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#### **Introduction**

Please read these instructions carefully and keep them for future reference. You must heed all the warnings and cautions as well as follow all the safety and installation instructions.

The appearance of the products, functions and firmware or software upgrade may differ from this manual.

GRUNDIG reserves the right to perform needed changes without prior notice.

#### **Safety Instructions**

Make sure that you only use the power adapter that is specified in the specifications sheet of the product. If you use any other adapter or connect the power supply incorrectly, this may cause explosion, fire, electric shocks or damage the product.

Do not connect several devices to one power adapter as this may cause an adapter overload and can lead to over-heating and fire. Make sure that the plug of the power adapter is firmly connected to the power socket.

Do not place containers with liquids on the product. Do not place conducting items like tools, screws, coins or other

metal items on the product. These may fall from the product or can cause fire or electric shocks or other physical injuries.

Do not push or insert any sharp items or any objects into the device as this may cause damage to the product, fire, electric shocks and/or physical injuries.

Do not block any ventilation openings, if there are any. Ensure that the product is well ventilated to prevent any over-heating.

Do not subject the device to physical shock or drop the product.

If the product uses batteries, please use a battery type that is recommended by the manufacturer. Improper use or replacement of the battery may result in the hazard of explosion.

Do not use any accessories that are not recommended by GRUNDIG. Do not modify the product in any way.

If the product starts to smell or smoke comes out of the device, immediately stop using the product and disconnect it from the power supply to prevent fire or electric shocks. Then contact your dealer or the nearest service center.

If the product does not work correctly, contact your dealer or nearest service center. Never open, disassemble or alter the product yourself. GRUNDIG cannot accept any liability or responsibility for problems caused by attempted and unauthorized repair and maintenance.

#### **Installation Instructions**

It is necessary to fix the device firmly if the product is installed on a wall or ceiling.

Do not install the product on surfaces or in places that are vibrating.

Do not install the product near radiation sources.

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Do not install the product near heat sources, like radiators or other equipment that produces some heat.

If the product is not classified by any IP class, do not install the product in very cold or hot temperatures (please refer to the working temperature specified in the specification sheet of the product), dusty, dirty or damp environment.

If the product is classified by any IP class, never touch the product cover directly with your fingers, because the acidic sweat of the fingers may damage the surface coating of the product cover. To clean the inside and outside of the product cover, use a soft and dry cloth. In any case, do not use alkaline detergents. The correct configuration of all passwords and other security settings is the sole responsibility of the installer and/or end-user (this applies especially to IP Cameras and Recorders).

### Special Installation Instructions for Cameras

Do not touch the sensor module with your fingers.

Do not aim the camera or camera lens at a strong light such as the sun or a bright lamp. Irreversible damage to the camera can be caused by a strong light.

Do not expose the sensor of the product to laser beams as this may damage the sensor. If the product supports IR, you need to take some precautions to prevent IR reflection. Do not install the product close to reflective surfaces of objects as this may cause reflection. If the product has a dome cover, please remove the protection film only after installation to prevent dust or grease on the camera which can cause reflection. The foam ring around the lens must be seated flush against the inner surface of the bubble to isolate the lens from the IR LEDs. Fasten the dome cover to the

camera body so that the foam ring and the dome cover are attached seamlessly. For cleaning use a clean cloth with a bit of ethanol and wipe it carefully and gently. In any case do not use alkaline detergents. If a glove is provided in the package, please use it to open the product cover. Never touch the product cover directly with fingers, because the acidic sweat of the fingers may damage the surface coating of the product cover.

## 1 INTRODUCTION

### 1.1 Product Features

This camera adopts new generation sensor with high sensitivity and advanced circuit board design technology. It possesses the features of high resolution, low distortion, and low noise, etc. It is extremely suitable for supervisory system and image processing system.

The main features are as follows:

- High performance CMOS sensor and high resolution bring high-quality image;
- Low illumination;
- Support IR cut filter with auto switch;
- OSD menu, parameters are configurable;
- Support auto white balance, auto gain control, electronic shutter control and internal synchronization;
- SMART IR mode;
- Unit transmission control;
- Advanced 3-axis design meets different installation requirements.

### 1.2 Overview

#### 1.2.1 Overview of Type I Dome Camera

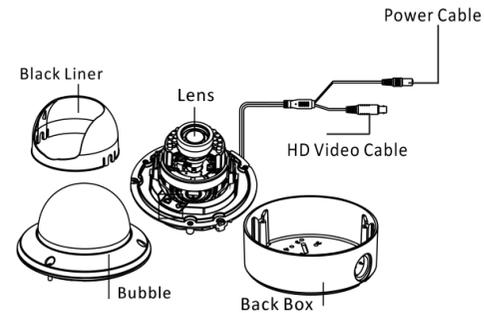


Figure 1-1 Overview of Type I Dome Camera

#### 1.2.2 Overview of Type II Dome Camera

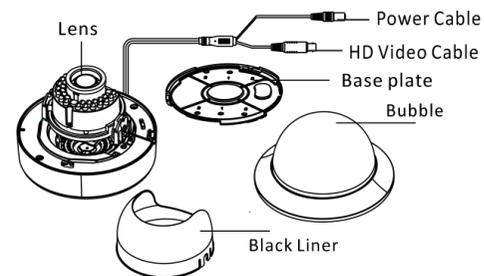


Figure 1-2 Overview of Type II Dome Camera

## 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.
- Make sure that all the related equipment is power-off during the installation.
- Check the specification of the products for the installation environment.
- Check whether the power supply is matched with your power output to avoid damage.
- Please make sure the wall is strong enough to withstand three times the weight of the camera and the mounting.
- If the wall is the cement wall, you need to insert expansion screws before you install the camera.

If the wall is the wooden wall, you can use self-tapping screw to secure the camera.

- If the product does not function properly, please contact your dealer or the nearest service center. Do not disassemble the camera for repair or maintenance by yourself.

### 2.1 Ceiling Mounting

Steps:

1. Drill the screw holes and the cable hole on the ceiling according to the supplied drill template.

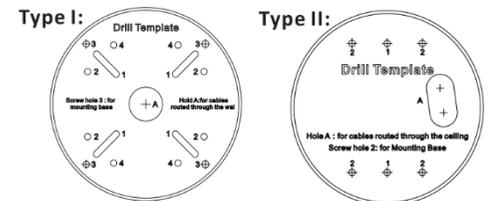


Figure 2-1 The Drill Template

2. Loosen the screws on the bubble of type 1 camera /rotate the bubble of type2 camera to remove the bubble and the black liner.

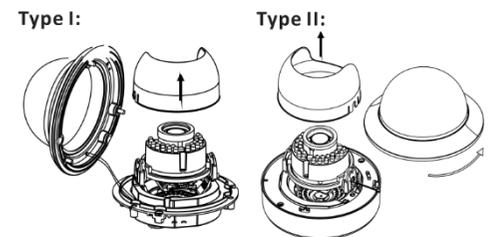


Figure 2-2 Remove the Bubble

3. Attach the back box of type 1 camera /base plate of type2 camera to the ceiling and secure them with supplied self-tapping screws.
4. Route the cables through the cable hole.

5. Align the camera with the back box/base plate, and tighten the set screws to secure the camera with the back box/base plate.

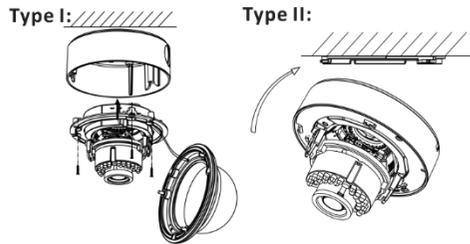


Figure 2-3 Fix the Camera to the Ceiling

6. Connect the corresponding cables.
7. Adjust the camera according to the figure below to get an optimum angle.
8. Fit the black liner on the camera and tighten the screws on the bubble of type 1 camera or rotate the bubble of type 2 camera to complete.

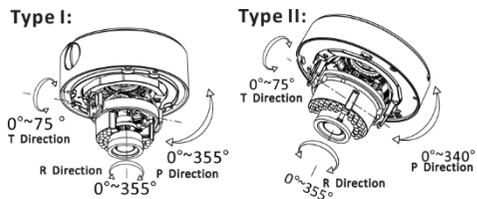


Figure 2-4 3-axis Adjustment

## 2.2 In-ceiling Mounting

### NOTE

You need to purchase an in-ceiling mount separately if you adopt in-ceiling mounting. Steps:

1. Drill the screw holes and the cable hole in the ceiling according to the supplied drill template.
2. Screw the bolts through the mount by aligning with the 2 bolt holes. Fit the toggles onto the bolts.

3. Push the two toggle bolts through the two screw holes on the ceiling. Rotate the bolt till the toggle holds the ceiling tightly.

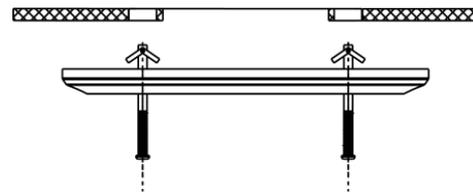


Figure 2-5 Install the Mount

4. Route and connect the corresponding cables.
5. Fix the camera to the in-ceiling mount with the supplied screws.

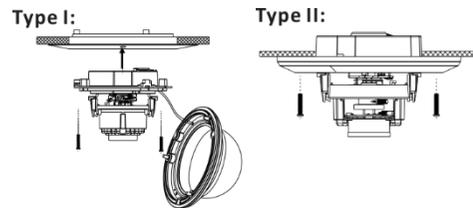


Figure 2-6 Fix the Camera to the Mount

6. Repeat steps 6-8 of the Ceiling Mounting section to complete the installation.

## 2.3 In-ceiling Mounting

### NOTE

in-ceiling mounting with gang box is supported by the both types of camera.

1. Repeat steps 2-3 of the In-ceiling Mounting section to secure the in-ceiling mount (supplied) to the gang box.

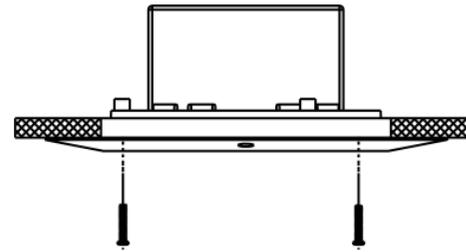


Figure 2-7 Install the Mount

2. Route and connect the corresponding cables.
3. Align the camera with the gang box, and tighten the screws to secure the camera with the gang box.

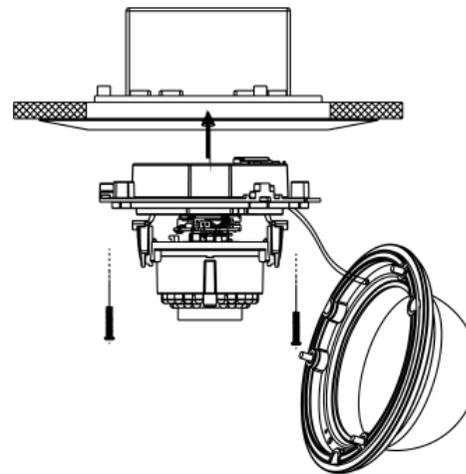


Figure 2-8 Fix the Camera to the Gang Box

5. Repeat steps 6-8 of the Ceiling Mounting section to complete the installation.

## 3 Menu Operation

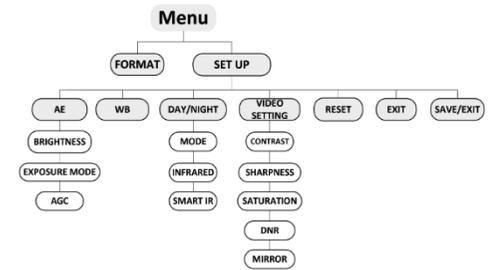


Figure 3-1 Main Menu

### NOTE

With a coaxial camera controller (purchase separately) or calling the preset No.95 you can select the menu and adjust the camera parameters.

### 3.1 FORMAT

You can set the format as PAL/NTSC.

### 3.2 SET UP

Move the cursor to SET UP, and press menu button to enter the SET UP sub menu.

#### 3.2.1 AE

Move the cursor to AE, and you can adjust the image brightness by the **BRIGHTNESS**, **EXPOSURE MODE**, and **AGC**.

#### Brightness:

Brightness refers to the brightness of the image.

#### Exposure Mode:

Move the cursor to Exposure Mode, you can select the exposure mode between Globe and BLC.

When BLC is selected as the exposure mode, the level of BLC mode can be adjusted, as shown in the Figure 3-2.

EXPOSURE	
1.BRIGHTNESS	◀ 5 ▶
2.EXPOSURE MODE LEVEL	◀ BLC ▶
3.AGC	◀ MIDDLE ▶
4.RETURN	↵

Figure 3-2 EXPOSURE

WB	
MODE	MWB
R GAIN	1- --10
B GAIN	1- --10
RETURN	↵

Figure 3-3 WB

#### AGC:

AGC optimizes the clarity of image in poor light scene. AGC level can be set as OFF, LOW, MIDDLE and HIGH.

#### 3.2.2 WB

Move the cursor to WB, and you can set White Balance mode as **AWB** and **MWB** in this menu.

**AWB:** white balance is being adjusted automatically.

**MWB:** Set the **R GAIN/B GAIN** value from 1 to 10. As shown in Figure 3-3.

#### 3.2.3 DAY & NIGHT

Move the cursor to DAY & NIGHT, and select **COLOR**, **B/W**, or **SMART** as the DAY & NIGHT mode.

**COLOR:** The image is colored in day mode all the time.

**B/W:** The image is black & white all the time, and the IR LED turns on in the low-light conditions.

**SMART:** Select to turn on/off the INFRARED\_LAMP and to set the Smart IR level from 1 to 16.

As shown in Figure 3-4.

DAY/NIGHT	
MODE	SMART
INFRARED	OFF
SMART IR	0- --5
RETURN	↵

Figure 3-4 DAY/NIGHT

### 3.2.4 VIDEO SETTING

#### Contrast:

Contrast enhances the difference in color and light between parts of an image.

You can set the value from 1 to 10.

#### Sharpness:

Sharpness determines the amount of detail that an imaging system can reproduce.

You can set the value from 1 to 10.

#### Saturation:

You can set the saturation level of the image.

The value is from 0 to 10.

#### DNR:

DNR decreases the noise effect, especially in low light conditions and delivers more accurate and sharper image quality. You can set the value from 0 to 7.

#### Mirror:

You can set the Mirror status as H, V, HV, or OFF.

#### 3.2.5 Reset

Reset all the settings to the default.

#### 3.2.6 EXIT

Exit and Save & exit are selectable.

#### 3.2.7 SAVE/EXIT

Move the cursor to , and press OK to save the settings and exit the menu.

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