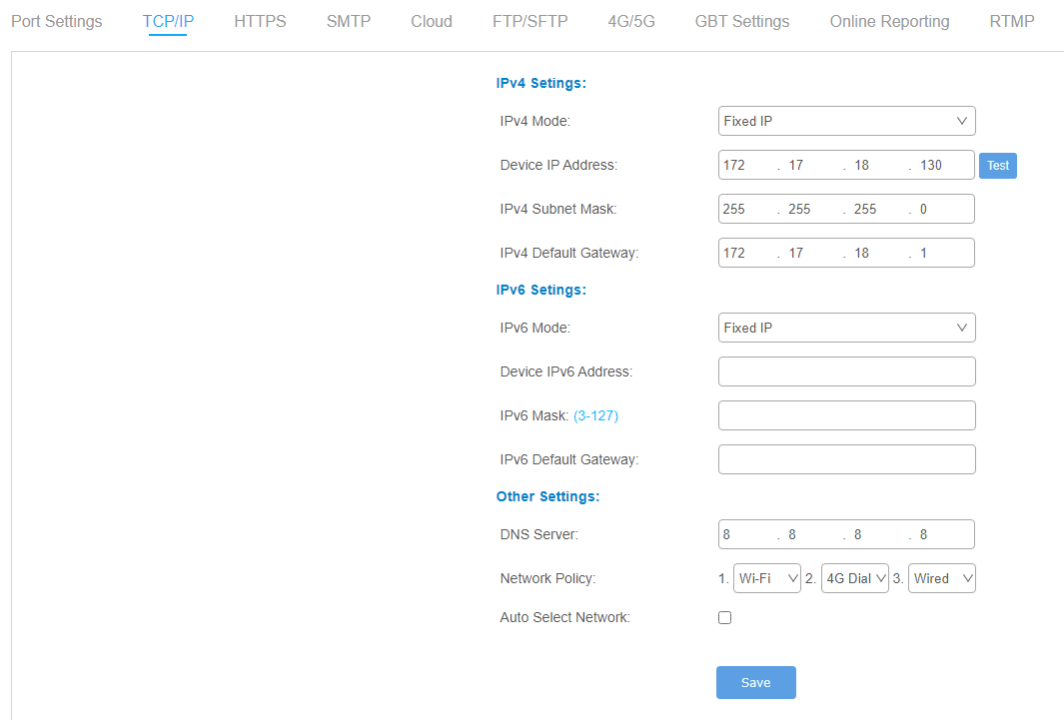
Save

If you want to use RTSP to connect, please try to fill in the target address in the following format,

rtsp://user:pass@192.168.1.100:554/main

(user:pass needs to be replaced with the username and password of the system. Default admin:admin)

The IPC device supports two types of IP address configuration methods: fixed IP, or DHCP Client. The configuration interface is shown in the figure below.



Port Settings TCP/IP HTTPS SMTP Cloud FTP/SFTP 4G/5G GBT Settings Online Reporting RTMP

IPv4 Settings:

IPv4 Mode: Fixed IP

Device IP Address: 172 . 17 . 18 . 130 Test

IPv4 Subnet Mask: 255 . 255 . 255 . 0

IPv4 Default Gateway: 172 . 17 . 18 . 1

IPv6 Settings:

IPv6 Mode: Fixed IP

Device IPv6 Address:

IPv6 Mask: (3-127)

IPv6 Default Gateway:

Other Settings:

DNS Server: 8 . 8 . 8 . 8

Network Policy: 1. Wi-Fi 2. 4G Dial 3. Wired

Auto Select Network: ☐

Save

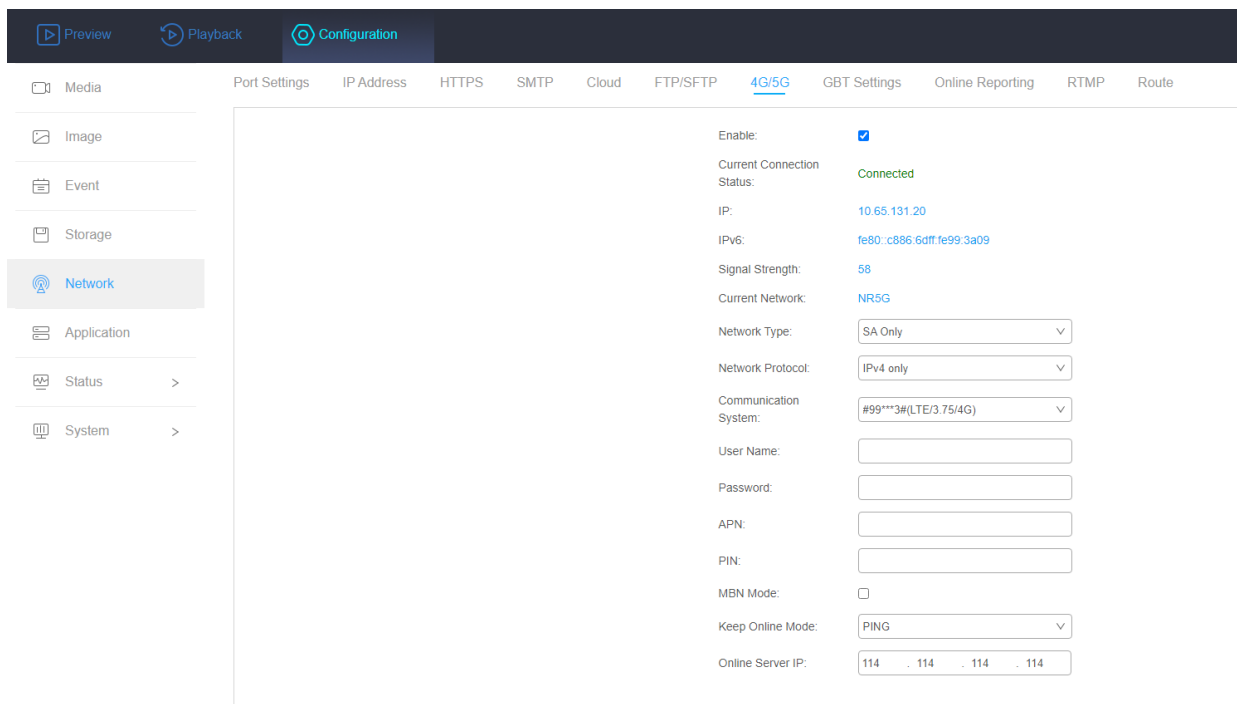
4.1.11 4G/5G Configuration

1. Insert the SIM card to the IPC. Click the 'Network' option on the left side of the IPC Web interface and choose 4G/5G on the top of the menu. Enable the 4G/5G

Notice:

1. Make sure the network state is connected, has an IP address and the signal value is above 15.

2. The network state is at least 4G or LTE.



4.1.12 Cloud Platform Configuration

1. Click the 'Cloud' on the top of the menu, enable it and save. Check the status and copy the device registration ID. (The cloud server address and server port may change by the customer's local server and local port)

Notice: This Cloud Platform Configuration is just for Xingtera private cloud platform.

4.1.13 SMTP

[Port Settings](#) [TCP/IP](#) [HTTPS](#) [SMTP](#) [Cloud](#)

Sender Settings:

Sender Email Address:

SMTP Server:

SMTP Port:

Encryption: ▼

Server Authentication:

User Name:

Password:

Recipients Address:

Recipient Email Address1:

Recipient Email Address2:

Recipient Email Address3:

Save

Test

4.1.14 RTMP Configuration

1. Setup RTMP client related parameters, include IP Address / Port / Stream Name / Stream Path. Click Enable and then save configuration.
2. The current connection status of RTMP can be displayed on the current page.

[FTP/SFTP](#)
[4G/5G](#)
[GBT Settings](#)
[Online Reporting](#)
[RTMP](#)
[Route](#)

Enable:

☐

Current Connection Status:

Disconnect

IP Address:

Port: (1-65535)

Stream Path:

Stream Name:

Configuration Prompt:

rtmp://IP Address:Port/Stream Path/Stream Name

Save

4.1.15 Device Upgrade

3. Remote Upgrade: Upload the new firmware through the cloud server API, click the upgrade button on the related web page. The cloud server will automatically send the firmware to the IPC to finish the upgrade. After the upgrade, it will return the result to the web server.
4. Local Upgrade: Select the new firmware from the local web portal, the web page will send the firmware to the IPC to finish the upgrade. After the upgrade, it will return the result to the page.

System Maintenance

Version Information:

Software Version: 10.1.0.2-r4
Hardware Version: V1.0

System Operation:

Reboot the Device: Reboot
Device Parameter Reset: (Keep the IP Configuration) Reset
Factory Default: Restore

Profile Operation:

Export Config File: Export Config
Import Config File: Select File Upload

Update Operation:

Firmware File: Select File

Reset after Upgrading: ☐

Note: Please do not turn off the power, it will restart automatically after the upgrade is completed.

4.2 Video Stream RTSP Connection

IPC system provides RTSP protocol to streaming video through network. By typing the RTSP address and port, verify the username and password, user will be able to watch the real-time video streaming on web page, VLC or network video players.

If you want to use RTSP to connect, please try to fill in the target address in the following format,

```
rtsp://user:pass@192.168.1.100:554/main
```

(user:pass needs to be replaced with the username and password of the IPC system. Default admin:admin)

It also supports video streaming through cloud server or from APP. Contact your sales for cloud server license.