



Hikvision Camera Installation & Operation

Hikvision Entry Learning

- **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.

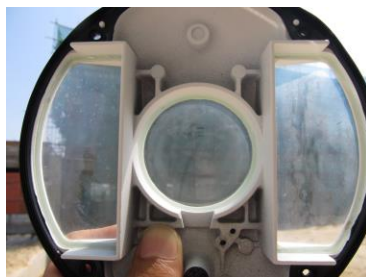
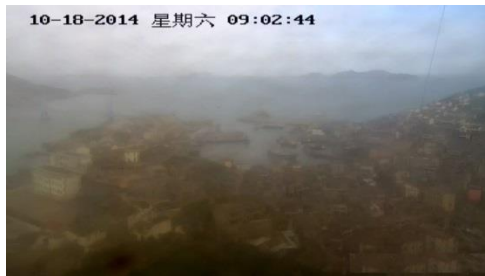


Backlighting

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

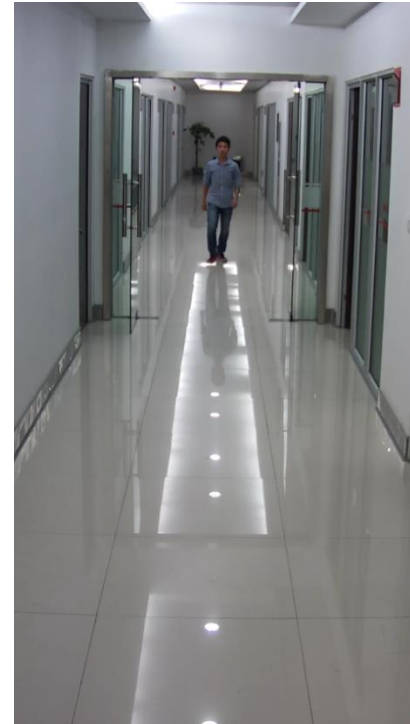
- Choose the proper low light camera according to the environment.
- Choose the camera with IR or laser supplement in low light condition or add the lighting supplement to increase the light.



Installation Tips

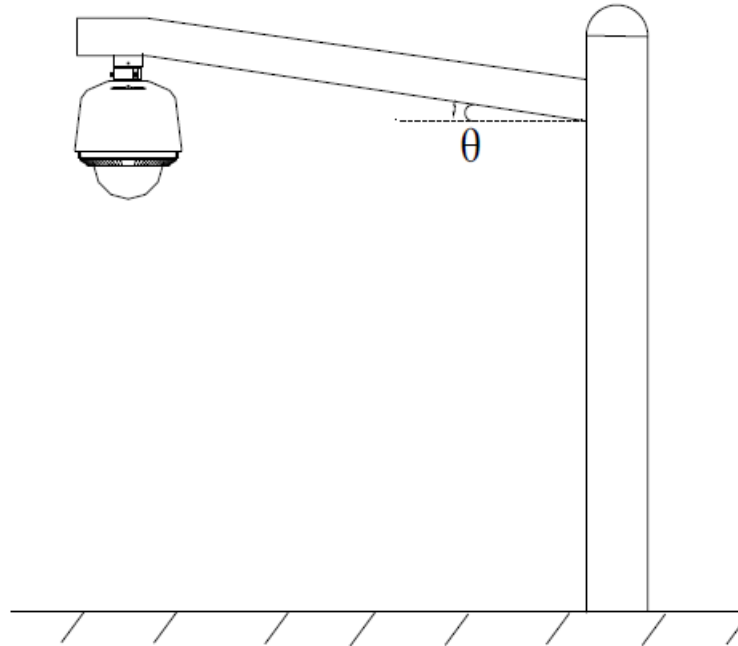


- Rotate Mode (Installed in Corridor)
- Rotate camera 90° anti-clockwise



Water-proof Preparation

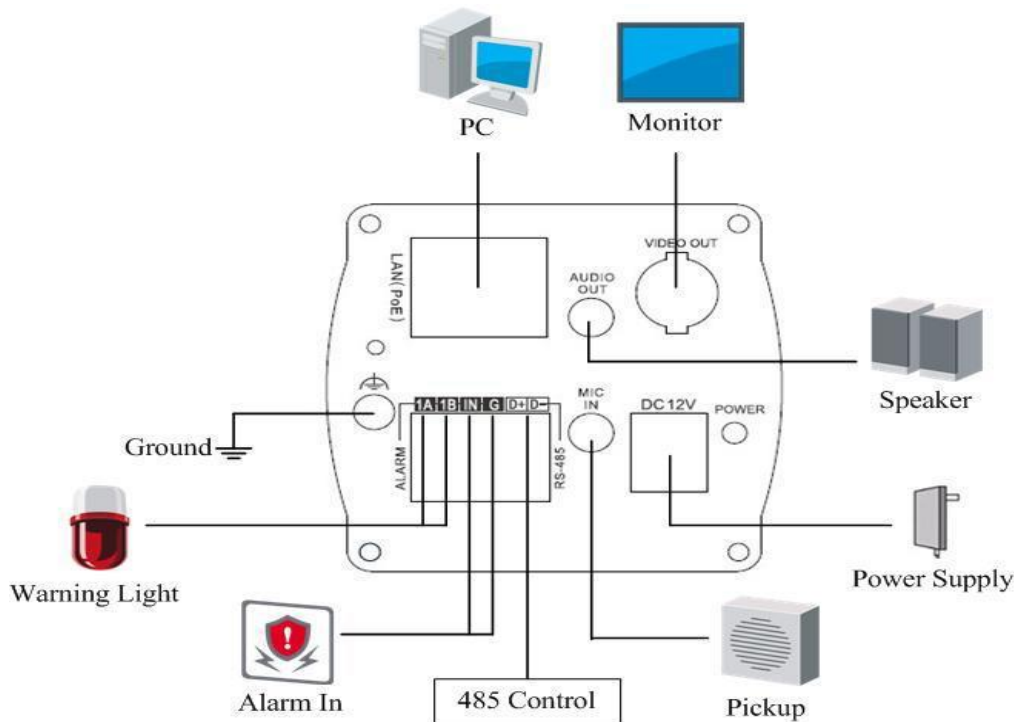
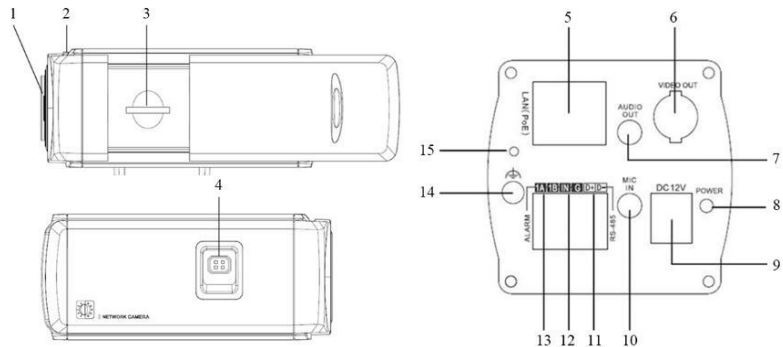
- For installation on L-shaped pole, we recommend a slight upward inclination of the horizontal pole to prevent from rain flowing into the PTZ in case of pole leakage.



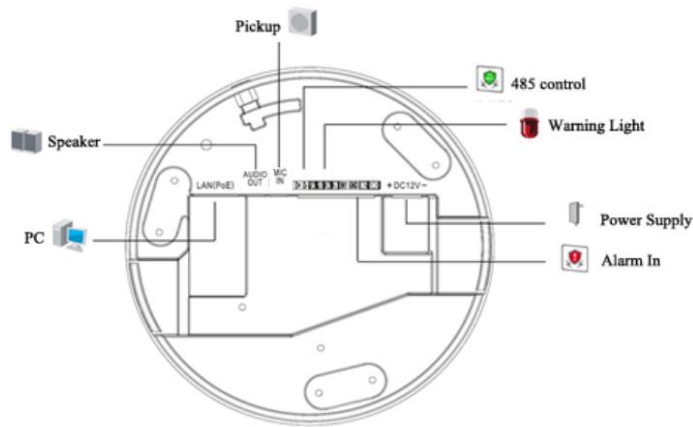
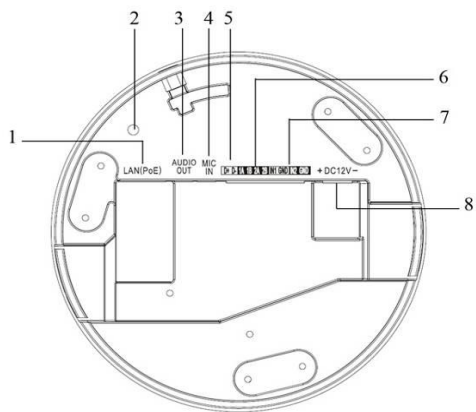
- **Hardware Installation Tips**
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Box Camera

No.	Description
1	Lens mount
2	Back focus ring
3	SD card slot
4	Auto-iris interface
5	10M/100M/1000M self-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

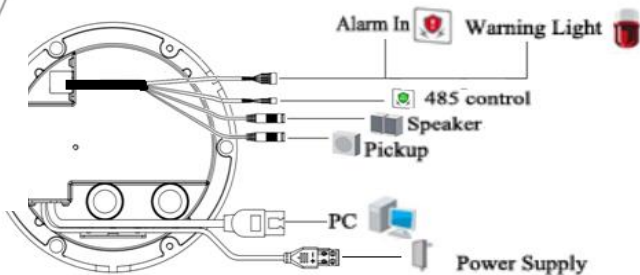
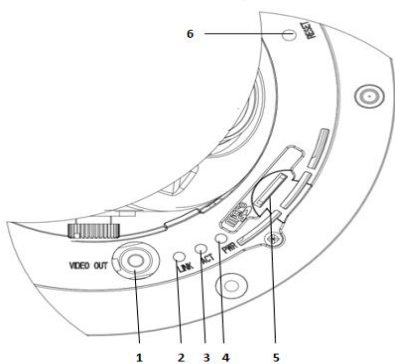
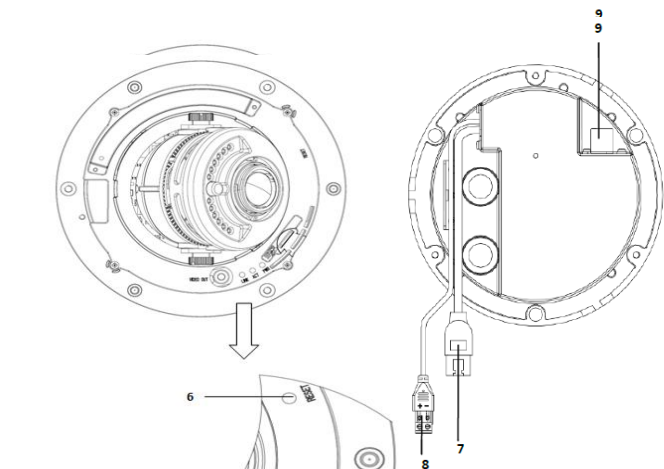


Dome Camera I



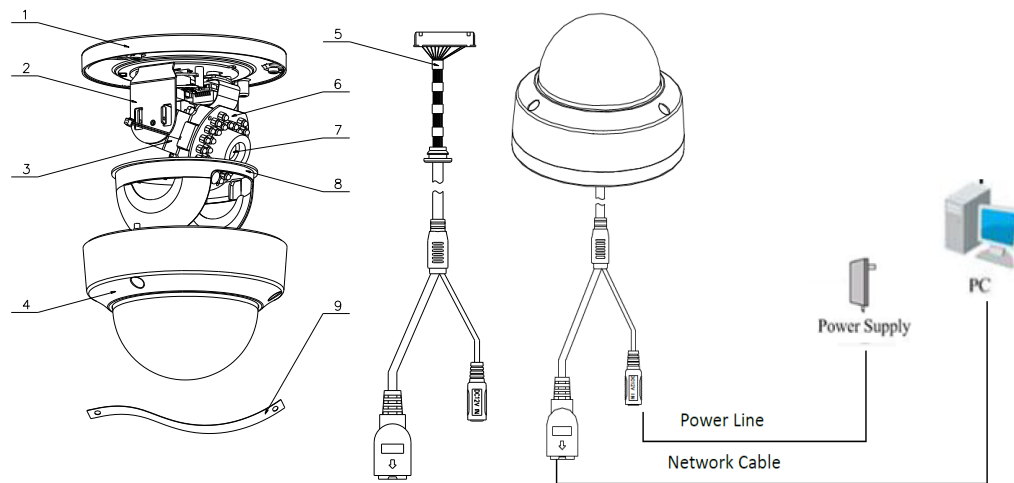
No.	Description
1	10M/ self-adaptive Ethernet interface
2	INITIALSET: Reset button
3	AUDIO OUT: Audio output interface
4	MIC IN: Audio input interface
5	D+, D-: RS-485 interface
6	1A, 1B, 2A, 2B: Alarm output interface
7	IN1, GND, IN2, GND: Alarm input interface
8	Power supply interface

Dome Camera II



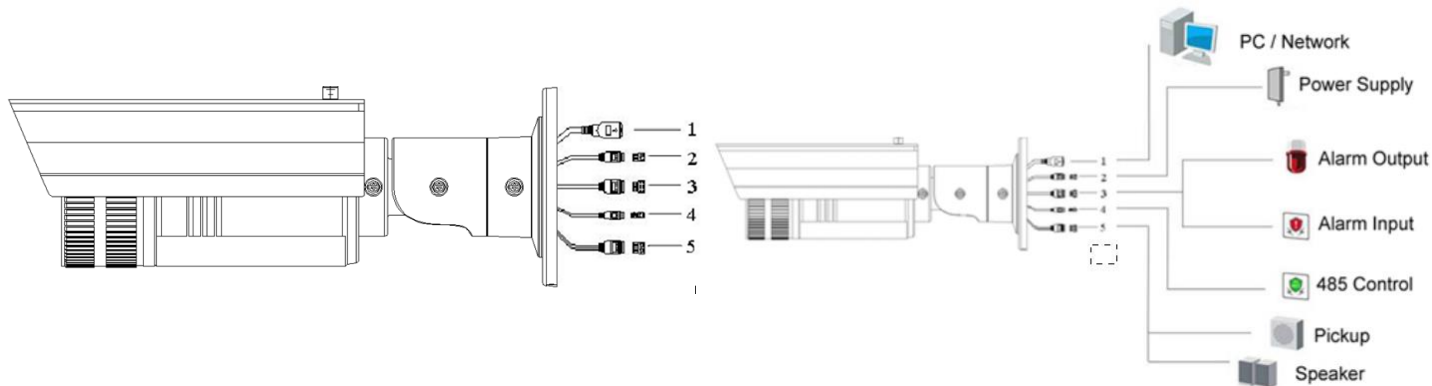
No.	Description
1	Video output interface
2	LINK: Indicator is solid yellow when network is connected.
3	ACT: Indicator flashes blue when network connection is functioning properly.
4	PWR: Indicator is solid red when the device is powered on.
5	Micro SD slot
6	RESET: Reset button
7	10M/ self-adaptive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

Dome Camera III



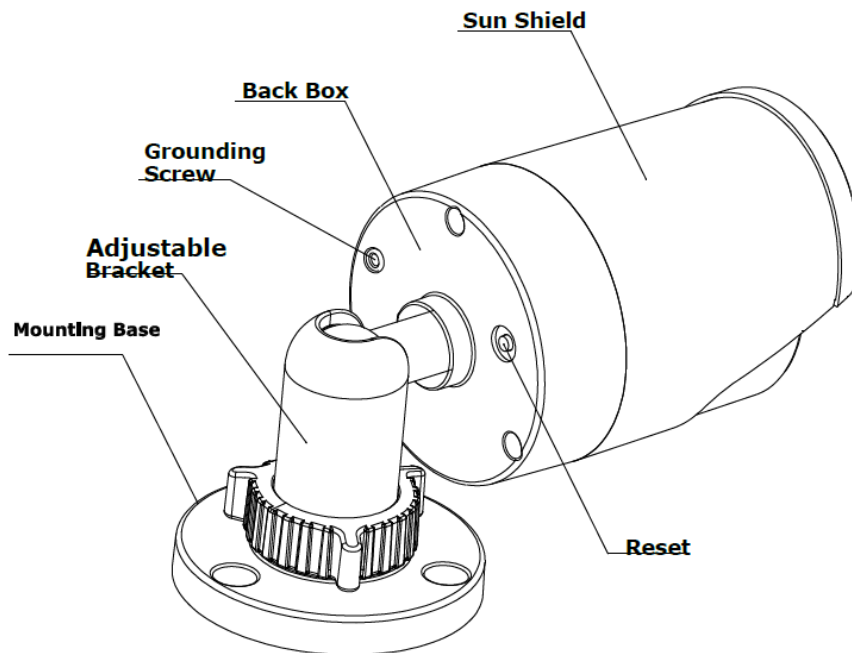
No.	Description
1	Mounting base
2	Horizontal stand
3	Vertical stand
4	Lower dome
5	Cables
6	Plate of infrared lamp
7	Lens
8	Black Liner
9	Safety rope

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

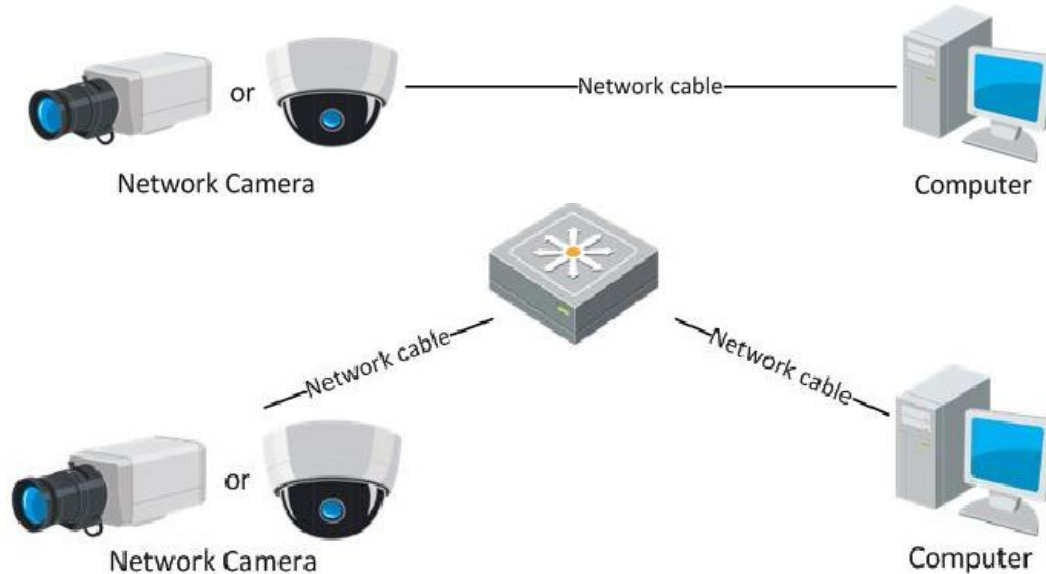
Bullet Camera II



- **Hardware Installation Tips**
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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)

The screenshot shows the SADP (SoftWare ADP) interface. At the top, it displays 'Total number of online devices: 22' and buttons for 'Export' and 'Refresh'. Below this is a table of devices with columns for ID, Device Type, Security, IPv4 Address, Port, Software Version, IPv4 Gateway, HTTP Port, and Device S. Device 011, a Service WatchDog, is highlighted in blue. To the right, a dialog box titled 'Activate the Device' is open, showing a padlock icon and the message 'The device is not activated.' Below this, a blue box says 'You can modify the network parameters after the device activation.' At the bottom of the dialog, there are fields for 'New Password' and 'Confirm Password', a 'Weak' password strength indicator, and an 'Activate' button. The 'Activate' button is highlighted with a red box.

ID	Device Type	Security	IPv4 Address	Port	Software Version	IPv4 Gateway	HTTP Port	Device S
006	DS-M5504HMI/GW/WI	Active	192.0.0.64	8000	V4.1.0build 1511...	0.0.0.0	80	DS-M55
007	DS-M3506HM-K/GW	Active	10.9.6.220	8000	V3.1.0build 1512...	10.9.6.254	80	DS-M35
008	DS-2CD4332FWD-PTZ	Active	10.9.6.39	8180	V5.3.5build 1512...	10.9.6.254	80	DS-2CD
009	DS-2DF7284-AEL	Active	10.9.6.11	8000	V5.3.12build 151...	10.9.6.254	80	DS-2DF
010	DS-2CD4085F	Active	10.9.6.208	8103	V5.3.7build 1512...	10.9.6.254	92	DS-2CD
011	Service WatchDog	Active	10.9.6.250	7208	94CT7XFOLUQC...	10.9.6.254	N/A	
012	DS-2CD4A25FWD-IZHS	Active	10.9.6.207	8102	V5.3.5build 1512...	10.9.6.254	91	DS-2CD
013	DS-2CD40C5F-A	Active	10.9.6.205	8105	V5.3.4build 1508...	10.9.6.254	94	DS-2CD
014	DS-2DF6236-A	Active	10.9.6.200	8000	V5.3.0build 1602...	10.9.6.254	80	DS-2DF
015	DS-2CD2142FWD-IWS	Active	10.9.6.202	8180	V5.3.8build 1512...	0.0.0.0	89	DS-2CD
016	DS-2CD4524FWD-IZM	Active	10.9.6.206	8104	V5.3.4build 1508...	10.9.6.254	93	DS-2CD
017	DS-2DF6236V-AEL	Active	10.9.6.215	8000	V5.3.10build 150...	10.9.6.254	80	DS-2DF
018	DS-2DE7184-A	Active	10.9.6.230	8000	V5.3.9build 1509...	10.9.6.254	80	DS-2DE
019	DS-2CD2110F-I	Active	10.9.6.252	8109	V5.3.2build 1508...	10.9.6.254	99	DS-2CD
020	DS-2CD2032-1	Active	10.9.6.203	8189	V5.3.3build 1510...	10.9.6.254	96	DS-2CD
021	DS-2CD2432F-IW	Inactive	10.9.6.46	8000	V5.3.0OPbuild 1...	10.9.6.254	80	DS-2CD
022	DS-2CD2142FWD-IWS	Active	192.168.254.212	8180	V5.3.8build 1512...		89	DS-2CD

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.

The screenshot shows the SADP (Smart Audio Device Protocol) interface. On the left, a table lists online devices. Device 007 is selected. On the right, a 'Modify Network Parameters' dialog box is open, showing fields for IP Address, Port, Subnet Mask, Gateway, IPv6 Address, IPv6 Gateway, IPv6 Prefix Length, and HTTP Port. The 'Admin Password' field is also visible.

ID	Device Type	Security	IPv4 Address	Port	Software Version	IPv4 Gateway	HTTP Port	Device S
001	DS-9616NI-ST	Active	10.9.6.217	8000	V3.4.2build 1601...	10.9.6.254	80	DS-9616
002	DS-M7508HNI/GW/WI	Active	10.9.6.201	8181	V4.0.4build 1511...	10.9.6.254	90	0820150
003	DS-KD8102-V	Active	10.9.6.2	8000	V1.2.1build 1601...	10.9.6.254	80	DS-KD81
004	DS-M3506HM-K/GW	Active	10.9.6.220	8000	V3.1.0build 1512...	10.9.6.254	80	012014
005	DS-6716HFI	Active	10.9.6.30	8000	V1.2.5build 1505...	10.9.6.254	80	DS-6716
006	DS-7604NI-SE/P	Active	10.9.6.121	8000	V3.0.15build 150...	10.9.6.254	N/A	DS-7604
007	DS-2CD4224F-IZH	Active	10.9.6.209	8108	V5.3.5build 1512...	10.9.6.254	98	DS-2CD
008	DS-2CD4332FWD-PTZ	Active	10.9.6.39	8180	V5.3.5build 1512...	10.9.6.254	80	DS-2CD
009	DS-2CD4032FWD-APW	Active	10.9.6.20	8000	V5.3.4build 1508...	10.9.6.254	80	DS-2CD
010	DS-2DF7284-AEL	Active	10.9.6.11	8000	V5.3.12build 151...	10.9.6.254	80	DS-2DF
011	DS-2CD4A25FWD-IZHS	Active	10.9.6.207	8102	V5.3.4build 1508...	10.9.6.254	91	DS-2CD
012	DS-2DF6236V-AEL	Active	10.9.6.215	8000	V5.3.10build 150...	10.9.6.254	80	DS-2DF
013	Service WatchDog	Active	10.9.6.250	7208	94CT7XFOLUQC...	10.9.6.254	N/A	
014	DS-2CD2142FWD-IWS	Active	10.9.6.202	8180	V5.3.8build 1512...	0.0.0.0	89	DS-2CD
015	DS-2CD40C5F-A	Active	10.9.6.205	8105	V5.3.4build 1508...	10.9.6.254	94	DS-2CD
016	DS-M3506HM-K/GW	Active	10.9.6.220	8000	V3.1.0build 1512...	10.9.6.254	80	DS-M35
017	DS-2DE7184-A	Active	10.9.6.230	8000	V5.3.9build 1509...	10.9.6.254	80	DS-2DE
018	DS-M5504HMI/GW/WI	Active	192.0.0.64	8000	V4.1.0build 1511...	0.0.0.0	80	DS-M55

Modify Network Parameters

Enable DHCP

Device Serial No.: DS-2CD4224F-IZH20140506CCCH4

IP Address: 10.9.6.209

Port: 8108

Subnet Mask: 255.255.255.0

Gateway: 10.9.6.254

IPv6 Address: ::

IPv6 Gateway: ::

IPv6 Prefix Length: 0

HTTP Port: 98

Security Verification

Admin Password: []

Modify

Forgot Password

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.



Reset Password ✕

- 1 Step 1: Click Export to download the key request file (XML file) or take a photo of the QR code. Send the XML file or QR code photo to our technical engineers.
- 2 Step 2: Input the key or import the key file received from the technical engineer to reset the password for the device.
 Import File

New Password:
Confirm 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.

A screenshot of a web browser's activation dialog box. The dialog has a title bar with 'English' and a dropdown arrow. The main area is titled 'Activation' and contains three input fields: 'User Name' with the value 'admin', 'Password' (empty), and 'Confirm' (empty). Below the password field is a text instruction: 'Valid password range [8-16]. You can use a combination of numbers, lowercase, uppercase and special character for your password with at least two kinds of them contained.' An 'OK' button is at the bottom right. A dark bar at the bottom of the dialog contains the word 'Activation' in white.A screenshot of the password strength indicator. It shows 'User Name' as 'admin' and 'Password' as a field with 10 black dots. To the right of the password field is a green checkmark and the word 'Strong'. Below the password field is a green progress bar that is nearly full. The same text instruction as in the previous screenshot is present. The 'Confirm' field is also shown with 10 black dots. An 'OK' button is at the bottom right.

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.

The screenshot shows the HIKVISION web interface for configuring an IP camera. The top navigation bar includes 'Live View', 'Playback', 'Picture', 'Application', and 'Configuration' (which is highlighted in red). The left sidebar contains a menu with 'System Settings' highlighted by a red box. The main content area is titled 'Basic Information' and contains the following fields:

Field	Value
Device Name	113
Device No.	88
Model	DS-2CD4524FWD-IZM
Serial No.	DS-2CD4524FWD-IZM20150511CCWR518004904
Firmware Version	V5.3.4 build 150812
Encoding Version	V7.0 build 150721
Web Version	V4.0.1 build 150723
Plugin Version	V3.0.5.42
Number of Channels	1
Number of HDDs	0
Number of Alarm Input	1
Number of Alarm Output	1

At the bottom of the configuration area, there is a red 'Save' button with a floppy disk icon.

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.

HIKVISION Live View Playback Picture Application **Configuration**

Local System Network **Basic Settings** Advanced Settings Video/Audio Image Event Storage Counting

TCP/IP DDNS PPPoE Port NAT

NIC Type Auto

DHCP

IPv4 Address 10.9.6.206 Test

IPv4 Subnet Mask 255.255.255.0

IPv4 Default Gateway 10.9.6.254

IPv6 Mode Route Advertisement View Route Advertisement

IPv6 Address ::

IPv6 Subnet Mask 0

IPv6 Default Gateway ::

Mac Address c4:2f:90:25:6c:4d

MTU 1500

Multicast Address

Enable Multicast Discovery

DNS Server

Preferred DNS Server 8.8.8.8

Alternate DNS Server

IP Camera Web Menu

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

The screenshot shows the HIKVISION web interface. At the top, there are navigation tabs: Live View, Playback, Picture, Application, and Configuration (highlighted in red). On the left, there is a sidebar menu with categories: Local, System, Network, Basic Settings (highlighted in red), Advanced Settings, Video/Audio, Image, Event, Storage, and Counting. The main content area is titled 'DDNS' and has sub-tabs for TCP/IP, DDNS (selected), PPPoE, Port, and NAT. The DDNS configuration form includes the following fields:

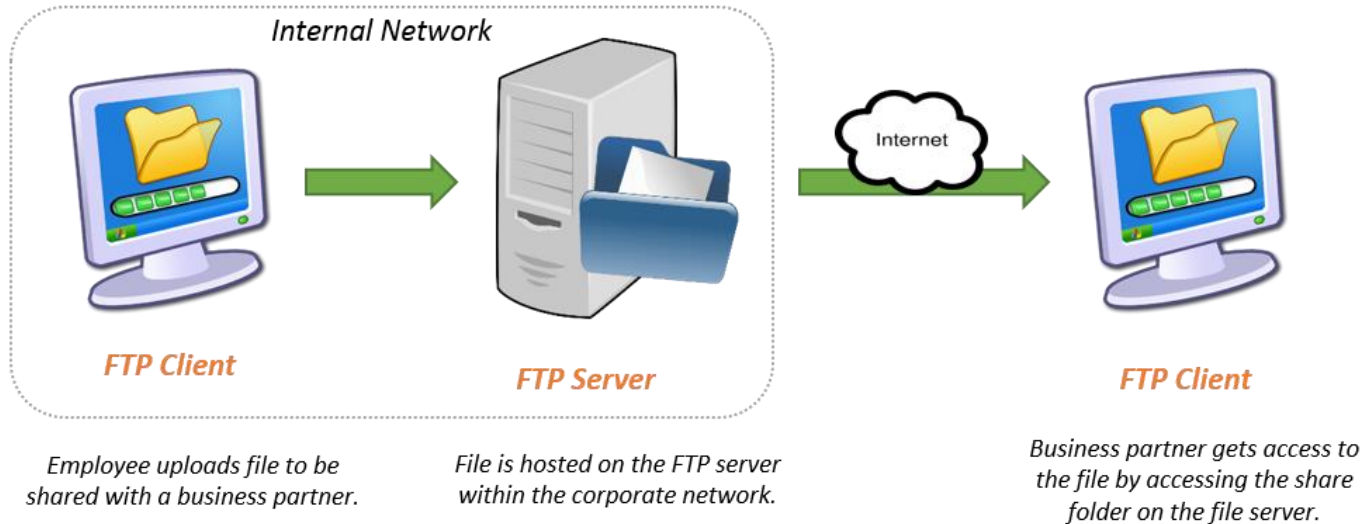
- Enable DDNS
- DDNS Type: HiDDNS (dropdown menu)
- Locality: Custom (dropdown menu)
- Server Address: www.hik-online.com (text input with a green checkmark)
- Domain: test (text input with a green checkmark)
- User Name: (text input)
- Port: 0 (text input)
- Password: (text input)
- Confirm: (text input)

At the bottom of the form is a red 'Save' button with a floppy disk icon.

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

The screenshot shows the HIKVISION configuration interface. At the top, there is a navigation bar with tabs for Live View, Playback, Picture, Application, and Configuration (which is highlighted in red). Below the navigation bar, there is a sidebar on the left with menu items: Local, System, Network, Basic Settings, Advanced Settings (highlighted in red), Video/Audio, Image, Event, Storage, and Counting. The main content area shows the FTP configuration page. It has sub-tabs for SNMP, FTP (highlighted in red), Email, HTTPS, QoS, and 802.1x. The FTP settings include: Server Address (152.101.133.247), Port (21), User Name (HIK11), Password (masked with dots), Confirm (masked with dots), Directory Structure (Save in the root directory), and a checkbox for Upload Picture (checked). There is a Test button below the Upload Picture checkbox. At the bottom of the configuration area, there is a red Save button.

Note ✕

Testing succeeded.

OK

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.

	Video	Audio	ROI	Display Info. on Stream	Target Cropping
Stream Type	Main Stream(Normal)				
Video Type	Video&Audio				
Resolution	1920*1080P				
Bitrate Type	Variable				
Video Quality	Medium				
Frame Rate	30				fps
Max. Bitrate	1792				Kbps
Video Encoding	MPEG4				
I Frame Interval	30				

Save

- **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.

The screenshot displays the HIKVISION configuration interface. At the top, there are navigation tabs: Live View, Playback, Picture, Application, and Configuration (highlighted in red). Below these, there are sub-tabs: Video, Audio (highlighted in red), ROI, Display Info. on Stream, and Target Cropping. On the left side, there is a vertical menu with icons and labels: Local, System, Network, Video/Audio (highlighted in red), Image, Event, Storage, and Counting. The main content area shows the following settings:

- Audio Encoding: G.711ulaw (dropdown menu)
- Audio Input: LineIn (dropdown menu)
- Input Volume: 45 (slider control)
- Environmental Noise Filter: OFF (dropdown menu)

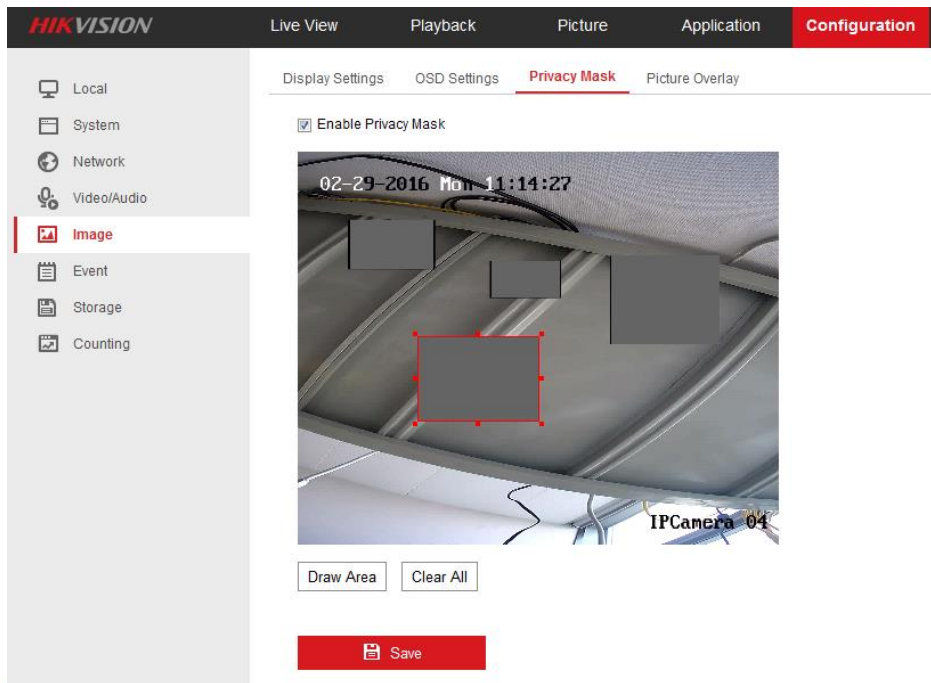
At the bottom of the settings area, there is a red button labeled "Save" with a floppy disk icon.

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.

The screenshot displays the HIKVISION OSD Settings interface. The top navigation bar includes 'Live View', 'Playback', 'Picture', 'Application', and 'Configuration' (highlighted in red). A user profile 'admin' is visible in the top right. The left sidebar contains menu items: Local, System, Network, Video/Audio, Image (selected), Event, Storage, and Counting. The main content area is titled 'OSD Settings' and features a live view window showing a highway scene with two red text overlays: '07-18-2012 Wednesday 11:27:12' and 'IPCamera 01'. Below the live view, there are three dropdown menus: 'Display Mode' (set to 'Not transparent & Not flashing'), 'OSD Size' (set to 'Auto'), and 'Font Color' (set to 'Black&White Self-adaptive'). To the right of the live view, there are three checked checkboxes: 'Display Name', 'Display Date', and 'Display Week'. Below these are a text field for 'Camera Name' (containing 'IPCamera 04'), a 'Time Format' dropdown (set to '24-hour'), and a 'Date Format' dropdown (set to 'MM-DD-YYYY'). A section titled 'Text OverLay' contains eight numbered checkboxes, each followed by a text input field.

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.

The screenshot displays the Hikvision web interface for configuring motion detection. The top navigation bar includes 'Live View', 'Playback', 'Picture', 'Application', and 'Configuration'. The left sidebar lists various system settings, with 'Basic Event' selected. The main panel shows the 'Motion Detection' configuration page, which is divided into three tabs: 'Area Settings', 'Arming Schedule', and 'Linkage Method'. The 'Area Settings' tab is active, showing a video preview window with a red grid overlay. The video timestamp is '02-26-2016 Fri 17:54:21' and the camera ID is 'IPCamera 04'. Below the video are 'Draw Area' and 'Clear All' buttons. The configuration page also includes checkboxes for 'Enable Motion Detection' and 'Enable Dynamic Analysis for Motion', and a 'Configuration' dropdown menu set to 'Normal'.

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.

Day	0	2	4	6	8	10	12	14	16	18	20	22	24	
Mon	[Blue bar]													[Green icon]
Tue	[Blue bar]													
Wed	[Blue bar]													
Thu	[Blue bar]													
Fri	[Blue bar]													
Sat	[Blue bar]													
Sun	[Blue bar]													

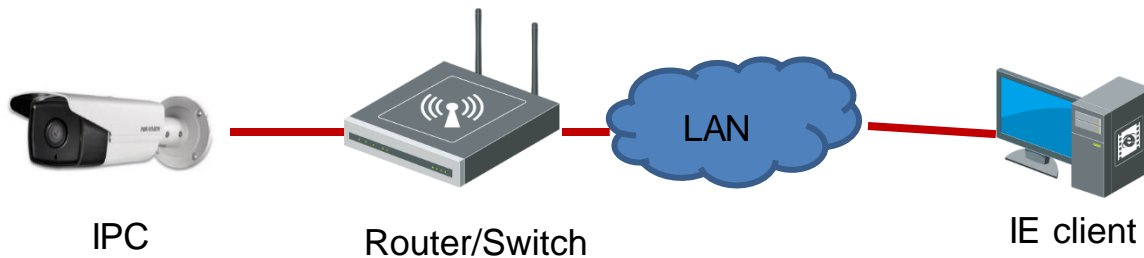
3. Set the Alarm Actions for Motion Detection.

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).

Area Settings	Arming Schedule	Linkage Method
<input type="checkbox"/> Normal Linkage	<input type="checkbox"/> Trigger Alarm Output	<input type="checkbox"/> Trigger Channel
<input type="checkbox"/> Send Email	<input type="checkbox"/> A->1	<input type="checkbox"/> A1
<input checked="" type="checkbox"/> Notify Surveillance Center		
<input checked="" type="checkbox"/> Upload to FTP		

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.

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

IP Camera Image Setup Menu

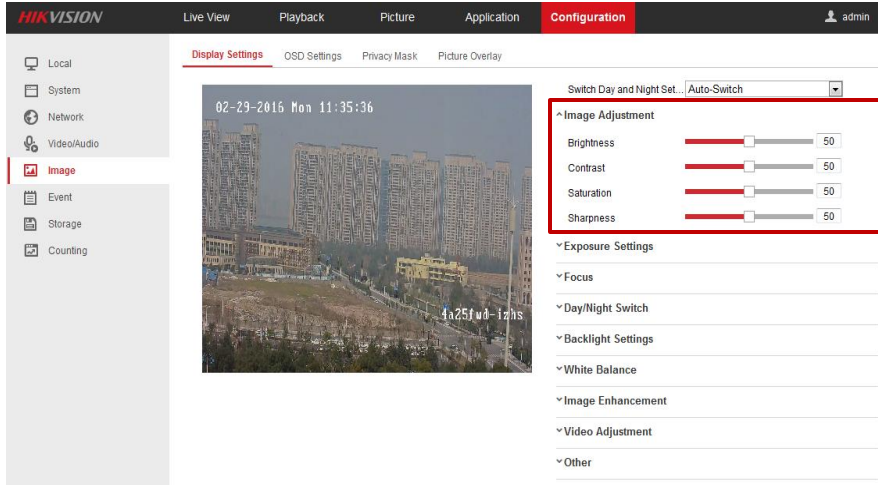
- Default image parameters can be available in common scenarios, for some special environment you may do a little adjustment.

The screenshot shows the HIKVISION web interface for camera configuration. The top navigation bar includes 'Live View', 'Playback', 'Picture', 'Application', and 'Configuration' (highlighted in red). A user profile 'admin' is visible in the top right. The left sidebar lists various settings categories: Local, System, Network, Video/Audio, **Image** (highlighted with a red box), Event, Storage, and Counting. The main content area is titled 'Display Settings' and includes sub-tabs for 'OSD Settings', 'Privacy Mask', and 'Picture Overlay'. A central video feed shows a city street scene with a timestamp '02-29-2016 Mon 11:35:36' and a watermark '4a25fd-izhs'. To the right of the video feed are several adjustable settings:

- Switch Day and Night Set...: Auto-Switch (dropdown menu)
- Image Adjustment:
 - Brightness: slider set to 50
 - Contrast: slider set to 50
 - Saturation: slider set to 50
 - Sharpness: slider set to 50
- Exposure Settings (dropdown menu)
- Focus (dropdown menu)
- Day/Night Switch (dropdown menu)
- Backlight Settings (dropdown menu)
- White Balance (dropdown menu)
- Image Enhancement (dropdown menu)
- Video Adjustment (dropdown menu)
- Other (dropdown menu)

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

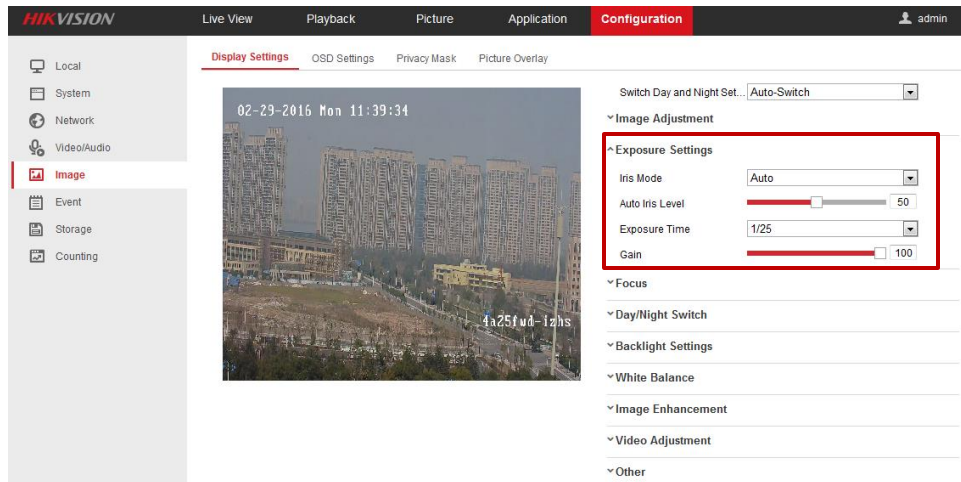


^ Image Adjustment



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

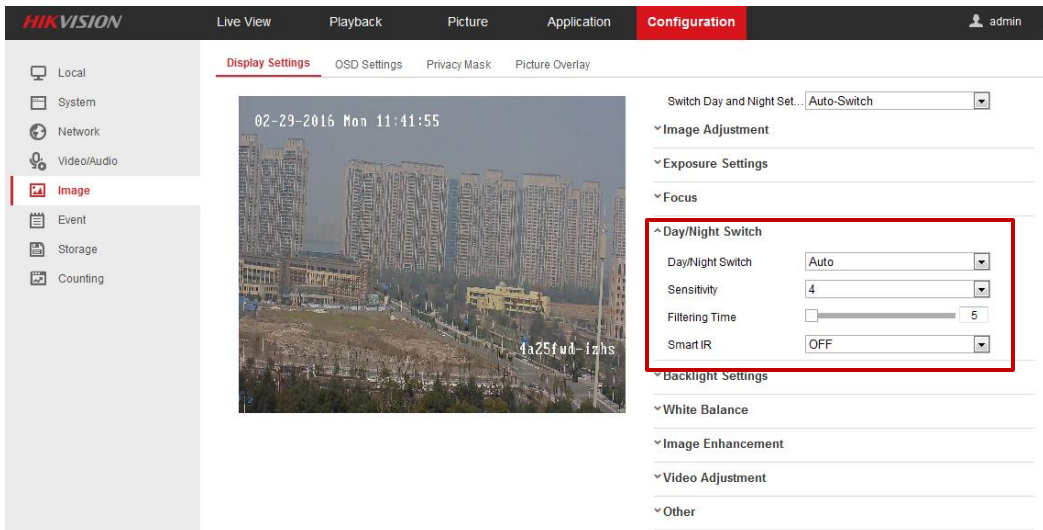


^Exposure Settings

Iris Mode	<input type="text" value="Auto"/>
Auto Iris Level	<input type="range" value="50"/>
Exposure Time	<input type="text" value="1/25"/>
Gain	<input type="range" value="100"/>

- 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.

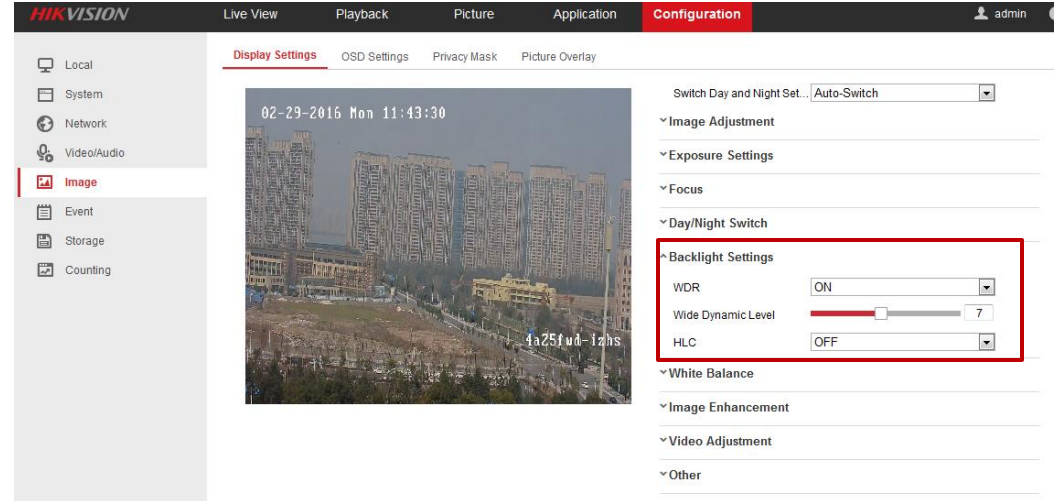


^ Day/Night Switch

Day/Night Switch	<input type="text" value="Auto"/>
Sensitivity	<input type="text" value="4"/>
Filtering Time	<input type="text" value="5"/>
Smart IR	<input type="text" value="OFF"/>

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.



^ Backlight Settings

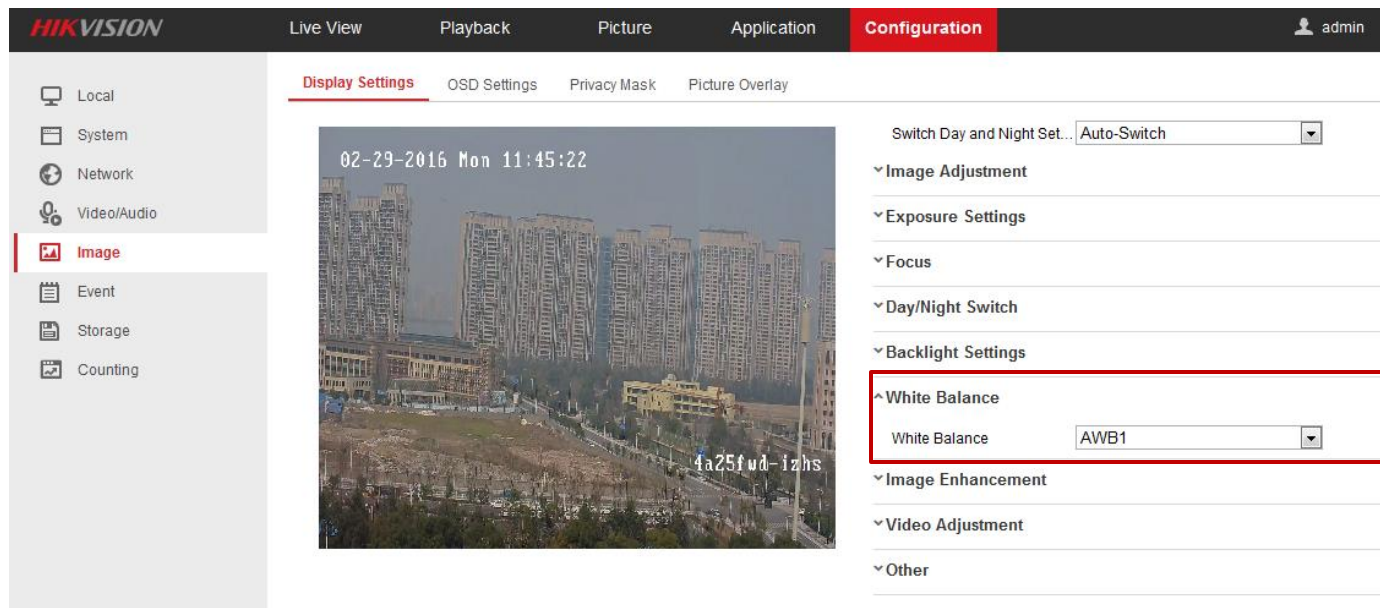
WDR

Wide Dynamic Level

HLC

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

The screenshot displays the HIKVISION web interface. The top navigation bar includes 'Live View', 'Playback', 'Picture', 'Application', and 'Configuration' (highlighted in red). The left sidebar lists menu items: Local, System, Network, Video/Audio, Image (highlighted in red), Event, Storage, and Counting. The main content area shows 'Display Settings' with sub-tabs for 'OSD Settings', 'Privacy Mask', and 'Picture Overlay'. A live video feed of a city street is shown with a timestamp '02-29-2016 Mon 11:46:34'. The 'Image Enhancement' section is highlighted with a red box and contains the following settings:

Switch Day and Night Set...	Auto-Switch
Image Adjustment	
Exposure Settings	
Focus	
Day/Night Switch	
Backlight Settings	
White Balance	
Image Enhancement	
Digital Noise Reduction	Normal
Noise Reduction Level	50
Defog Mode	OFF
Gray Scale	[0-255]
Video Adjustment	
Other	

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



^ Image Enhancement

Digital Noise Reduction

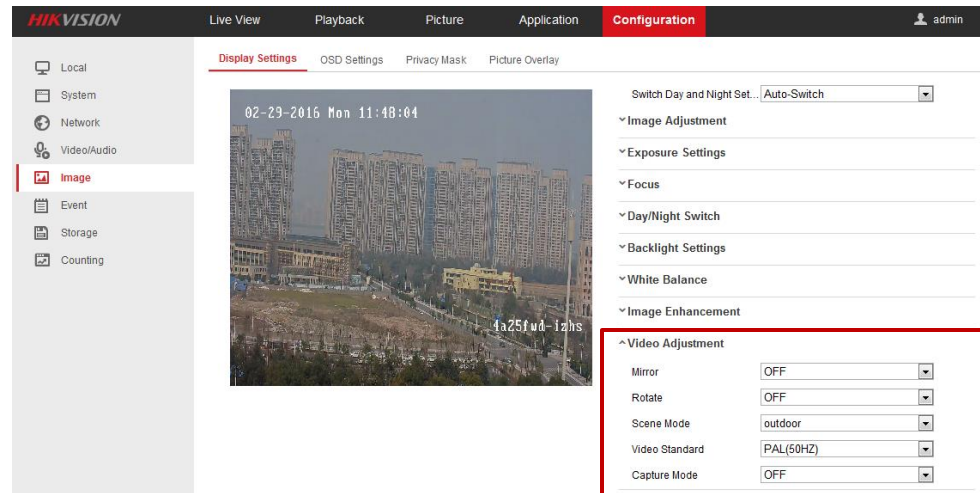
Noise Reduction Level

Defog Mode

Gray Scale

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

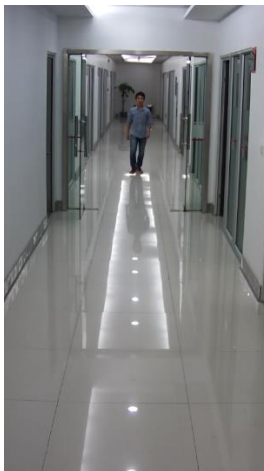


- **Rotate**

- 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*



^Video Adjustment

Mirror	OFF
Rotate	ON
Scene Mode	indoor
Video Standard	NTSC(60HZ)
Capture Mode	OFF
Lens Distortion Correction	OFF