

A stylized graphic of a camera lens, composed of several concentric circles and segments in various shades of gray, with a white circle in the center.

HIKVISION

Day/Night High-definition Dome Camera

User Manual V1.2.0

www.hikvision.com

A decorative horizontal bar at the bottom of the page, consisting of several vertical segments in different shades of gray.

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

This manual applies to DS-2CC5181P-VP(IR)(H), DS-2CC5191P-VP(IR)(H), DS-2CC51A1P-VP(IR)(H) dome Camera.

This manual may contain several technical incorrect places or printing errors, and the content is subject to change without notice. The updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.

DISCLAIMER STATEMENT

“Underwriters Laboratories Inc. (“UL”) has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested for fire, shock or casualty hazards as outlined in UL’s Standard(s) for Safety, UL60950-1. UL Certification does not cover the performance or reliability of the security or signaling aspects of this product. **UL MAKES NO REPRESENTATIONS, WARRANTIES OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING RELATED FUNCTIONS OF THIS PRODUCT.**”

Regulatory Information

FCC Information

FCC compliance: This equipment has been tested and found to comply with the limits for a digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

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.
2. This device must accept any interference received, including interference that may cause undesired operation

EU Conformity Statement



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized

European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC.



2002/96/EC (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Safety Warnings and Cautions

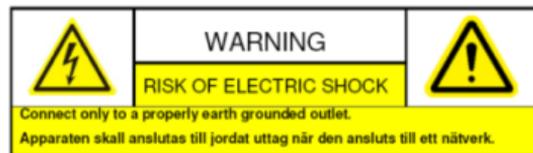
Please pay attention to the following warnings and cautions:



Hazardous Voltage may be present: Special measures and precautions must be taken when using this device. Some potentials (voltages) on the device may present a hazard to the user. This device should only be used by Employees from our company with knowledge and training in working with these types of devices that contain live circuits.



Power Supply Hazardous Voltage: AC mains voltages are present within the power supply assembly. This device must be connected to a UL approved, completely enclosed power supply, of the proper rated voltage and current. No user serviceable parts inside the power supply.



System Grounding (Earthing): To avoid shock, ensure that all AC wiring is not exposed and that the earth grounding is maintained. Ensure that any equipment to which this device will be

attached is also connected to properly wired grounded receptacles and are approved medical devices.



Power Connect and Disconnect: The AC power supply cord is the main disconnect device to mains (AC power). The socket outlet shall be installed near the equipment and shall be readily

accessible.

Installation and Maintenance: Do not connect/disconnect any cables to or perform installation/maintenance on this device during an electrical storm.

	WARNING	
	RISK OF ELECTRIC SHOCK	
Do not attempt to modify or use the supplied AC power cord if it is not the exact type and rating required.		



Power Cord Requirements: The connector that plugs into the wall outlet must be a grounding-type male plug designed for use in your

region. It must have certification marks showing certification by an agency in your region. The connector that plugs into the AC receptacle on the power supply must be an IEC 320, sheet C13, female connector. See the following website for more information <http://kropla.com/electric2.htm>.

Lithium Battery: This device contains a Lithium Battery. There is a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to the vendor's instructions and in accordance with local environmental regulations.

Perchlorate Material: Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate. This notice is required by California Code of Regulations, Title 22, Division 4.5, Chapter 33: Best Management Practices for Perchlorate Materials. This device includes a battery which contains perchlorate material.

Taiwan battery recycling:



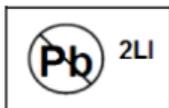
Please recycle batteries.



Thermal and Mechanical Injury: Some components such as heat sinks, power regulators, and processors may be hot; care should be taken to avoid contact with these components.

Electro Magnetic Interference: This equipment has not been tested for compliance with emissions limits of FCC and similar international regulations. This device is not, and may not be, offered for sale or lease, or sold, or leased until authorization from the United States FCC or its equivalent in other countries has been obtained. Use of this equipment in a residential location is prohibited. This equipment generates, uses and can radiate radio frequency energy which may result in harmful interference to radio communications. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is required to take measures to eliminate the interference or discontinue the use of this equipment.

Lead Content:



Please recycle this device in a responsible manner. Refer to local environmental regulations for proper recycling; do not dispose of device in unsorted municipal waste.

Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into “Warnings” and “Cautions”

Warnings: Serious injury or death may occur if any of the warnings are neglected.

Cautions: Injury or equipment damage may occur if any of the cautions are neglected.

	
Warnings Follow these safeguards to prevent serious injury or death.	Cautions Follow these precautions to prevent potential injury or material damage.



Warnings

- Please adopt the power adapter which can meet the safety extra low voltage (SELV) request. And source with DC 12V or AC 24V (depending on models) according to the IEC60950-1 and Limited Power Source standard.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. (We shall not assume any

responsibility for problems caused by unauthorized repair or maintenance.)

- To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture.
- This installation should be made by a qualified service person and should conform to all local codes.
- Please install blackouts equipment into the power supply circuit for convenient supply interruption.
- Please make sure that the ceiling can support more than 50(N) Newton gravities if the camera is fixed to the ceiling.



Cautions

- Make sure the power supply voltage is correct before using the camera.
- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from dirt.
- Do not aim the camera at the sun or extra bright places. A blooming or smear may occur otherwise (which is not a malfunction however), and affecting the endurance of sensor at the same time.

- The sensor may be burned out by a laser beam, so when any laser equipment is being used, make sure that the surface of the sensor will not be exposed to the laser beam.
- Do not place the camera in extremely hot or cold temperatures (the operating temperature should be between $-10^{\circ}\text{C} \sim 60^{\circ}\text{C}$, dusty or damp locations, and do not expose it to high electromagnetic radiation.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- Do not let water and any liquid flow into the camera.
- While shipping, the camera should be packed in its original packing, or packing of the same texture.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

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1 Introduction

1.1 Product Features

This camera adopts high performance CCD and advanced print circuit board design technology. It possesses of high resolution, low distortion, and low noise features, etc. It is extremely suitable for supervisory system and image process system.

- Adopt high performance SONY CCD, and supply high definition and clear image, up to 700TVL
- Low illumination, Color: 0.001Lux@F1.2, B/W: 0.0001Lux@F1.2
- Support ICR filter auto switch
- Support OSD menu controlling, enable user to configure the detail parameters
- Adopt advanced stepping motor and sleep mode to avoid ICR oscillation
- Support auto white balance with high color rendition
- High SNR give rise to clear and pleased image
- Support SMART IR
- Support auto electronic shutter control to adapt to different environments
- Support auto gain control, adaptive brightness
- Support auto iris

- Support Privacy mask with 8 optional colors and 8 configurable areas
- Advanced design technology with high reliability
- Advanced 3-axis design allows this dome camera to be adjusted 0-355° horizontally and 0-180° vertically to meet different mounting requirements
- Adopt advanced double-plate design to guarantee the heat dissipation of the CCD and image quality
- Impact Protection: IEC60068-2-75 test, Eh, 50J; EN50102, up to IK10
- Weather proof rating: IP66

1.2 Function Summary

Motion Detection: In the user-defined motion detection surveillance area, the moving object can be detected and trigger alarm. The sensitive level can be customized according to the environment.

Privacy Mask: This function allows you to block or mask certain area of a scene, thus prevent the personal privacy from recording or live viewing.



Figure 1-1 Privacy Mask

DAY/NIGHT Auto Switch: The cameras deliver color images during the day. And as light diminishes at night, the cameras switch to night mode and deliver black and white images with high quality.

AGC: AGC is a control circuit that automatically changes the gain of a receiver or other piece of equipment, so that the desired output signal remains essentially. When under low illumination, AGC will regulate the gain and amplification of the video signal.

S/N ratio: It is the ratio of Signal voltage and noise voltage. The ratio is larger, the effect of noise is less, and the image is clearer.

OSD (On Screen Display): The on-screen display (abbreviated OSD) is an image superimposed on a screen picture, used for displaying information and menu.

Synchronous System: Synchronization of the camera usually contains power synchronization and internal synchronization.

Internal synchronization is realized by the synchronous signal which is generated by the inside crystal oscillator.

White Balance: White balance can remove the unrealistic color casts. White balance is the white rendition function of the camera to adjust the color temperature according to the environment automatically.

ICR Auto Switch: The filter will filter infrared light during the daytime and change to normal filter at night to ensure a high sensitivity and clear image.

BLC: If you focus on an object against strong backlight, the object will be too dark to be seen clearly. The BLC (Backlight Compensation) function can compensate light to the object in the front to make it clear, but this causes the over-exposure of the background where the light is strong.

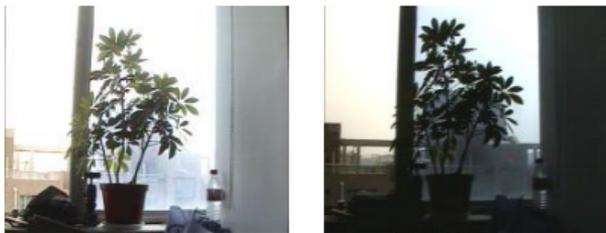


Figure 1-2 BLC OFF and BLC ON

1.3 Overview

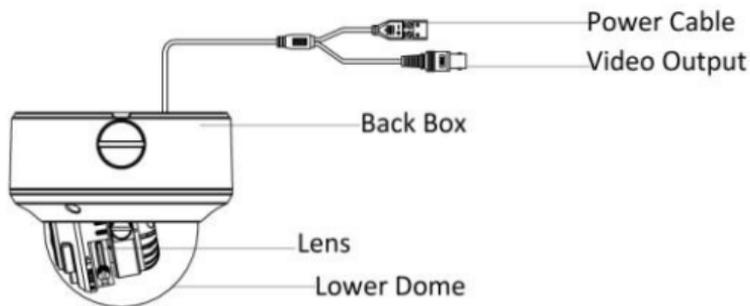


Figure 1-3 Dome Overview

2 Installation

Before you start:

Please make sure that the device in the package is in good condition and all the assembly parts are included.

Note: Please ensure that the wall is strong enough to withstand three times the weight of the camera. If the wall is not strong enough, the camera may fall and cause serious damage.

2.1 Disassembling

Steps:

1. Loosen the three screws on the edge of the lower dome with the supplied screw driver.
2. Loosen the screw that secures the leash of the lower dome to the camera. Remove the lower dome.
3. Remove the inner black liner.

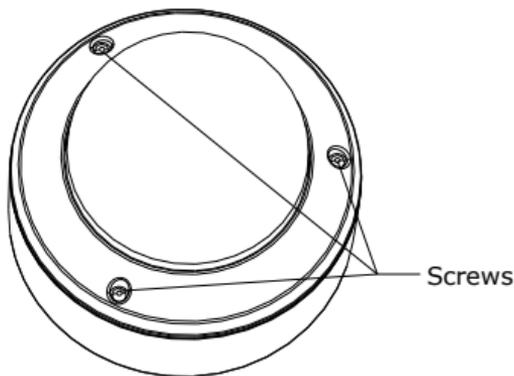


Figure 2-1 Removing the Lower Dome

4. Loosen the three screws as shown in Figure 2-2 with the supplied screw driver.
5. Remove the camera from the back box.

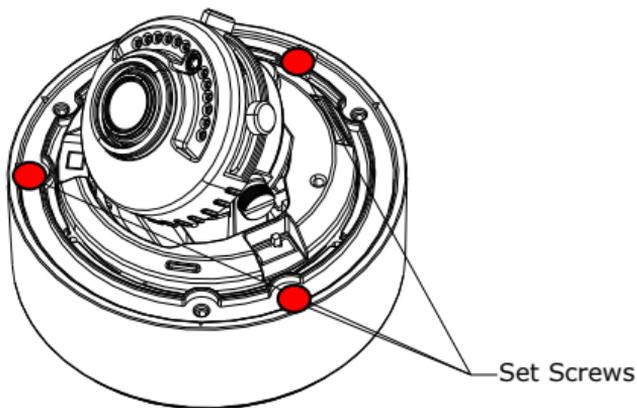


Figure 2-2 Removing the Camera

2.2 Mounting

2.2.1 Ceiling Mounting

Steps:

1. Attach the drill template (supplied) to the place where you want to fix the camera.
2. According to the circles on the drill template as shown in Figure 2-3, drill screws holes in the ceiling on your demand.

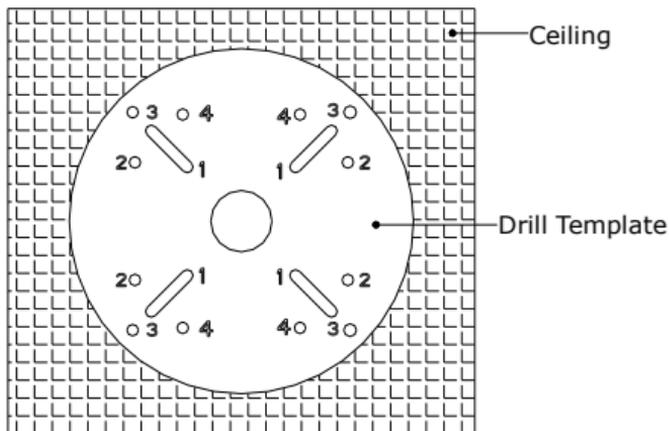


Figure 2-3 The Drill Template

3. If you want to route the cables inside the ceiling, drill a hole in the ceiling according to the circle in the centre of the template. Skip this step, if you want to route the cables on the surface of the ceiling.
4. Attach the back box to the ceiling by aligning the holes of the back box with the holes on the drill template.
5. Secure the back box with the supplied screws as shown in Figure 2-4.

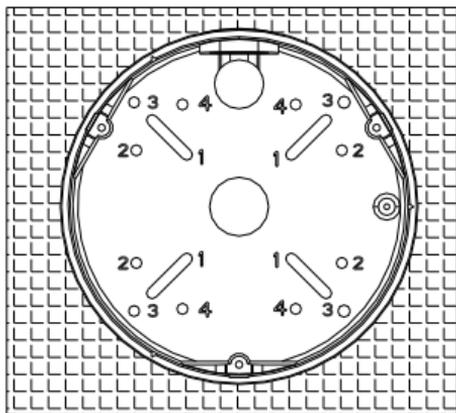


Figure 2-4 Securing Back box

6. Route the cables through the hole in the center of the drill template.
7. Align the camera with the back box.
8. Tighten the set screws to secure the camera with the back box.
9. Connect the video output connector to the monitor. Connect the power connector to the power supply.
10. Adjust the image and focus. Please refer to the section 2.3 for more detailed information.
11. Install the inner black liner back to the camera.
12. Tighten the screws to secure the lower dome with the back box.

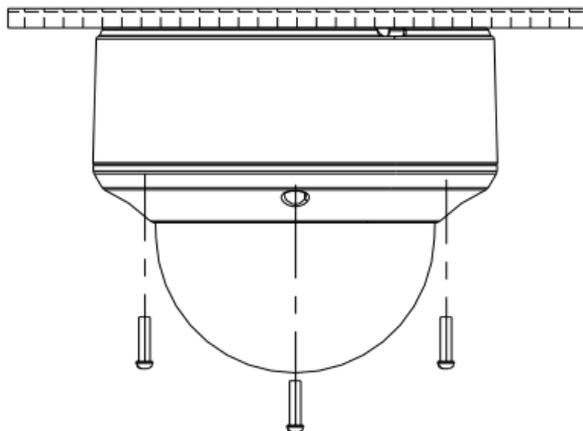


Figure 2-5 Securing Lower Dome

2.2.2 In-ceiling Mounting with gang box

Steps:

1. Install the gang junction box in the ceiling.
2. Attach the In-ceiling Mount (supplied) to the gang junction box with two screws.

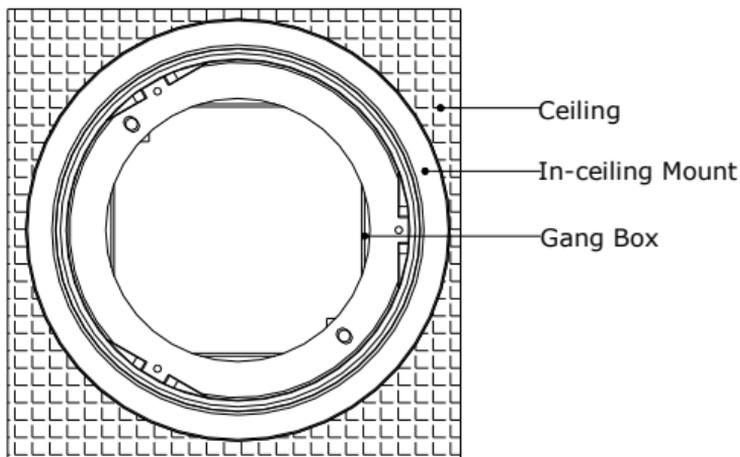


Figure 2-6 In-ceiling Mount

3. Route the cables through the hole in the center of the in-ceiling mount.
4. Align the camera with the gang junction box.
5. Tighten the screws to secure the camera with the gang junction box.
6. Connect the video output connector to the monitor. Connect the power connector to the power supply.
7. Adjust the image and focus. Please refer to the section 2.3 for more detailed information.

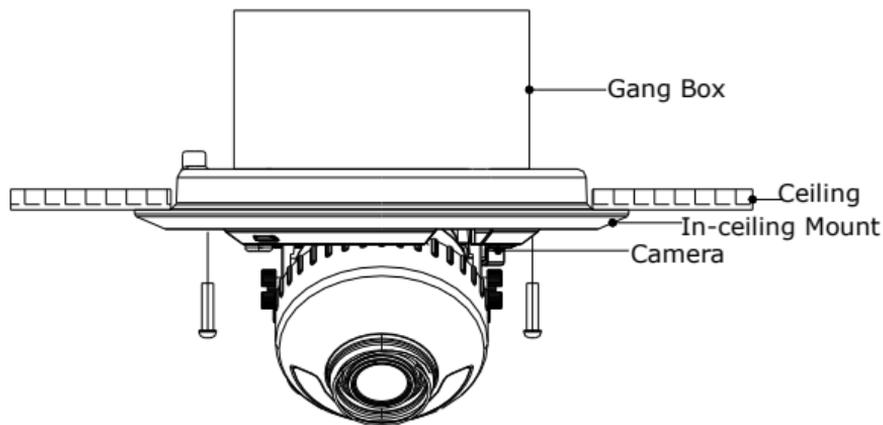


Figure 2-7 Securing Camera

8. Install the inner black liner back to the camera.
9. Align the lower dome with the in-ceiling mount.
10. Tighten the screws to secure the lower dome with the in-ceiling mount.

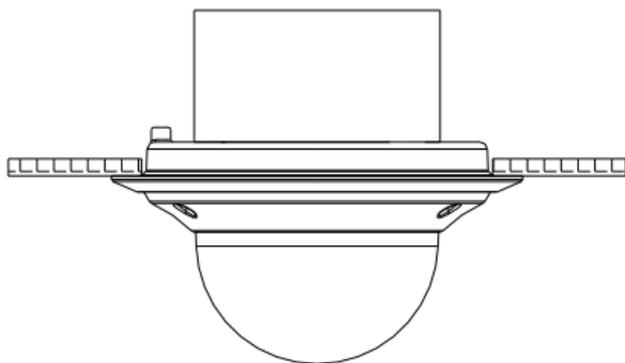


Figure 2-8 Securing Lower Dome

2.2.3 In-ceiling Mounting without gang box

Steps:

1. Attach the drill template (supplied) to the place where you want to fix the camera.
2. According to the circles on the drill template as shown in Figure 2-9, drill screws holes in the ceiling on your demand.

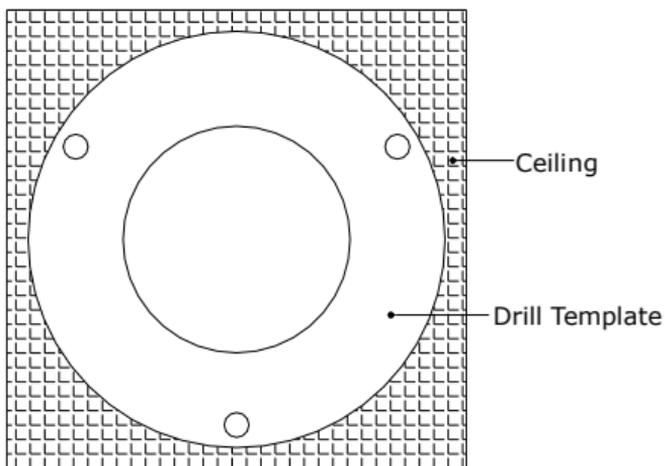


Figure 2-9 The Drill Template

3. Rotate the three screws through the screw holes of the in-ceiling mount.
4. Rotate the spring clips counterclockwise to the screws as shown in Figure 2-10.
5. Push the three spring clips through the three screw holes in the ceiling.

6. Tighten the screws. Then rotate the spring clips counterclockwise to tightly secure the in-ceiling mount with the ceiling.

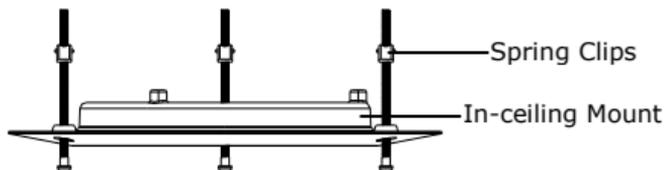


Figure 2-10 The In-ceiling Mount

7. Route the cables through the hole in the center of the in-ceiling mount.
8. Align the camera with the in-ceiling mount.
9. Tighten the set screws to secure the camera with the in-ceiling mount.
10. Connect the video output connector to the monitor. Connect the power connector to the power supply.
11. Adjust the image and focus. Please refer to the section 2.3 for more detailed information.

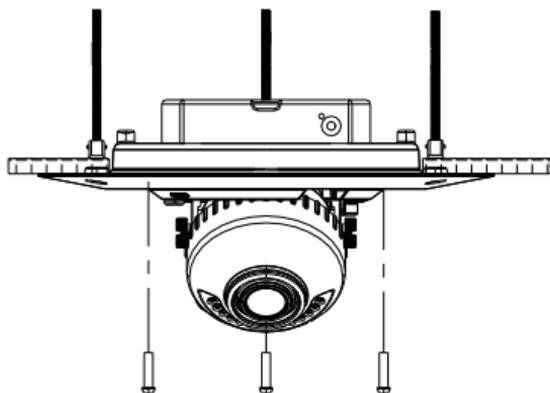


Figure 2-11 Securing Camera

12. Install the inner black liner back to the camera.
13. Align the lower dome with the in-ceiling mount.
14. Tighten the screws to secure the lower dome with the in-ceiling mount.

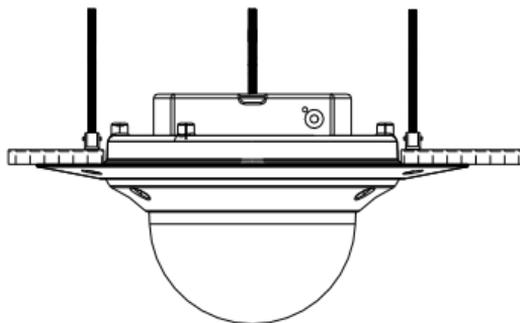


Figure 2-12 Securing Lower Dome

2.2.4 Outdoor Wall Mounting

For the wall mounting, you have to purchase a wall mount.

Steps:

1. Secure the wall mount to the wall.
2. Loosen the three set screws on the edge of the front panel.
Remove the front panel.

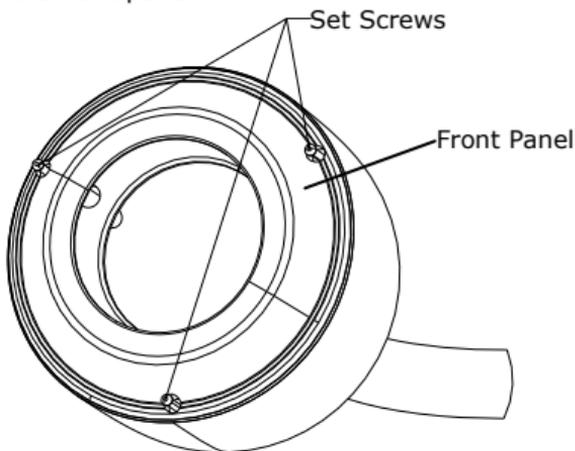


Figure 2-13 Removing the Front Panel

3. Route the cables through the hole in the center of the wall mount.
4. Align the camera with the wall mount.
5. Tighten the set screws to secure the camera with the wall mount.
6. Connect the video output connector to the monitor. Connect the power connector to the power supply.

7. Adjust the image and focus. Please refer to the section 2.3 for more detailed information.

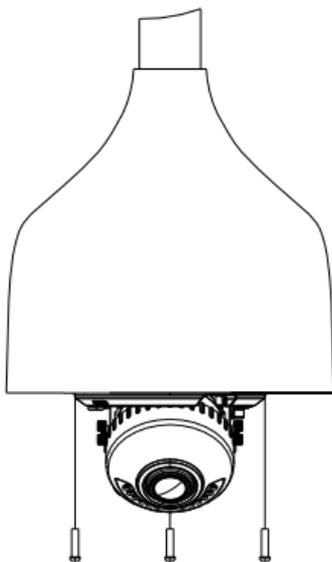


Figure 2-14 Securing Camera

8. Install the inner black liner back to the camera.
9. Align the lower dome with the camera.
10. Tighten the screws to secure the lower dome with the camera.

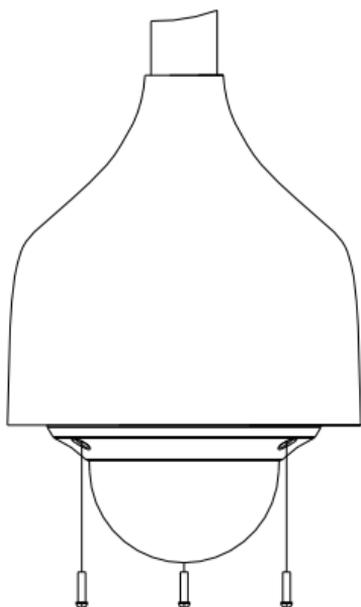


Figure 2-15 Securing Lower Dome

11. Tighten the set screws to secure the front panel to the mount.

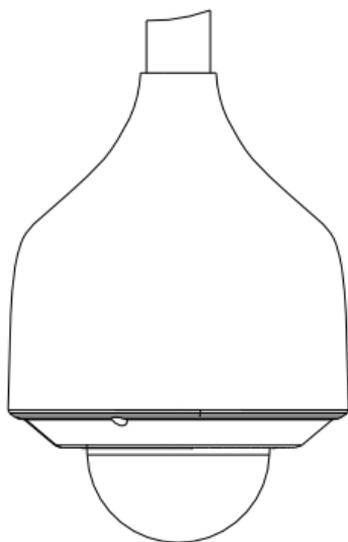


Figure 2-16 Securing Front Panel

The DS-1242ZJ and DS-1243ZJ mounts are shown as follows:



2.2.5 Indoor Wall Mounting

For the wall mounting, you have to purchase a wall mount.

Steps:

1. Align the number 2 holes of the back box with the number 1 holes of the wall mount.
2. Secure the back box to the wall mount with four screws.

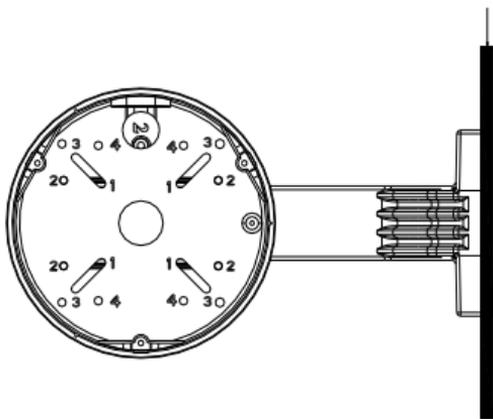


Figure 2-17 Securing Back Box

3. Route the cables through the hole in the center of the wall mount.
4. Align the camera with the back box.
5. Tighten the set screws to secure the camera with the back box.
6. Connect the video output connector to the monitor. Connect the power connector to the power supply.

7. Adjust the image and focus. Please refer to the section 2.3 for more detailed information.

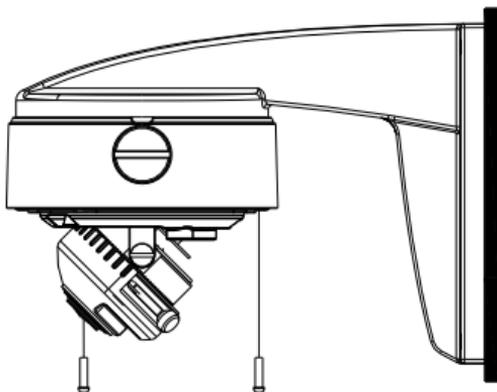


Figure 2-18 Securing Camera

8. Install the inner black liner back to the camera.
9. Align the lower dome with the camera.
10. Tighten the screws to secure the lower dome with the camera.

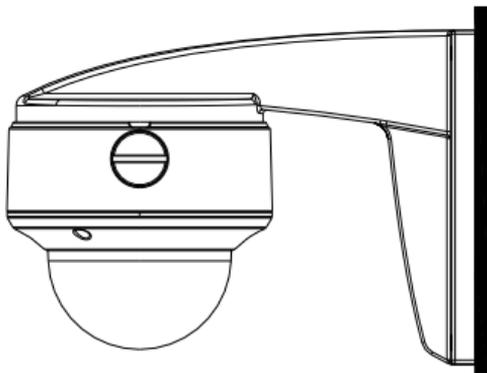


Figure 2-19 Securing Lower Dome

The DS-1229ZJ and DS-1239ZJ mounts are shown as follows:



2.3 Image and Focus Adjusting

Steps:

1. Three-axis adjustment.
 - 1). View the camera image using the monitor.
 - 2). Rotate the panning table to adjust the panning position of the camera.
 - 3). Loosen the tilting lock screw.
 - 4). Rotate the tilting table to adjust the tilting position of the camera.
 - 5). Tighten the tilting lock screw.
 - 6). Rotate the lens to adjust the azimuth angle of the image.

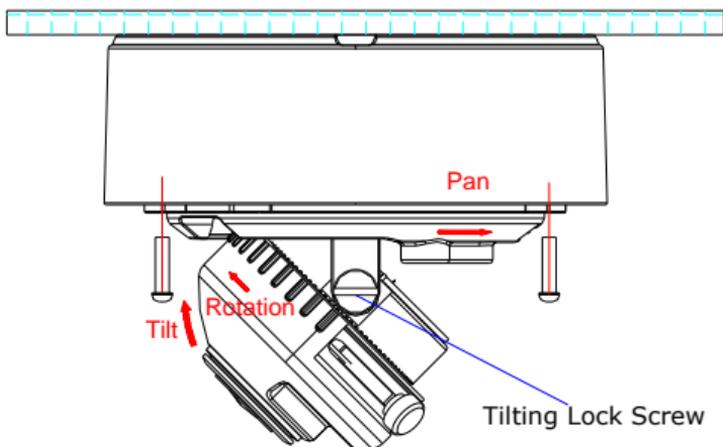


Figure 2-20 Three-axis Adjustment

2. Zoom and focus adjustment.
 - 1). View the camera image using the monitor.
 - 2). Loosen the zoom lock screw and move the screw between T(Tele) and W(Wide) to obtain the appropriate angle of view.
 - 3). Tighten the zoom lock screw.
 - 4). Loosen the focus lock screw and move the screw between F(Far) and N(Near) to obtain the optimum focus.
 - 5). Tighten the focus lock screw.

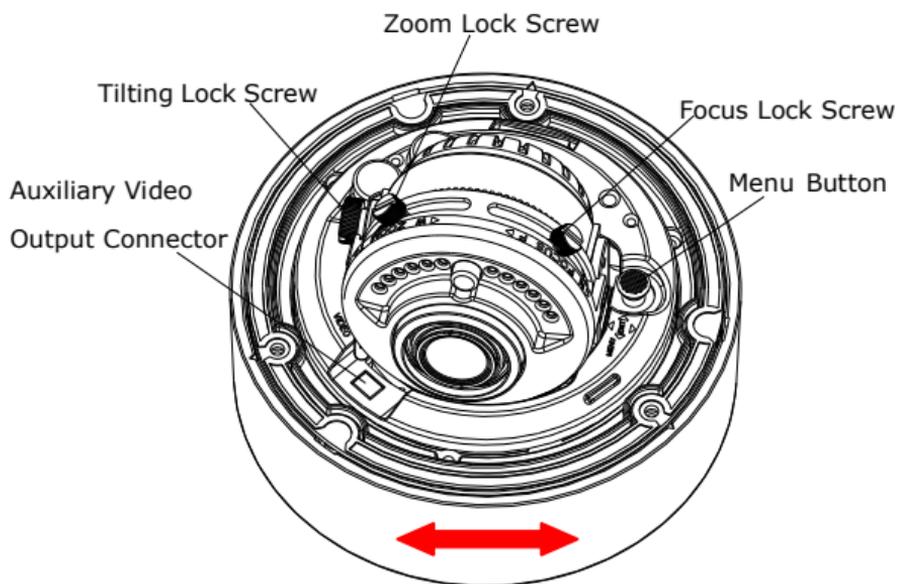


Figure 2-21 Lens Adjustment

3 Menu Description

3.1 MAIN MENU

Steps:

1. Press the button to access the main menu or the submenu.
2. Set the menu button up/down to position the cursor.
3. Set the menu button left/right to select the different options.

SETUP MENU	
LENS	AUTO↵
SHUTTER/AGC	AUTO↵
WHITE BAL	ATW↵
BACKLIGHT	OFF
PICT ADJUST	↵
ATR	OFF
MOTION DET	OFF
PRIVACY	OFF
DAY/NIGHT	AUTO↵
NR	↵
CAMERA ID	OFF/ON↵
SYNC	INT
LANGUAGE	ENGLISH
CAMERA RESET	
EXIT↵	SAVE ALL

Figure 3-1 Main Menu

3.2 LENS Setting

After moving the cursor to LENS, set the menu button up/down to select MANUAL or AUTO.

- Selecting MANUAL mode, you have to adjust the LENS IRIS manually.
- Selecting AUTO mode, press the button to enter the AUTO IRIS submenu.

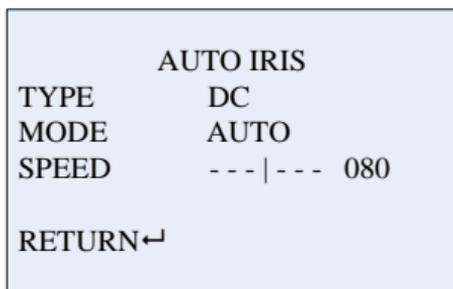


Figure 3-2 AUTO IRIS

AUTO IRIS function can automatically open and closes the iris in response to changing light conditions.

- TYPE** The type is **DC**.
- MODE** Choose the iris mode. **AUTO**, **OPEN** and **CLOSE** are selectable
- SPEED** Adjust the auto iris speed. The higher the number, the faster the auto iris. The value ranges from 0 to 255.

3.3 SHUTTER/AGC Setting

SHUTTER/AGC allows you to adjust how the system balances **SHUTTER** and **AGC** settings in different light conditions. You can set the different shutter and AGC value according to the luminance level of the situation.

You can choose **MANUAL** and **AUTO** mode for the shutter and AGC.

Note: When in the lens setting interface, choosing lens type as **AUTO**, the **AUTO IRIS** can also be adjusted to change the brightness of the image; otherwise only shutter and AGC are adjustable.

MANUAL SETUP	
MODE	SHUT+AGC
SHUTTER	1/50
AGC	6.00
RETURN↵	

Figure 3-3 MANUAL SETUP

In the **MANUAL SETUP** submenu, you can adjust the **SHUTTER** speed and **AGC** value to maintain the brightness level of the camera.

SHUTTER Manually set the shutter speed. 1/50, 1/100, 1/250, 1/500, 1/1k, 1/2k, 1/4k,

1/100k are selectable.

AGC

The AGC value can be set between 6 and 44.8.

AUTO SETUP	
HIGH LUMINANCE	
MODE	SHUT+AUTO IRIS/AUTO IRIS
BRIGHTNESS	--- --- 080
LOW LUMINANCE	
MODE	AGC
BRIGHTNESS	*0.50
RETURN↵	

Figure 3-4 AUTO SETUP

In the **AUTO SETUP** submenu (Figure 3-4), you can adjust the **BRIGHTNESS** value. The system will automatically adjust the **SHUTTER**, **AGC** and **AUTO IRIS** settings according to the **BRIGHTNESS** setting. And the system can define and recognize the lamination level automatically.

In **HIGH LUMINANCE** condition, the **SHUTTER** speed and **AUTO IRIS** level can be modified automatically according to the **BRIGHTNESS** value.

MODE

SHUT+AUTO IRIS and **AUTO IRIS**

are available when the **LENS** type is

AUTO IRIS. When the **LENS** type is

Manual, the iris is fixed and only **SHUT**

option is provided.

BRIGHTNESS The value ranges from 0 to 255.

In **LOW LUMINANCE** condition, the **AGC** can be adjusted automatically according to the **BRIGHTNESS** value.

MODE Only **AGC** is available.

BRIGHTNESS × 1.00, × 0.75, × 0.50 and × 0.25 are selectable.

3.4 WHITE BALANCE Setting

This feature processes the viewed image to retain color balance over a color temperature range and remove the unrealistic color casts. **ATW**, **PUSH**, **PUSH LOCK**, **USER1**, **USER2**, **ANTI CR** and **MANUAL** are selectable.

- **PUSH**

Selecting the **PUSH** mode, the viewed image retains color balance automatically. The color in the image balances according to the color temperature.

- **PUSH LOCK**

Selecting the **PUSH LOCK** mode and pressing the button, the viewed image retains color balance automatically according to the current color temperature of the scene. The color balance value doesn't change according to the color temperature.

- **ANTI CR (Anti Color Rolling)**

Selecting this feature, the system suppresses the color rolling under the fluorescent light when processing the color balance.

- **USER 1**

This mode is the indoor mode. It is suitable for indoor application.

B-GAIN It's used to adjust the picture output in the blue range.

The **B-GAIN** value ranges from 0 to 255.

R-GAIN It's used to adjust the picture output in the red range.

The **R-GAIN** value ranges from 0 to 255.

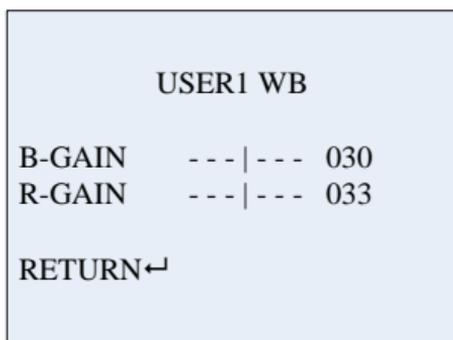


Figure 3-5 USER 1 WB

- **USER 2**

This mode is suitable for environment with the fluorescent light.

B-GAIN The **B-GAIN** value ranges from 0 to 255.

R-GAIN The **R-GAIN** value ranges from 0 to 255.

- **MANUAL**

Selecting **MANUAL** and pressing the button to enter the **MANUAL WB** submenu. Customize the **LEVEL** value on your demand.

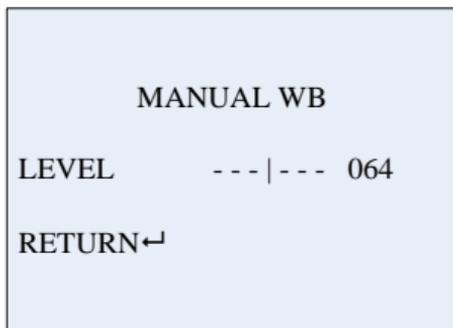


Figure 3-6 MANUAL WB

- **ATW**

Auto Tracking White Balance

In ATW mode, white balance is continuously being adjusted in real-time according to the color temperature of the scene illumination.

SPEED The **SPEED** can be set from 0 to 255.

- DELAY CNT** It's the delay time between monitoring the light conditions changing and adjusting the white balance.
- ATW FRAME** It's used to adjust the image size of the ATW image. × 0.50, × 1.00, × 1.50 and × 2.00 are available.
- ENVIRONMENT** INDOOR and OUTDOOR are selectable.

ATW	
SPEED	--- --- 239
DELAY CNT	--- --- 016
ATW FRAME	*1.00
ENVIRONMENT	INDOOR
RETURN↵	

Figure 3-7 ATW

3.5 BACKLIGHT Setting

SHUTTER/AGC allows you to adjust the backlight. There are **OFF**, **BLC** and **HLC** selectable.

- BLC (Backlight Compensation)

If there's a strong backlight, the object in front of the backlight appears silhouetted or dark. **BLC** can correct the exposure of the subject. But the backlight environment is overexposed.

- HLC(Highlight Compensation)

HLC masks strong light sources that usually flare across a scene. This makes it possible to see the detail of the image that would normally be hidden.

3.6 PICTURE ADJUST Setting

Move the cursor to **PICT ADJUST**. Press the button to enter the **PICT ADJUST** submenu. The adjustable features are **MIRROR**, **BRIGHTNESS**, **CONTRAST**, **SHARPNESS**, **HUE**, and **GAIN**.

- MIRROR

If you turn the **MIRROR** function on, the image will be flipped horizontally. It is like the image in the mirror.

- BRIGHTNESS

The brightness is adjustable from 0 to 255.

- CONTRAST

This feature enhances the difference in color and light between parts of an image. The value ranges from 0 to 255.

- SHARPNESS

SHARPNESS describes the clarity of detail in the image. The value ranges from 0 to 255.

- HUE

Adjust this feature to change the color of the image. The value ranges from 0 to 255.

- **GAIN**

Adjust this feature to change the depth of the color. The value ranges from 0 to 255.

PICT ADJUST	
MIRROR	OFF
BRIGHTNESS	--- --- 000
CONTRAST	--- --- 128
SHARPNESS	--- --- 128
HUE	--- --- 128
GAIN	--- --- 128
RETURN↵	

Figure 3-8 PICT ADJUST

3.7 ATR Setting

ATR is the digital dynamic range function which can adjust the brightness and contrast level of the image, and balance the brightness level of the whole image. Move the cursor to **ATR**. Set the button left/right to select **ON** or **OFF**. After selecting **ON**, press the button to enter the **ATR** submenu.

LUMINANCE There are MID, HIGH, LOW selectable, standing for middle, high and low luminance respectively.

CONTRAST There are MID, HIGH, LOW, MIDLOW and MIDHIGH selectable.

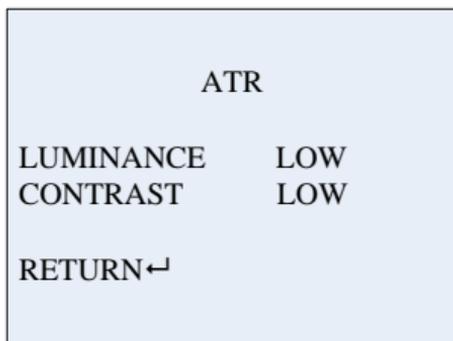


Figure 3-9 ATR

3.8 MOTION DETECTION Setting

There are two kinds of **MOTION DET** panes, **BLOCKDISP** and **MONITOR AREA**.

BLOCK DISP

Steps:

1. After moving the cursor to **MOTION DET**, select **ON** and press the button to enter the submenu.

2. Position the cursor on **DETECT SENSE**, set the menu button left/right to adjust the sensitivity level.
3. Position the cursor on **BLOCK DISP**, set the menu button left/right to select **ENABLE**.
4. Press the button to enter the setup interface of the detection panes.
5. You can press the button once to cancel a pane. Press on the pane again to enable the pane.
6. Long press the button to back to the previous menu.
7. Select **ON** to enable **BLOCK DISP**.
8. Move the cursor to **MONITOR AREA** and select **ON**.
9. Return to the **MAIN MENU** and click **SAVE ALL**.
10. You can find the **BLOCK DISP** take effect after you exit the main menu.

MONITOR AREA

Steps:

1. After moving the cursor to **MOTION DET**, select **ON** and press the button to enter the submenu.
2. Position the cursor on **DETECT SENSE**, set the menu button left/right to adjust the sensitivity level.
3. Position the cursor on **MONITOR AREA**. Select **OFF** to disable area motion detection. Select **ON** to enable area motion detection.

4. Position the cursor on **AREA SEL** to select one area. There are four areas available.
5. Set the values of **TOP**, **BOTTOM**, **LEFT** and **RIGHT**. The size and position of the area is defined by these values. And after you set all this value, you can see a frame on the image.
6. Return to the **MAIN MENU** and click **SAVE ALL**.
7. You can find the **MONITOR AREA** frame take effect after you exit the main menu.

Note: The **MONITOR AREA** frame take effect, only when there are **BLOCK DISP** panes in the **MONITOR AREA** frame.

Note: The **MONITOR AREA** mode and the **BLOCK DISP** mode can exist simultaneously.

MOTION DET	
DETECT SENSE	--- --- 111
BLOCK DISP	OFF
MONITOR AREA	ON
AREA SEL	1/4
TOP	--- --- 000
BOTTOM	--- --- 000
LEFT	--- --- 000
RIGHT	--- --- 000
RETURN	↵

Figure 3-10 MOTION DET

3.9 PRIVACY MASK Setting

This feature allows you to cover certain areas which you don't want to be viewed or recorded.

The size, color, transparency of the areas is adjustable.

Steps:

1. After moving the cursor to **PRIVACY**, press the button to enter **PRIVACY** submenu.
2. Select one privacy area in **AREA SEL**.
3. Set the values of **TOP**, **BOTTOM**, **LEFT** and **RIGHT**. The size and position of the area is defined by these values.
4. Select the color and the transparency values for the privacy area. Turn the **MOSAIC** on if you want mosaic privacy areas.
5. Repeat the steps 1 through 4 to program other privacy areas.

AREA SEL There are four areas available.

COLOR There are eight colors available.

TRANSP The available values are 1.0, 0.75, 0.5, and 0.

Note: there are only 4 areas available in **AREA SEL**, when the MOTION DETECTION function is on.

PRIVACY	
AREA SEL	1/8
TOP	--- --- 000
BOTTOM	--- --- 000
LEFT	--- --- 000
RIGHT	--- --- 000
COLOR	1
TRANSP	0.00
MOSAIC	OFF
RETURN	↵

Figure 3-11 PRIVACY

3.10 DAY/NIGHT Setting

There are five **DAY/NIGHT** modes selectable: **AUTO**, **COLOR**, and **B/W**.

COLOR mode is used for normal lighting conditions.

B/W mode can increase the sensitivity in low light conditions.

AUTO Mode Setting

In **AUTO** mode, the day mode and the night mode can switch automatically.

Steps:

1. After moving the cursor to **DAY/NIGHT**, set the menu button left/right to select **AUTO**.
2. Press the button to enter the submenu.

BURST Select **ON** or **OFF** to enable or disable this feature.

DELAYCNT The value ranges from 0 to 255. This value is the delay time before the day/night mode switches.

DAY→NIGHT The value ranges from 0 to 255. The day mode switches to the night mode when the light condition reaches to the value you select.

NIGHT→DAY The value ranges from 0 to 255. The night mode switches to the day mode when the light condition reaches to the value you select.

DAY/NIGHT	
BURST	OFF
DELAY CNT	--- --- 000
DAY→NIGHT	--- --- 003
NIGHT→DAY	--- --- 005
RETURN↵	

Figure 3-12 DAY/NIGHT

B/W Mode Setting

In the **B/W** submenu, you can enable or disable the **BURST**.

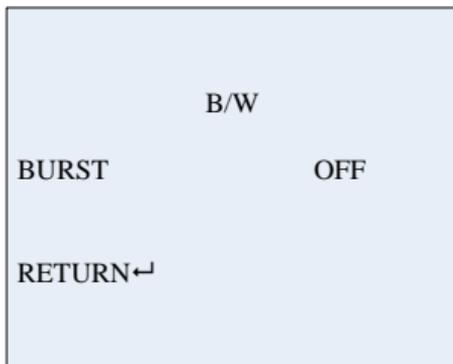


Figure 3-13 B/W

3.11 NR Setting

This feature is used to reduce the noise in the video signal.

After moving the cursor to **NR**, press the button to enter the **NR** submenu.

Y LEVEL The value ranges from 0 to 15.

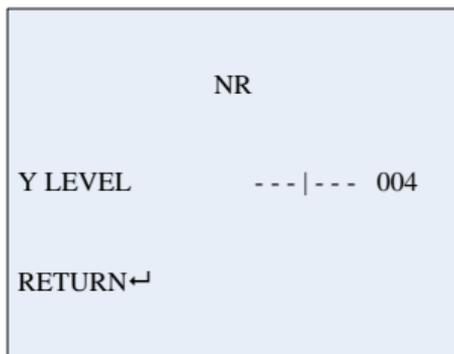


Figure 3-14 NR

3.12 CAMERA ID Setting

In **Camera ID** submenu, you can customize the camera ID. It also allows you to adjust the camera ID position on the monitor screen.

- Select OFF, if you want to disable the Camera ID.
- Select ON, if you want to enable the Camera ID.

Customizing the camera ID

Steps:

1. After selecting **ON**, press the button to enter the submenu.
2. Set the menu button up/down/left/right to position the cursor on the character you want.

Note: The characters include letters, numbers and symbols.

3. Set confirm to enter your selection. The selected character displays under the **CAMERA ID** and above the characters.

4. Repeat the steps 1 through 3 to select other characters.

Modifying the camera ID

Steps:

1. Position the cursor on one of the arrows←→↑↓.
2. Press the button to position the cursor on the character that needs to modify.
3. Select one of the other characters to replace it.

Clearing the camera ID

Steps:

1. Position the cursor on **CLR**.
2. Press the button to clear the characters.

Positioning the camera ID

Steps:

1. After moving the cursor to **POS**, press the button to enter the position setting interface.
2. Set the menu button up/down/left/right to position the camera ID.
3. Press the button to save the position and exit.

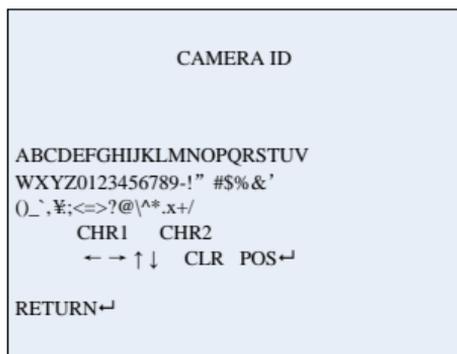


Figure 3-15 CAMERA ID

3.13 SYNC/PIXEL CORRECT Setting

Both internal and line lock synchronization are available. (Only the camera which supports DC 12 V and AC 24 V power has line lock synchronization.)

- If 12V DC power supply is applied, **SYNC** mode is internal synchronization and not adjustable.
- If 24V AC power supply is applied, you can select either internal or line lock synchronization.
- Press the button to right for about 2seconds, you can exchange the SYNC mode. Then get to the menu of the **SYNC** setting, you can adjust the phase of the Line-lock.
- Press the button to left for about 2 seconds; you can enable auto **PIXEL CORRECT** function. This function will be more active in the absolutely dark environment. Make sure that the lens's IRIS is closed before using this function.

3.14 LANGUAGE Setting

You can adjust the language of the on-screen menu. The factory default language is English.

Steps:

1. Move the cursor to **LANGUAGE**.
2. Set left/right to select the language you need.

3.15 CAMERA RESET Setting

After moving the cursor to **CAMERA RESET**, press the button to reset all camera settings to factory default parameters.

Appendix

Table 1 DS-2CC5181P(N)-VP(IR)(H)

Specification

Model Parameter	DS-2CC5181P(N)-VP(IR)(H)
	600 TVL CCD ICR Weather-proof Vandal-proof Dome Camera
Camera	
Image Sensor	1/3" SONY Super HAD CCD II
Signal System	PAL/NTSC
Effective Pixels	PAL: 752 (H) × 582 (V) NTSC: 768 (H) × 494 (V)
Min. Illumination	Color: 0.001 Lux @ (F1.2, AGC ON) Color: 0.0014 Lux @ (F1.4, AGC ON) B/W: 0.0001 Lux @ (F1.2, AGC ON) B/W: 0.00014 Lux @ (F1.4, AGC ON) -IR: 0.001 Lux @ (F1.2, AGC ON), 0 Lux with IR 0.0014 Lux @ (F1.4, AGC ON), 0 Lux with IR
Shutter Time	PAL: 1/50 s to 1/100,000 s NTSC: 1/60 s to 1/100,000 s
Lens	2.8 - 12 mm @ F1.4

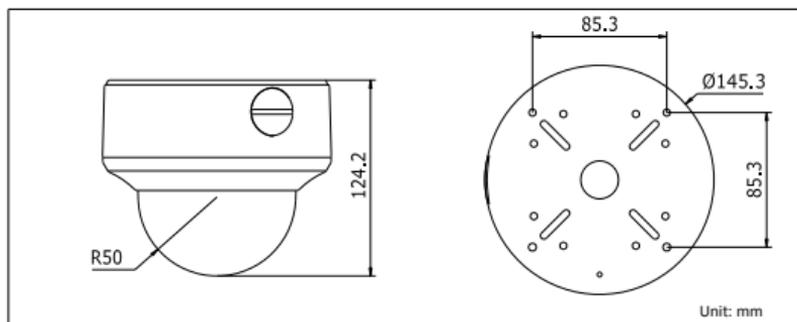
Day/Night High-definition Dome Camera • User Manual

	Angle of view: 92° - 27.2°
Lens Mount	φ14
Auto Iris	DC drive
Angle Adjustment	Pan: 0 - 355°, Tilt: 0 - 80°, Rotation: ± 90°
Day & Night	IR cut filter with auto switch
Horizontal Resolution	600 TVL (Color), 650 TVL (B/W)
Synchronization	Internal/Power synchronization
Video Output	1Vp-p composite output (75 Ω/BNC); Test monitor out [1Vp-p composite output (75 Ω/BNC), device line]
S/N Ratio	More than 62 dB
Menu	
Camera ID	On/Off (52 letters, position adjustable)
D/N Mode	Auto /Day/Night/EXT1/EXT2
White Balance	ATW/PUSH/USER1/USER2/ANTI CR/MANUAL/PUSH LOCK
Private Mask	On/Off, maximum 8 zones
Motion Detection	On/Off
BLC	Area/Intensity/Off
Language	English/Chinese

Day/Night High-definition Dome Camera • User Manual

Function	SMART IR, ATR, HLC, DNR, Sharpness, Brightness, Contrast, Hue, Gain, Mirror, Defect Pixel Correction
General	
Operating Conditions	-10 °C - 60 °C (14 °F - 140 °F) Humidity 90% or less (non-condensing) -H: -40 °C - 60 °C (-40 °F - 140 °F) with heater and fan on
Power Supply	24 V AC \pm 10%, 12 V DC \pm 10% -H: 24 V AC \pm 10%
Weather Proof Rating	IP66
Heater	-H: support
IR Range	-IR: approx 20 to 30 meters
Power Consumption	Max. 5 W -IR: Max. 13 W with IR cut filter on -H: Max. 17 W with heater and fan on -IRH: Max. 25W
Impact Protection	IEC60068-2-75 test, Eh, 50J; EN50102, up to IK10.
Dimension	Φ 145.3 \times 124.2 mm (Φ 5.72" \times 4.89")
Weight	2000 g (4.40 lbs)

Dimension



Dimension with DS-1240ZJ:

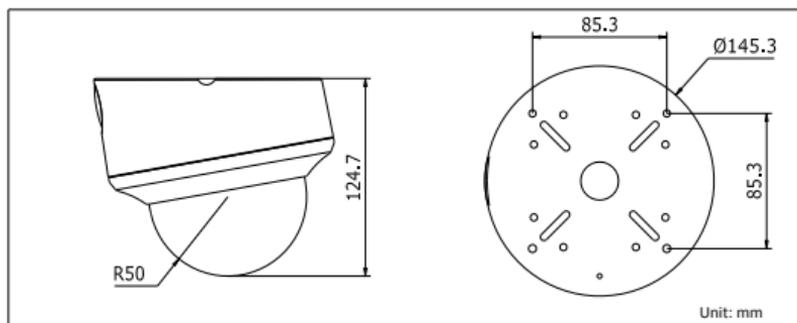


Table 2 DS-2CC5191P(N)-VP(IR)(H)**Specification**

Model Parameter	DS-2CC5191P(N)-VP(IR)(H)
	650 TVL CCD ICR Weather-proof Vandal-proof Dome Camera
Camera	
Image Sensor	1/3" SONY EXView HAD CCD II
Signal System	PAL/NTSC
Effective Pixels	PAL: 976 (H) × 582 (V) NTSC: 976 (H) × 494 (V)
Min. Illumination	Color: 0.001 Lux @ (F1.2, AGC ON) Color: 0.0014 Lux @ (F1.4, AGC ON) B/W: 0.0001 Lux @ (F1.2, AGC ON) B/W: 0.00014 Lux @ (F1.4, AGC ON) -IR: 0.001 Lux @ (F1.2, AGC ON), 0 Lux with IR 0.0014 Lux @ (F1.4, AGC ON), 0 Lux with IR
Shutter Time	PAL: 1/50 s to 1/100,000 s NTSC: 1/60 s to 1/100,000 s
Lens	2.8 - 12 mm @ F1.4
	Angle of view: 92° - 27.2°

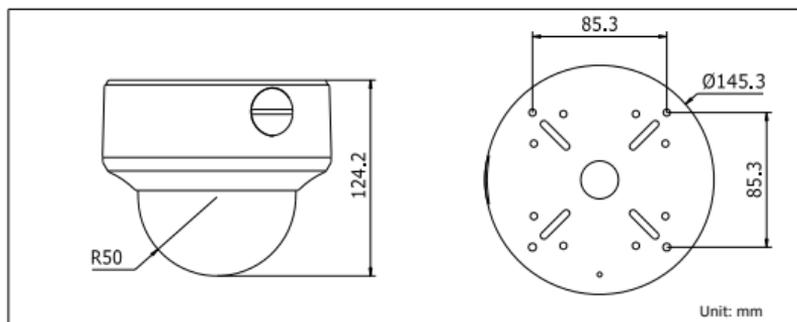
Day/Night High-definition Dome Camera • User Manual

Lens Mount	φ14
Auto Iris	DC drive
Angle Adjustment	Pan: 0 - 355°, Tilt: 0 - 80°, Rotation: ± 90°
Day & Night	IR cut filter with auto switch
Horizontal Resolution	650 TVL (Color), 700 TVL (B/W)
Synchronization	Internal/Power synchronization
Video Output	1Vp-p composite output (75 Ω/BNC); Test monitor out [1Vp-p composite output (75 Ω/BNC), device line]
S/N Ratio	More than 62 dB
Menu	
Camera ID	On/Off (52 letters, position adjustable)
D/N Mode	Auto /Day/Night/EXT1/EXT2
White Balance	ATW/PUSH/USER1/USER2/ANTI CR/MANUAL/PUSH LOCK
Private Mask	On/Off, maximum 8 zones
Motion Detection	On/Off
BLC	Area/Intensity/Off
Language	English/Chinese

Day/Night High-definition Dome Camera • User Manual

Function	SMART IR, ATR, HLC, DNR, Sharpness, Brightness, Contrast, Hue, Gain, Mirror, Defect Pixel Correction
General	
Operating Conditions	-10 °C - 60 °C (14 °F - 140 °F) Humidity 90% or less (non-condensing) -H: -40 °C - 60 °C (-40 °F - 140 °F) with heater and fan on
Power Supply	24 V AC \pm 10%, 12 V DC \pm 10% -H: 24 V AC \pm 10%
Weather Proof Rating	IP66
Heater	-H: support
IR Range	-IR: approx 20 to 30 meters
Power Consumption	Max. 5 W -IR: Max. 13 W with IR cut filter on -H: Max. 17 W with heater and fan on -IRH: Max. 25W
Impact Protection	IEC60068-2-75 test, Eh, 50J; EN50102, up to IK10.
Dimension	Φ 145.3 \times 124.2 mm (Φ 5.72" \times 4.89")
Weight	2000 g (4.40 lbs)

Dimension



Dimension with DS-1240ZJ:

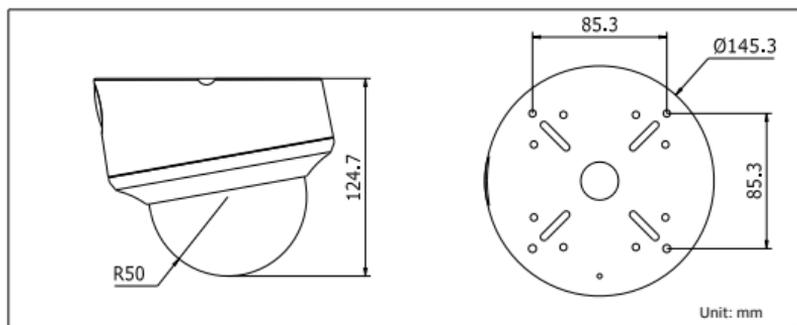


Table 3 DS-2CC51A1P(N)-VP(IR)(H)**Specification**

Model Parameter	DS-2CC51A1P(N)-VP(IR)(H)
	700 TVL CCD ICR Weather-proof Vandal-proof Dome Camera
Camera	
Image Sensor	1/3" SONY EXView HAD CCD II
Signal System	PAL/NTSC
Effective Pixels	PAL: 976 (H) × 582 (V) NTSC: 976 (H) × 494 (V)
Min. Illumination	Color: 0.001 Lux @ (F1.2, AGC ON) Color: 0.0014 Lux @ (F1.4, AGC ON) B/W: 0.0001 Lux @ (F1.2, AGC ON) B/W: 0.00014 Lux @ (F1.4, AGC ON) -IR: 0.001 Lux @ (F1.2, AGC ON), 0 Lux with IR 0.0014 Lux @ (F1.4, AGC ON), 0 Lux with IR
Shutter Time	PAL: 1/50 s to 1/100,000 s NTSC: 1/60 s to 1/100,000 s
Lens	2.8 - 12 mm @ F1.4
	Angle of view: 92° - 27.2°

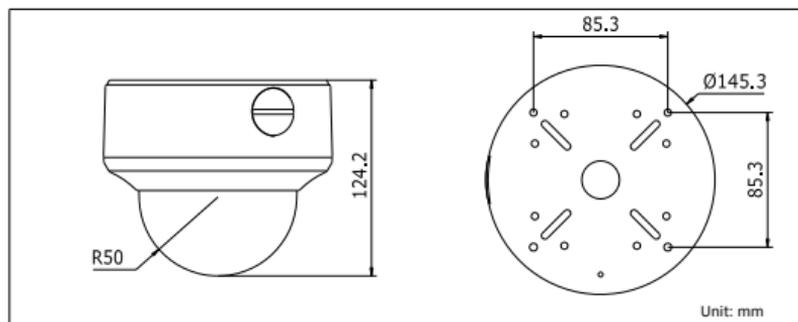
Day/Night High-definition Dome Camera • User Manual

Lens Mount	φ14
Auto Iris	DC drive
Angle Adjustment	Pan: 0 - 355°, Tilt: 0 - 80°, Rotation: ± 90°
Day & Night	IR cut filter with auto switch
Horizontal Resolution	700 TVL
Synchronization	Internal/Power synchronization
Video Output	1Vp-p composite output (75 Ω/BNC); Test monitor out [1Vp-p composite output (75 Ω/BNC), device line]
S/N Ratio	More than 62 dB
Menu	
Camera ID	On/Off (52 letters, position adjustable)
D/N Mode	Auto /Day/Night/EXT1/EXT2
White Balance	ATW/PUSH/USER1/USER2/ANTI CR/MANUAL/PUSH LOCK
Private Mask	On/Off, maximum 8 zones
Motion Detection	On/Off
BLC	Area/Intensity/Off
Language	English/Chinese

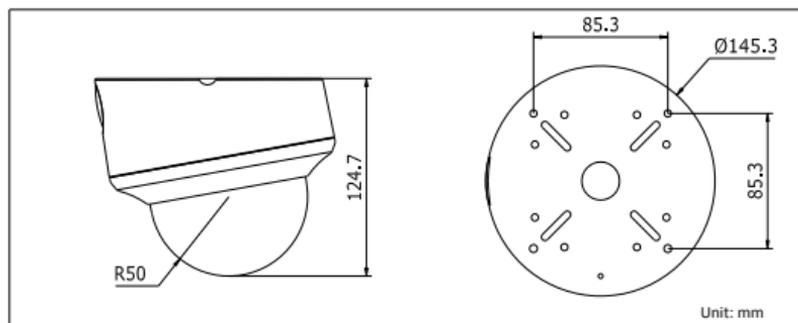
Day/Night High-definition Dome Camera • User Manual

Video	SMART IR, ATR, HLC, DNR, Sharpness, Brightness, Contrast, Hue, Gain, Mirror, Defect Pixel Correction
General	
Operating Conditions	-10 °C - 60 °C (14 °F - 140 °F) Humidity 90% or less (non-condensing) -H: -40 °C - 60 °C (-40 °F - 140 °F) with heater and fan on
Power Supply	24 V AC \pm 10%, 12 V DC \pm 10% -H: 24 V AC \pm 10%
Weather Proof Rating	IP66
Heater	-H: support
IR Range	-IR: approx 20 to 30 meters
Power Consumption	Max. 5 W -IR: Max. 13 W with IR cut filter on -H: Max. 17 W with heater and fan on -IRH: Max. 25W
Impact Protection	IEC60068-2-75 test, Eh, 50J; EN50102, up to IK10.
Dimension	Φ 145.3 \times 124.2 mm (Φ 5.72" \times 4.89")
Weight	2000 g (4.40 lbs)

Dimension



Dimension with DS-1240ZJ:



First Choice for Security Professionals