Hikvision Camera Installation & Operation

Hikvision Entry Learning

First Choice for Security Professionals

Contents

- Hardware Installation Tips
- Connection and Interface of IP Camera
- Basic Network Operation of IP Camera
- Basic Image Operation of IP Camera

Installation Tips

- Install in an open area and avoid objects blocking in front of the camera.

- Choose a proper mounting height according to the real scenario.
- Mounting height recommendation in outdoor: 4M-8M.
- For indoor scenario, the recommended mounting height is 2M～4M.

Installation Tips

- If the camera is with IR or laser, make sure no object blocking such as leaves and walls around the camera which will lead to IR reflection and make the image over-exposure.

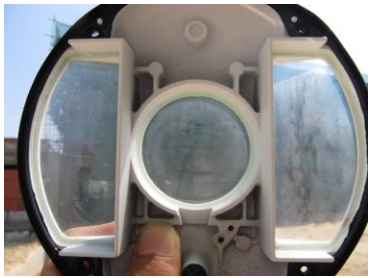
- Make sure the camera is under direct light but not backlighting at night.

Backlighting

Front light

Installation Tips

- High temperature and fog climate will affect the image quality.
- Try to avoid the dusty environment, if it is inevitable, clean the lens periodically or choose the camera with wiper.



Installation Tips

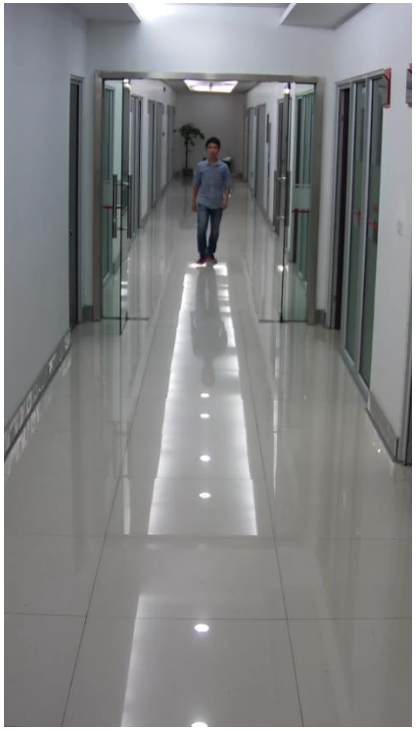
- Too much dust at night will cause dust dispersion which make the image snow.

- Make sure the stability of the installation pole and no shaking otherwise the image will have the shaking problem.

Installation Tips

- Choose the proper low light camera according to the environment.
- Choose the camera with IR or laser supplement in low light condition or add the lighting supplement to increase the light.

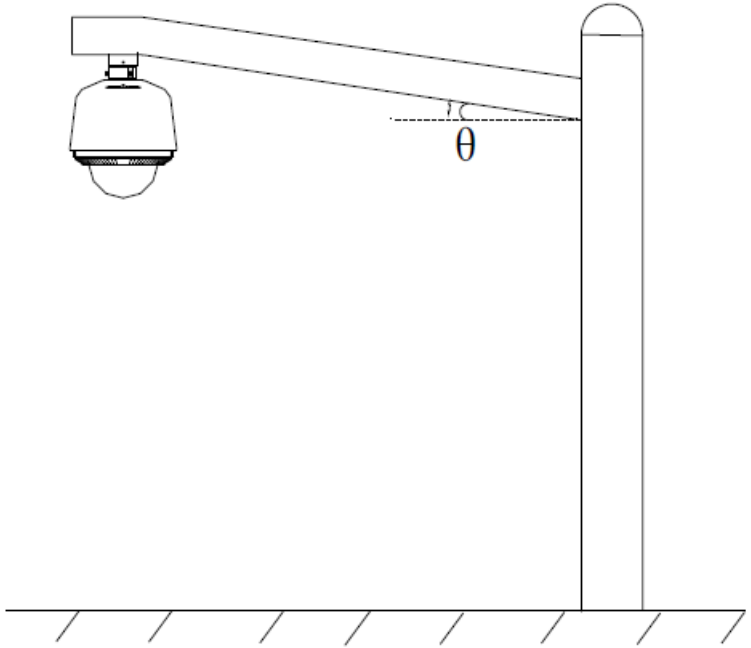
Installation Tips



- Rotate Mode (Installed in Corridor)
- Rotate camera 90° anti-clockwise

Water-proof Preparation

- For installation on L-shaped pole, we recommend a slight upward inclination of the horizontal pole to prevent from rain flowing into the PTZ in case of pole leakage.



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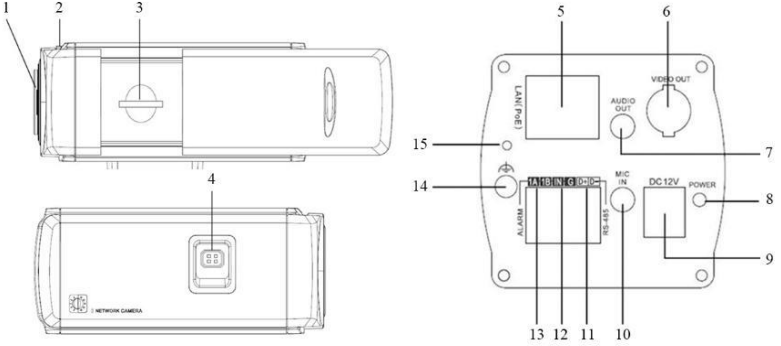
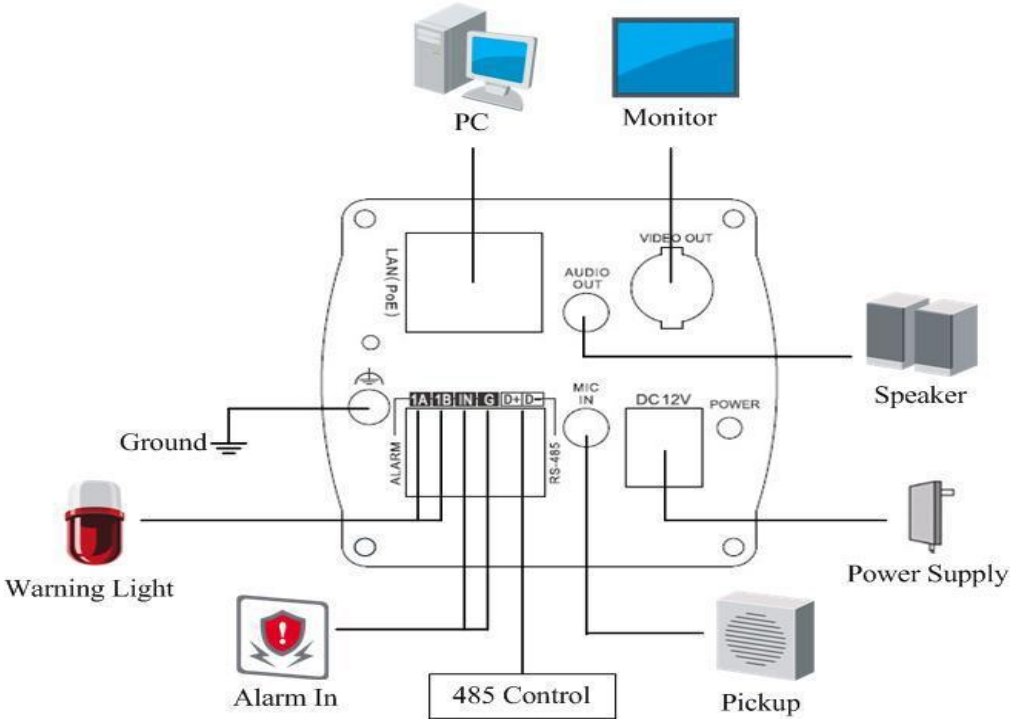
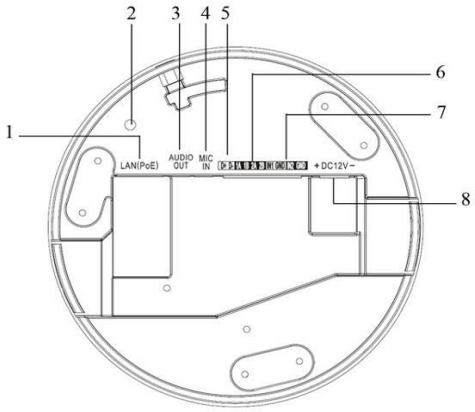
Box Camera

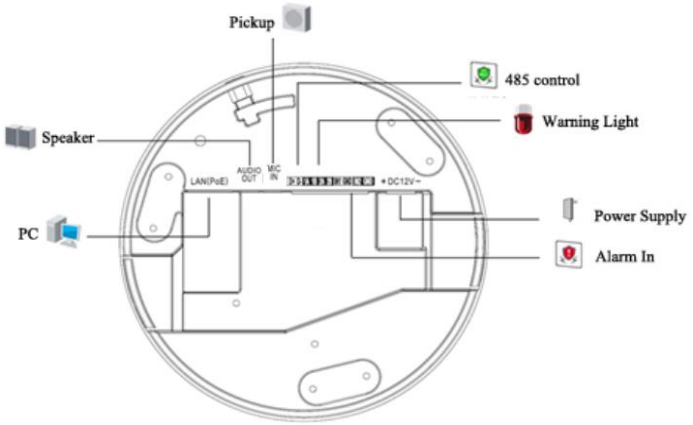
No.	Description
1	Lens mount
2	Back focus ring
3	SD card slot
4	Auto-iris interface
5	10M/100M/1000Mself-adaptive Ethernet interface
6	VIDEO OUT: Video output interface
7	AUDIO OUT: Audio output interface
8	POWER: Power LED indicator
9	Power supply interface
10	MIC IN: Audio input interface
11	D+, D-: RS-485 interface
12	IN, G: Alarm input interface
13	1A, 1B: Alarm output interface
14	Ground
15	RESET: Reset button





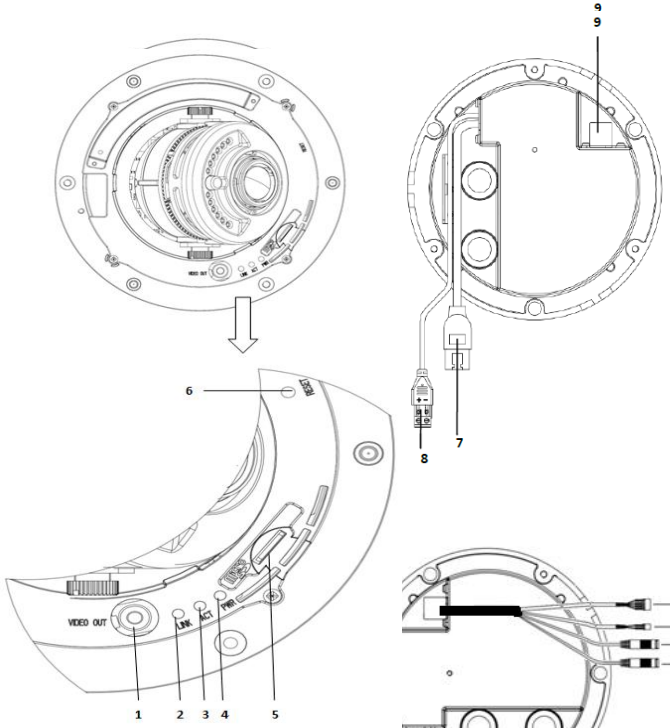
Dome Camera I

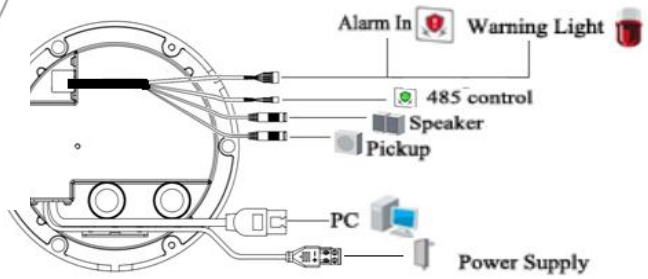




No.	Description
1	10M/ self-adaptive Ethernet interface
2	INITIAL SET: Reset button
3	AUDIO OUT: Audio output interface
4	MIC IN: Audio input interface
5	D+, D-: RS-485 interface
6	1A, 1B, 2A, 2B: Alarm output interface
7	IN1, GND, IN2, GND: Alarm input interface
8	Power supply interface

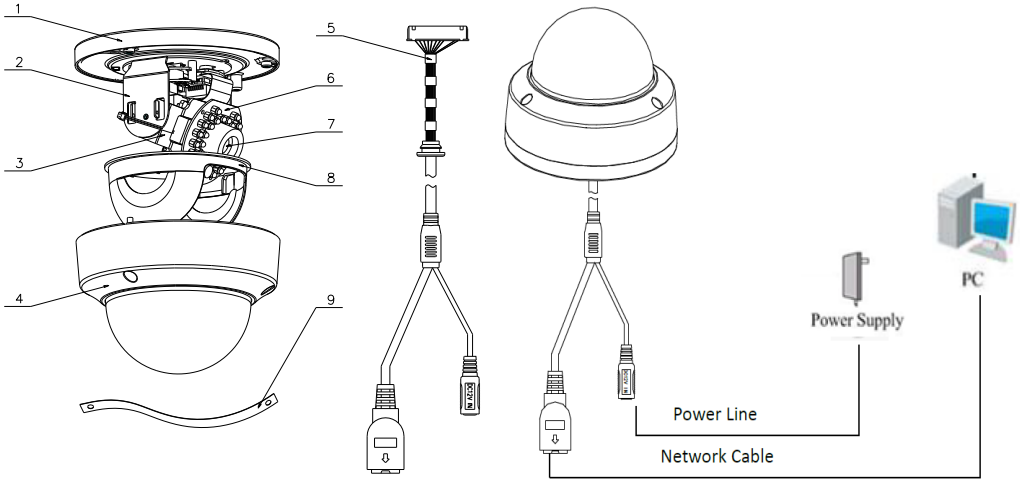
Dome Camera II





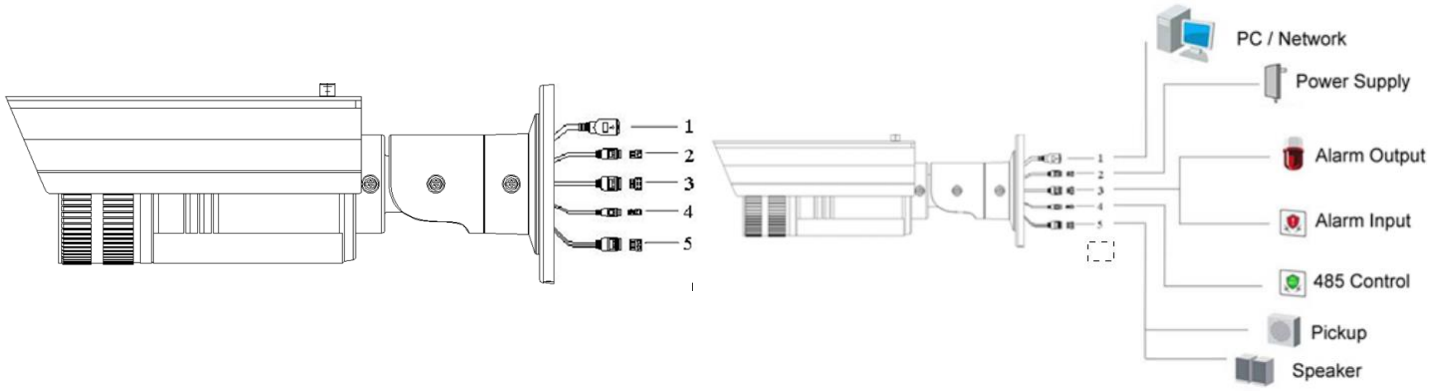
No.	Description
1	Video output interface
2	LINK: Indicator is solid yellow when network is connected.
3	ACT: Indicator flashes blue when network connection is functioning properly.
4	PWR: Indicator is solid red when the device is powered on.
5	Micro SD slot
6	RESET: Reset button
7	10M/ self-adaptive Ethernet interface
8	Power supply interface
9	Extended interface

Dome Camera III



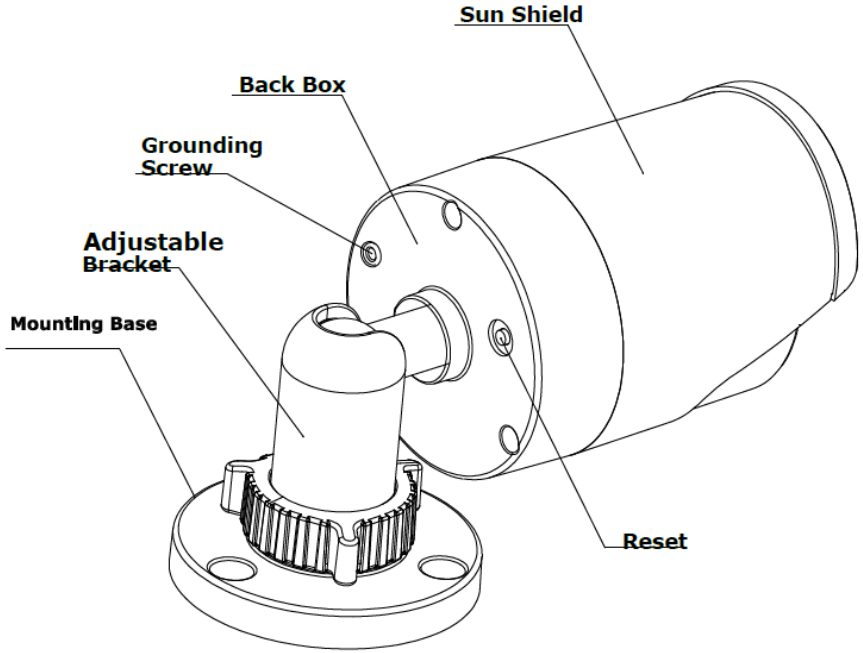
No.	Description
1	Mounting base
2	Horizontal stand
3	Vertical stand
4	Lower dome
5	Cables
6	Plate of infrared lamp
7	Lens
8	Black Liner
9	Safety rope

Bullet Camera I



No.	Description
1	10M/ self-adaptive Ethernet interface
2	Power supply interface
3	IN, G: Alarm input interface 1A, 1B: Alarm output interface
4	D+, D-: RS-485 interface
5	AUDIO IN, G: Audio input interface AUDIO OUT, G: Audio output interface

Bullet Camera II



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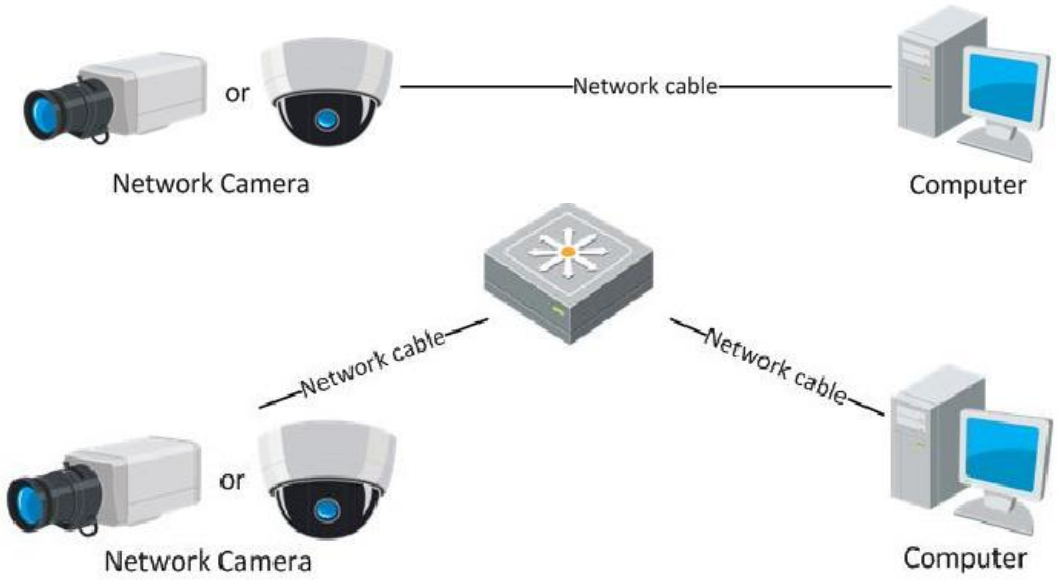
- Basic Image Operation of IP Camera

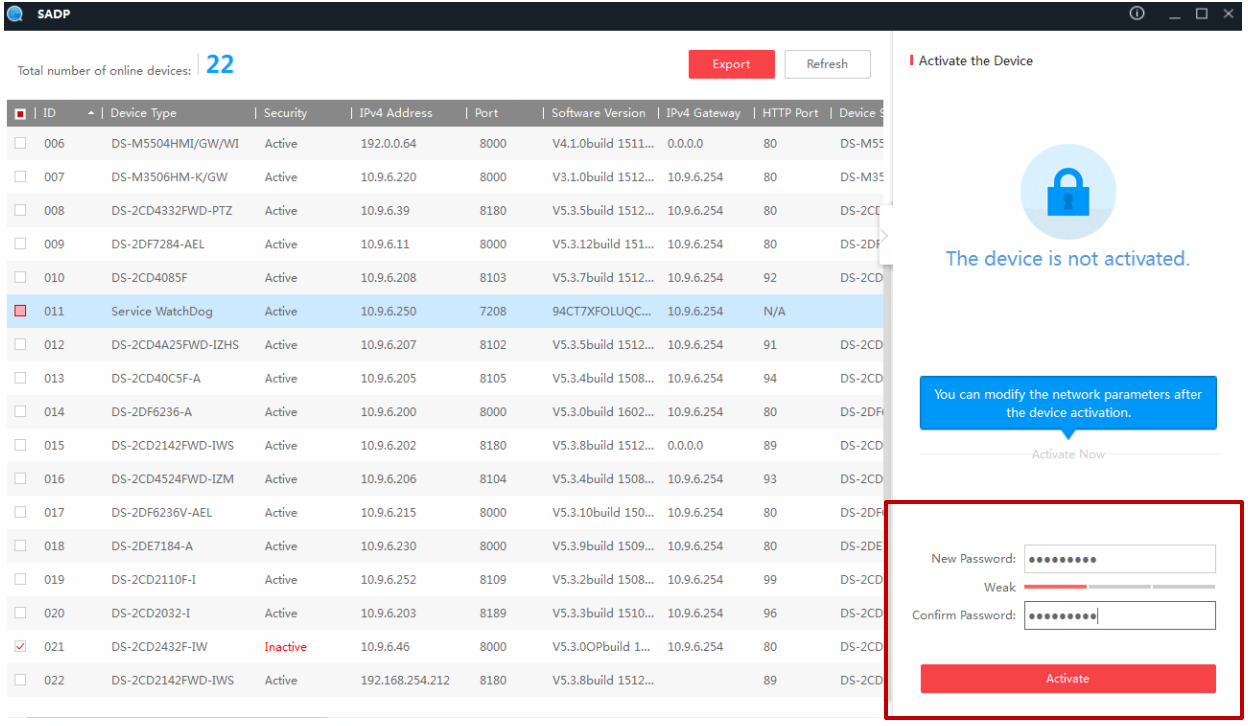
Wiring over the LAN

1. You can directly connect the network camera to the computer with a network cable
2. You can set the network camera over the LAN via a switch or a router



Activate Device by SADP

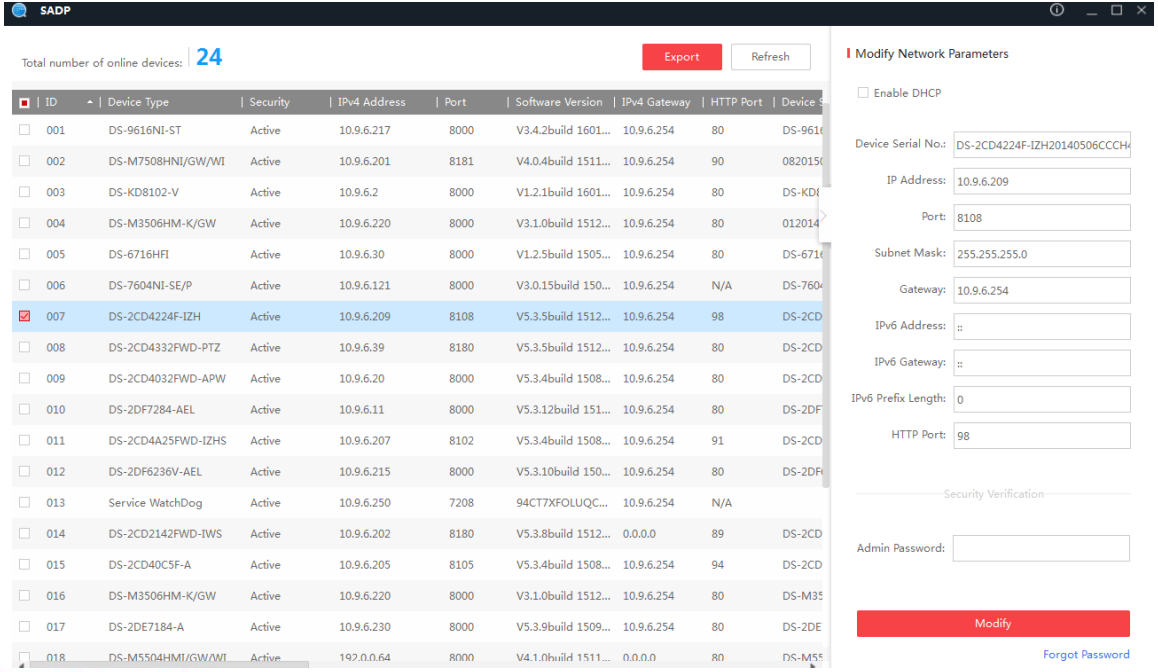
- Activate the devices with the new firmware (SADP V3.0.0.2 or above)



NOTE: *HIKVISION's newly manufactured devices (IPC, PTZ cameras, DVR and NVR) with the latest firmware (IPC and PTZ from V5.3.0 DVR/NVR from V3.3.0) no longer have a default password. When using the device for the first time, users need to activate the device through a compulsory password setting.

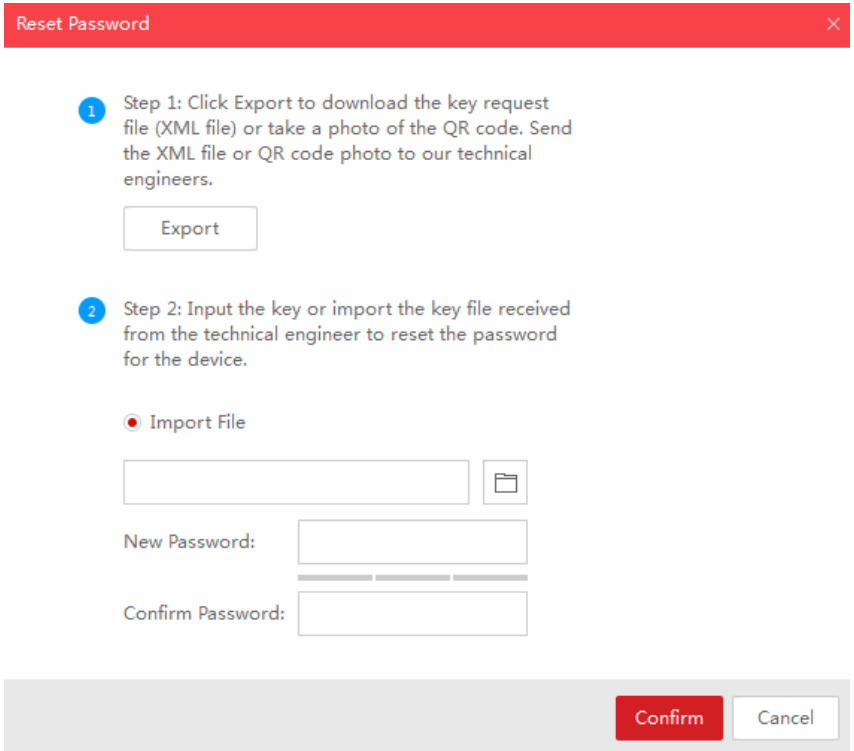
Modify IP Address by SADP

1. Select the device to be modified in the device list.
2. Edit the modifiable network parameters, e.g. IP address and port number.
3. Enter the password of the admin account of the device in the Password field and save the changes.



Forgot Password?

- Select the device which you forget the password in the list and click forget password.
- Export to download the key request file or take a photo of the QR code. Send the XML file or QR code photo to Hikvision technical engineers.
- Input the key or import the key file received from Hikvision and reset the password.

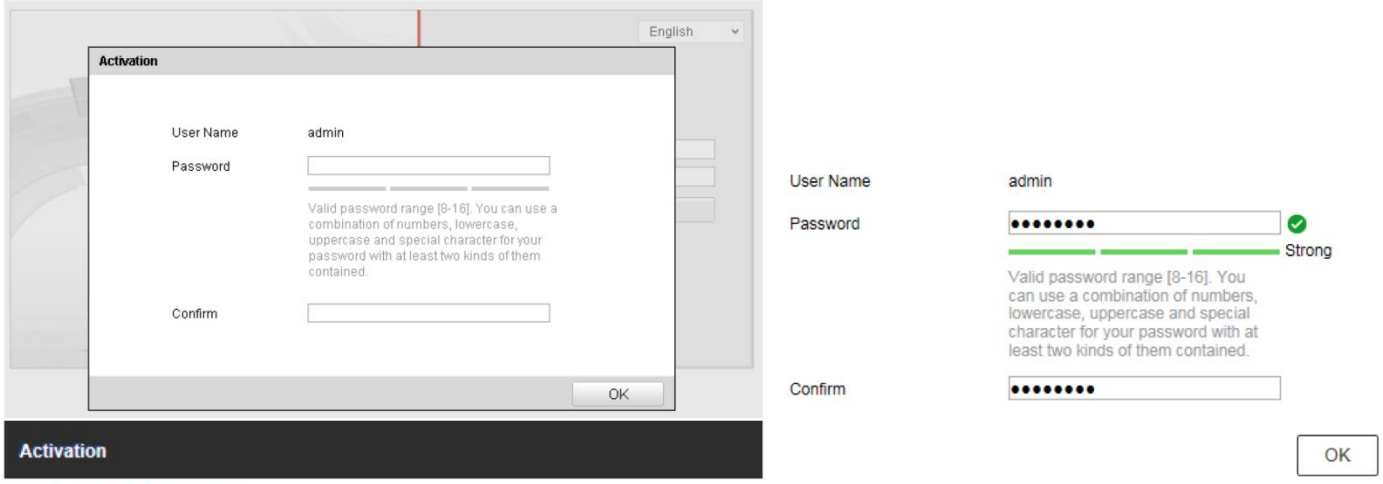


Web Browser Access to IPC

Hikvision Factory Defaults

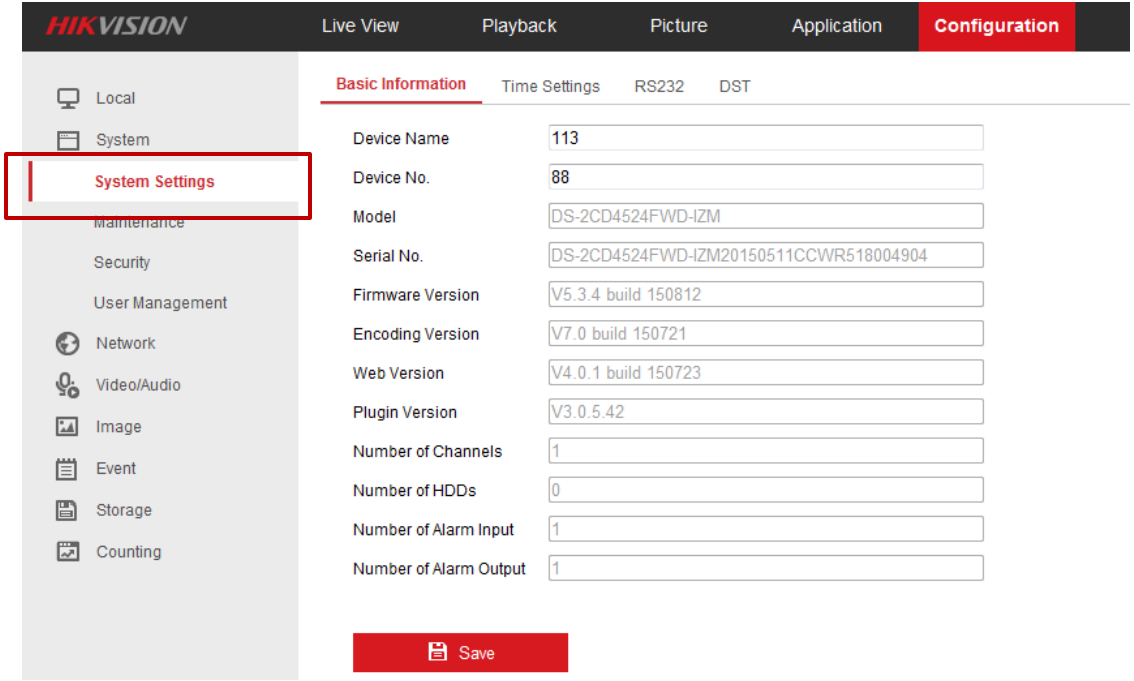
- IP Address – 192.168.1.64
- User Name – admin
- Password – no password (newly-manufactured devices*)

NOTE: *HIKVISION's newly manufactured devices (IPC, PTZ cameras, DVR and NVR) with the latest firmware (IPC and PTZ from V5.3.0 DVR/NVR from V3.3.0) no longer have a default password. When using the device for the first time, users need to activate the device through a compulsory password setting.



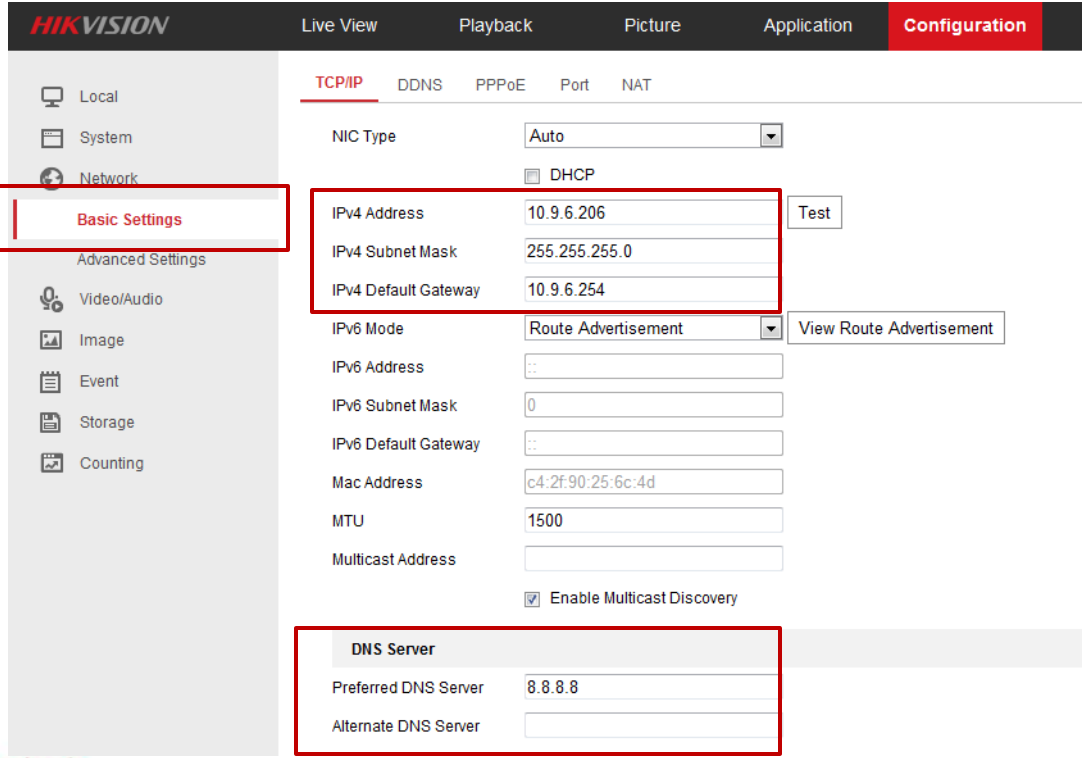
IP Camera Web Menu

- The web menu gives access to all features available on the IP cameras, different models will have some additional options, but the menu structure is the same throughout all cameras.



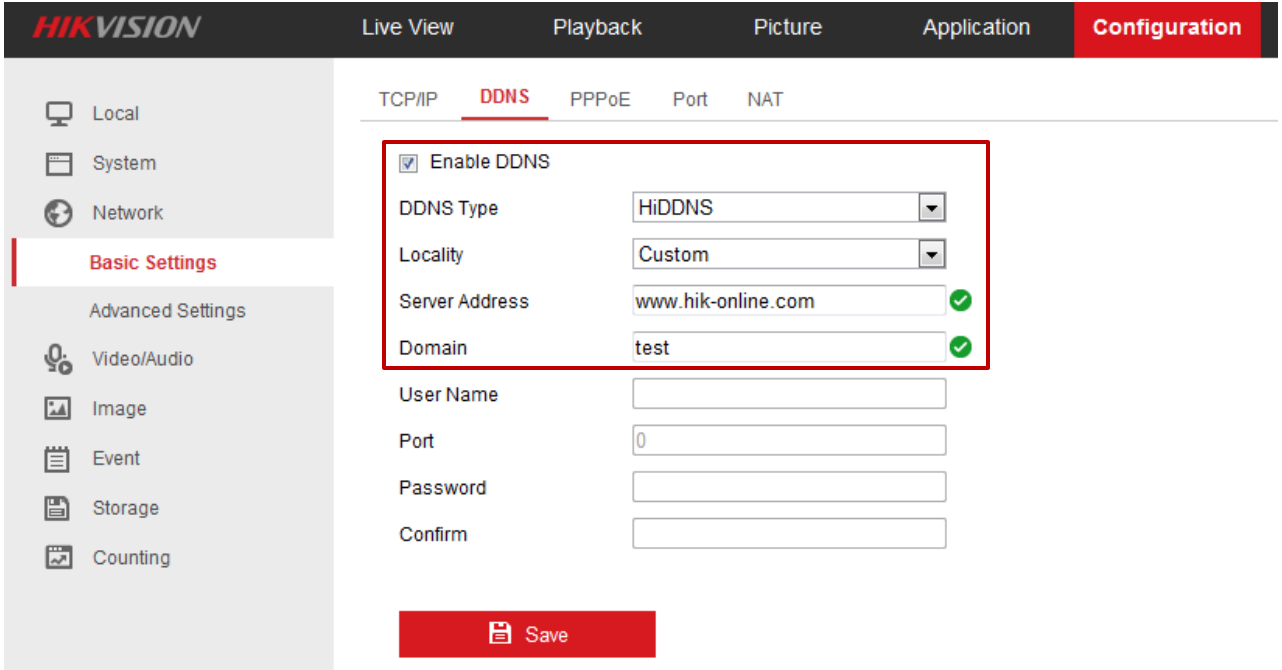
IP Camera Web Menu

- **Configuration > Basic Settings – TCP/IP**
- Fill in the information of IPC network address, DNS required for external routing if not connected locally to NVR.



IP Camera Web Menu

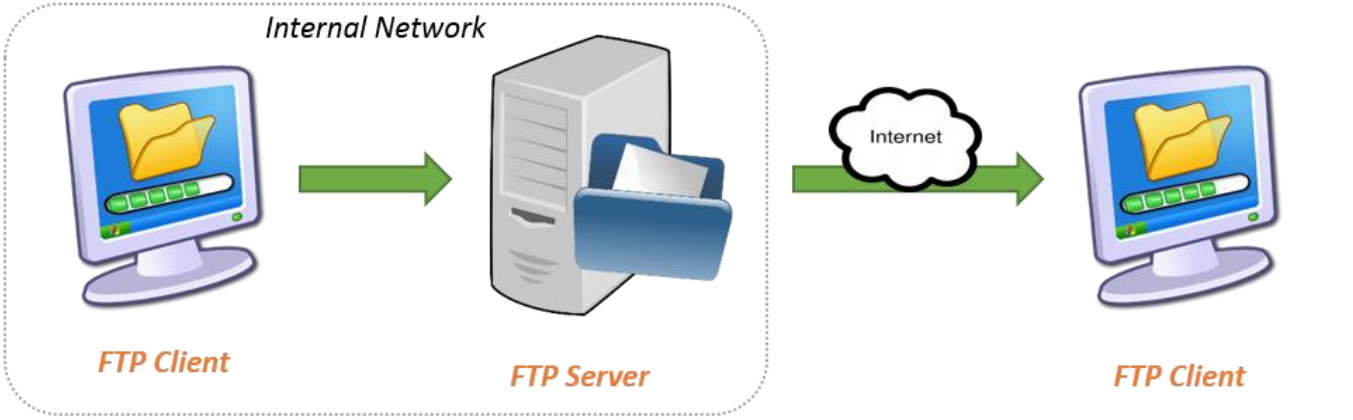
- **Configuration > Basic Settings - DDNS**
- DDNS Access to IPC (if not connected locally to NVR).



- Tick "Enable DDNS" and choose the type of DDNS as "HiDDNS" and fill in domain name beginning with lower case letters.
- **NOTE:** Make the Domain name as unique to an individual system as possible to ensure there are no conflicts with others (e.g. hikvisionmaidenhead1345). Domain name allocation is on first come first served basis.

FTP Function

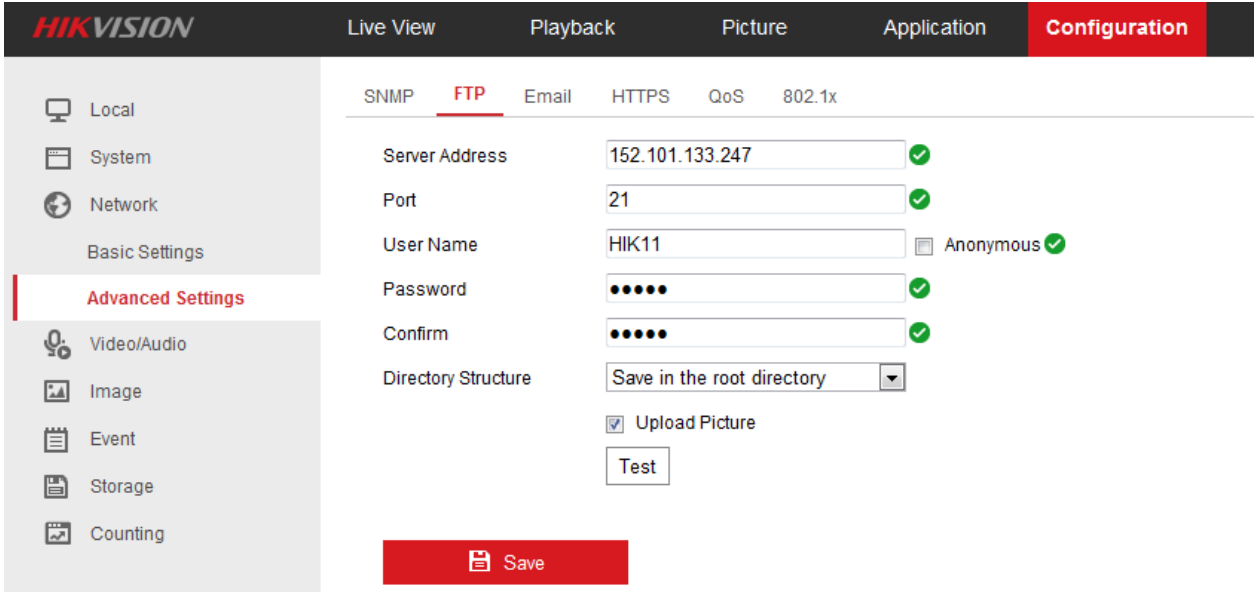
- FTP is a widely used network protocol for transferring files between computers over a TCP/IP-based network, such as the Internet. FTP lets people and applications exchange and share data within their offices and across the Internet.

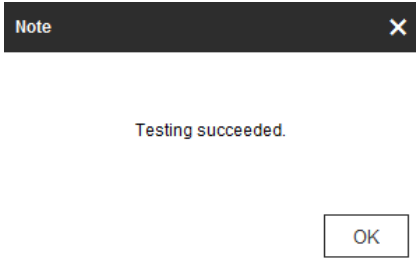


FTP Setting

- You can configure the FTP server related information to enable the uploading of the captured pictures to the FTP server. The captured pictures can be triggered by events or a timing snapshot task.

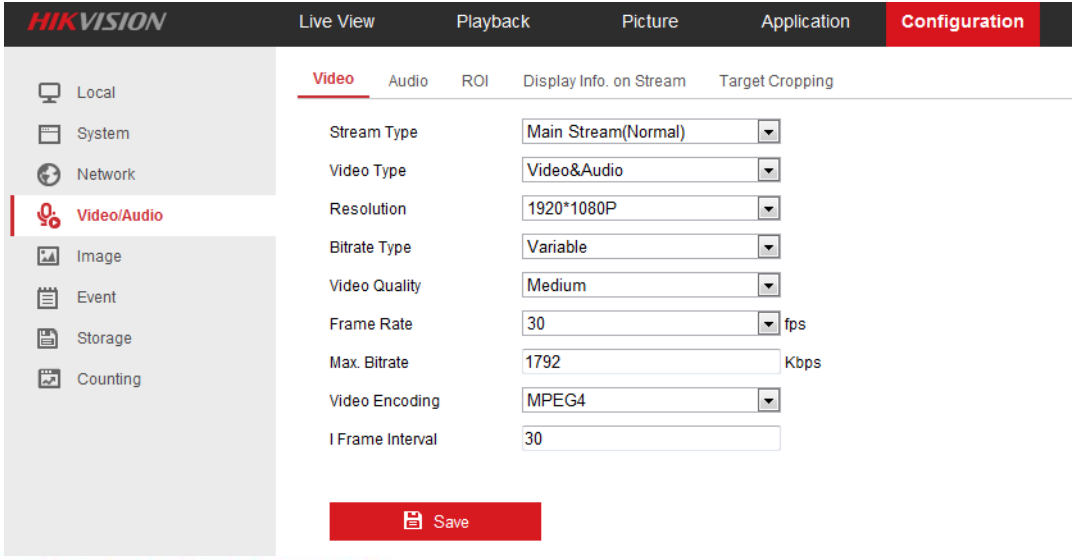
1. **Configuration >Advanced Settings > FTP**
2. Configure the FTP settings; and the user name and password are required for login the FTP server.





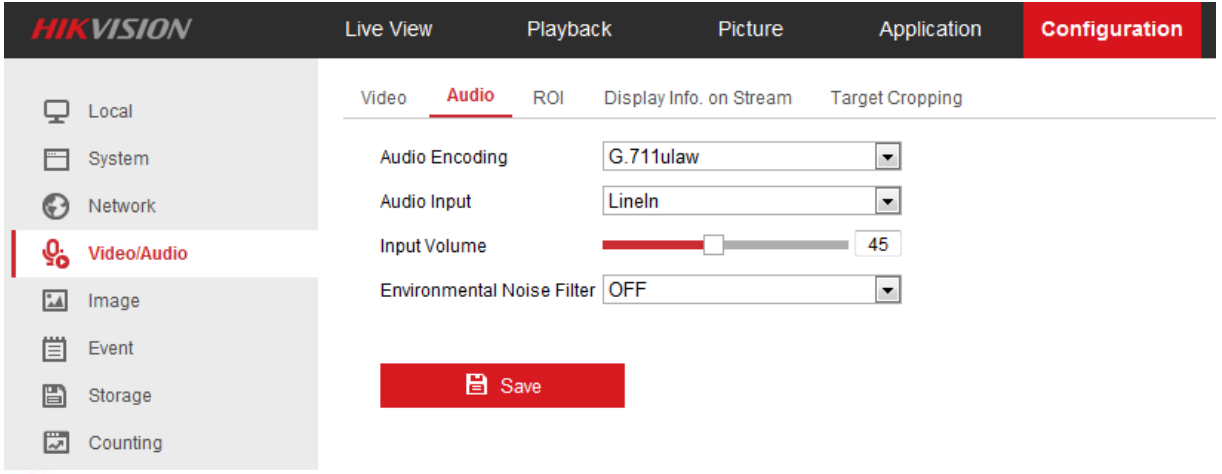
Video Setting

1. **Configuration > Video / Audio > Video**
2. Select the **Stream Type** of the camera to main stream (normal) or sub-stream. The main stream is usually for recording and live viewing with good bandwidth, and the sub-stream can be used for live viewing when the bandwidth is limited. The third stream with high, low, or dynamic resolution offers more flexible choices.
3. You can customize the parameters for the selected main stream or sub-stream. Suggest keeping defaults.



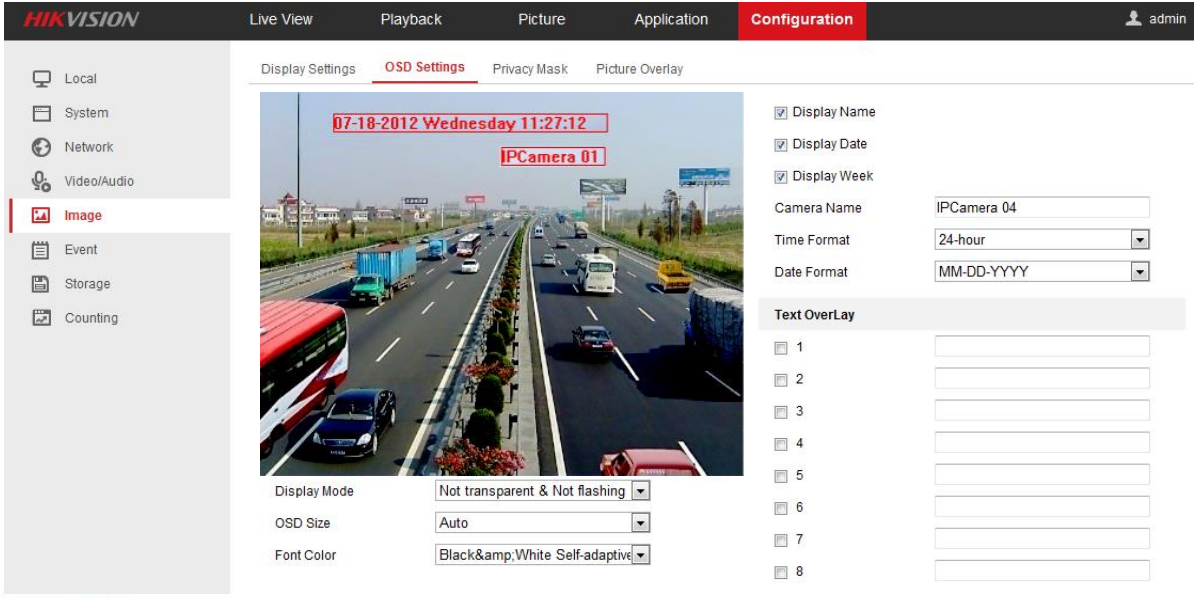
Audio Setting

- **Configuration > Video / Audio > Audio**
- Configure the following settings.
  - **Audio Encoding:** G.722.1, G.711 ulaw, G.711alaw, MP2L2, G.726 and PCM are selectable.
  - **Audio Input:** MicIn and Linein are selectable for the connected microphone and pickup respectively. Suggest keeping the default setting
  - **Input Volume**: 0-100
  - **Environmental Noise Filter**: Set it as OFF or ON. When the function is enabled, the noise in the environment can be filtered to some extent.



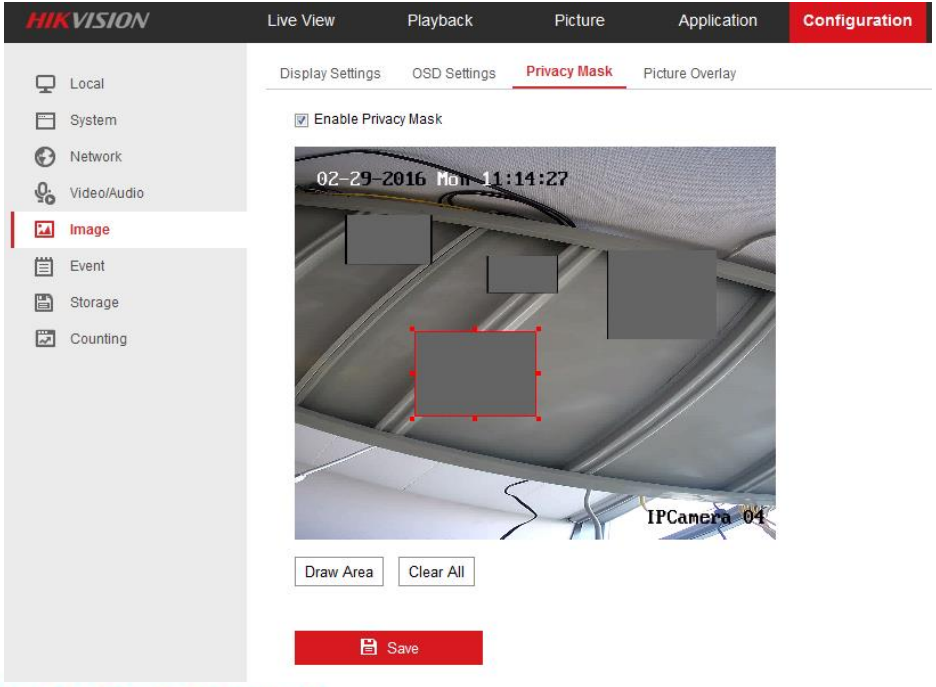
OSD Setting

1. **Configuration > Image > OSD Settings**
2. Check the corresponding checkbox to select the display of camera name, date or week if required.
3. Edit the camera name in the text field of **Camera Name**.
4. Select from the drop-down list to set the time format, date format, display mode and the OSD font size.
5. You can use the mouse to click and drag the text frame in the live view window to adjust the OSD position.



Privacy Mask

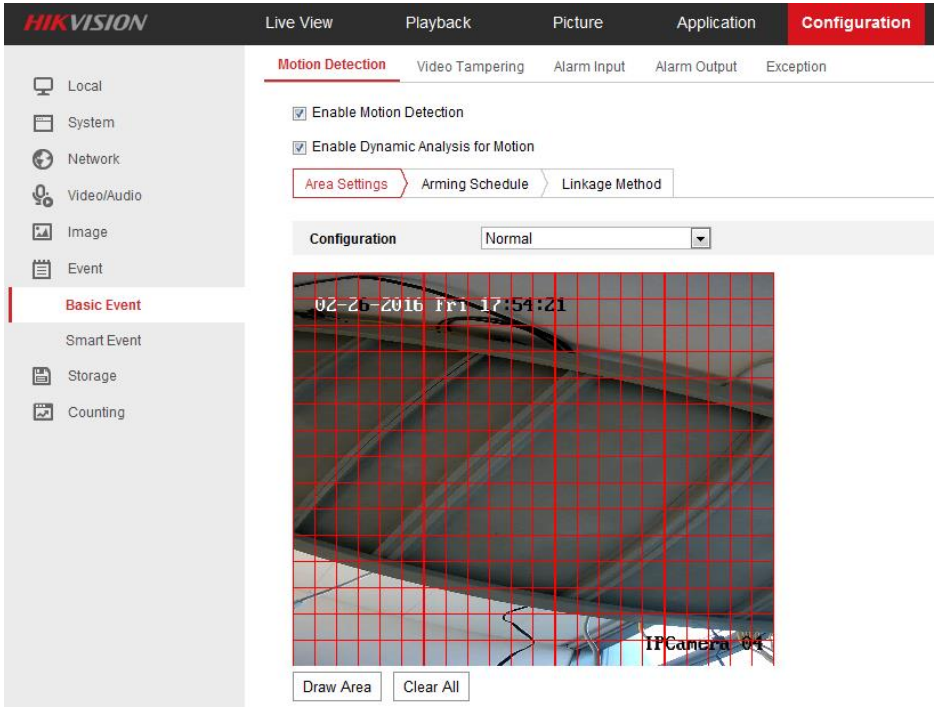
1. **Configuration> Image > Privacy Mask**
2. Check the checkbox of **Enable Privacy Mask** to enable this function.
3. Click and drag the mouse in the live video window to draw the mask area.



- ✓ Privacy mask enables you to cover certain areas on the live video to prevent certain spots in the surveillance area from being live viewed and recorded.
- ✓ You are allowed to draw up to **4** areas on the same image.

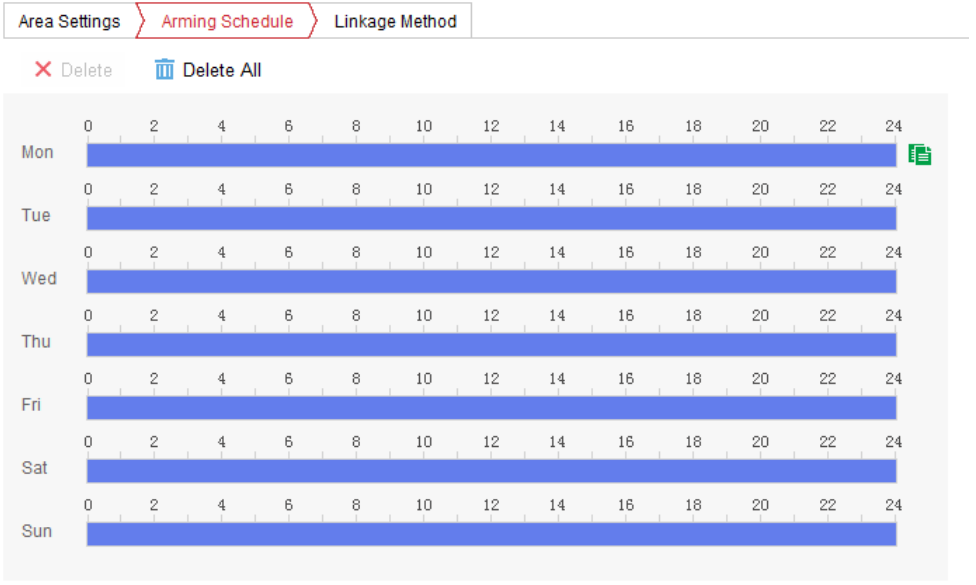
Motion Detection I

1. Set the Motion Detection Area.
   - **a) Configuration> Events > Motion Detection**
   - b) Check the checkbox of Enable Motion Detection.
   - c) Click and drag the mouse on the live video image to draw a motion detection area.
   - d) Set the sensitivity of the detection.



Motion Detection II

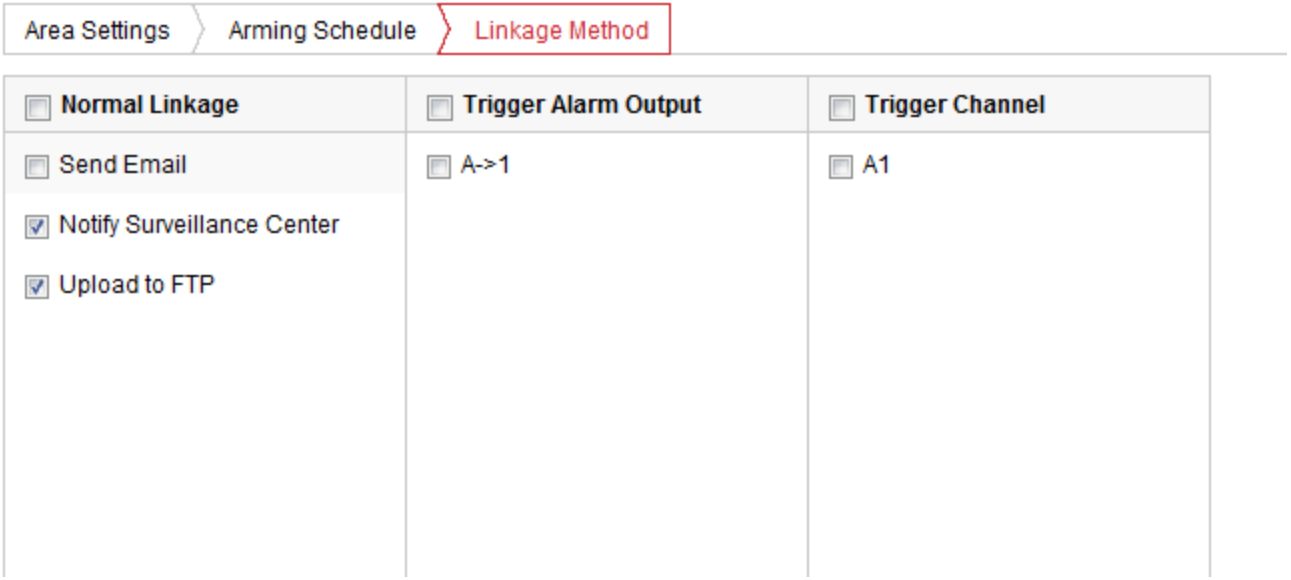
2. Set the Arming Schedule for Motion Detection.
   a) Edit the arming schedule.
   b) Choose the day you want to set the arming schedule.
   c) Set the time period for the arming schedule.
   d) After you set the arming schedule, you can copy the schedule to other days (Optional).
   e) Save the settings.



Motion Detection III

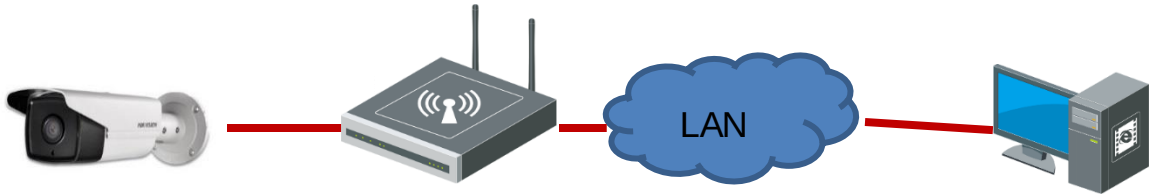
3. Set the Alarm Actions for Motion Detection.

Check the checkbox to select the linkage method. Notify surveillance center, send email, upload to FTP, trigger channel and trigger alarm output are selectable (Optional).



Firmware Upgrading

- First make sure new firmware is suitable for your IP camera.
- If the firmware you get is zip file, please first decompress it.
- Login the device through IE browser, go to Configuration-maintenance-Upgrade & Maintenance, choose upgrade, then select and upload new firmware.
- Please wait and do not do any other operations during upgrading.
- Device will reboot automatically when finishing upgrading.



Note: It takes 1-10 minutes to finish upgrading, do not cut power during the process.

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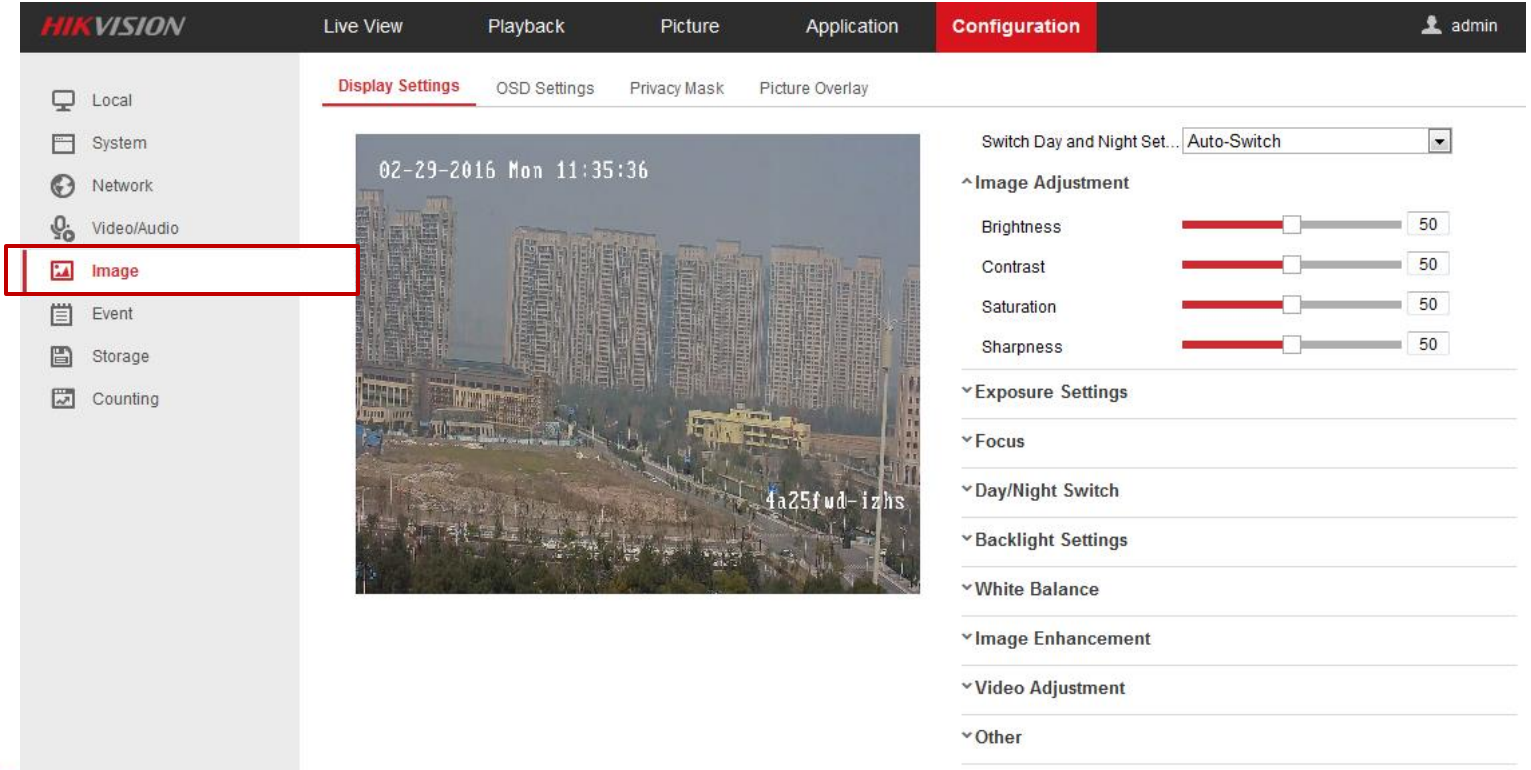
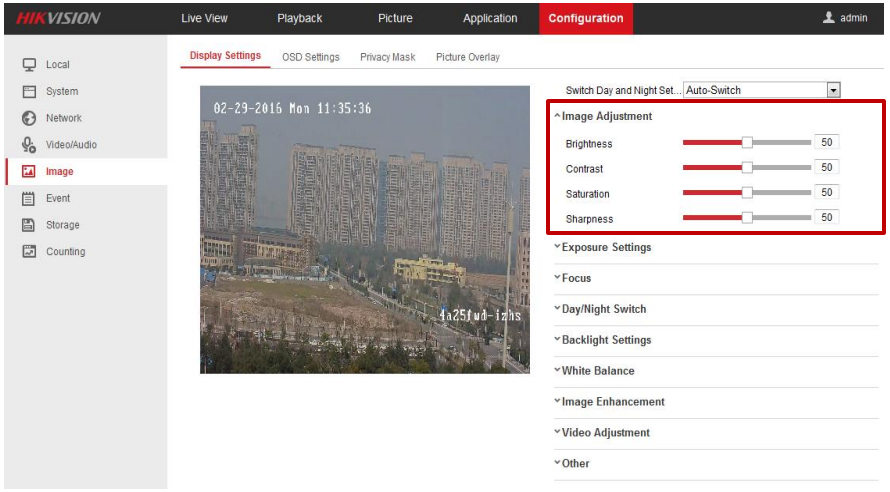
IP Camera Image Setup Menu

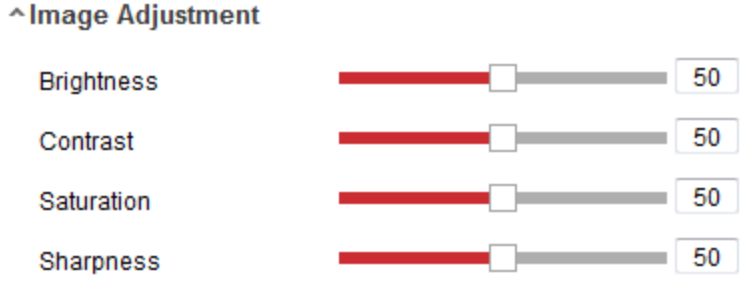
- Default image parameters can be available in common scenarios, for some special environment you may do a little adjustment.



IPC Image Options

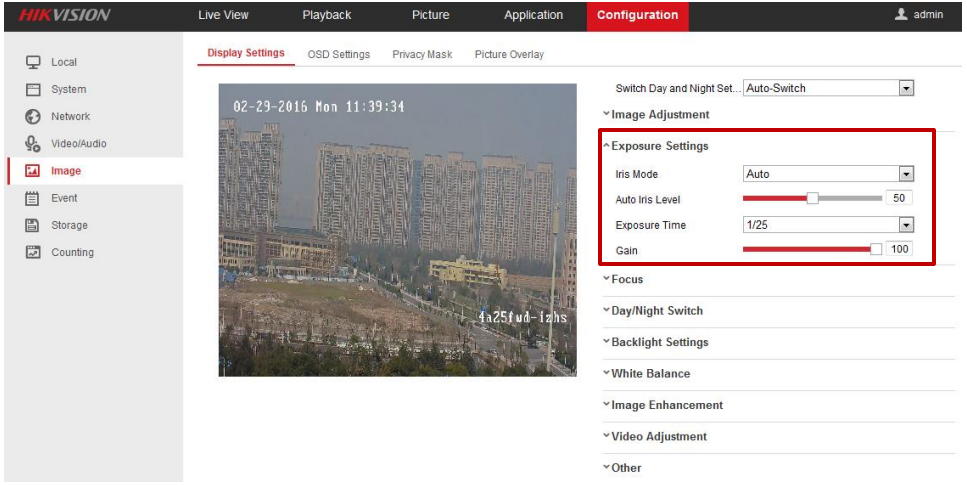
- **Brightness**
  - Average base value brightness of image, do not adjust it at night!
- **Contrast**
  - Contrast of the image
  - Low - High
- **Saturation**
  - Strength of the image color
  - Mild - Rich
- **Sharpness**
  - Edge contrast of the image
  - Low - High

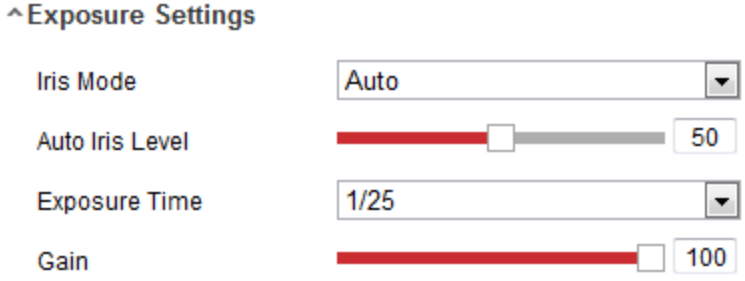




IPC Image Options

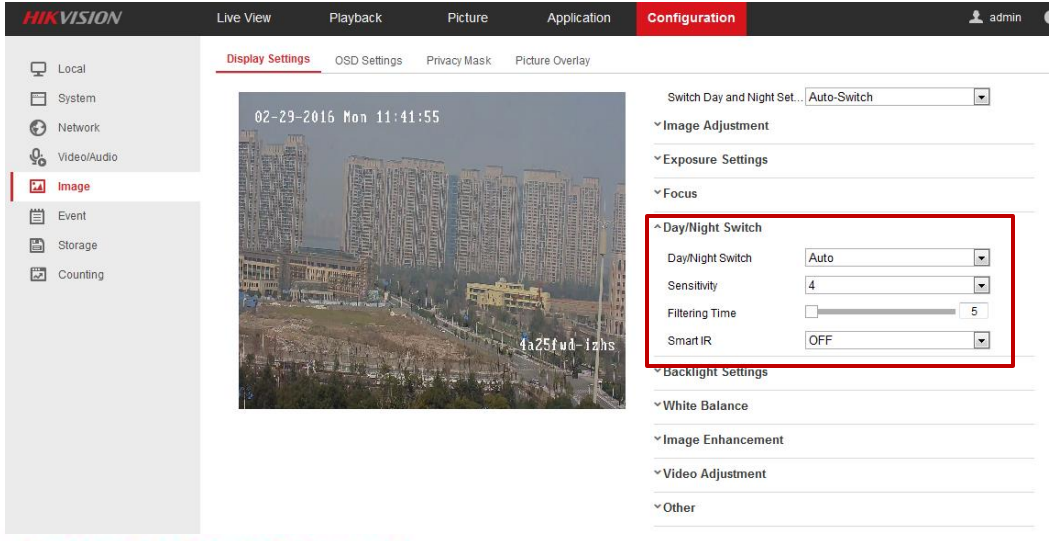
- **Iris Mode**
  - Auto-iris decides brightness
  - Manual - Electronic shutter decides exposure time to change brightness
- **Exposure Time**
  - For auto iris - real exposure time
  - For manual iris - the upper limit of exposure time

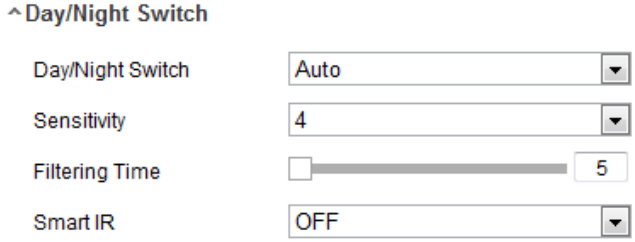




IPC Image Options

- Day/Night Switch
  - Day/Night Switch: Day, Night, Auto, Schedule, and Triggered by alarm input are selectable for day/night switch.
  - Sensitivity: the higher the value is, the easier the mode switches.
  - Filtering time: refers to the interval time between the day/night switch.

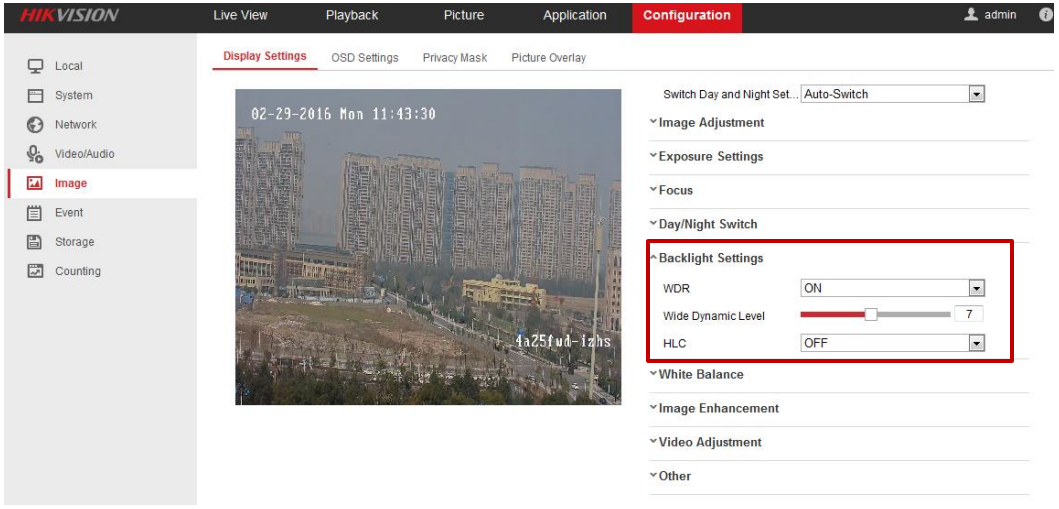


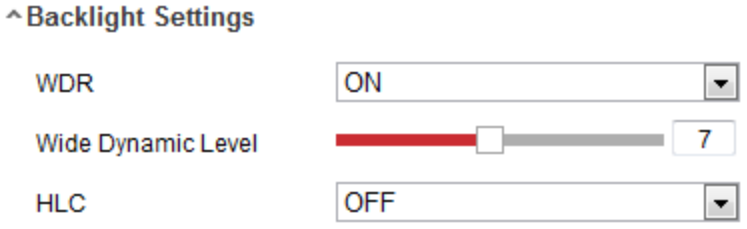


IPC Image Options

- **Wide Dynamic Range**
  - Suitable for high contrast of the bright area and the dark area of the scene
  - Enable WDR, WDR is always ON
  - Auto->WDR will be OFF when poor light
  - Digital WDR(ON/OFF)

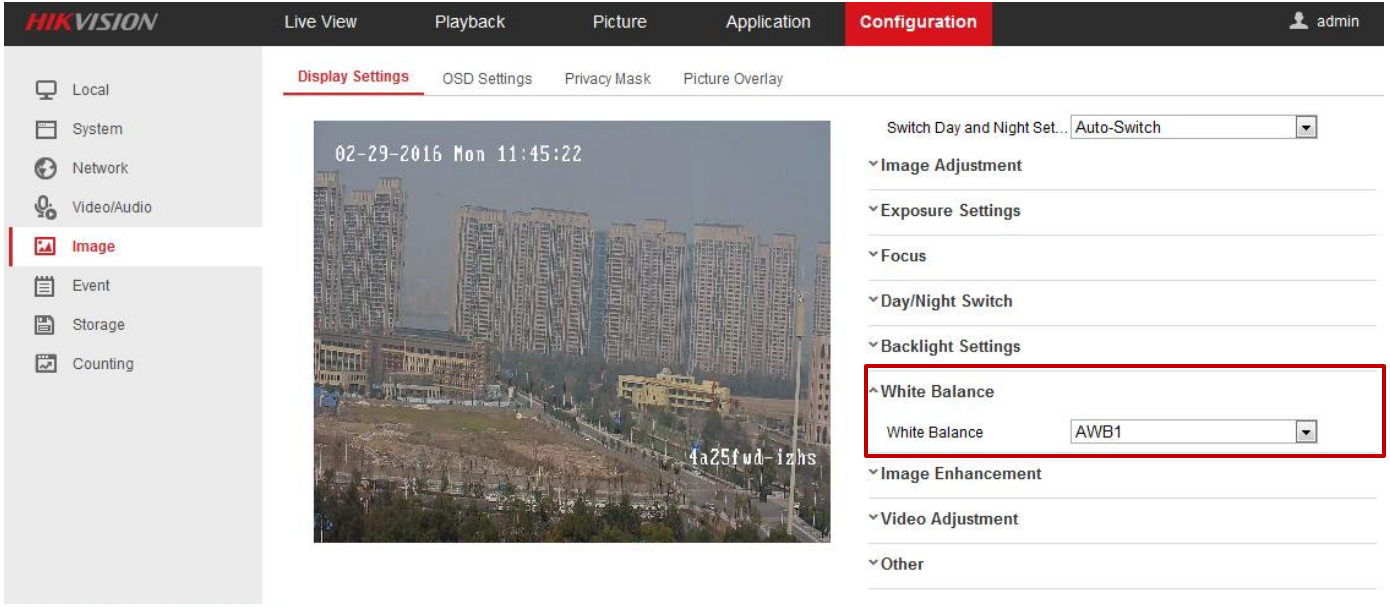
- **Backlight Compensation**
  - BLC compensates light to the object in the front to make it clear. OFF, Up, Down, Left, Right, Center and customize are selectable.





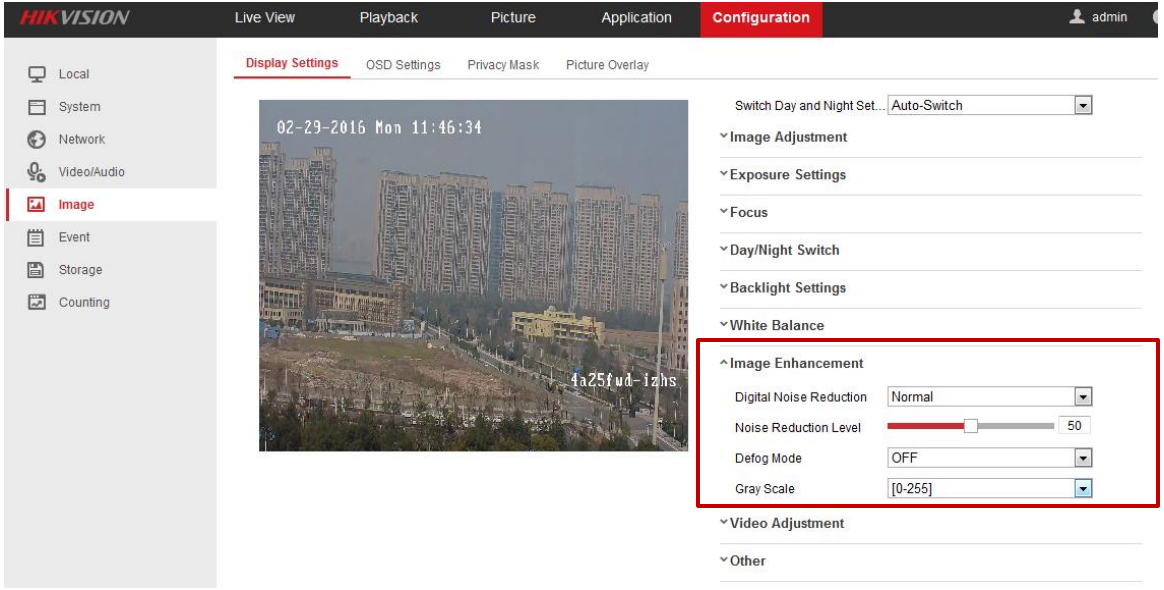
IPC Image Options

- White Balance
  - AWB1, narrow color temperature range(2500~9500K), suitable for indoor
  - AWB2, wide color temperature range(2200~15000K), suitable for outdoor
  - Other WB modes



IPC Image Options

- **Digital Noise Reduction**
  - 2D DNR (normal)
  - 3D DNR (expert)
    - Space domain->static noise, vague
    - Time domain – inter-frame noise reduction - dynamic noise, moving image trail

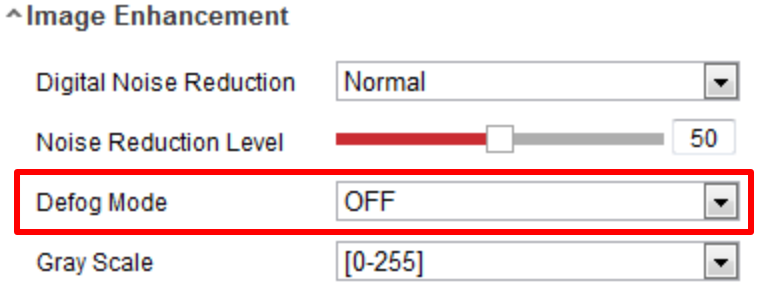


IPC Image Options

- **Defog Mode:**
  - You can enable the defog function when the environment is foggy and the image is misty. It enhances the subtle details so that the image appears clearer.

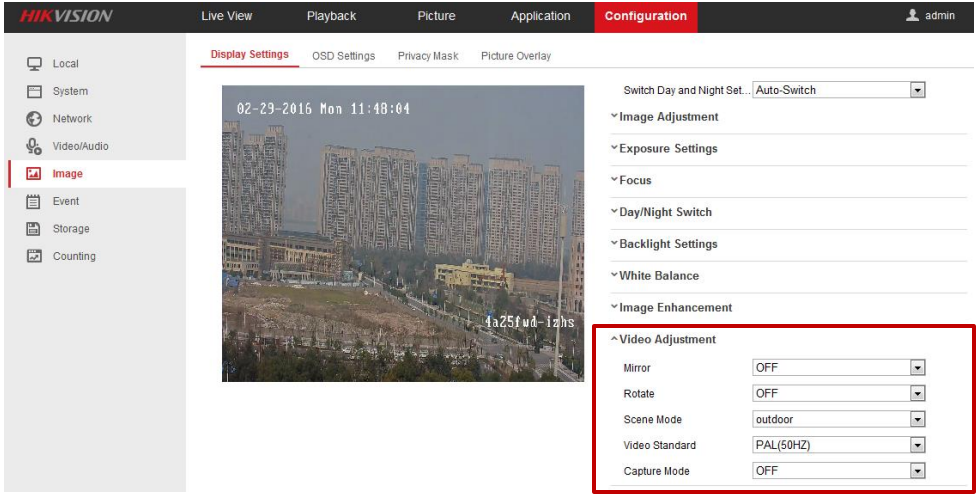
Defog OFF

Defog ON



IPC Image Options

- **Mirror**
  - It mirrors the image so you can see it inverted.
  - Left/Right, Up/Down, Center, and OFF are selectable.
- **Scene Mode**
  - Indoor - lock exposure time
  - Outdoor – reduces shutter time
- **Video Standard**
  - 50 Hz and 60 Hz are selectable



IPC Image Options

- Rotate
  - To make a complete use of the 16:9 aspect ratio, you can enable the rotate function when you use the camera in a narrow view scene.
  - When installing, turn the camera to the 90 degrees or rotate the 3-axis lens to 90 degrees, and set the rotate mode as on, you will get a normal view of the scene with 9:16 aspect ratio to ignore the needless information such as the wall, and get more meaningful information of the scene.

Rotate mode on