



OWNER'S MANUAL

Dome Camera

Please read this manual carefully before operating
your set and retain it for future reference.

MODEL
LCP2850-AN/AP
LCP2850I-AN/AP



* M F L 6 9 4 4 1 5 0 6 *

ENGLISH

한국어

DEUTSCH

FRANÇAIS

ITALIANO

ESPAÑOL

NEDERLANDS

РУССКИЙ

PORTUGUÊS

TÜRKÇE

日本語

1

Safety Information



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

FCC WARNING: This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

REGULATORY INFORMATION: FCC Part 15

This equipment has been tested and found to comply with the limits for a Class 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.

- A suitable conduit entries, knock-outs or glands shall be provided in the cable entries of this product in the end user.
- Caution: Danger of explosion if battery is incorrectly replaced. Replaced only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
- Holes in metal, through which insulated wires pass, shall have smooth well rounded surfaces or shall be provided with brushings.

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Warning: Do not install this equipment in a confined space such as a bookcase or similar unit.

Warning: Wiring methods shall be in accordance with the National Electric Code, ANSI/NFPA 70.

Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Warning: To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

Caution: This installation should be made by a qualified service person and should conform to all local codes.

Caution: To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Caution: The apparatus should not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, should be placed on the apparatus.



LG Electronics hereby declares that this/ these product(s) is/are in compliance with the essential requirements and other relevant provisions of Directive 2004/108/EC and 2011/65/EU.

Contact office for compliance of this product:

LG Electronics Inc.

EU Representative, Krijgsman 1,1186
DM Amstelveen, The Netherlands

Disposal of your old appliance



1. This crossed-out wheeled bin symbol indicates that waste electrical and electronic products (WEEE) should be disposed of separately from the municipal waste stream.
2. Old electrical products can contain hazardous substances so correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health. Your old appliance may contain reusable parts that could be used to repair other products, and other valuable materials that can be recycled to conserve limited resources.
3. You can take your appliance either to the shop where you purchased the product, or contact your local government waste office for details of your nearest authorised WEEE collection point. For the most up to date information for your country please see www.lg.com/global/recycling

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Safety Precautions

- Do not attempt to disassemble the camera
To prevent electric shock, do not remove screws or covers. There are no user serviceable parts inside. Ask a qualified service personnel for servicing.
- Avoid the camera with direct sunlight
Do not aim the camera at bright objects. Whether the camera is in use or not, never face it with direct sunlight or other extremely bright objects. Otherwise blooming or smear may be caused.
- Handle the camera with care
Do not abuse the camera. Avoid striking, shaking, etc. The camera could be damaged by improper handling or storage.
- Do not use strong solvents or detergents
Use a dry cloth to the camera when it is dirty. If it is hard to remove the dirt on the camera, use a mild detergent and wipe it gently.
- Do not install this camera upside down
This camera is designed for mounting on the ceiling or wall. If you install this camera upside down, for example, mounted on the floor, it may cause malfunction.
- Do not use the camera in such places as shown below. The lens may become cloudy due to condensation if the camera is used under the following conditions.
 - ◊ Rapid temperature fluctuation by switching an air conditioner on and off.
 - ◊ Rapid temperature fluctuation due to frequent door opening and closing.
 - ◊ Use in an environment where eyeglasses become foggy.
 - ◊ Use in a room filled with cigarette smoke or dust.
 If the lens becomes cloudy due to condensation,

remove the dome cover and wipe all moist surfaces with a soft cloth.

- Before operating, please check proper temperature, humidity and power source ratings. Use the camera under conditions where temperature is from -20 °C to 50 °C and humidity is below 80 %. The input power source is AC 24 V.
- Consumables
Parts having contacts such as the lens-drive motors, cooling fan built inside the camera are subject to wear with time. About replacement and maintenance of such parts, please ask the nearest service center.

Camera Installation Location

Discuss the installation location for the camera with your retailer, and select a place that is strong enough for the installation.

- Install the camera on a ceiling (concrete, etc.) at a location that is sufficiently strong to support it.
- Install the camera body on the foundation section of the building or sections having sufficient bearing strength.

Never install or use the camera in the following locations

- Do not install it in areas exposed to direct sunlight or rain.
- Do not install the camera near the air outlet of an air conditioner.
- Near a swimming pool or other areas where chemicals are used.
- Food preparation areas and other locations where there are large amounts of steam vapor and oil, in flammable atmospheres, other special environments.
- Areas where radiation, X-rays, strong electric waves, or magnetism is generated.
- At sea, in coastal areas, or in areas where corrosive gas is being generated.
- Areas outside of the allowable ambient operating temperature range.

About Static Electricity Removal

Before installing the camera, touch a metal case or other metallic parts with your hand to remove static electricity from your body.

Do not install in areas subjected to high amounts of humidity or dust.

Doing so may cause internal components to damage more easily or malfunction.

Do not wire cables near power lines.

Tightening the Screws

Screws should be tightened sufficiently in accordance with the materials and structure of the installation location. After tightening the screws, visually inspect them to make sure there is no unevenness and that each screw is tight.

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Preparation

Introduction

The dome cameras are designed for installation in an indoor or outdoor video surveillance system. The camera incorporates the digital signal processor, pan/tilt mechanism, zoom lens and RS-485 communication interface in a compact outdoor enclosure.

Features

- **High Sensitivity Support**

The camera provides the high quality picture with 4.5 mm (1/4 Type) Super HAD II CCD.

- **Preset Position**

Preset position is the function to register camera monitoring positions (preset positions). By using LKD1000 controller, you can register presets with position number. Maximum 256 Preset Positions are available. By entering the position numbers, you can move cameras to the preset positions. The moving speed and holding time are adjustable.

- **Preset Tour**

Preset Tour is the function to go through all the registered camera monitoring positions (preset positions). During the working PRESET TOUR, The FOCUS could not be operated properly under -20 °C.

- **Group Tour**

Maximum 10 group tours are able to compose the group of preset, pattern, auto pan that the operator can program to be linked together in a sequence.

- **Pattern recording function**

A routine of manual operations can be stored and

reproduced repeatedly. The Pan, Tilt and Zoom controls are available for pattern recording.

Note

The available total time of pattern differs depending on camera's operation. When the pattern recording is full, the pattern recording will automatically stop.

- **Privacy Mask**

Privacy zone feature enables users to veil unwanted zones. This setting is used for masking unwanted zones, hiding them from display on the monitor screen. Up to 8 zones can be registered.

- **Auto Pan**

The camera has an Auto Pan function that enables to keep surveillance on every detail occurring around the specific area, which is preset to watch in advance. The camera can pan among the maximum 8 points you will set. The moving speed and holding time are adjustable.

- **Auto Flip**

When the camera is operated to tilt through the 90°, it can be watched the opposite side of the locations by Auto Flip of a 180° horizontally.

- **Optical Zoom**

- The optical zoom range is 1x to 28x.

- **Digital Zoom**

Digital zoom enhances the systems zoom range to 12 times beyond the optical zoom limit.

Total system zoom range is below.

- 28x (1x digital zoom) to 336x (12x digital zoom)

- **Alarm In function (4 channels)**

Alarm input signals are supplied from external devices through the ALARM IN connector to activate 'go to preset' function.


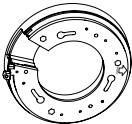
- **Alarm Out function (2 channels)**

When alarm inputs are supplied via the alarm input connector on the camera, the camera sends output signals via the alarm output connector on the camera.

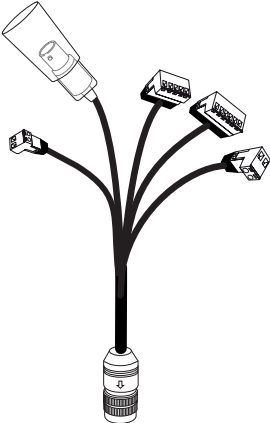

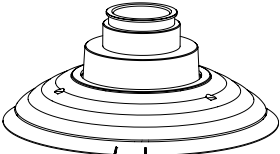
- **Controls by General Controller**
This camera can be controlled by RS-485. Especially the camera has an excellent cost-saving effect because it can be controlled by the general RX point of contact signal.
- **Connects with the maximum 256 cameras**
This camera can be utilized after being connected with maximum 256 cameras. Therefore, it is capable of performing an excellent job in the large buildings or department stores.
- **Day & Night Function**
This camera can be selected Color or Black & White. You can set Color in the daytime and Black & White at night due to the low illumination. (Filter Conversion type)
- **DSS (Digital Slow Shutter) function**
It is possible to highly sensitive surveillance because of DSS(Digital Slow Shutter) function.
- **WDR (Wide Dynamic Range) function**
The camera can be best condition to watch easily inside or outside in the strong back light.
- **Power Supply**
This camera must always be operated a AC 24 V. Certified/Listed Adaptor which comply with LPS.

Accessories

For LCP2850I-AN/AP

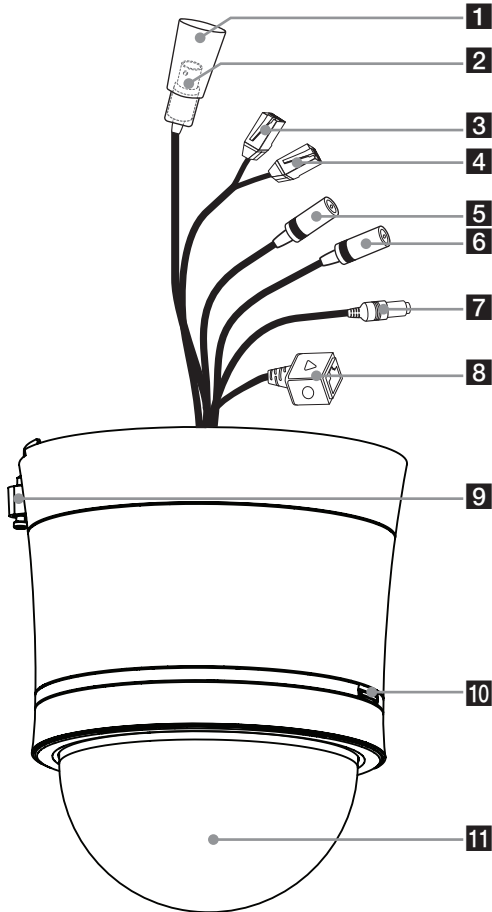
| | |
|-------------------------|---|
| RJ-45 Adapter cable |  |
| Camera mounting bracket |  |

For LCP2850-AN/AP

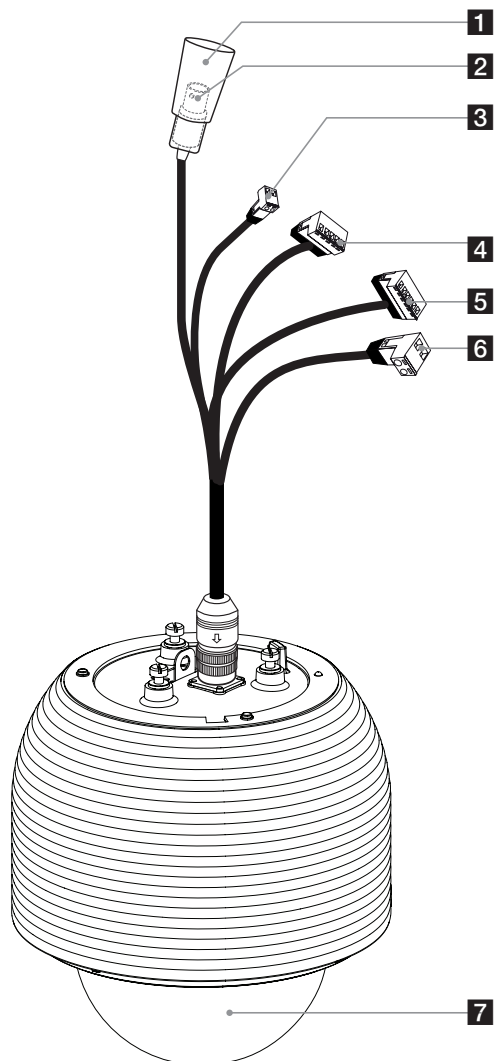
| | |
|---------------------------|---|
| Camera main cable |  |
| Wrench |  |
| PIPE Installation Bracket |  |

Part Names and Functions

LCP2850I-AN/AP for Indoor



- 1 BNC connector cover cap**
- 2 Video output BNC connector**
Supplies analog video signal (composite) to the connected device.
- 3 Data Port A (RJ-45)**
RS-485 data communication and input data port for alarm (relay) signal.
- 4 Data Port B (RJ-45)**
Output data port for alarm (relay) signal.
- 5 This port is not used.**
- 6 This port is not used.**
- 7 Power input jack**
Connects to a AC 24 V power supply using proper cables.
- 8 This port is not used.**
- 9 Locking screw**
Tighten this screw to fixing the Ceiling Mount Assembly with camera body.
- 10 Dome Cover open button.**
- 11 Dome Cover**

LCP2850-AN/AP for Outdoor**1 BNC connector cover cap****2 Video output BNC connector**

Supplies analog video signal (composite) to the connected device.

3 RS-485 Data Communication**4 Alarm In Data Terminal**

Input data terminal for alarm (relay) signal.

5 Alarm Out Data Terminal

Output data terminal for alarm (relay) signal.

6 Power input Terminal

Connects to a AC 24 V power supply using proper cables.

7 Dome Cover

3

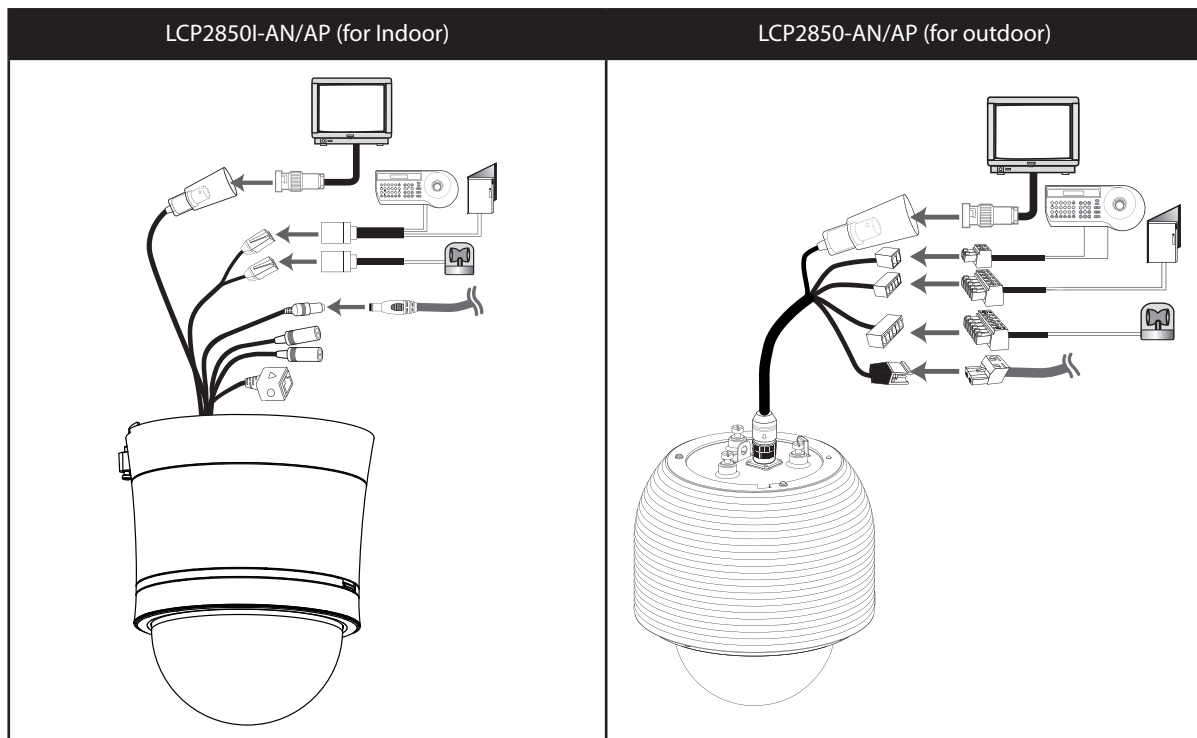
Installation

Connections

Precautions

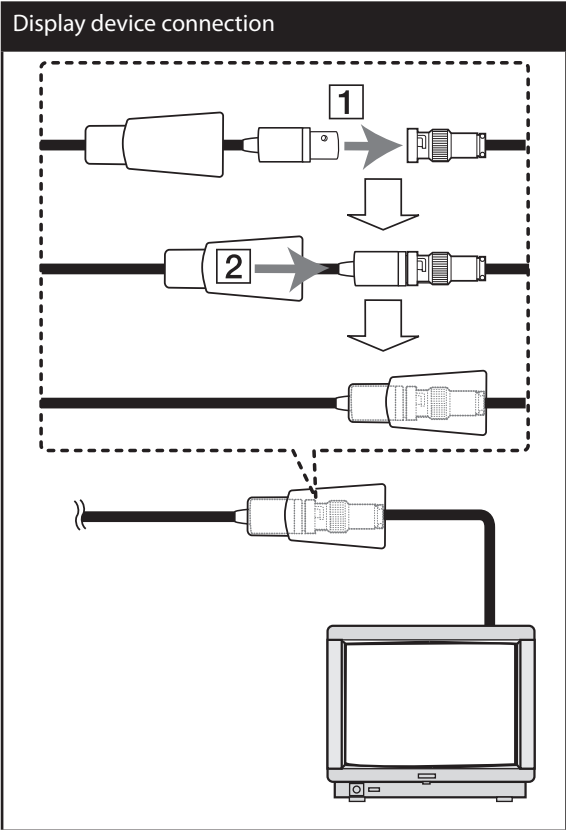
- The following steps of installation and connection work should be done by qualified service personnel or system installers and should conform to all local codes.
- Before you install and connect the camera, check and prepare the required peripheral devices and cables.
- Before you connect the camera, turn off all devices to be connected, such as this camera and DVR.
- Do not touch the dome cover's window.

Basic Connection Overview



Connecting Display device

The video signal connection between the camera and the monitor.



ALARM input connection

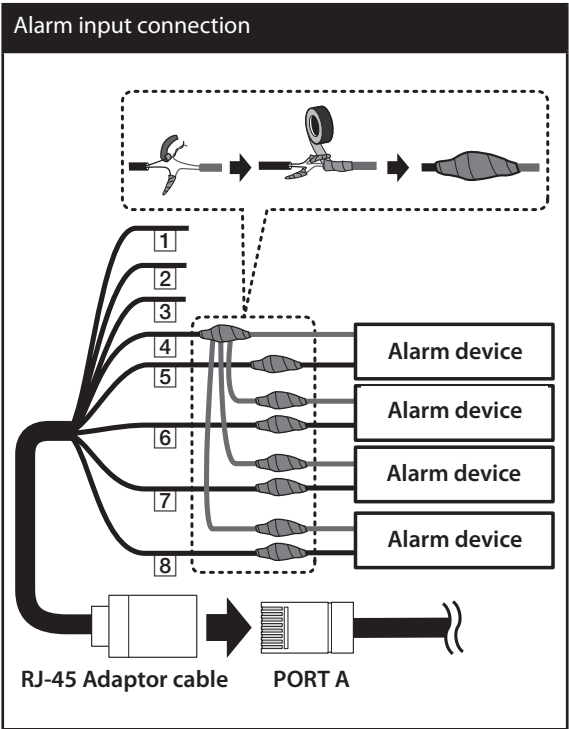
You can connect up to 4 alarm sensors to the camera. Each alarm sensor should be connected with Alarm IN COM. You can adjust the signal state to NO (normally open) or NC (normally closed) through the setup menu.

For LCP2850I-AN/AP

1. Connect the RJ-45 Adaptor cable to the PORT A (RJ-45) cable of the camera.
2. Connect the alarm device to the RJ-45 Adaptor cable. When connecting lines, check and connect the color lines of the each device correctly. Refer to the below tables for color line information.

Caution

Do not connect one alarm sensor to the several camera's alarm input connector.



| RJ-45 Adaptor cable | | |
|---------------------|--------------|--------|
| No | Description | Color |
| 1 | RS-485 + | White |
| 2 | RS-485 - | Orange |
| 3 | NC | Black |
| 4 | ALARM IN COM | Red |
| 5 | ALARM IN 1 | Green |
| 6 | ALARM IN 2 | Yellow |
| 7 | ALARM IN 3 | Blue |
| 8 | ALARM IN 4 | Brown |

| PORT A | |
|--------------|-------------|
| Description | Color |
| RS-485 + | Red/White |
| RS-485 - | Black/White |
| NC | |
| ALARM IN COM | Red |
| ALARM IN 1 | White |
| ALARM IN 2 | Light Green |
| ALARM IN 3 | Yellow |
| ALARM IN 4 | Pink |

For LCP2850-AN/AP

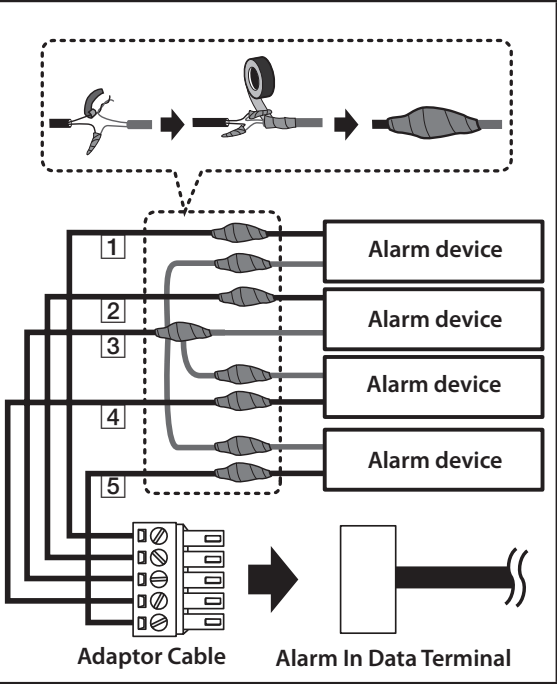
1. Connect the Adaptor cable to the Alarm In Data Terminal of the camera.
2. Connect the alarm device to the Adaptor cable.
When connecting lines, check and connect the color lines of the each device correctly. Refer to the below tables for color line information.



Caution

Do not connect one alarm sensor to the several camera's alarm input connector.

Alarm input connection



Adaptor cable

| No | Description |
|----|--------------|
| 1 | ALARM IN 1 |
| 2 | ALARM IN 2 |
| 3 | ALARM IN COM |
| 4 | ALARM IN 3 |
| 5 | ALARM IN 4 |

Alarm In Data Terminal

| Description | Color |
|--------------|--------|
| ALARM IN 1 | Pink |
| ALARM IN 2 | Gray |
| ALARM IN COM | Yellow |

| | |
|------------|--------|
| ALARM IN 3 | White |
| ALARM IN 4 | Violet |

Alarm Input function

This speed dome camera has a terminal that can sense the alarm signals.

If the alarm sensor that has installed in a door, window, safe etc. sense a touch or shock, the alarm sensor send the alarm signal to the camera and the camera will observe the sensed position.

Change the observe position to a sensor that senses a touch or shock then return to the position that previously observed. (Set the Duration Time of Alarm Input function to "3 to 255")

| Function status | Mode |
|---------------------------------------|--|
| While observe a specific position. | Change the observe position to the alarmed position then return to the position that previously observed. |
| While operating Preset Tour function. | Stop preset touring and change the observe position to the alarmed position then restart the preset touring again. |
| While operating Auto Pan function. | Stop auto panning and change the observe position to the alarmed position then restart the auto panning again. |
| While operating Pattern function. | Stop operating pattern function and change the observe position to the alarmed position during the dwell time then restart the pattern function again. |
| in case of HOME POSITION is ON. | After Alarm has been cleared and finished the dwell time, it moves to the HOME POSITION and spend the dwell time at that position. |

Note

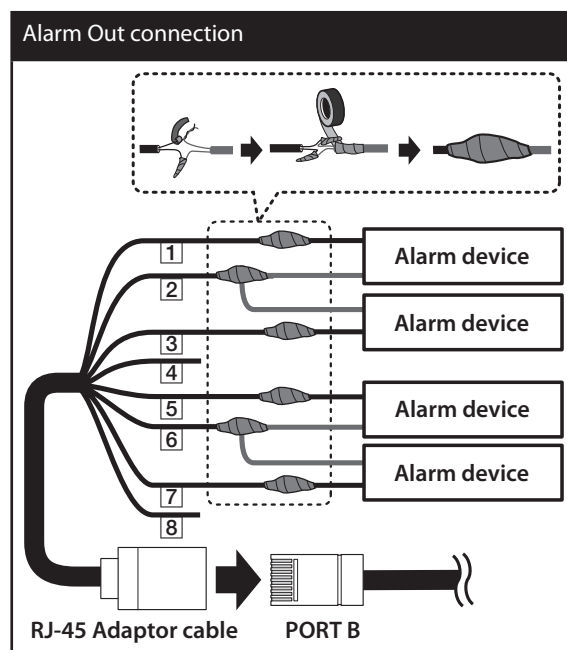
Do not connect one alarm sensor to the several camera's alarm input connector.

ALARM output connections

Connect the alarm device to the alarm output data port. Alarm signal output at an event occurrence. You can set the Alarm Output to the normal open or normal close mode.

For LCP2850I-AN/AP

1. Connect the RJ-45 Adaptor cable to the PORT B (RJ-45) cable of the camera.
2. Connect the alarm device to the RJ-45 Adaptor cable. When connecting lines, check and connect the color lines of the each device correctly. Refer to the below tables for color line information.



RJ-45 Adaptor cable

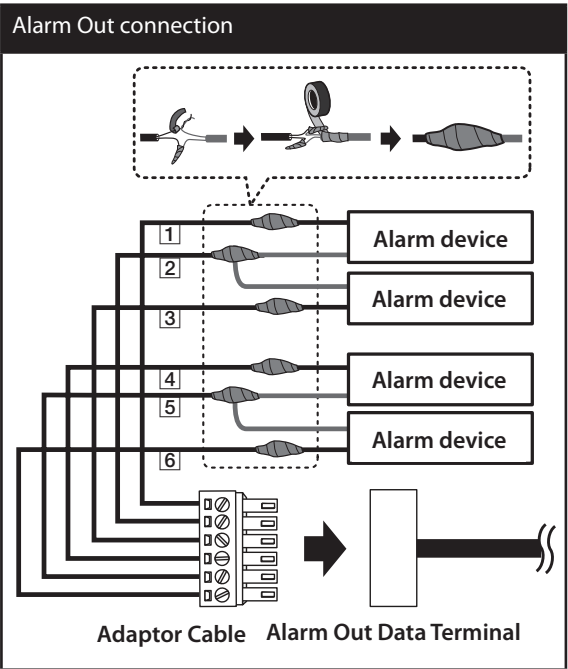
| No | Description | Color |
|----|------------------|--------|
| 1 | ALARM OUT [NO1] | White |
| 2 | ALARM OUT [COM1] | Orange |
| 3 | ALARM OUT [NC1] | Black |
| 4 | NC | Red |

| | | |
|---|------------------|--------|
| 5 | ALARM OUT [NO2] | Green |
| 6 | ALARM OUT [COM2] | Yellow |
| 7 | ALARM OUT [NC2] | Blue |
| 8 | NC | Brown |

| PORT B | |
|------------------|--------|
| Description | Color |
| ALARM OUT [NC1] | Blue |
| ALARM OUT [COM1] | Violet |
| ALARM OUT [NO1] | Brown |
| NC | |
| ALARM OUT [NC2] | Gray |
| ALARM OUT [COM2] | Orange |
| ALARM OUT [NO2] | Black |
| NC | |

For LCP2850-AN/AP

1. Connect the Adaptor cable to the Alarm Out Data Terminal of the camera.
2. Connect the alarm device to the Adaptor cable.
When connecting lines, check and connect the color lines of the each device correctly. Refer to the below tables for color line information.



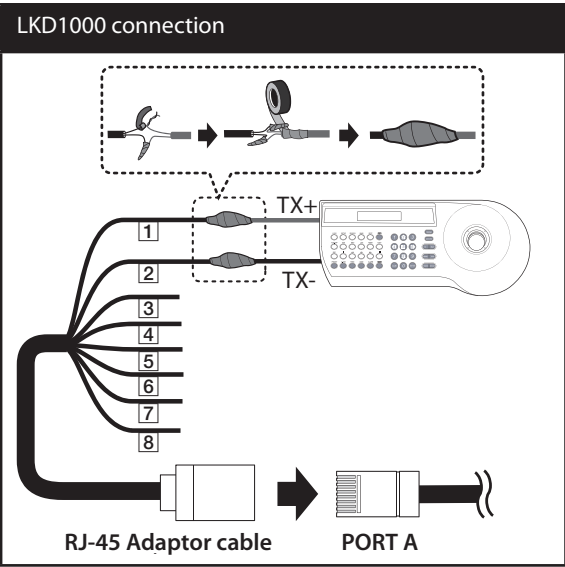
| Adaptor cable | |
|---------------|------------------|
| No | Description |
| 1 | ALARM OUT [NO1] |
| 2 | ALARM OUT [COM1] |
| 3 | ALARM OUT [NC1] |
| 4 | NC |
| 5 | ALARM OUT [NO2] |
| 6 | ALARM OUT [COM2] |
| 7 | ALARM OUT [NC2] |
| 8 | NC |

| Alarm Out Data Terminal | |
|-------------------------|------------|
| Description | Color |
| ALARM OUT [NO1] | White Blue |
| ALARM OUT [COM1] | Beige |
| ALARM OUT [NC1] | Black |
| ALARM OUT [NO2] | Brown |
| ALARM OUT [COM2] | Red |
| ALARM OUT [NC2] | Orange |

Connecting LKD1000 controller

For LCP2850I-AN/AP

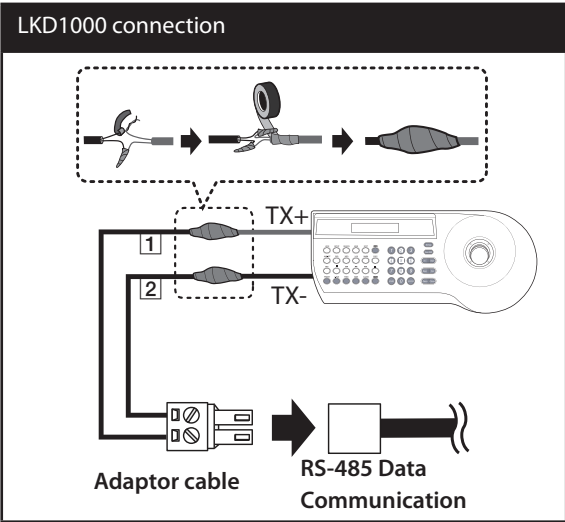
1. Connect the RJ-45 Adaptor cable to the PORT A (RJ-45) cable of the camera.
2. Connect the LKD1000 controller to the RJ-45 Adaptor cable. (Refer to the manuals of the LKD1000 controller for more details.)



| RJ-45 Adaptor cable | | |
|---------------------|-------------|--------|
| No | Description | Color |
| 1 | RS-485 + | White |
| 2 | RS-485 - | Orange |

For LCP2850-AN/AP

1. Connect the Adaptor cable to the RS-485 Data Communication of the camera.
2. Connect the LKD1000 controller to the Adaptor cable. (Refer to the manuals of the LKD1000 controller for more details.)



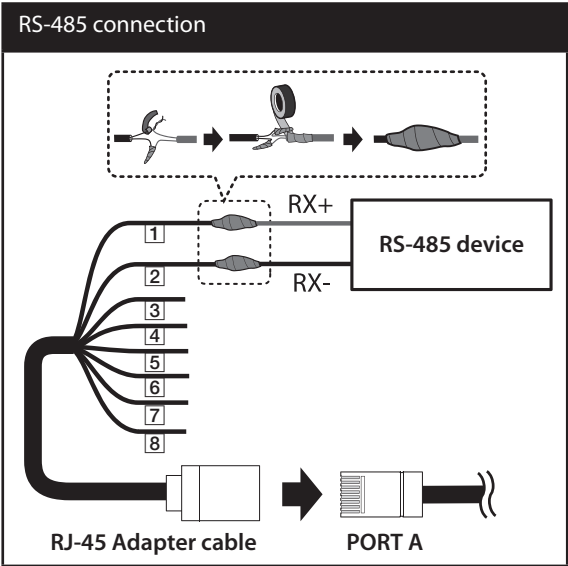
| Adaptor cable | |
|---------------|-------------|
| No | Description |
| 1 | RS-485 + |
| 2 | RS-485 - |

Connecting RS-485 device

Use the cable that is described below for RS-485 site communication.

- Shielded, twisted pair cable
- Low impedance
- Wire gauge size is thicker than AWG #22 (0.33 mm²).

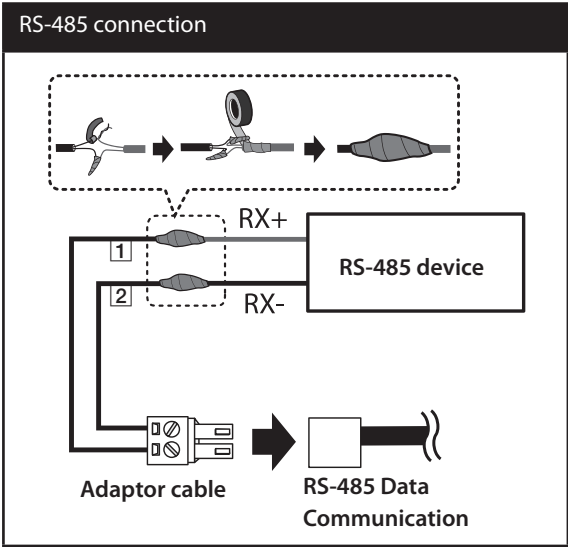
For LCP2850I-AN/AP



| RJ-45 Adaptor cable | | |
|---------------------|-------------|--------|
| No | Description | Color |
| 1 | RS-485 + | White |
| 2 | RS-485 - | Orange |

| PORT A | |
|-------------|-------------|
| Description | Color |
| RS-485 + | Red/White |
| RS-485 - | Black/White |

For LCP2850-AN/AP



| Adaptor cable | |
|---------------|-------------|
| No | Description |
| 1 | RS-485 + |
| 2 | RS-485 - |

| RS-485 Data Communication | |
|---------------------------|-------|
| Description | Color |
| RS-485 + | Green |
| RS-485 - | Blue |

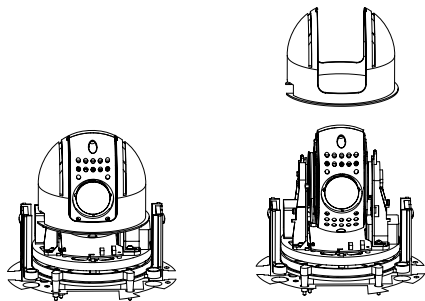
Connecting power source

Connect a AC 24 V power source to the power input jack.
(Recommended power adaptor is AC 24 V/2 A or above.)

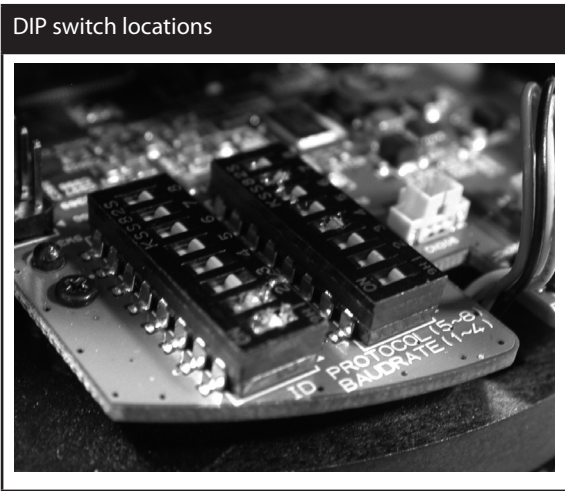
Protocol and baud rate settings

The camera has one 8-bit DIP switch blocks that determine the protocol and baud rate of the data communication. Settings are loaded when the camera boots up. Be sure to turn the camera off, change the DIP switch settings, and then power the camera back up to load the changes.

1. Turn off the camera.
2. Remove the dome cover.
3. Remove the camera assembly cover.



4. Set the DIP switches.



5. Assemble the dome cover and the camera assembly cover in the reverse order.
6. Power up the camera to load the changes.

Baud Rate setting



| DIP switch position | | | | BAUD RATE (BPS) |
|---------------------|-----|-----|-----|-----------------|
| SW1 | SW2 | SW3 | SW4 | |
| OFF | OFF | OFF | OFF | 9 600 |
| OFF | OFF | OFF | ON | 2 400 |
| OFF | OFF | ON | OFF | 4 800 |
| OFF | ON | OFF | OFF | 19 200 |
| ON | OFF | OFF | OFF | 38 400 |
| ON | ON | ON | ON | OSD Set |

Protocol setting



| DIP switch position | | | | Protocol |
|---------------------|-----|-----|-----|-----------|
| SW5 | SW6 | SW7 | SW8 | |
| OFF | OFF | OFF | OFF | LG Multix |
| OFF | ON | OFF | OFF | Pelco C |
| OFF | OFF | OFF | ON | Pelco D |
| OFF | OFF | ON | OFF | Pelco P |
| ON | ON | ON | ON | OSD Set |



Note

If you are not using the controller with LG Multix protocol, there may be some limitation of function control.

Camera ID Setting

The camera's ID is set to "0" as factory default. If you use two or more cameras simultaneously, change the ID of the cameras.

Set the camera ID setting referring to the pictures and the table on the below.



| ID | DIP switch position | | | | | | | |
|----|---------------------|-----|-----|-----|-----|-----|-----|-----|
| | SW1 | SW2 | SW3 | SW4 | SW5 | SW6 | SW7 | SW8 |
| 0 | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| 1 | ON | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| 2 | OFF | ON | OFF | OFF | OFF | OFF | OFF | OFF |
| 3 | ON | ON | OFF | OFF | OFF | OFF | OFF | OFF |
| 4 | OFF | OFF | ON | OFF | OFF | OFF | OFF | OFF |
| 5 | ON | OFF | ON | OFF | OFF | OFF | OFF | OFF |
| 6 | OFF | ON | ON | OFF | OFF | OFF | OFF | OFF |
| 7 | ON | ON | ON | OFF | OFF | OFF | OFF | OFF |
| 8 | OFF | OFF | OFF | ON | OFF | OFF | OFF | OFF |
| 9 | ON | OFF | OFF | ON | OFF | OFF | OFF | OFF |
| 10 | OFF | ON | OFF | ON | OFF | OFF | OFF | OFF |
| 11 | ON | ON | OFF | ON | OFF | OFF | OFF | OFF |
| 12 | OFF | OFF | ON | ON | OFF | OFF | OFF | OFF |
| 13 | ON | OFF | ON | ON | OFF | OFF | OFF | OFF |
| 14 | OFF | ON | ON | ON | OFF | OFF | OFF | OFF |
| 15 | ON | ON | ON | ON | OFF | OFF | OFF | OFF |
| 16 | OFF | OFF | OFF | OFF | ON | OFF | OFF | OFF |
| 17 | ON | OFF | OFF | OFF | ON | OFF | OFF | OFF |
| 18 | OFF | ON | OFF | OFF | ON | OFF | OFF | OFF |
| 19 | ON | ON | OFF | OFF | ON | OFF | OFF | OFF |
| 20 | OFF | OFF | ON | OFF | ON | OFF | OFF | OFF |
| 21 | ON | OFF | ON | OFF | ON | OFF | OFF | OFF |
| 22 | OFF | ON | ON | OFF | ON | OFF | OFF | OFF |
| 23 | ON | ON | ON | OFF | ON | OFF | OFF | OFF |
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| 25 | ON | OFF | OFF | ON | ON | OFF | OFF | OFF |
| 26 | OFF | ON | OFF | ON | ON | OFF | OFF | OFF |
| 27 | ON | ON | OFF | ON | ON | OFF | OFF | OFF |

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| 29 | ON | OFF | ON | ON | ON | OFF | OFF | OFF |
| 30 | OFF | ON | ON | ON | ON | OFF | OFF | OFF |
| 31 | ON | ON | ON | ON | ON | OFF | OFF | OFF |
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| 221 | ON | OFF | ON | ON | ON | OFF | ON | ON |
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| 255 | ON | ON | ON | ON | ON | ON | ON | ON |

Removing the Protection Tape

You should remove the protection tape before installing the camera.

Remove the protection tape carefully.

For LCP2850-AN/AP models.

1. Loosen the screws using the wrench and remove the dome cover.
2. Remove the protection tape and attach the dome cover.

For LCP2850I-AN/AP models.

1. Press the Dome Cover open button and then disassemble the dome cover by using ALIGN mark.
2. Remove the protection tape and attach the dome cover.



Caution

You must align the OPEN and LOCK mark correctly when you turn the dome cover to open or close. If you do not align the mark, it causes a malfunction.

Mounting the camera

You can mount the camera on the ceiling or wall.

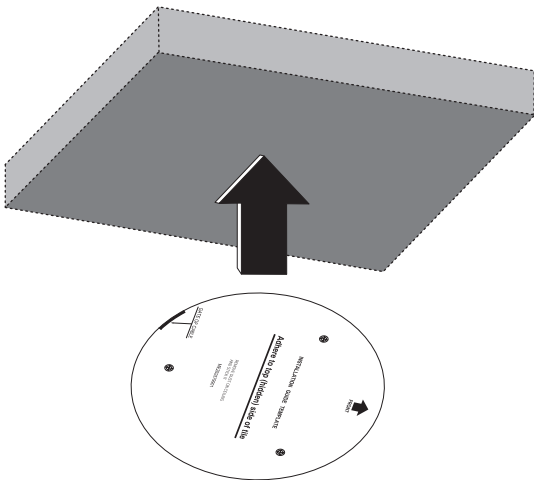
Surface mount (optional)

Follow the instructions below to surface mount the camera.

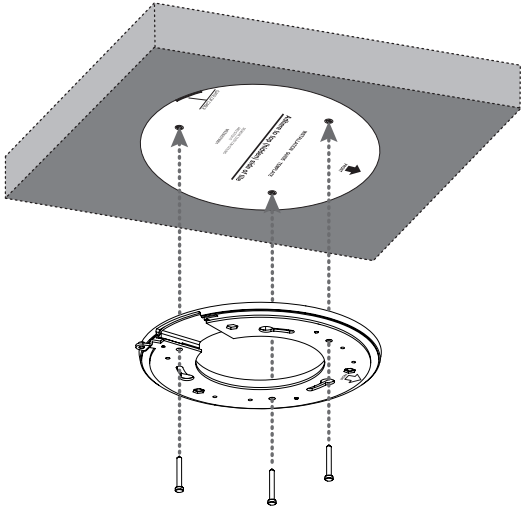
Caution

The building structure must be able to support 8 kg.

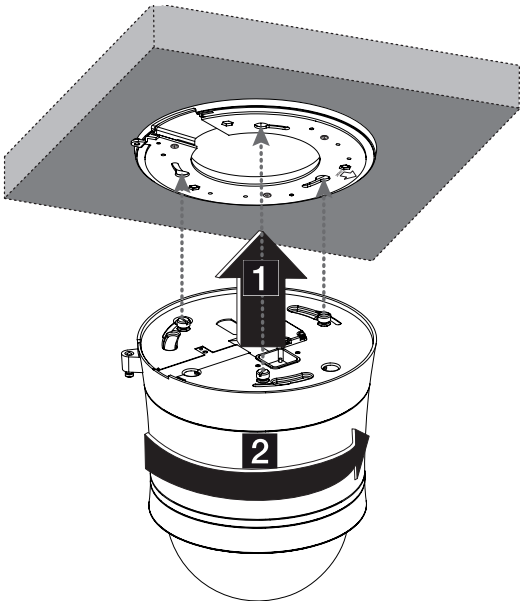
1. Use the installation guide template to check the mounting location. Face the front of the label toward the area of interest.



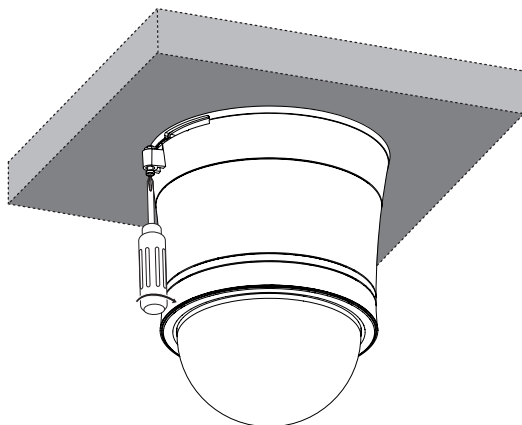
2. Install the surface mounting bracket on the ceiling.



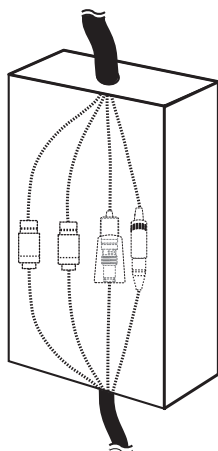
3. Assemble the camera and the surface mounting bracket by following step 1 and 2. Align the locking point of the surface mounting bracket and the camera.



4. Tighten the locking screw.



5. Connect the cables to the cable jacks of the camera body. After installing the camera, you should arrange the cables using the outlet box to protect the cables.



Ceiling mount (optional)

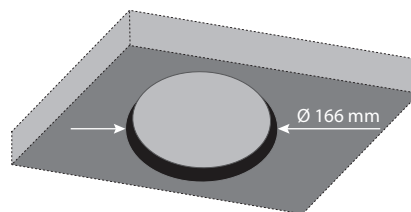
Follow the instructions below to mount the camera on the ceiling.



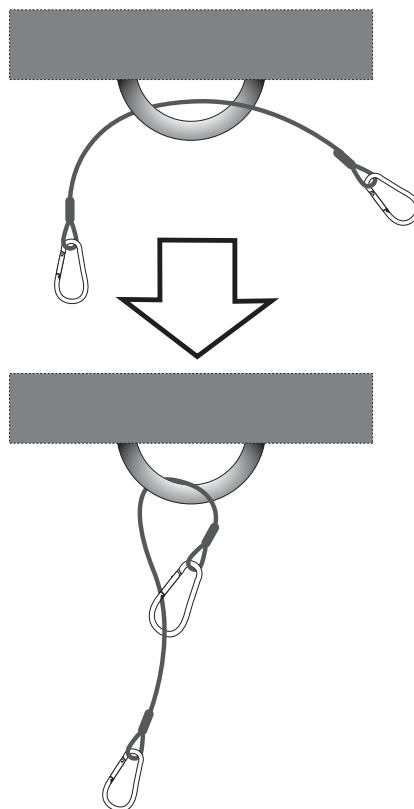
Caution

The building structure must be able to support 8 kg.

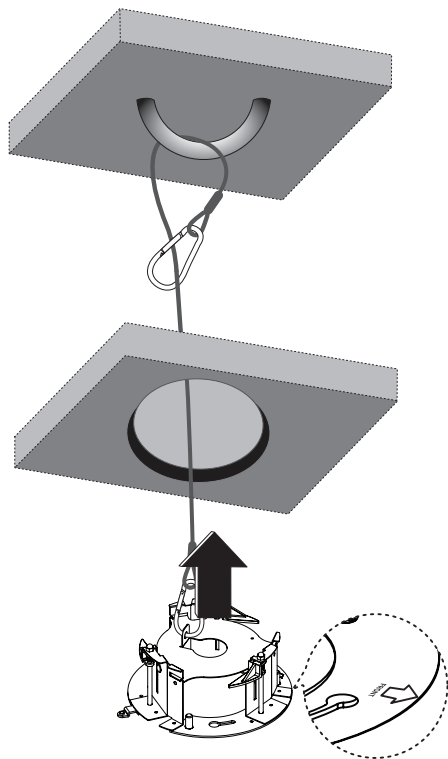
1. Make a hole through the ceiling as shown below.



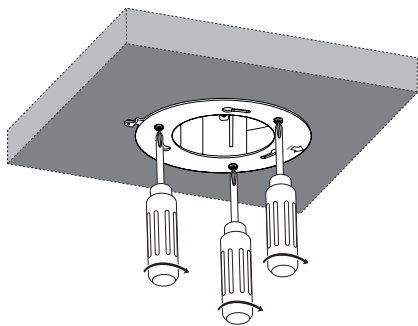
2. Fasten the safety cable to the building superstructure. The building superstructure can vary depending on your installation environment.



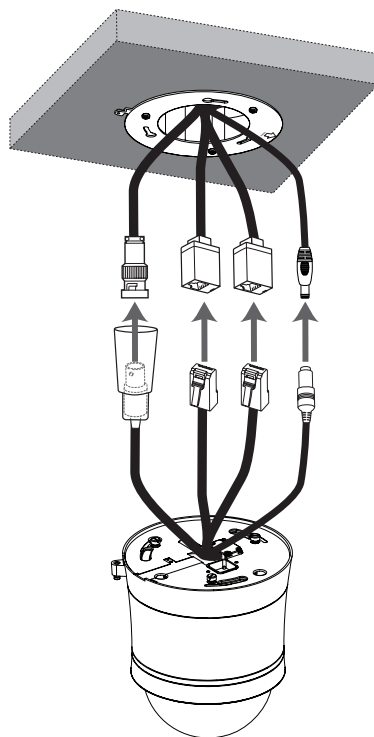
3. Install the ceiling mounting bracket on the ceiling. Face the front of the ceiling mounting bracket toward the area of interest.



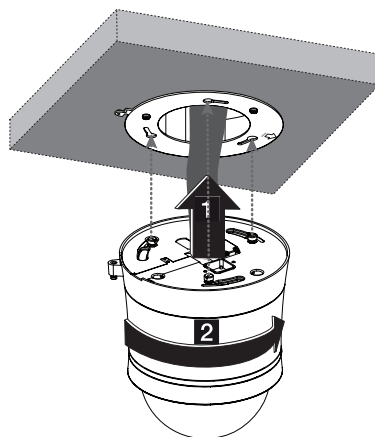
4. Tighten the screws until the ceiling mounting bracket holds the ceiling firmly.



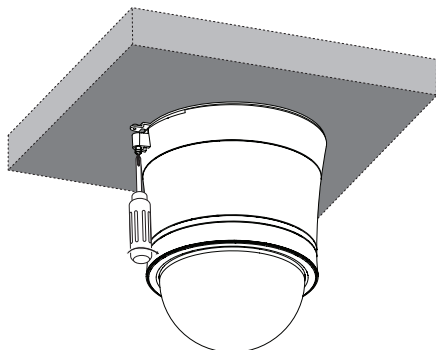
5. Pass the connection cable through the inner side of the ceiling. Connect the cables to the cable jacks of the camera body.



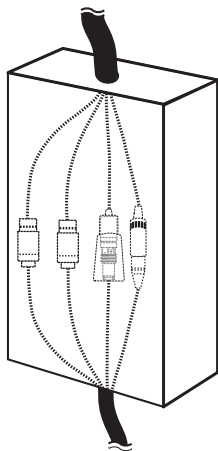
6. Assemble the camera and ceiling mounting bracket by following step **1** and **2**. Align the locking point of the surface mounting bracket and the camera.



7. Tighten the locking screw.



8. Connect the cables to the cable jacks of the camera body. After installing the camera, you should arrange the cables using the outlet box to protect the cables.



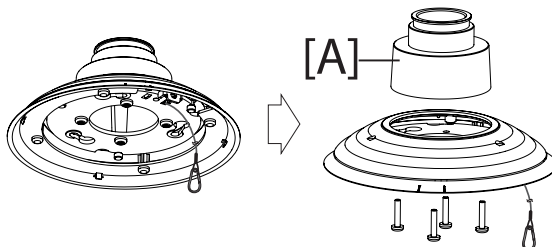
Caution

Do not expose the connected part of the camera cable jacks in the rain or moisture.
Check the red stripe on one side of the safety cable.

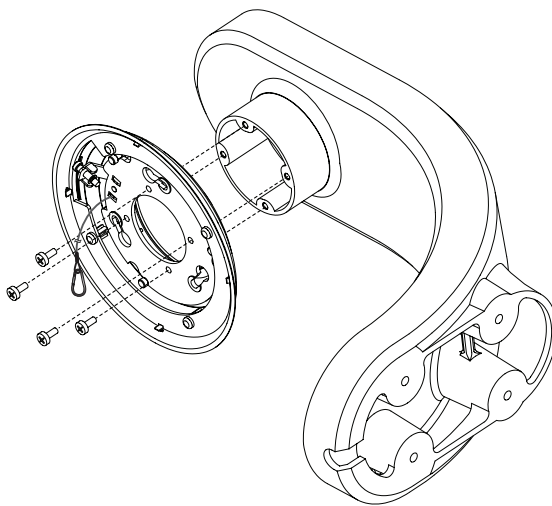
Wall mount (optional)

Install the camera by the following order.

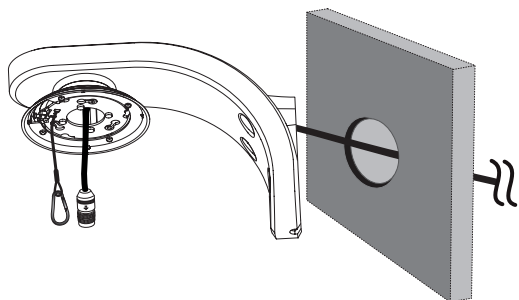
1. Disassemble the PIPE Installation Bracket to remove the [A] part.



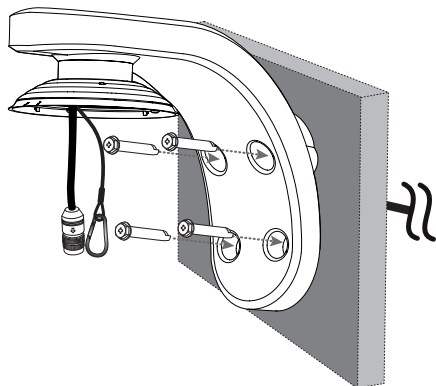
2. Install the PIPE Installation Bracket to the Wall Mount assembly.



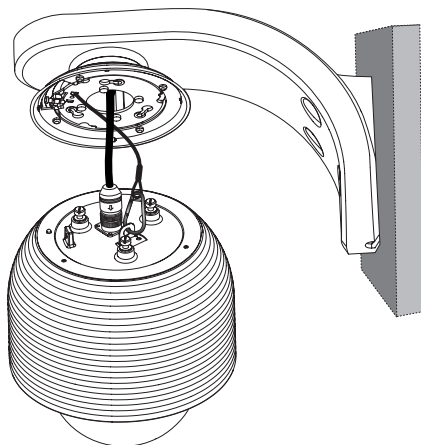
3. Drill a hole on the wall where you want to install the pipe. Pass the connection cable through the wall mount assembly so that they hang down.



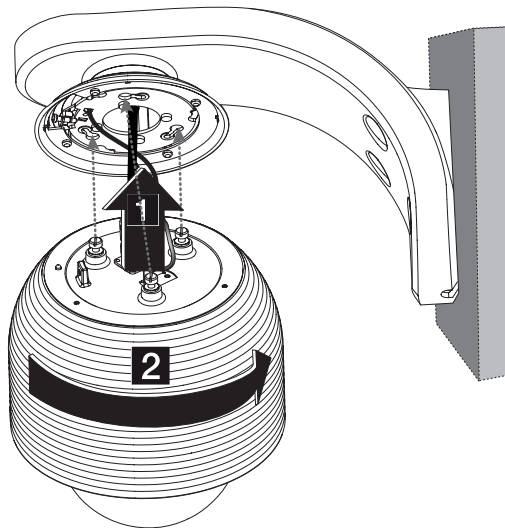
4. Install the wall mount assembly.



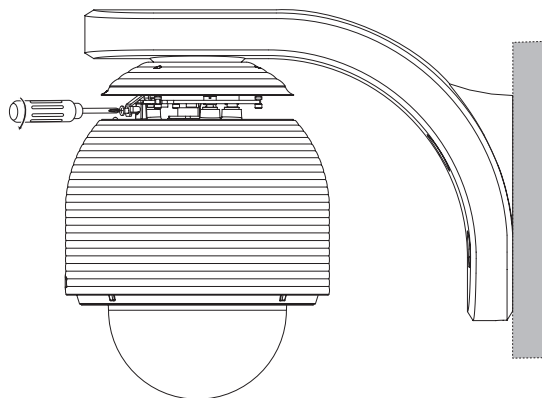
5. Connect the connection cable and the safety cable to the camera body.



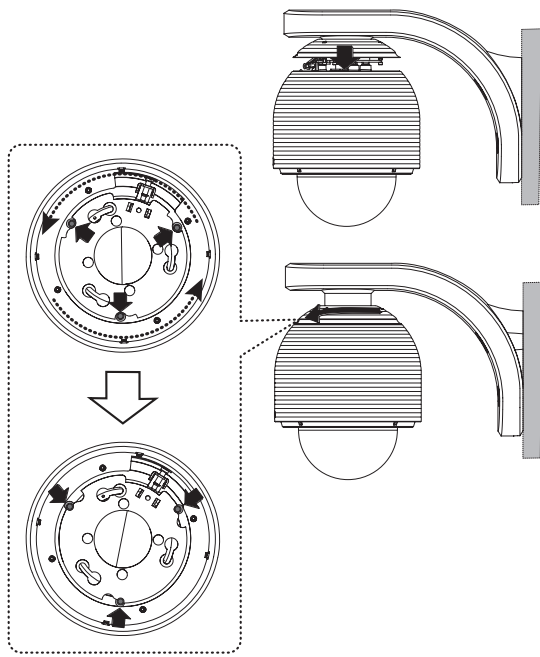
6. Attach the camera to the camera assembly bracket by following step **1** and **2**. Align the locking point of the wall mount assembly and the camera.



7. Tighten the locking screw.

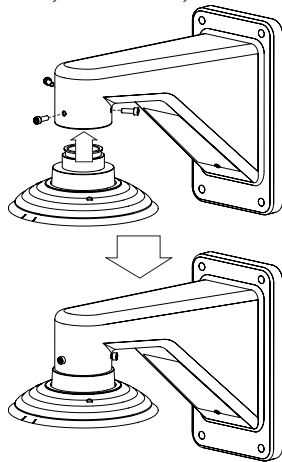


8. Assemble the camera cover as shown below.



! Note

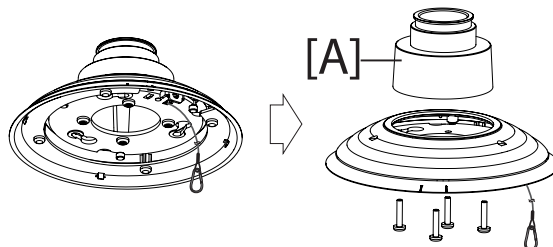
You can install the PIPE Installation Bracket direct to the other type LG Wall Mount assembly. This LG Wall Mount assembly make to easy to install your camera.



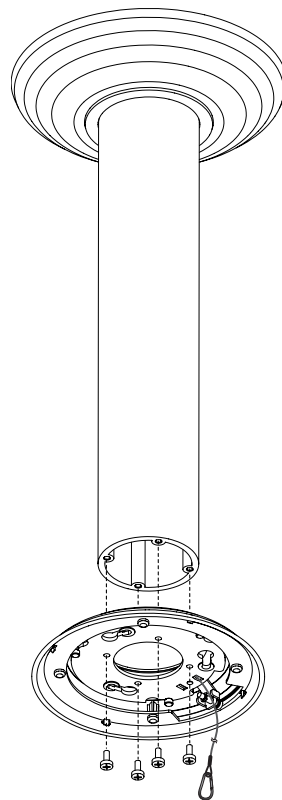
Pendant mount (Optional)

Install the camera by the following order.

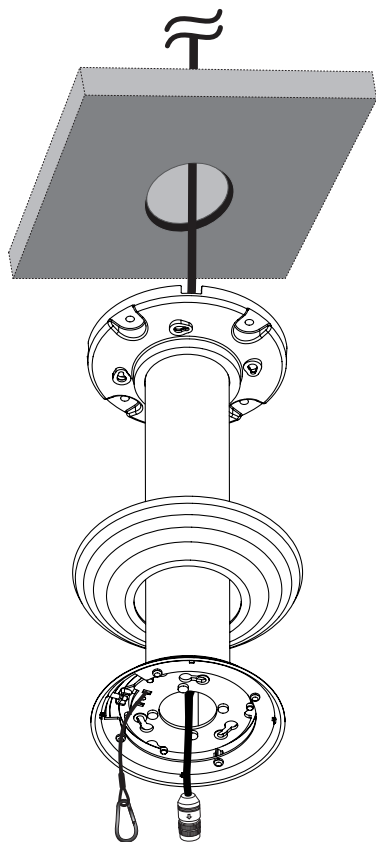
1. Disassemble the PIPE Installation Bracket to remove the [A] part.



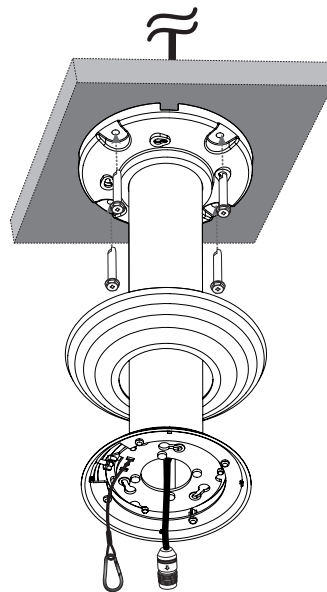
2. Install the PIPE Installation Bracket to the Pendant Mount assembly.



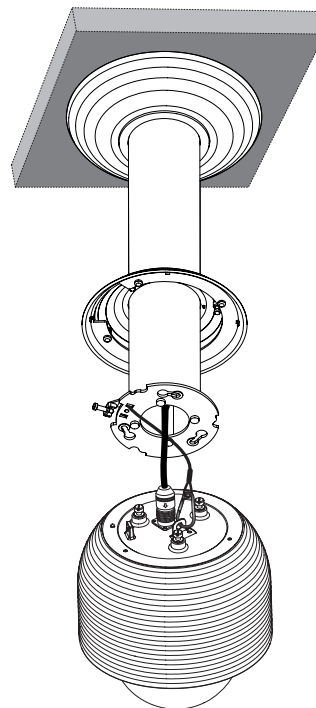
3. Drill a hole on the wall where you want to install the pipe. Pass the connection cable through the pendant mount assembly so that they hang down.



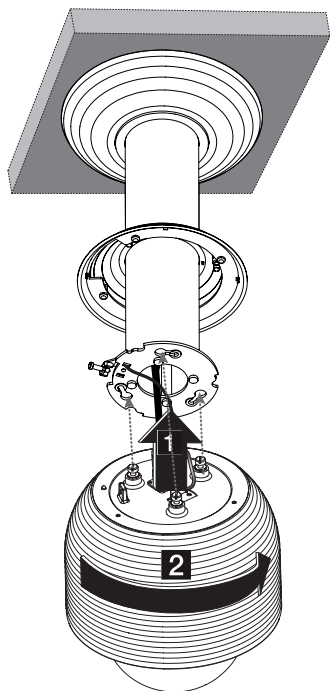
4. Install the pendant mount assembly.



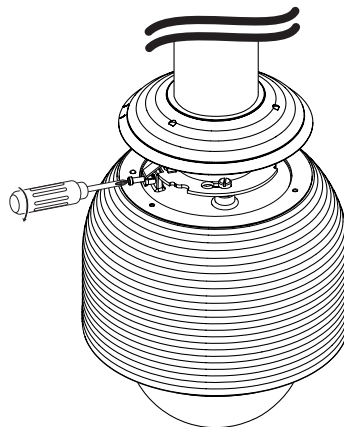
5. Connect the connection cable and the safety cable to the camera body.



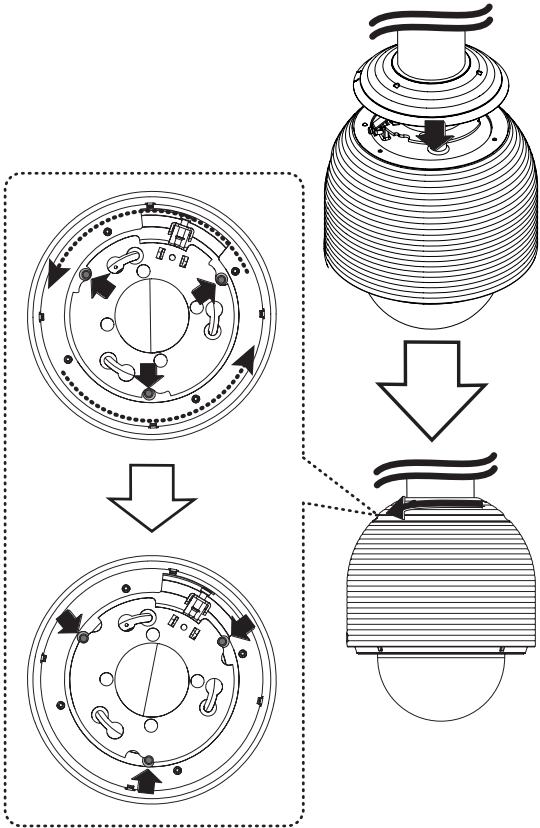
6. Attach the camera to the camera assembly bracket by following step **1** and **2**. Align the locking point of the wall mount assembly and the camera.



7. Tighten the locking screw.

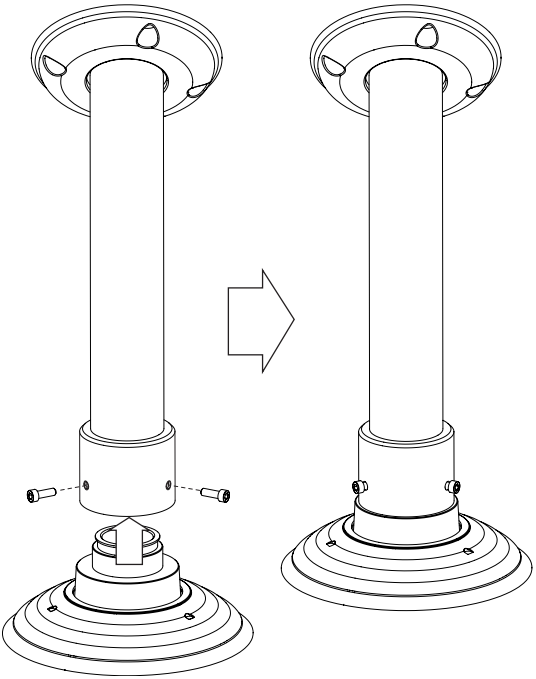


8. Assemble the camera cover as shown below.



Note

You can install the PIPE Installation Bracket direct to the other type LG Wall Mount assembly. This LG Wall Mount assembly make to easy to install your camera.



4

Operation

Setup Menu Overview

The following table shows the list of menu items and options. You can adapt the camera to your requirements by setting up the respective items in these menus.

| 1st level | 2nd level | 3rd level | Contents | |
|------------|---------------|------------|-----------------------------------|----------------|
| CAMERA SET | FOCUS | FOCUS MODE | AUTO/MANUAL/ONE PUSH/ZOOM TRIG | |
| | | FOCUS DIST | 1 M, 3 M, 6 M | |
| | | ZOOM START | x1 to x27 | |
| | | ZOOM END | x2 to x336 | |
| | | RETURN | - | |
| | EXPOSURE | IRIS | AUTO/MANUAL | |
| | | AGC | OFF, 1 to 10 | |
| | | WDR/BLC | OFF/WDR/BLC/HSBLC | |
| | | BRIGHTNESS | 0 to 100 | |
| | | SHUTTER | OFF, A.FLK, 1/160, ..., X2, AUTO | |
| | | SENS-UP | AUTO X2/AUTO X3/.../AUTO X128/OFF | |
| | | RETURN | - | |
| | WHITE BALANCE | ATW | - | |
| | | AUTO | - | |
| | | MANUAL | COLOR TEMP | INDOOR/OUTDOOR |
| | | | RED | - 100 to +100 |
| | | | BLUE | - 100 to +100 |
| | | | RETURN | - |
| | | ONE PUSH | - | |

| | | | | | |
|--------------|------------|--------------|---------------|--|-------------------|
| CAMERA SET | DAY/NIGHT | AUTO | D/N LEVEL | | LOW/MIDDLE/HIGH |
| | | | DWELL TIME | | 5,10,15,30,60 SEC |
| | | | RETURN | | - |
| | | DAY | - | | |
| | | NIGHT | - | | |
| | 3D-DNR | OFF | - | | |
| | | LOW | - | | |
| | | MIDDLE | - | | |
| | | HIGH | - | | |
| | COLOR | ON | COLOR | -50 to 50 | |
| | | OFF | - | | |
| | SHARPNESS | 0 to 68 | - | | |
| | STABILIZER | ON | - | | |
| | | OFF | - | | |
| | RETURN | - | | | |
| PAN/TILT SET | PRESET | SET PRESET | NAME | OFF/ON | |
| | | | SPEED | 1 to 127 | |
| | | | DWELL TIME | 1 to 255 | |
| | | | IRIS | AUTO, 20, 40, 60, 80, 100 % | |
| | | | WDR/BLC/HSBLC | OFF/ LOW WDR/ MID. WDR HIGH WDR/ LOW BLC/ MID. BLC / HIGH BLC/ LOW HSBLC / MID. HSBLC/ HIGH HSBLC | |
| | | | SHUTTER | X512, ..., x2, AUTO, OFF, A.FLK, 1/160, ..., 1/120 000 | |
| | | | SET POSITION | - | |
| | | | SAVE | - | |
| | | | RETURN | - | |
| | | GOTO PRESET | 0 to 255 | | |
| | | PRESET TOUR | - | | |
| | | CLEAR PRESET | 0 to 255 | | |
| | | CLEAR ALL | - | | |
| | | FREEZE | ON | | |
| | | | OFF | | |
| | | RETURN | - | | |

| | | | | |
|--------------|--------------|-----------------|--------------------|-------------------------------------|
| PAN/TILT SET | GROUP TOUR | SET GROUP | 1 to 10 | |
| | | RUN | 1 to 10 | |
| | | CLEAR | 1 to 10 | |
| | | RETURN | - | |
| | PATTERN | RECORD | 1 to 4 | |
| | | RUN | 1 to 4 | |
| | | RETURN | - | |
| | AUTO PAN | SET AUTO PAN | 1 to 8 | |
| | | RUN | - | |
| | | CLEAR | - | |
| | | RETURN | - | |
| | PRIVACY MASK | MASK NUMBER | 1 to 8 | |
| | | SET MASK | - | |
| | | MASK STATE | ON/OFF | |
| | | MASK COLOR | GRAY, WHITE, BLACK | |
| | | WIDTH | 0 to 320 | |
| | | HEIGHT | 0 to 240 | |
| | | RETURN | - | |
| | SPECIAL | PROPORTIONAL PT | ON/OFF | |
| | | COMPASS | ON/OFF | |
| | | HOME POSITION | ON | SET |
| | | | | GO |
| | | | | DWELL TIME (INFINITE to 100 MIN) |
| | | | | RETURN |
| | | | OFF | - |
| | | AUTO RETURN | ON | RETURN TIME (1 MIN to 100 MIN) |
| | | | OFF | - |
| | | TILT LIMIT | ON/OFF | |
| | | MOTION DET | ON/OFF | SENSITIVITY(0 to 100) |

| | | | | |
|--------------|----------------------------------|---------------|--------------------------|--|
| PAN/TILT SET | SPECIAL | COMMUNICATION | PROTOCOL | LG MULTIX/ PELCO C/ PELCO D/ PELCO P |
| | | | BAUDRATE | 2 400/ 4 800/ 19 200/ 38 400/ 9 600 BPS |
| | | | SAVE & EXIT | - |
| | RETURN | - | | |
| OSD SET | USER TITLE | ON/OFF | - | |
| | ZOOM MAG | ON/OFF | - | |
| | FUNCTION | ON/OFF | - | |
| | DOME ID | ON/OFF | - | |
| | RETURN | - | | |
| LANGUAGE | The option depends on the model. | | | |
| ALARM SET | ALARM IN1 to ALARM IN4 | ON | NORMAL | OPEN/CLOSE |
| | | | ALARM IN1 to ALARM IN4 | PRESET 0 to 255 |
| | | | DWELL TIME | 3 to 255 |
| | | | RETURN | - |
| | ALARM OUT1 to ALARM OUT2 | ON | - | |
| | | | ALARM OUT1 to ALARM OUT2 | ALARM IN1 to ALARM IN4, MOTION DET |
| | | | DWELL TIME | 3 to 255 |
| | | OFF | RETURN | - |
| | | | - | |
| | | | - | |
| RESET | INFORMATION | - | | |
| | INITIALIZATION | - | | |
| | CAMERA RESET | - | | |
| | FACTORY RESET | - | | |
| | RETURN | - | | |
| RETURN | - | | | |

Menu navigation

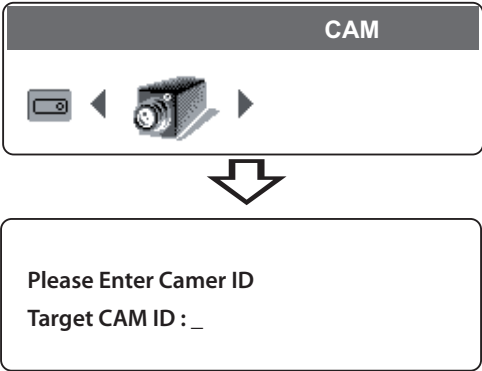
We use the LKD1000 controller in this manual to explain the features of the LG Dome camera because of the LKD1000's ability to control all of the LG Dome camera's advanced features. (For detailed controller instructions, refer to the LKD1000 Controller Manual.)

| LKD1000 button | Camera OSD operation |
|---------------------------|---|
| Cam OSD button | Displays or removes the setup menu. |
| ZOOM IN button | Use to move upper direction on the menu screen. |
| ZOOM OUT button | Use to move lower direction on the menu screen. |
| FOCUS NEAR button | Use for increase the value of the option. |
| FOCUS FAR button | Use for decrease the value of the option. |
| Open/Close(Enter) buttons | Executes selections and displays a submenu for an item with the mark. |

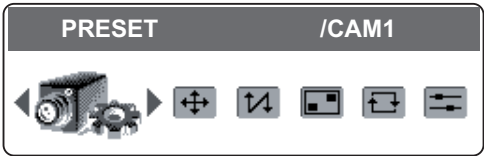
Accessing the camera setup menu

To access the setup menus using the keys on a LKD1000 controller, do the following:

1. Select CAM (Camera) icon in the main menu and then press ENTER. The camera ID input menu will be displayed.



2. Enter the connected camera ID to control the camera connected to the LKD1000 controller directly and then press ENTER. The camera control menu will be displayed.



3. Press [Cam OSD] button to display the camera setup menu.

At this point, you have access to the camera setup menu.

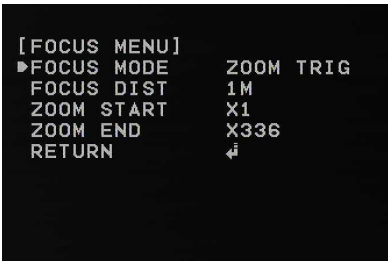
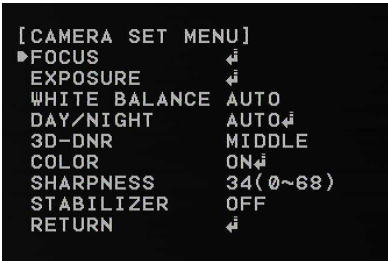
General operation

1. Use [In] or [Out] button to select an option then press [Open] or [Close] button. Submenu appears on the monitor.
2. Use [In] or [Out] button to select a submenu option.
3. Use [Near] or [Far] button to select a value.
4. Select [RETURN] option then press [Open] or [Close] to return to the previous menu.
5. Press [Cam OSD] button to exit the setup menu.

Camera menu settings

Focus setting

The camera adjusts the focus automatically by sensing the center of the picture.



Focus mode

Select [FOCUS MODE] option on the [FOCUS] menu, then select the following mode.

- **AUTO:** Auto-focus is activated automatically.
- **MANUAL:** Focus is activated automatically after the zoom movement is finished. If you want to control the focus manually, press the FOCUS (NEAR or FAR) buttons on the controller.
- **ONE PUSH:** The focus is activated manually. If the camera is received auto-focus command, the camera is activated auto-focus mode and the focus is set automatically and then the focus mode is automatically changed to manual mode.
- **ZOOM TRIG:** The focus is activated manually. If you change the zoom, the focus is activated automatically and then the focus mode is automatically changed to manual mode.

Focus Distance setting

Selects the minimum shooting distance for the focus. Select [FOCUS DIST] option on the [FOCUS] menu, then select a focus distance value.

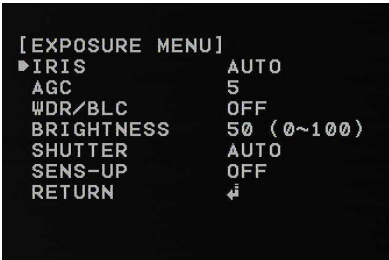
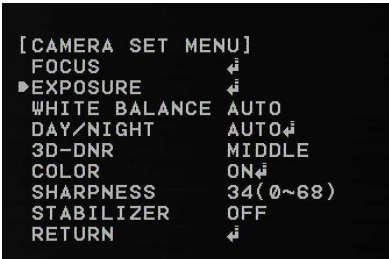
Zoom Start setting

You can set the zoom start position of the camera. When the zoom function is operated, the zoom always will start at the selected zoom start position. Select [ZOOM START] option on the [FOCUS] menu, then set a zoom start position.

Zoom End setting

You can set the zoom end position of the camera. If you set the zoom end position, the zoom is operated up to the selected zoom end position. Select [ZOOM END] option on the [FOCUS] menu, then set the zoom end position.

Exposure settings



Iris setting

Select the desired lens iris value for camera exposure. Select [IRIS] option on the [EXPOSURE] menu, then select a value.

- AUTO: The lens iris is set automatically.
- MANUAL: Use [Near] or [Far] button to select the DC Iris level. DC Iris level are set by one parameter unit.

AGC (Automatic Gain Control) setting

If the images are too dark, change the maximum [AGC] value to make the images bright.

1. Select [AGC] option on the [EXPOSURE] menu.
2. Use [Near] or [Far] button to select a mode.

WDR/BLC setting

Use WDR/BLC option to set the options for BLC or WDR camera.

1. Select [WDR/BLC] option on the [EXPOSURE] menu.
2. Use [Near] or [Far] button to select a mode then press [Open] or [Close].
 - WDR LEVEL: WDR (Wide dynamic range) feature can be very helpful to cope with very challenging lighting conditions. It is capable of capturing both of the dark part and bright part and combining the differences into a scene to generate a highly realistic image as original scene. Set the WDR level (LOW, MIDDLE, HIGH).
 - BLC LEVEL: Camera's backlight compensation feature helps alleviate issues of visibility in high contrast areas. Set the BLC level (LOW, MIDDLE, HIGH).
 - HSBLC: Use for masking brightness of the specific area to view the subject more clearly.
 - HSBLC LEVEL: Select the HSBLC level. (LOW, MIDDLE, HIGH)
 - COLOR: Use [Near] or [Far] button to select a color.
 - OFF: Not used.

BRIGHTNESS setting

You can increase the brightness of the darkened video. If you set the brightness to lower value, the image is darkened. If you set the brightness to higher value, the image gets bright.

1. Select [BRIGHTNESS] option on the [EXPOSURE] menu.
2. Use [Near] or [Far] button to set the bright level.

SHUTTER (Shutter Speed) setting

Select the desired shutter speed for camera exposure. You can change the shutter speed to higher speed to capture fast-moving subjects, though the image becomes darker.

1. Select [SHUTTER] option on the [EXPOSURE] menu.
2. Use [Near] or [Far] button to set shutter speed.

SENS-UP setting

If pictures are not clear due to darkness, use this function to increase the sensitivity of picture.

1. Select [SENS-UP] option on the [EXPOSURE] menu.
2. Use [Near] or [Far] button to set the SENS-UP limit. To set the SENS-UP function, select the [AUTO] on the [SHUTTER].

! Note

If you set the AGC to [OFF] or the SHUTTER is set to one of the SHUTTER options except AUTO on the [EXPOSURE] menu, the [SENS-UP] setting is not available and [---] mark is displayed.

White Balance setting

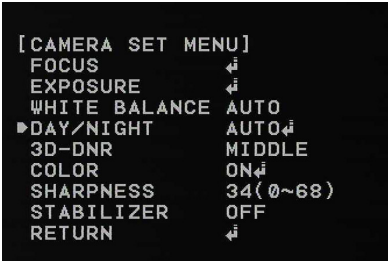
Select the method by which the camera shifts its output colors to compensate for the color of a light source.



1. Select [WHITE BALANCE] option on the [CAMERA SET] menu.
2. Use [Near] or [Far] button to select a mode then press [Open] or [Close].
 - ATW (Auto-Tracing White Balance): In this mode, the color temperature range for the proper white balance is approximately from 1 700 K to 11 000 K. Proper white balance may not be obtained under the following conditions:
 - When the color temperature is out of the 1 700 K to 11 000 K range.

- When the scene mostly contains high color temperature objects, such as a blue sky or sunset.
- When the scene is dim.
- AUTO: In this mode, the color temperature range for the proper white balance is approximately 3 500 K to 6 500 K. Proper white balance may not be obtained under the following conditions:
 - When the color temperature is out of the 3 500 K to 6 500 K range.
 - When the scene mostly contains high color temperature objects, such as a blue sky or sun set.
 - When the scene is dim.
- MANUAL: You can set the white balance options manually.
 - COLOR TEMP: Use [Near] or [Far] button to select a function.
 - › INDOOR: The color temperature range for the proper white balance is approximately 3 600 K.
 - › OUTDOOR: The color temperature range for the proper white balance is approximately 6 500 K.
 - RED: Set the desired red value. (-100 to 100)
 - BLUE: Set the desired blue value. (-100 to 100)
- ONE PUSH: If you select the ONE PUSH mode, you will be able to set up the White Balance automatically using [Open] or [Close] button.

Day/Night setting



1. Select [DAY/NIGHT] option on the [CAMERA SET] menu.
2. Use [Near] or [Far] button to select the mode.
 - AUTO: You will be able to change the Day/Night mode automatically.

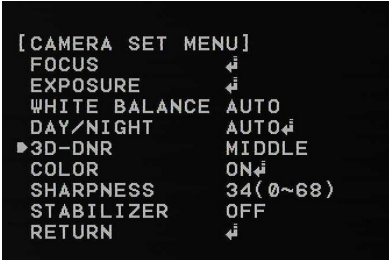
- D/N LEVEL: Use [Near] or [Far] button to select a level.
- DWELL TIME: Use [Near] or [Far] button to select a dwell time.

Note

If you set the AGC to [OFF] or the SHUTTER is set to one of the SHUTTER options except AUTO on the [EXPOSURE] menu, the AUTO mode of the DAY/NIGHT function is not available and [---] mark is displayed.

- DAY: Color mode enabled.
- NIGHT: Black-and-white mode enabled.

3D-DNR setting



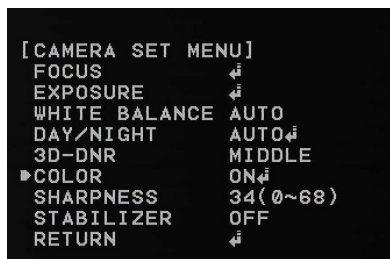
1. Select [3D-DNR] option. If pictures are not clear due to brightness, use this function to reduce the noise of picture.
2. Use [Near] or [Far] button to select a option.

Note

- If you set the AGC to [OFF] on the [EXPOSURE] menu, the [3D-DNR] function is not available.
- When you use this function, the afterimage may occur..

Color setting

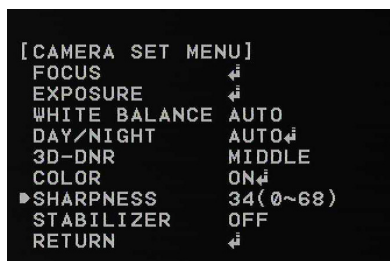
You can switch the displayed picture to grayscale or color.



1. Select [COLOR] option on the [CAMERA SET] menu.
2. Use [Near] or [Far] button to change a color effect.
 - ON: To display the picture with color. Select ON and press [Open] or [Close] to display the submenu. You can adjust the color level using the [Near] or [Far] button.
 - OFF: To display the picture with grayscale.

Sharpness setting

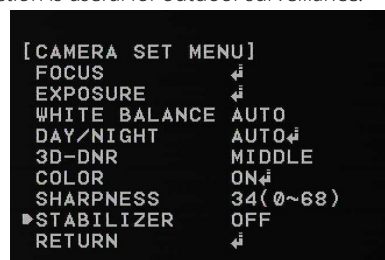
Sharpens the image outline.



1. Select [SHARPNESS] option on the [CAMERA SET] menu.
2. Use [Near] or [Far] button to adjust the option. If you set the sharpness value to higher, the image outline becomes sharp. If you set to lower value, the image outline becomes dim.

Stabilizer setting

The image stabilizer function minimizes the appearance of shaky images caused by low-frequency vibration. This function is useful for outdoor surveillance.

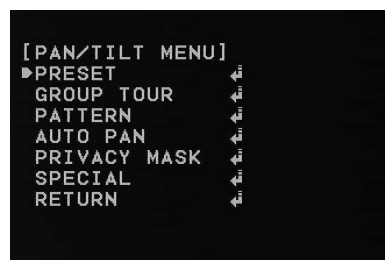


1. Select [STABILIZER] option on the [CAMERA SET] menu.
2. Use [Near] or [Far] button to set it [ON] or [OFF].

PAN/TILT Settings

Preset setting

Preset position is the function to register camera monitoring positions (preset positions) associated with position numbers. By entering the position numbers, you can move cameras to the preset positions.



To register preset positions

1. Select the [SET PRESET] option on the [PRESET] menu.
2. Use the [Near] or [Far] button to select the preset number you wish to register and press the [Open] or [Close] button.
3. Set the preset name.

How to set the preset name.

1. Set the NAME option to [ON] and press [Open] or [Close] button.
2. Use [In], [Out], [Near] or [Far] button to select a character, number, symbol mark or option item.
 - </>: Moves cursor to left or right.
 - (Blank): Insert a space at the cursor position.
 - CLR: If you enter the wrong code, select [CLR] then press [Open] or [Close] to delete. All letters will be erased at once.
 - SAVE: Select this option to confirm the settings.
 - EXIT: Select this option to exit the settings.
3. Press [Open] or [Close] button to confirm your selection.
4. Select the speed to move to the preset position.
5. Select the preset tour dwell time.
6. Set the IRIS option. IRIS LEVEL are set by 20 % unit (20 %, 40 %, 60 %, 80 %, 100 %)
7. Set the WDR/BLC/HSBLC option.
8. Set the SHUTTER option.
9. Select the [SET POSITION] option and press [Open] or [Close] button.
10. Move the camera to a point you wish by using the joystick and then press [Open] or [Close] button to save it.
11. Select [SAVE] option and press [Open] or [Close] button to confirm the settings.
The position and its number are memorized.
12. Repeat steps 1 to 11 to add additional positions.
13. Select [RETURN] option and press [Open] or [Close] button to exit the setting menu.

Changing a picture in a preset position

The preset function makes the combination camera move to the programmed preset position. It is necessary to program preset positions for the combination camera beforehand.

1. Select [GOTO PRESET] option on the [PRESET] menu.

2. Select the memorized preset position's index number then press [Open] or [Close] button. The camera moves to the preset position and the picture of the camera in that position appears on the monitor.

To tour the preset positions

You can tour all preset positions.

1. Select [PRESET TOUR] option on the [PRESET] menu. All registered preset positions in the camera will be selected and the camera position image will be switched on the active monitor.
2. You can stop the tour by moving the joystick or sending Stop Tour commands .

To clear the preset position

You can clear a memorized preset position.

1. Select [CLEAR PRESET] option on the [PRESET] menu.
2. Selects the memorized preset index number then press [Open] or [Close] button to clear the preset positions.

To clear all the preset positions

You can clear all of the memorized preset positions at once.

1. Select [CLEAR ALL] option on the [PRESET] menu.
2. Press [Open] or [Close] button to clear the all preset positions.

Freeze function

1. Select [FREEZE] option on the [PRESET] menu.
2. Use [Near] or [Far] button to set up the [ON] or [OFF].

Group tour setting

You can create a group using preset positions that are registered already. A maximum of 10 groups is available.



To set the group

1. Select [SET GROUP] option on the [GROUP TOUR] menu.
2. Select the group number and press [Open] or [Close] button.
3. Set the group item. You can set the group item up to 8.
4. Select [SAVE] option and press [Open] or [Close] button to confirm the settings.
5. Select [RETURN] option and press [Open] or [Close] button to exit the setting menu.

To tour the group

You can tour the group that is registered already.

1. Select [RUN] option on the [GROUP TOUR] menu.
2. Select the group number and press [Open] or [Close] button.

The camera moves to the preset position in the group and the picture of the camera in that position appears on the monitor.

To delete a group

You can delete a memorized group.

1. Select [CLEAR] option on the [GROUP TOUR] menu.
2. Select the group number and press [Open] or [Close] button. The group will be deleted.

Pattern setting

You can activate the camera in a repeating pattern. The pattern is programmed by recording your manual pan, tilt, and zoom operations. The camera stores the movements you performed in memory.



To record the pattern

1. Select [RECORD] option on the [PATTERN] menu.
2. Select the recording number and press [Open] or [Close] button. The pattern recording is started.
3. Move the camera through the desired movement.
4. Press [Open] or [Close] button to stop the pattern recording.



Note

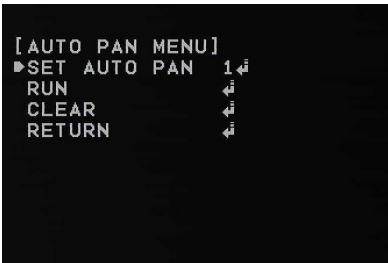
The available total time of pattern differs depending on operation.

To play the pattern

1. Select [RUN] option on the [PATTERN] menu.
2. Select the recording number and then press [Open] or [Close] button to play the programmed pattern. The tour will play indefinitely until you stop it by moving the joystick or pressing any button.

Auto Pan setting

By selecting the Auto Pan number, the camera pans automatically.



To set the Auto Pan position

1. Select [SET AUTO PAN] option on the [AUTO PAN] menu.
2. Select the number you wish to register and press [Open] or [Close] button.
3. Select the moving speed.
4. Select the Auto pan dwell time.
5. Move the camera to the desired start point by using the joystick.
6. Select the [SET POSITION] option and press [Open] or [Close] button.
7. Move the camera to the desired end point by using the joystick and then press [Open] or [Close] button.

8. Repeat steps 1 to 7 to add additional positions.
9. Select [RETURN] option and press [Open] or [Close] button to exit the setting menu.



Note

If you press the [CLEAR] Option during the Auto panning, All of AUTO PAN position will be deleted.

To play the auto pan

You can play the camera with auto pan function.

1. Select [RUN] option on the [AUTO PAN] menu.
2. You can stop the Auto pan function by moving the joystick or pressing any button.

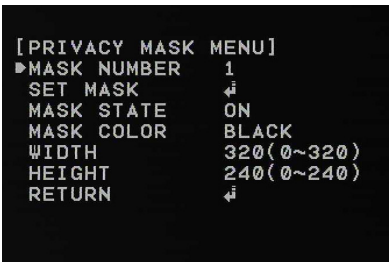
To delete the auto pan position

You can delete the memorized auto pan position.

1. Select [AUTO PAN] option on the [PAN/TILT] menu.
2. Select [CLEAR] option then press [Open] or [Close] button to delete the Auto pan position.

Privacy Mask setting

This function is aiming at the protection of personal privacy, the mask zone is not displayed on the screen. Up to 8 zones can be registered.

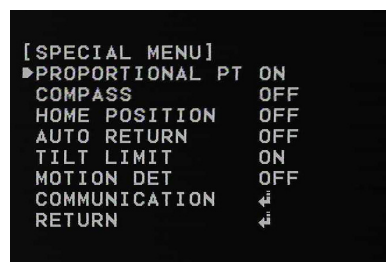
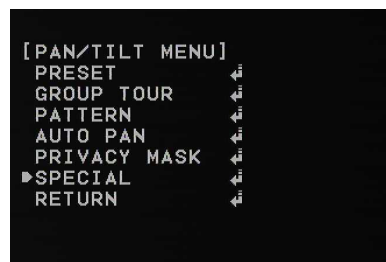


1. Select [PRIVACY MASK] option on the [PAN/TILT MENU].
2. Press [Open] or [Close] button to display the PRIVACY MASK MENU.
3. Use [Near] or [Far] button to select a zone number on the [MASK NUMBER] option.
4. Select the [SET MASK] option and press [Open] or [Close] button.
5. Select the mask zone using the joystick and then press [Open] or [Close] button to save it.
6. Use [Near] or [Far] button to set up the [ON] or [OFF] on the [MASK STATE] option. If you already registered the mask zone and set to ON, the mask zone box appears on the monitor.
7. Use [Near] or [Far] button to select the color of the mask zone box on the [MASK COLOR] option.
8. Select the [WIDTH] option and use [Near] or [Far] button to adjust the horizontal size of the mask zone box.
9. Select the [HEIGHT] option and use [Near] or [Far] button to adjust the vertical size of the mask zone box.
10. Repeat steps 3 to 9 to add additional positions.

Note

- The parts with the registered mask numbers from 1 to 4 have the same color. (So do the parts with the numbers from 5 to 8). If you change the mask color, the registered mask color will be changed automatically with the same color for each of group (1 to 4, 5 to 8).
- The initial PRIVACY MASK color is set to blue . After setting, the PRIVACY MASK position on [SET MASK] option, it'll be changed to gray color. Be sure, you have to press [Open] or [Close] button on the [SET MASK] option to confirm the privacy mask color.
- If you need a Privacy Mask for a Preset, set the Privacy Mask first.

Special setting



Proportional PT

This function optimizes the image by automatically adjusting the PAN/TILT (horizontal/vertical rotation) speed according to the zoom ratio.

1. Select [PROPORTIONAL PT] option on the [SPECIAL] menu.
2. Use [Near] or [Far] button to toggle it on and off.
 - ON : Pan/tilt speed is in inverse proportion to the zoom ratio.
 - OFF : The speed is constant at the fastest level regardless of the zoom ratio.

Compass

You can display the north, south, east and west information on the screen.

1. Select [COMPASS] option on the [SPECIAL] menu.
2. Set the [COMPASS] option to [SET] and then press [Open] or [Close] button.
3. Select north point using the joystick and then press [Open] or [Close] button.
4. Set the [COMPASS] option to [ON].

Home position

The home position is the camera's basic position.

The camera returns to this position whenever you want.

Use the following procedure to make the home position.

1. Select [HOME POSITION] option on the [SPECIAL] menu.
2. Use [Near] or [Far] button to set it ON.
3. Press [Open] or [Close] button.
4. Select [SET] option and then press [Open] or [Close] button.
5. Select the home position where you want and then press [Open] or [Close] button.
6. Select [DWELL TIME] option and then select the dwell time.
7. Select [RETURN] option and press [Open] or [Close] button to exit the setting menu.

Go to Home position

1. Select [HOME POSITION] option on the [SPECIAL] menu.
2. Use [Near] or [Far] button to set it ON.
3. Press [Open] or [Close] button.
4. Select [GO] option and then press [Open] or [Close] button. The camera will move to the home position.

! Note

If you do not want to use the home position function, set the [HOME POSITION] option to [OFF].

Auto return

This function can be used to specify automatic return to a particular mode if a certain amount of time elapses without any operation being performed.

1. Select [AUTO RETURN] option on the [SPECIAL] menu.
2. Use [Near] or [Far] button to set it [ON] and then press [Open] or [Close] button.
3. Select [RETURN TIME] option and then select the auto return time.
4. Select [RETURN] option and press [Open] or [Close] button to exit the setting menu.

Tilt limit

You can specify the tilt range. If you set this function, the camera is able to tilt from 10° to 170°.

1. Select [TILT LIMIT] option on the [SPECIAL] menu.

2. Use [Near] or [Far] button to set it [ON]. If you do not want to use this function, set it to [OFF].

! Note

The top side of screen may be hidden by tilting range.

Motion Detection

The motion detection detects the moving objects in the scene by monitoring changes in brightness level.

1. Select [MOTION DET] option on the [SPECIAL] menu.
2. Use [Near] or [Far] button to set it [ON]. If you do not want to use this function, set it to [OFF].
3. Press [Open] or [Close] button.
4. Use [Near] or [Far] button to set the [SENSITIVITY] option.

Communication

This setting is required to establish a connection between the system controller and the camera.

1. Select [COMMUNICATION] option on the [SPECIAL] menu.
2. Press [Open] or [Close] button.
3. Set the below options.
 - Protocol: This item lets you set a protocol for RS-485 communication. Select the desired protocol.
 - Baud Rate: Select the desired speed of communication between the system controller and the camera. Confirm selected parameter to the baud rate of the system controller.
 - SAVE & EXIT: Select this option and then press [Open] or [Close] button to save the communication settings and exit the setting menu.

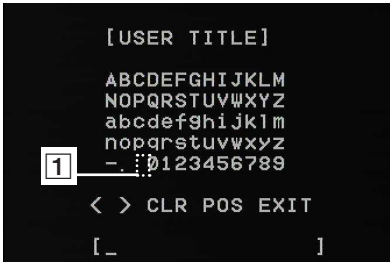
OSD Settings



User title setting

You can use the camera identification to assign a number and character to the camera.

1. Select [USER TITLE] option on the [OSD] menu.
2. Use [Near] or [Far] button to set it [ON].
3. Press [Open] or [Close] button. The USER TITLE menu appears.
4. Use [In], [Out], [Near] or [Far] button to select a character, number, symbol mark or option item.

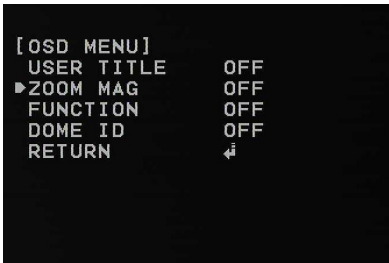


- </>: Moves cursor to left or right.
- **1** (Blank): Insert a space at the cursor position.

- CLR: If you enter the wrong code, select [CLR] then press [Open] or [Close]. All letters will be erased at once.
- POS: Move the USER TITLE position on the screen using the [Near] or [Far] buttons.
- END: Select this option to exit the settings.

ZOOM MAG setting

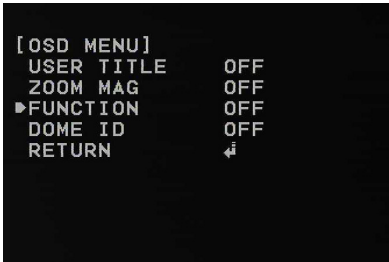
Displays or removes the zoom OSD on the screen.



1. Select [ZOOM MAG] option on the [OSD] menu.
2. Use [Near] or [Far] button to set it [ON] or [OFF].
3. Select [RETURN] option and press [Open] or [Close] button to exit the setting menu.

FUNCTION setting

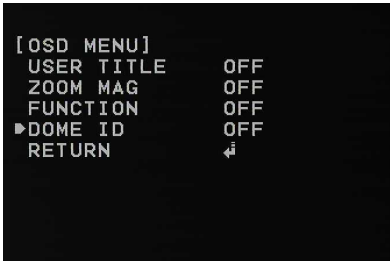
Displays or removes the Function OSD on the screen.



1. Select [FUNCTION] option on the [OSD] menu.
2. Use [Near] or [Far] button to set it [ON] or [OFF].
3. Select [RETURN] option and press [Open] or [Close] button to exit the setting menu.

4 DOME ID setting

Displays or removes the Camera ID OSD on the screen.



1. Select [DOME ID] option on the [OSD] menu.
2. Use [Near] or [Far] button to set it [ON] or [OFF]
3. Select [RETURN] option and press [Open] or [Close] button to exit the setting menu.

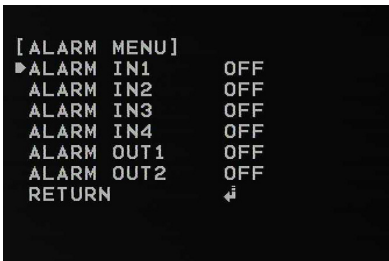
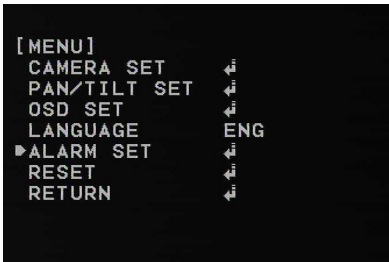
4 LANGUAGE Setting

Select a language for the setup menu and OSD display.



ALARM Setting

This camera has a terminal that can sense the alarm signals. The camera can be programmed to go to a preset with a signal from any connected alarm device.



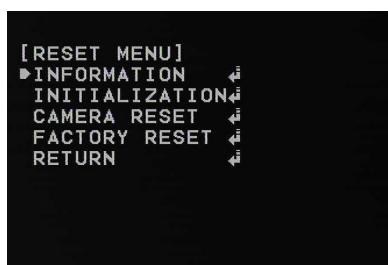
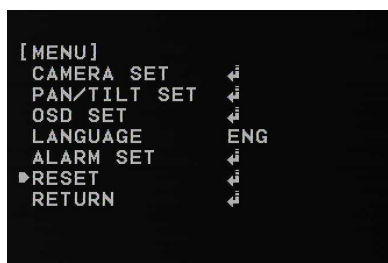
Alarm In setting

1. Select one of the alarms in option on the [ALARM SET] menu.
2. Use [Near] or [Far] button to set it [ON].
3. Press [Open] or [Close] button.
4. Select [NORMAL] option and select [Open] or [Close] option.
 - OPEN: Activate the alarm in the close position.
 - CLOSE: Activate the alarm in the open position.
5. Select [ALARM IN(1 to 4)] option and select preset number. When the alarm is triggered, the camera moves to the selected preset position. The presets run continuously until alarm source is off.
6. Select [DWELL TIME] option and then set the alarm dwell time. The alarm is stopped after selected dwell time.

Alarm Out setting

1. Select one of the alarm out options on the [ALARM SET] menu.
2. Use [Near] or [Far] button to set it [ON].
3. Press [Open] or [Close] button.
4. Select alarm input number or motion detection. When the selected alarm input is triggered or motion is detected, the alarm signal is outputted.
5. Select [DWELL TIME] option and then set the alarm dwell time. The alarm output is stopped after selected dwell time.

RESET Setting



Information

You can view the current camera information such as PTZ software version, camera software version, camera ID, Protocol and Baud Rate.

1. Select [INFORMATION] option on the [RESET] menu.
2. Press [Open] or [Close] button to display the current camera information.

Initialization

You can initialize the camera settings.

1. Select [INITIALIZATION] option on the [RESET] menu.
2. Press [Open] or [Close] button then confirmation window is displayed.
3. Select [YES] and press [Open] or [Close] button.

Camera reset

1. Select [CAMERA RESET] option on the [RESET] menu.
2. Press [Open] or [Close] button then confirmation window is displayed.
3. Select [YES] and press [Open] or [Close] button.

Factory reset

Clear certain settings and information and return to factory default settings.

1. Select [FACTORY RESET] option on the [RESET] menu.
2. Press [Open] or [Close] button then confirmation window is displayed.
3. Select [YES] and press [Open] or [Close] button. The camera will return to the factory default settings.

5

Appendix

Specifications

| Model | | LCP2850-AN | LCP2850-AP | LCP2850I-AN | LCP2850I-AP |
|-------------------------------|-------|---|--------------------|-----------------------|--------------------|
| Signal System | | NTSC | PAL | NTSC | PAL |
| Image Sensor | | 4.5 mm(1/4 Type) Super HAD II CCD | | | |
| Total Pixels Number | | 520 000 Pixels | 610 000 Pixels | 520 000 Pixels | 610 000 Pixels |
| Effective Pixels Number | | 490 000 Pixels | 570 000 Pixels | 490 000 Pixels | 570 000 Pixels |
| Horizontal Resolution | | 600 TV Lines | | | |
| Lens | | x28 Zoom, F1.5 (Wide End), F3.7(Tele End), f= 3.5 mm to 98 mm | | | |
| S/N Ratio | | 50 dB (AGC Off) | | | |
| Day/Night | | AUTO / DAY / NIGHT | | | |
| Minimum Illumination (30 IRE) | B/W | 0.01 lx (Sens-up Off), 0.000 01 lx (Sens-up On) | | | |
| | Color | 0.2 lx (Sens-up Off), 0.003 lx (Sens-up On) | | | |
| Optical Zoom | | x28 | | | |
| Digital Zoom | | x12 | | | |
| Scanning Frequency (H/V) | | 15.734 KHz / 59.94 Hz | 15.625 KHz / 50 Hz | 15.734 KHz / 59.94 Hz | 15.625 KHz / 50 Hz |
| Sync System | | Internal | | | |
| White Balance | | ATW / AUTO / MANUAL / ONE PUSH | | | |
| Control method | | RS-485, Coaxial | | | |
| Alarm Input | | 4 Channel | | | |
| Alarm Output | | 2 Channel | | | |

| Model | LCP2850-AN | LCP2850-AP | LCP2850I-AN | LCP2850I-AP |
|-----------------------------------|--|-------------------|-------------------------------------|-------------------|
| Video Output | 1 Vp-p Composite (75 Ω) | | | |
| Backlight Compensation | WDR / BLC / HSBLC / OFF | | | |
| Electric Shutter | 1/60 to 1/120 000 | 1/50 to 1/120 000 | 1/60 to 1/120 000 | 1/50 to 1/120 000 |
| 3D-DNR | OFF / LOW / MIDDLE / HIGH | | | |
| Auto Gain Control | ON / OFF | | | |
| Digital Effect | Auto Flip | | | |
| Pattern Recording & Play | 1 to 4 / 1 to 4 | | | |
| Protection | Vandal Proof / IP66 | | | |
| Sens-Up | OFF / AUTO / MANUAL | | | |
| Iris Control | AUTO/MANUAL | | | |
| Stabilizer (EIS) | ON / OFF | | | |
| Motion Detection | Support | | | |
| Panning Range & Speed | 0 ° to 360 ° , Maximum 500 °/Second | | | |
| Tilting Range & Speed | 0 ° to 180 ° , Maximum 500 °/Second | | | |
| Privacy Zone | 8 Mask Zones | | | |
| Preset/ID | 256 Position / 256 | | | |
| Auto Panning | 2 to 8 points | | | |
| Pattern | 4 | | | |
| Group Touring | Maximum 10 Groups | | | |
| Protocol | Coax : Pelco-C (Coaxitron) RS-485 : LG Multix, Pelco(D/P) | | | |
| Operating Temperature/Humidity | -20 °C to 50 °C / 0 % RH to 80 % RH | | -10 °C to 50 °C / 0 % RH to 80 % RH | |
| Safekeeping Temperature/Humidity | -30 °C to 60 °C / 0 % RH to 90 % RH | | -30 °C to 60 °C / 0 % RH to 90 % RH | |
| Power Source | AC 24 V | | | |
| Power Consumption / Input Current | 22 W / 1.5 A | | 16 W / 1.1 A | |
| Dimension (Ø xH) | 234.6 mm x 269.9 mm | | 205.8 mm x 247.4 mm | |
| Weight | 4.07 kg | | 2.4 kg | |

