



# Hanwha Techwin PND-A6081RV Network Camera User Manual

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**PND-A6081RV Network Camera**



**PND-A6081RV Network Camera**



**PNV-A6081R**  
**PND-A6081RV/PND-A6081RF**  
**PNO-A6081R/PNB-A6001**

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### **Disclaimer**


Hanwha Vision makes the best to verify the integrity and correctness of the contents in this document, but no formal guarantee shall be provided. Use of this document and the subsequent results shall be entirely on the user's own responsibility. Hanwha Vision reserves the right to change the contents of this document without prior notice.

- Design and specifications are subject to change without prior notice.
- The initial administrator ID is "admin" and the password should be set when logging in for the first time.  
Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.  
Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.

## **overview**

### **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 the contaminated area on the product surface with a soft, dry cloth or a damp cloth.  
(Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
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 lighting 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.
15. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc, 1.42 A or PoE, 0.37 A. (PND-A6081RV/PND-A6081RF)
16. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc 1.42 A or PoE, 0.37 A. (PNV-A6081R)
17. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc 1.42 A or PoE, 0.37 A. (PNO-A6081R)
18. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc, 1.17 A or PoE, 0.33 A. (PNB-A6001)
19. This product is intended to be supplied by isolation power.
20. If you use excessive force when installing the product, the camera may be damaged and malfunction.  
If you forcibly install the product using non-compliant tools, the product may be damaged.
21. Do not install the product in a place where chemical substances or oil mist exists or may be generated. As edible oils such as soybean oil may damage or warp the product, do not install the product in the kitchen or near the kitchen table.  
This may cause damage to the product.
22. When installing the product, be careful not to allow the surface of the product to be stained with chemical substance.  
Some chemical solvents such as cleaner or adhesives may cause serious damage to the product's surface.
23. If you install/disassemble the product in a manner that has not been recommended, the production functions/ performance may not be guaranteed.

Install the product by referring to “Installation & connection” in the user manual.

24. Installing or using the product in water can cause serious damage to the product.
25. Although a rapid change in temperature could cause frost inside the dome, there will be no problem with the video.
26. This device has been verified using STP cable. The use of appropriate GND grounding and STP cable is recommended to effectively protect your product and property from transient voltage, thunderstroke, communication interruption.

### **WARNING**

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.


To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.


### **CAUTION**



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.

### **EXPLANATION OF GRAPHICAL SYMBOLS**

 The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of “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.

### **Class construction**

An apparatus with CLASS construction shall be connected to a MAINS socket outlet with a protective earthing connection.

### **Battery**

Batteries (battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

The battery cannot be replaced.

### **Disconnection Device**

Disconnect the main plug from the apparatus, if it’s defected. And please call a repair man in your location. When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

### **CAUTION**

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

### **ATTENTION**

IL Y A RISQUE D’EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE

INCORRECT.

METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.

### **CAUTION**

These servicing instructions are for use by qualified service personnel only.

To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Please use the input power with just one camera and other devices must not be connected.

When a new product box is opened (or during the initial use of the product), moisture might build up on the glass of the camera. The built-up moisture disappears naturally within a few hours after powered on.

Do not arbitrarily loosen or tighten the gore valve.

The ITE is to be connected only to PoE networks without routing to the outside plant.

The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3.at shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1 or PS2 as defined in UL62368-1.

Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102.

As such, associated Ethernet wiring shall be limited to inside the building.

Please read the following recommended safety precautions carefully.

- Do not place this apparatus on an uneven surface.
- Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area.
- Do not place this apparatus near conductive material.
- Do not attempt to service this apparatus yourself.
- Do not place a glass of water on the product.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.
- Please wear protective gloves when installing/removing the camera.

The high temperature of the product surface may cause a burn.

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction

Please read this manual for the safety before using of goods and keep it in the safe place.

We do not guarantee the quality of third-party products (e.g. lenses, accessories) that you separately purchase.

In particular installation environments, there might be interference in radio communications.

When interference of electromagnetic waves occurs between the product and radio communication device, it is recommended to keep a certain distance between the two or change the direction of the receiving antenna.

### **WARNING**

To Prevent damage which may caused by IR LED, don't stare at operating lamp.

For below models only.

PNV-A6081R/PND-A6081RV/PND-A6081RF/PNO-A6081R

### **Risk Group 1**

WARNING IR emitted from this product.

Do not stare at operating lamp.

## **RECOMMENDED PC SPECIFICATIONS**

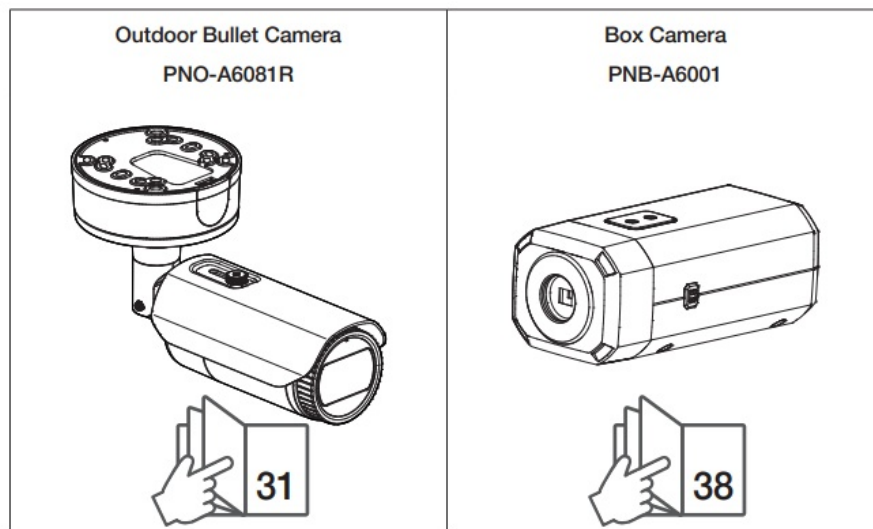
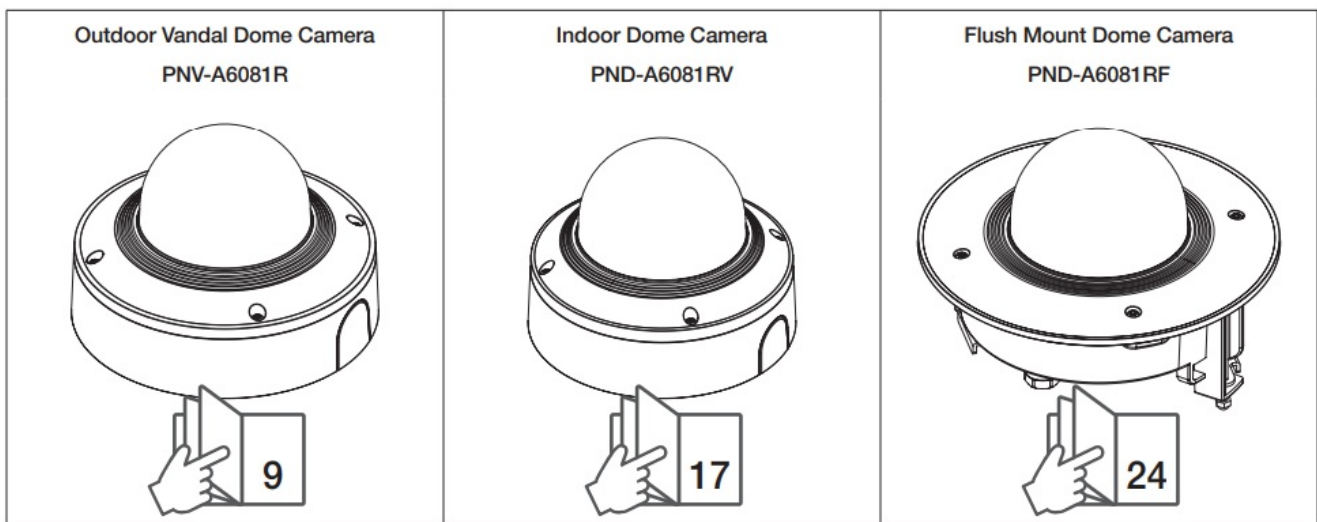
- CPU : Intel(R) Core(TM) i7 3.4 GHz or higher
- RAM : 8G or higher
- Recommended browser: Chrome
- Supported browsers: Chrome, Safari, Firefox, MS Edge(chromium based)
- Supported OS : Windows, Mac, Linux, Android, iOS, Chrome
- Verification environment
  - Windows 10: Google Chrome version 80 or later, Firefox version 72 or later, MS Edge version 83 or later
  - Mac 10.13/14: Safari version 11.0.1 or later
- ※ The video play performance of the web viewer depends on the performance of the user's CPU and GPU.

## **RECOMMENDED MICRO SD/SDHC/SDXC MEMORY CARD SPECIFICATIONS**

- Recommended capacity : 16GB to 256GB (MLC type required)
- Recommended Manufacturers : SanDisk, Transcend
- Product Type : High endurance
- The compatibility varies depending on the card manufacturers and types.

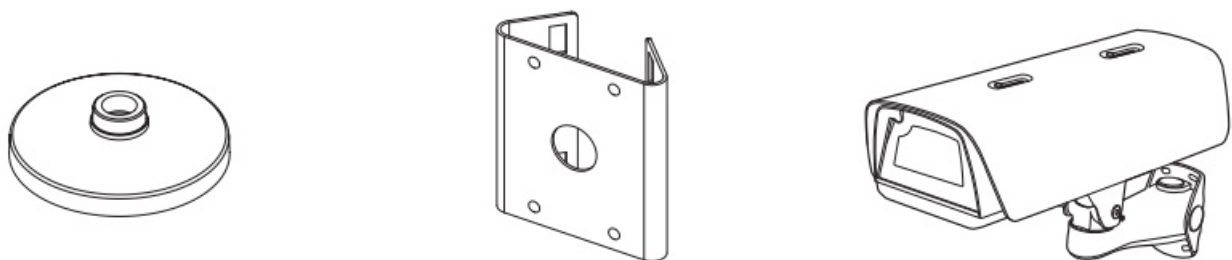
## **NAS RECOMMENDED SPECS**

- Recommended capacity : 200GB or higher is recommended.
- For this camera, you are recommended to use a NAS with the following manufacturer's specs.  
Recommended products : QNAP NAS, Synology NAS



#### OPTIONAL ACCESSORIES FOR INSTALLATION

You can purchase appropriate optional accessories available.



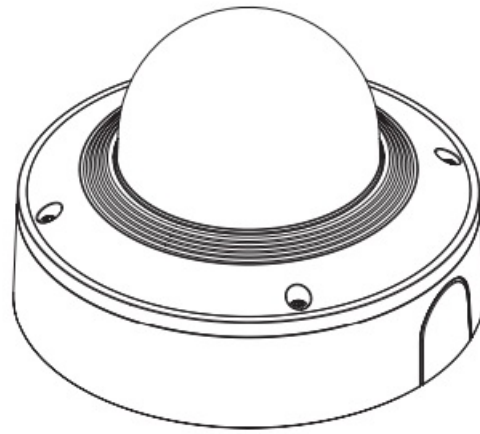
Model name	Hanging Mount	Pole Mount	Housing	All
PNV-A6081R	SBP-187HMW			SBP-300LMW (Parapet Mount) SBP-156LMW (Parapet Mount) SBP-300CMW (Ceiling Mount) SBP-156CMW (Ceiling Mount) SBP-300WMW (Wall Mount) SBP-300WMW1 (Wall Mount) SBP-300NBW (Installation Box) SBP-300BW (Wall Mount Base) SBP-300PMW (Pole Mount) SBP-300PMW1 (Pole Mount) SBP-300KMW (Corner Mount) SBP-300KMW1 (Corner Mount)
PND-A6081RV	SBP-167HMW			
PNO-A6081R		SBP-302PM		
PNB-A6001			SHB-4300HP	

## outdoor vandal dome camera

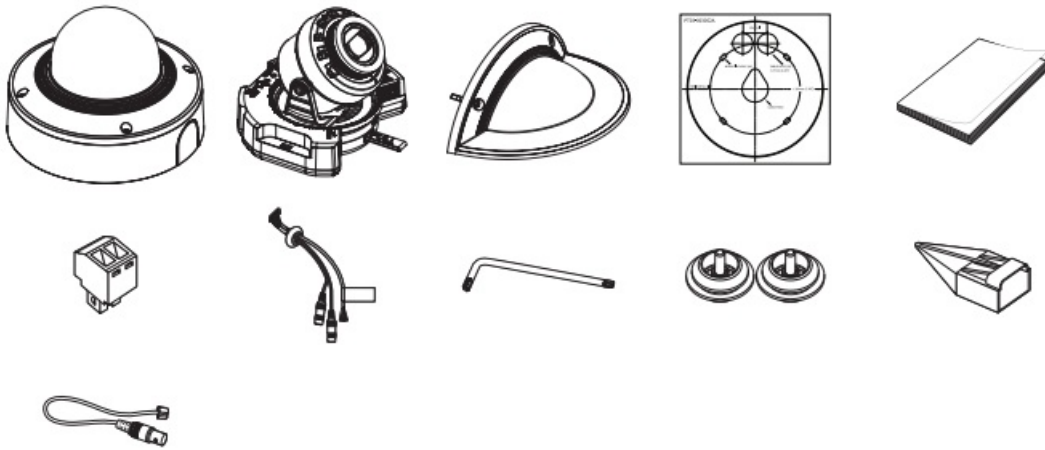
### WHAT'S INCLUDED

As for each sales country, accessories are not the same.

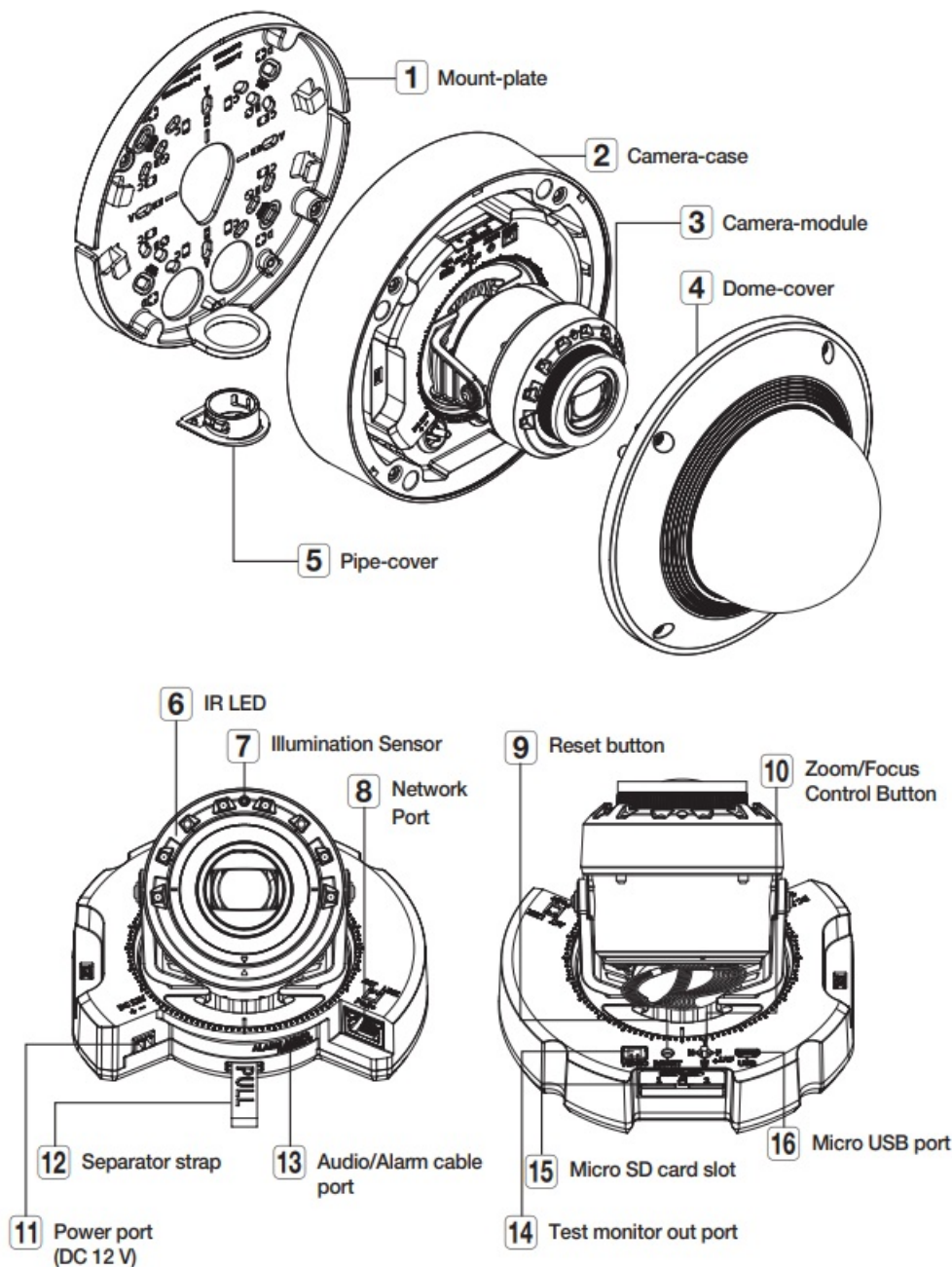




<PNV-A6081R>



**AT A GLANCE**



## INSTALLATION



- This camera is waterproof and in compliance with the IP67 / IP6K9K spec, but the jack connected to the external cable is not.

You are recommended to install this product below the edge of eaves to prevent the cable from being externally exposed.

### Precautions before installation

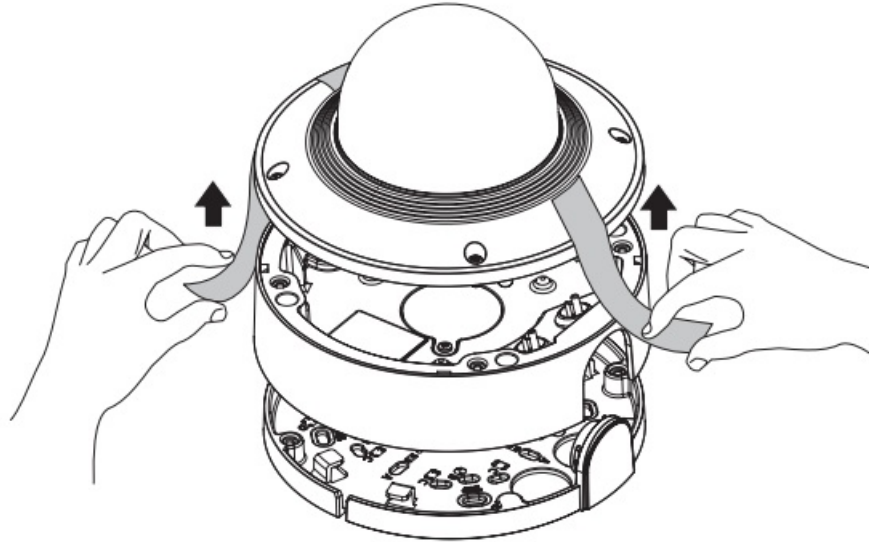
Ensure you read out the following instructions before installing the camera:

- Select an installation site that can hold at least 5 times the camera's weight.
- Stuck-in or peeled-off cables can cause damage to the product or a fire.

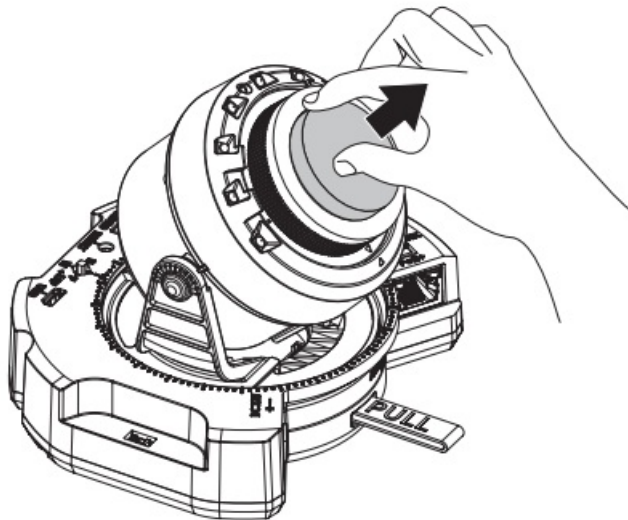
- For safety purposes, keep anyone else away from the installation site.  
And put aside personal belongings from the site, just in case.
- If the product is installed with excessive force, it may cause damage to the camera due to malfunction.  
Forcing assembly using non-compliant tools may damage the product.

## Removal

1. Peel off the tape fixing the camera case.

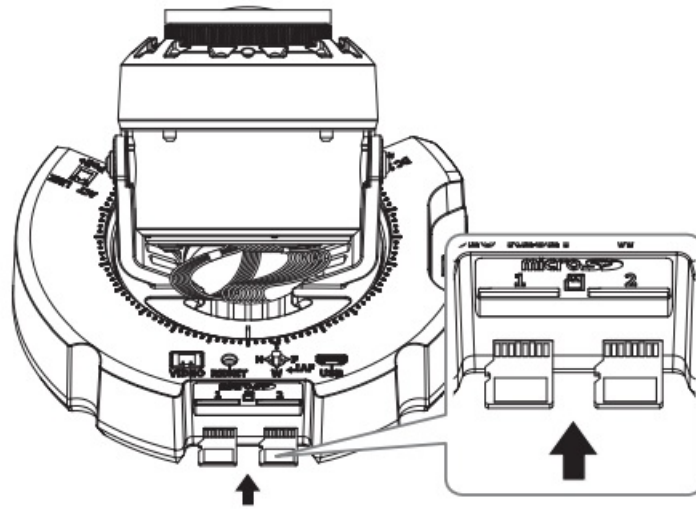


2. Take off the lens cover protecting the camera lens.



## Inserting a Micro SD card

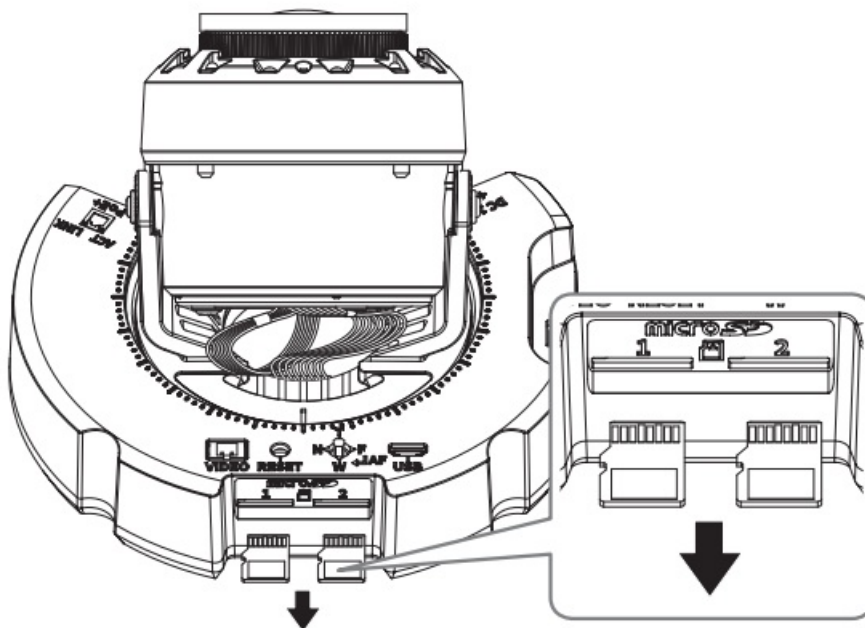
Slide the Micro SD card into the Micro SD card slot on the camera module in the direction of the arrow.



- Before installing the camera, the Micro SD card should be inserted while the power source and the body are separated.
- Do not forcefully insert it in the reverse direction. It might damage your Micro SD card and your product.
- When it rains or the humidity is high, insertion or ejection of a Micro SD card is not recommended.
- When installing/removing the Micro SD card, make sure you put the product body on a flat ground before working on it in order to prevent accidents due to loss or drop of any parts.

### Removing a Micro SD card

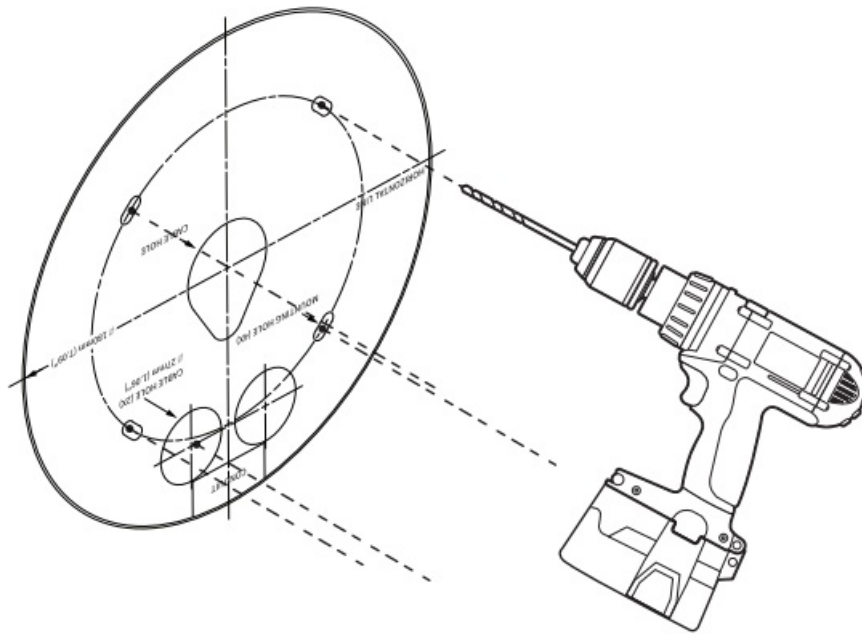
Gently press down on the exposed end of the Micro SD card as shown in the diagram to eject the Micro SD card from the slot.



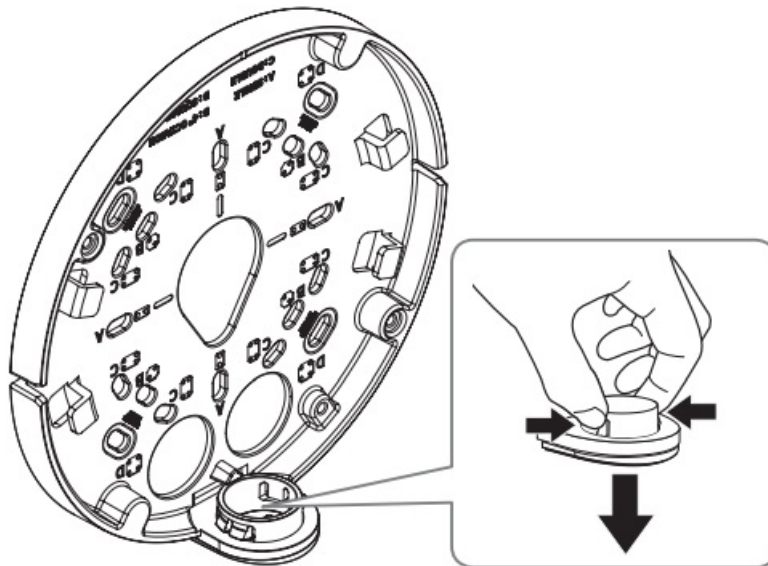
- Before removing the Micro SD card, in <Storage>, set the device to <Off> and press the [Apply] button and turn the camera off.







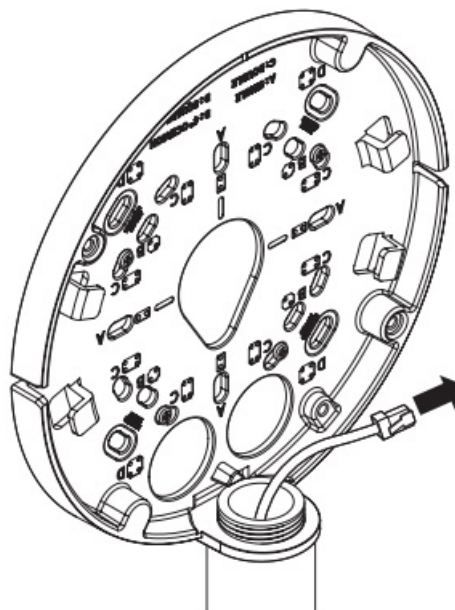
2-2. Separate the pipe cover of the mount plate by pressing its sides.



2-3. Place the pipe on the mount plate.

2-4. Fix the mount plate using appropriate screws.

2-5. Pull out necessary cables among network/power/audio/alarm cables through the pipe.



## Installation (camera case)



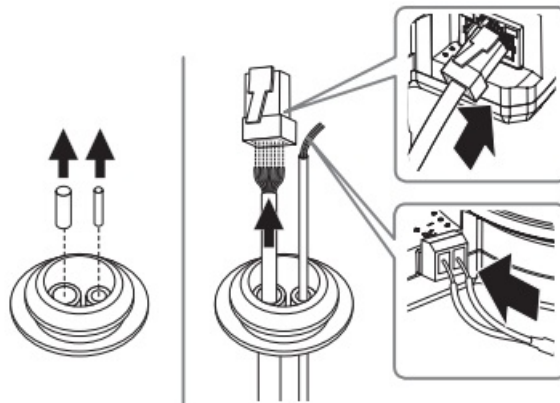
- Use a cable bushing compliant with the network cable to be connected.
  - Camera main: use a cable with the diameter of Ø5 to 6.5
  - Components: use a cable with the diameter of Ø5 to 8.5

### [Installing network/power cables]

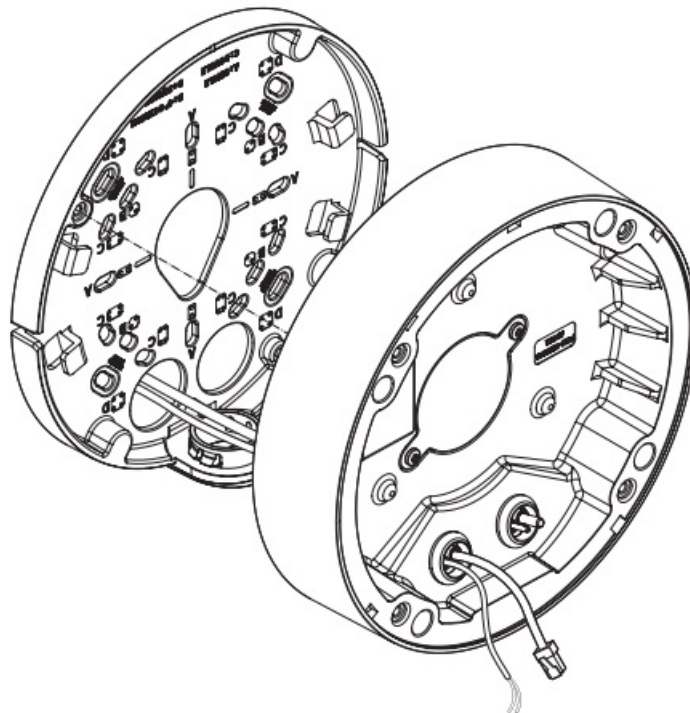
1-1. Pull off the extruded parts of the cable bushing to be used.

1-2. Route the network cable through the big hole of the cable bushing and connect to the network cable connector.

1-3. (When using the power) Route the power cable through the small hole of the cable bushing and connect it to the provided terminal block.



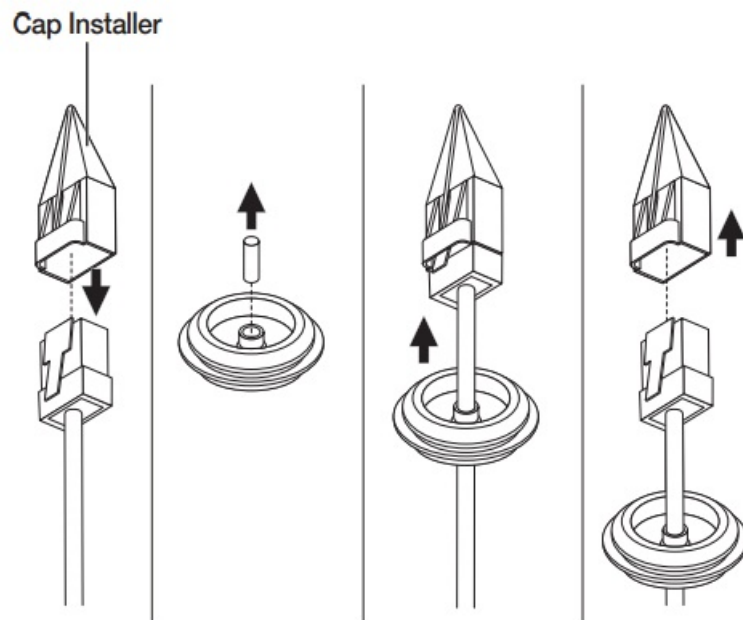
1-4. Mount the cable bushing to the camera case.



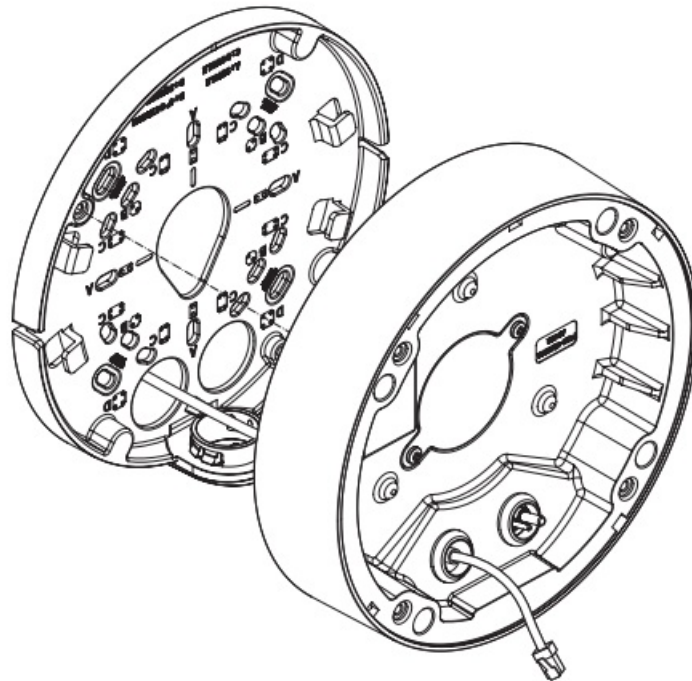
### [Installing the network cable] (IP66)

2-1. Pull off the extruded part of the 1-hole cable bushing provided.

2-2. Use the cap installer to pass through the RJ45 cable.



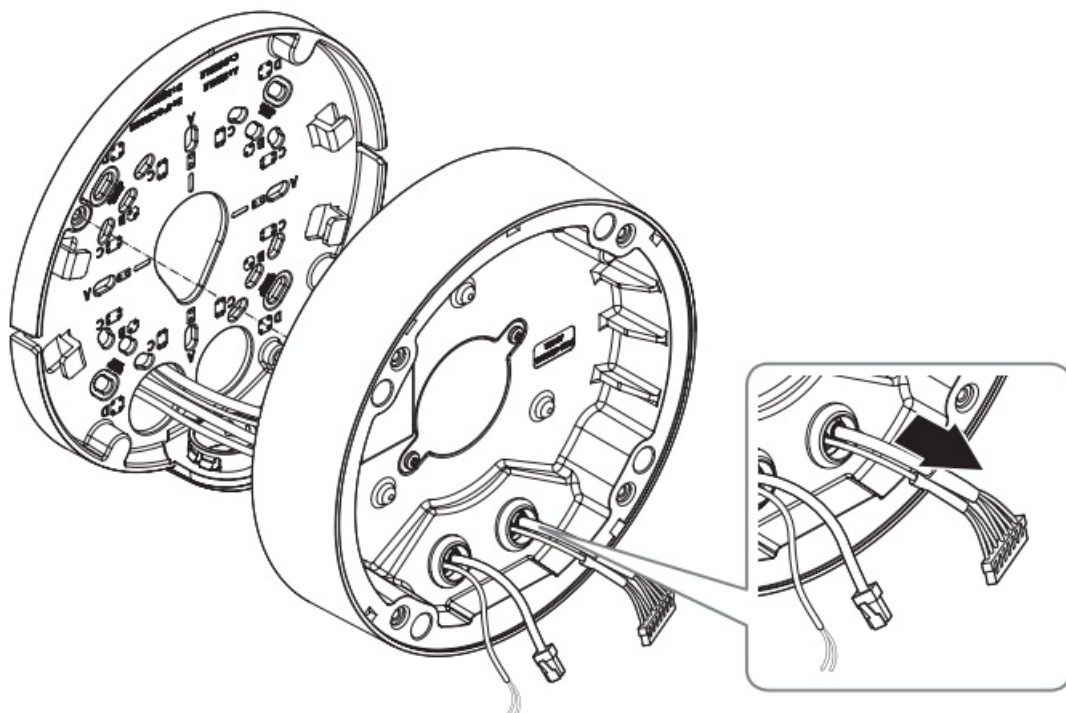
2-3. Mount the cable bushing to the camera case.



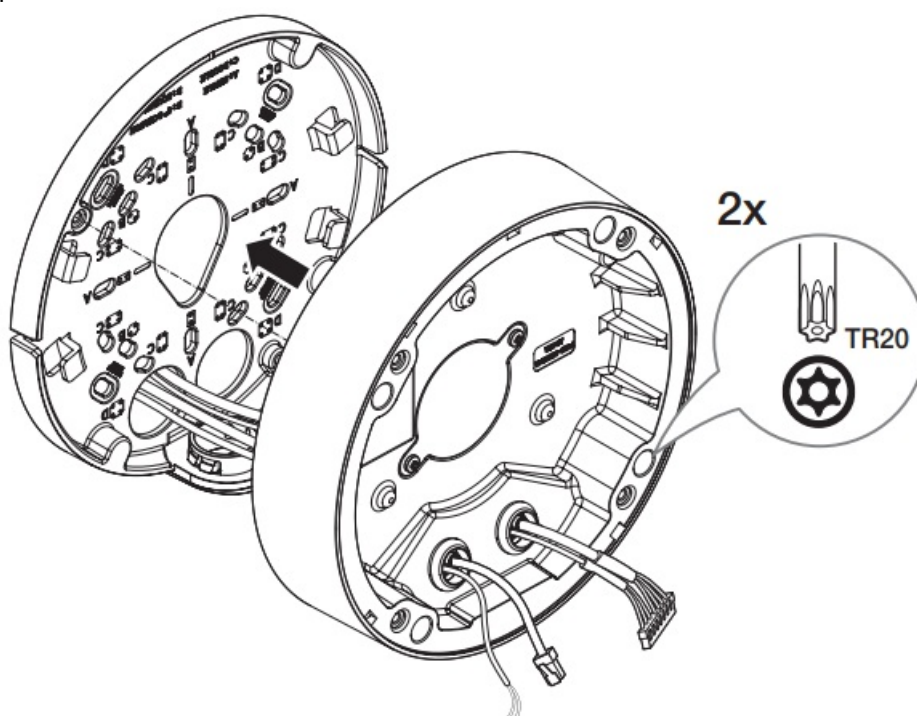
**[Installing audio/alarm cables]**

3-1. Mount the cable bushing of the provided audio/alarm cables to the camera case.





4. Join the mount plate with the camera case.



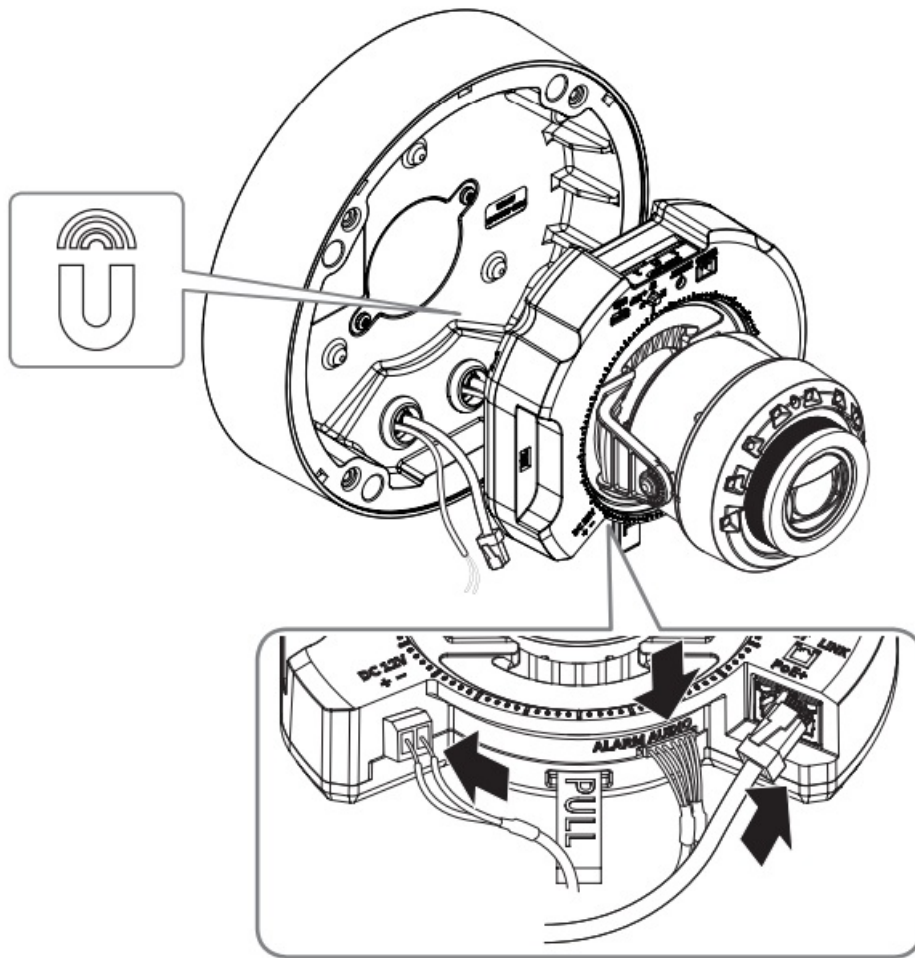
### Installing the camera module

1. Connect the network/power/audio/alarm cables to the camera module terminal.
2. Attach the camera module to the case.



A magnet is embedded at the bottom of the module

Take caution not to allow any foreign objects between the attaching surfaces.



3. Adjust the lens to the desired direction with reference to “Adjusting the monitoring direction for the camera ” section. (page 41)

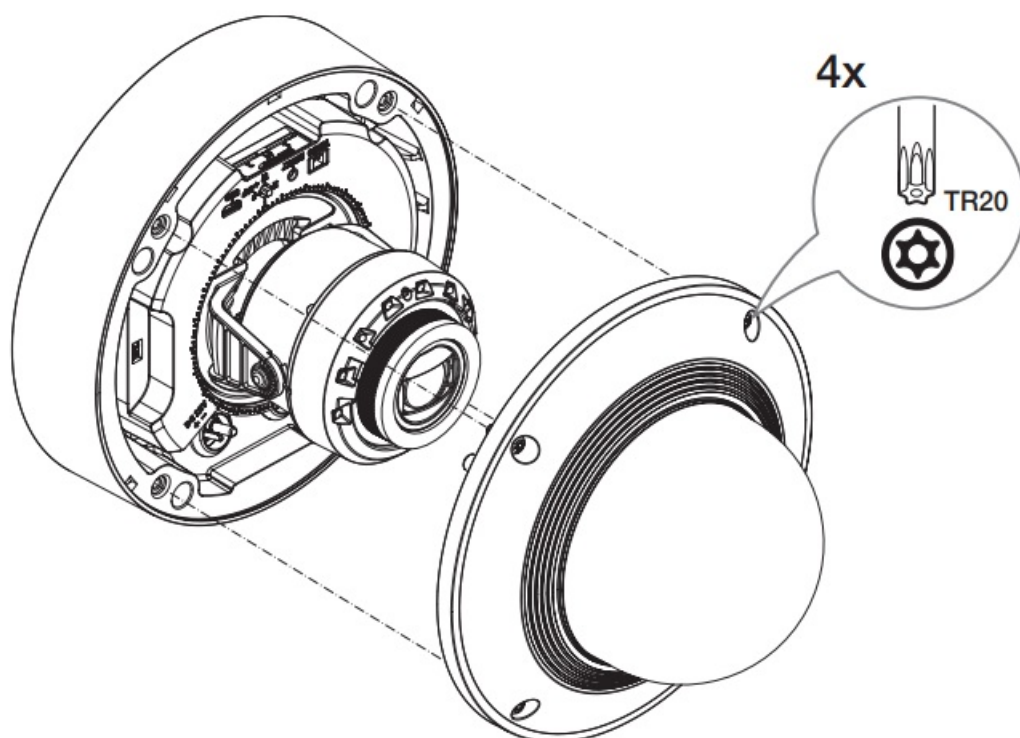
### **Assembling the dome cover**

[Directly installing on wall/ceiling]

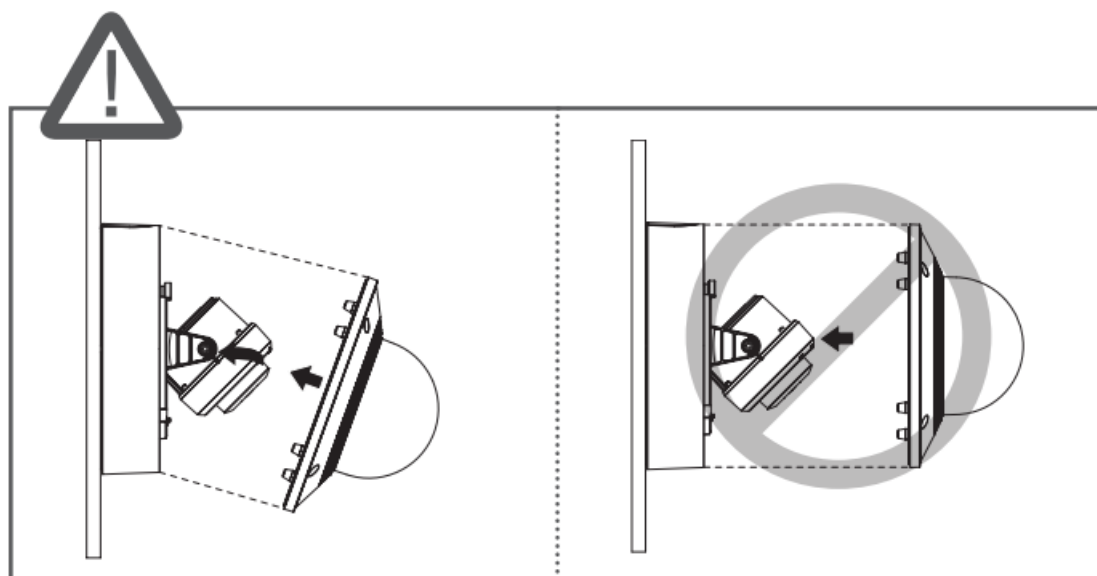
1. Assemble the dome cover.



Make sure to firmly tighten the fastening screws so that there is no water damage issue.

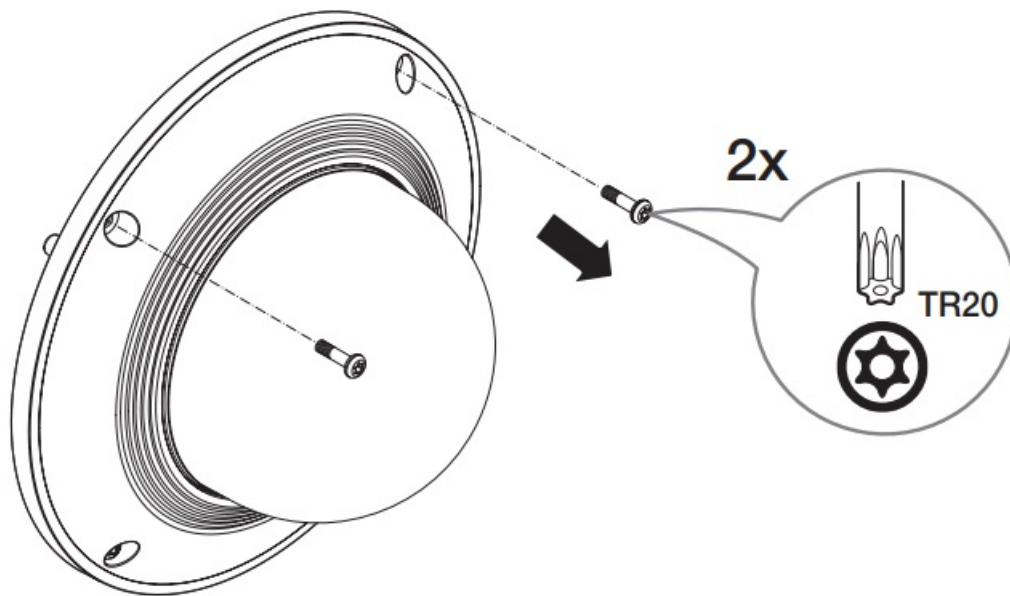


Be careful not to alter the monitoring direction of your camera.



#### [Using Weather cap]

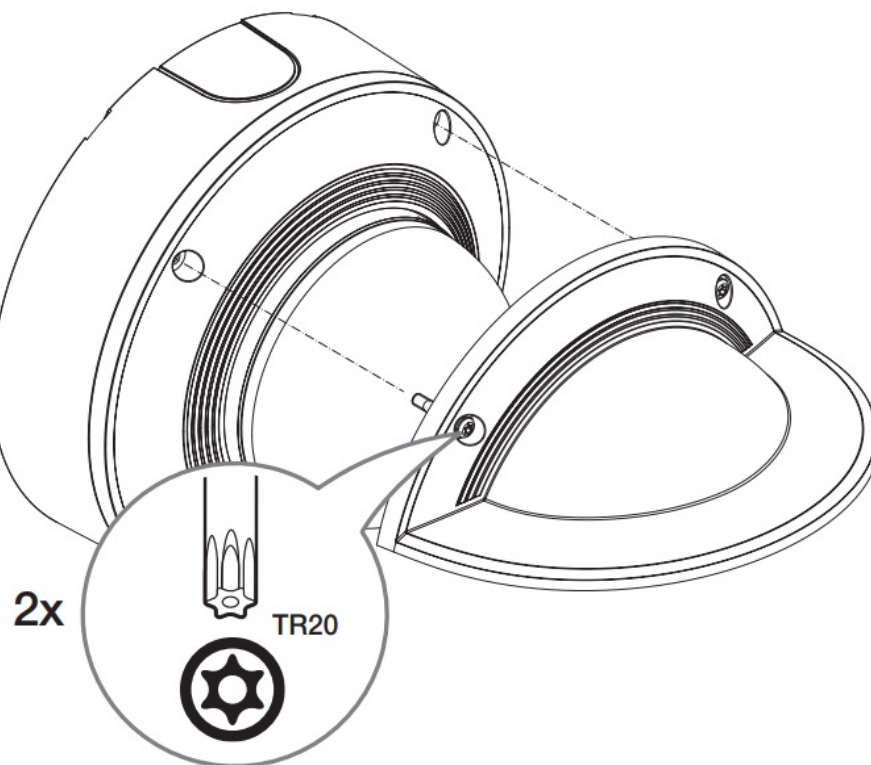
1. Remove the screws from the dome cover.



2. Assemble the dome cover.
3. Mount the weather cap to the dome cover and fasten the screws.



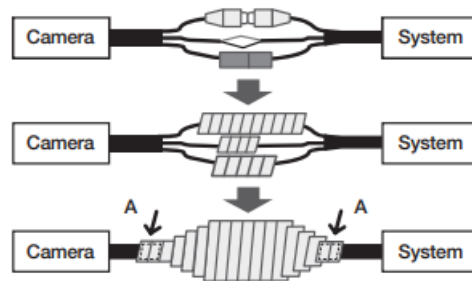
Make sure to firmly tighten the fastening screws so that there is no water damage issue.



## Outdoor installation

When you install it outside of the building, please waterproof it with waterproof butyl rubber tape (can be purchased in stores) so that water does not leak from the gap of the cable connected to the outside.

1. Connect the power, I/O, and network cables.
2. Wrap the black cable jacket (Area A) and the cable connection area with waterproof (butyl rubber) tape so that more than half of the butyl rubber tape is overlapped.



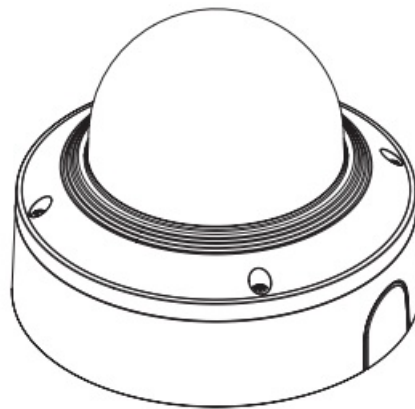
If the cable jacket is not waterproofed properly, then it can directly cause leakage. Make sure to protect the cable with a dense layer of taping.

Waterproof butyl tape is made of butyl rubber that can be stretched to twice its normal length.

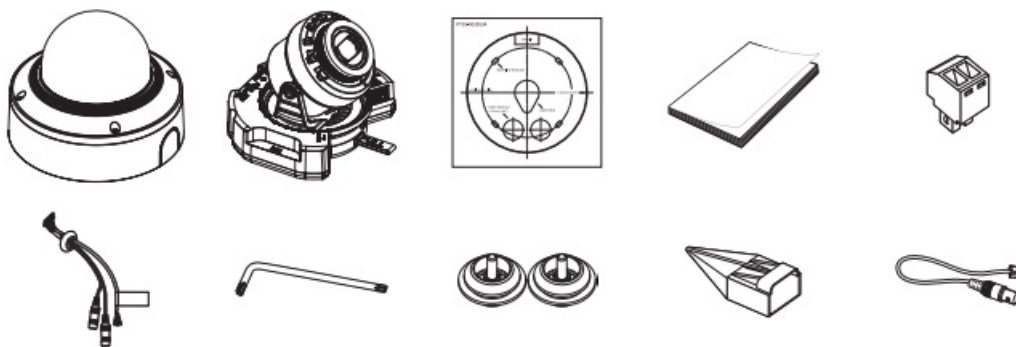
## indoor dome camera

### WHAT'S INCLUDED

As for each sales country, accessories are not the same.

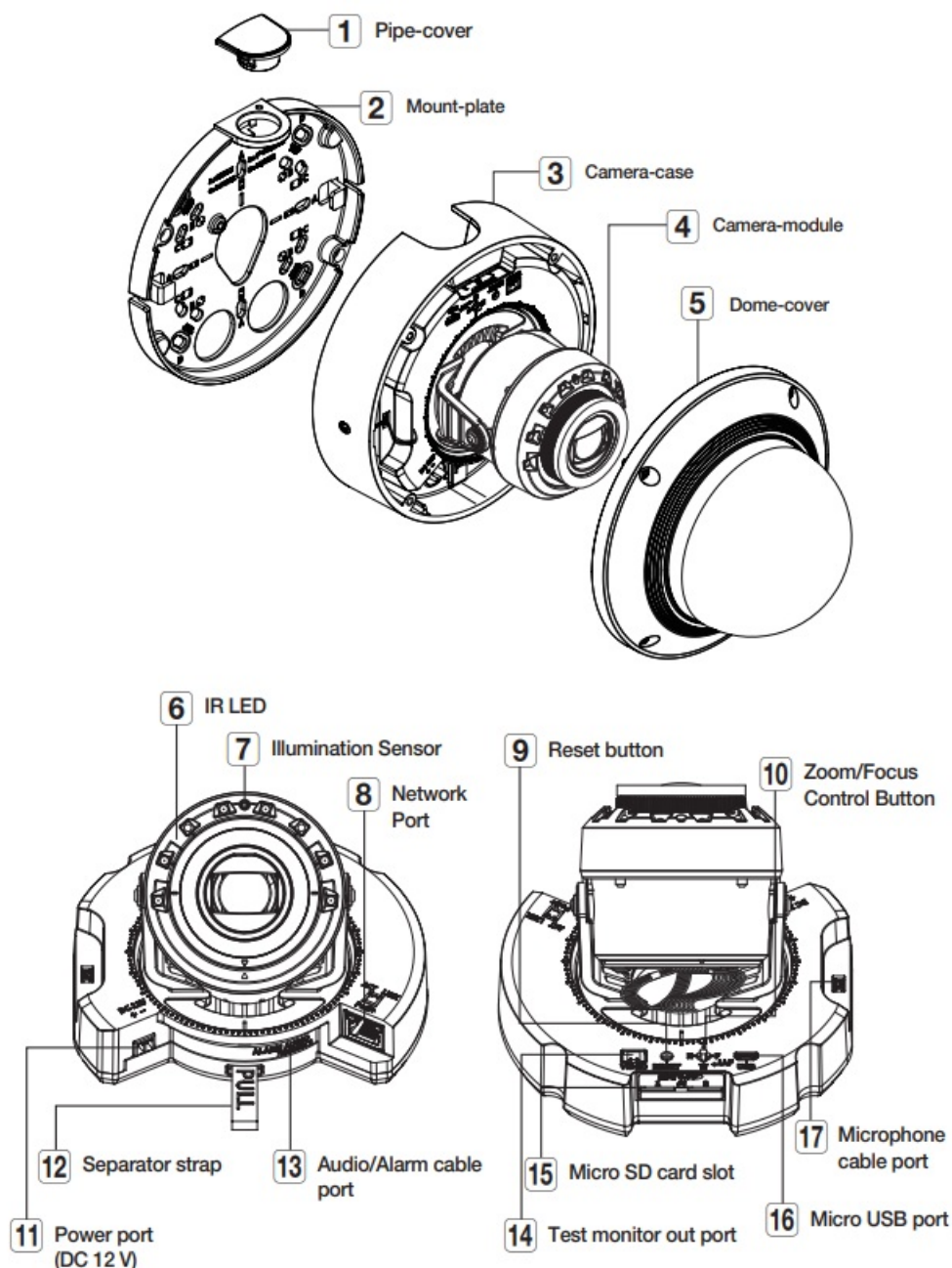


<PND-A6081RV>



### AT A GLANCE





## INSTALLATION



This camera is waterproof and in compliance with the IP52 spec, but the jack connected to the external cable is not. You are recommended to install this product below the edge of eaves to prevent the cable from being externally exposed.

### Precautions before installation

Ensure you read out the following instructions before installing the camera:

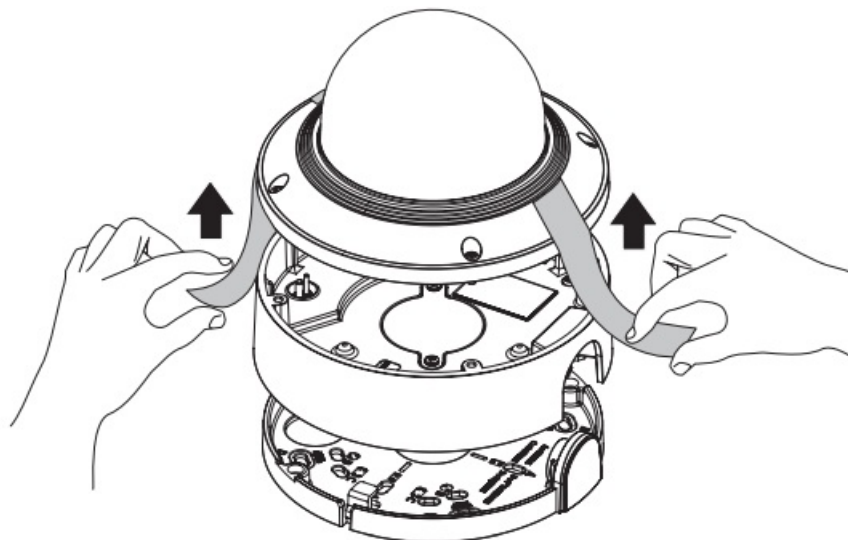
- Select an installation site that can hold at least 5 times the camera's weight.
- Stuck-in or peeled-off cables can cause damage to the product or a fire.
- For safety purposes, keep anyone else away from the installation site.

And put aside personal belongings from the site, just in case.

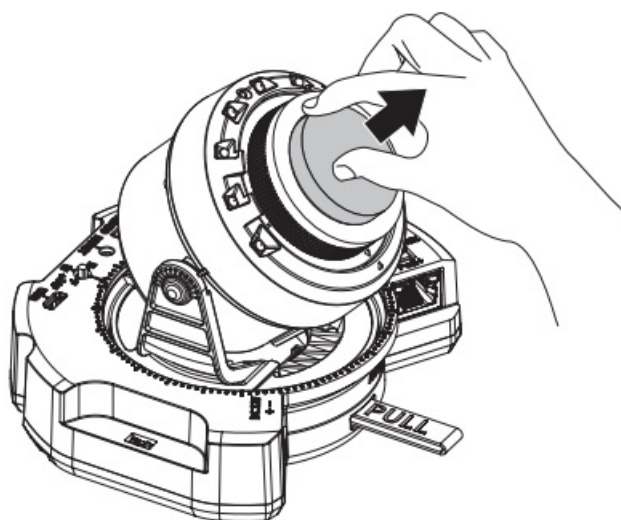
- If the product is installed with excessive force, it may cause damage to the camera due to malfunction.  
Forcing assembly using non-compliant tools may damage the product.

## Removal

1. Peel off the tape fixing the camera case.

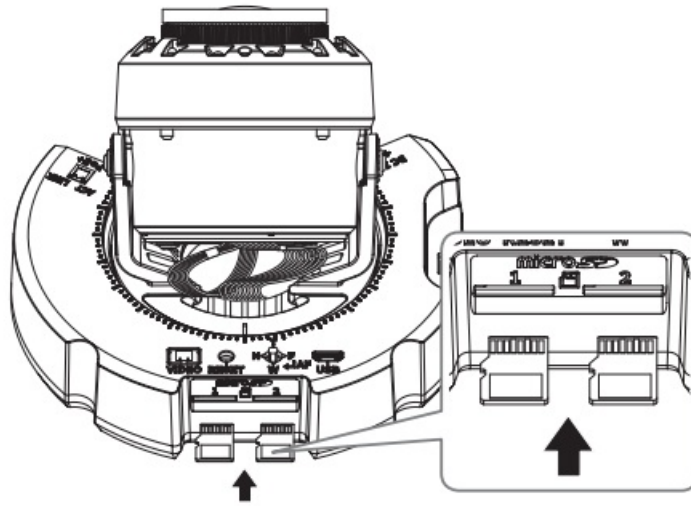



2. Take off the lens cover protecting the camera lens.



## Inserting a Micro SD card

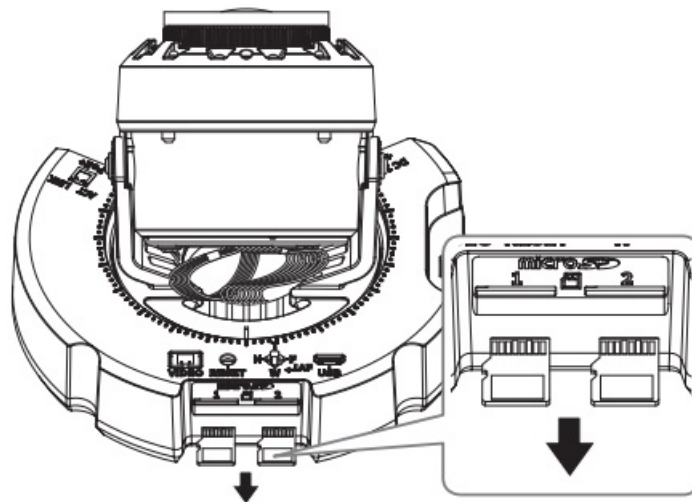
Slide the Micro SD card into the Micro SD card slot on the camera module in the direction of the arrow.




-  Before installing the camera, the Micro SD card should be inserted while the power source and the body are separated.
- Do not forcefully insert it in the reverse direction. It might damage your Micro SD card and your product.
- When it rains or the humidity is high, insertion or ejection of a Micro SD card is not recommended.
- When installing/removing the Micro SD card, make sure you put the product body on a flat ground before working on it in order to prevent accidents due to loss or drop of any parts.

### Removing a Micro SD card

Gently press down on the exposed end of the Micro SD card as shown in the diagram to eject the Micro SD card from the slot.



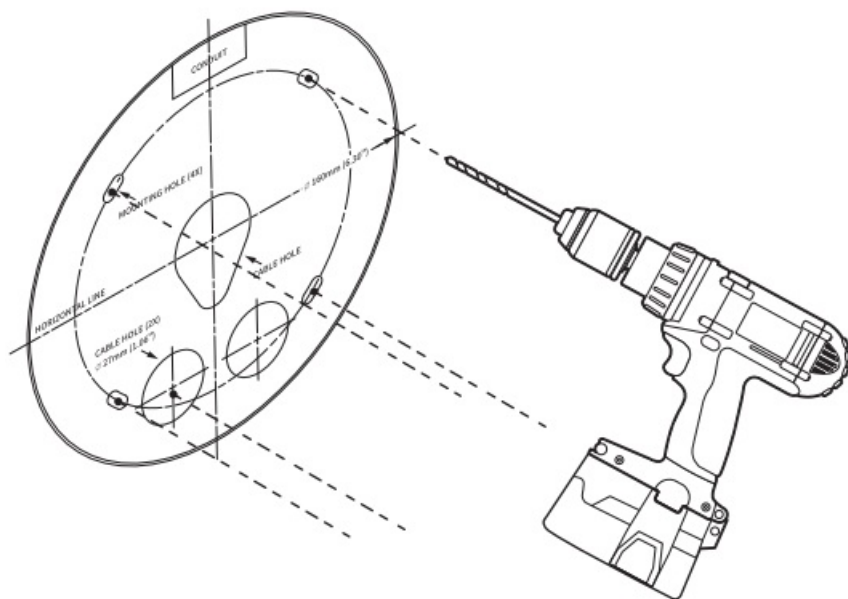
-  Before removing the Micro SD card, in <Storage>, set the device to <Off> and press the [Apply] button and turn the camera off.
- If you turn off the camera or remove the Micro SD card that contains data from the product, the data may be lost or damaged.

### Installation (mount plate)



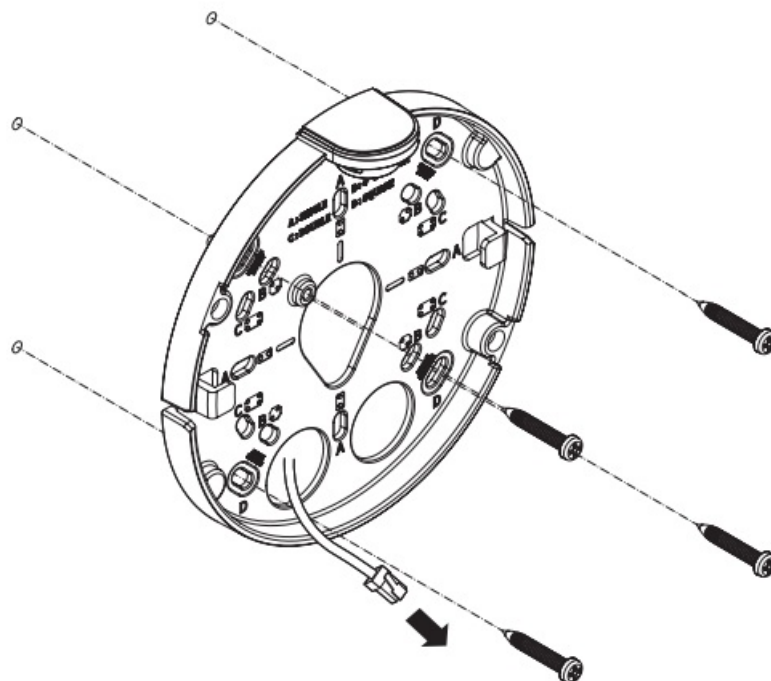
### [Directly installing on wall/ceiling]

1-1. Attach the installation template on the desired surface and drill holes for screws and cables.



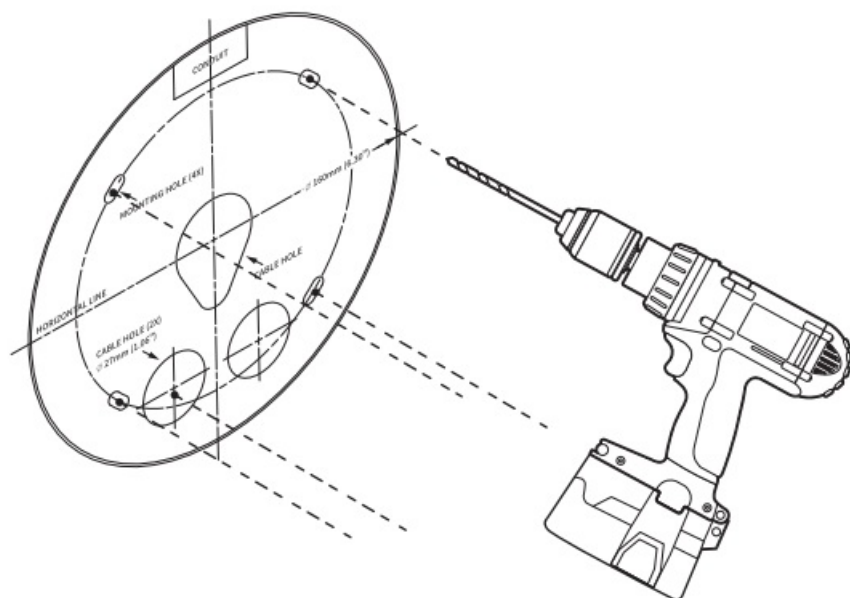
1-2. Fix the mount plate using appropriate screws.

1-3. Pull out necessary cables among network/power/audio/alarm cables through the hole in the mount plate.

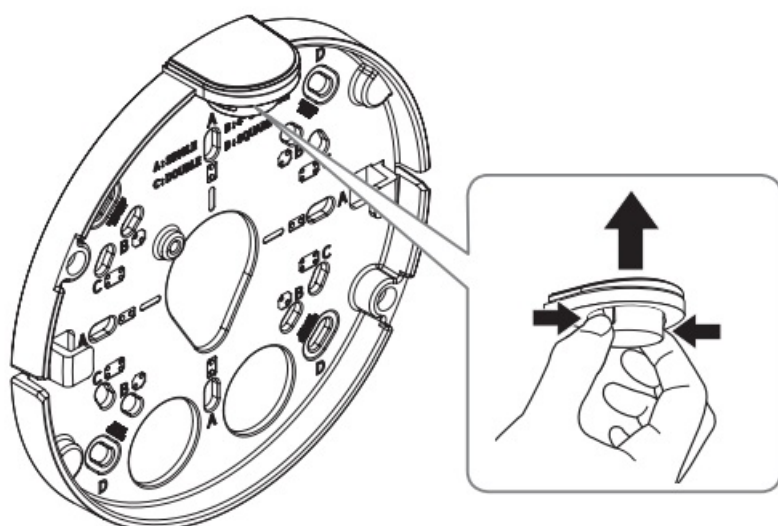


### [Installing using pipe]

2-1. Attach the installation template and drill holes for screws and cables.



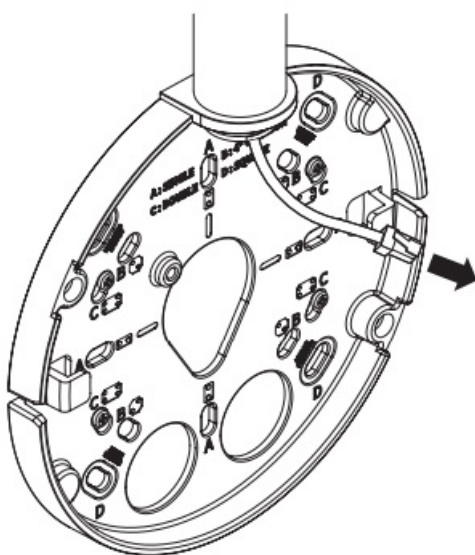
2-2. Separate the pipe cover of the mount plate by pressing its sides.



2-3. Place the pipe on the mount plate.

2-4. Fix the mount plate using appropriate screws.

2-5. Pull out necessary cables among network/power/audio/alarm cables through the pipe.



**Installation (camera case)**



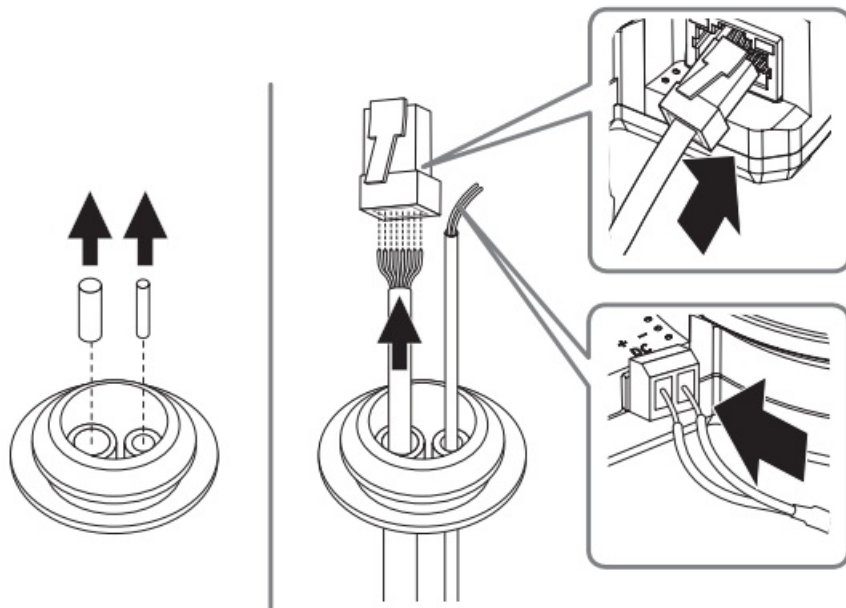
- Use a cable bushing compliant with the network cable to be connected.
- Camera main: use a cable with the diameter of Ø5 to 6.5
- Components: use a cable with the diameter of Ø5 to 8.5

#### [Installing network/power cables]

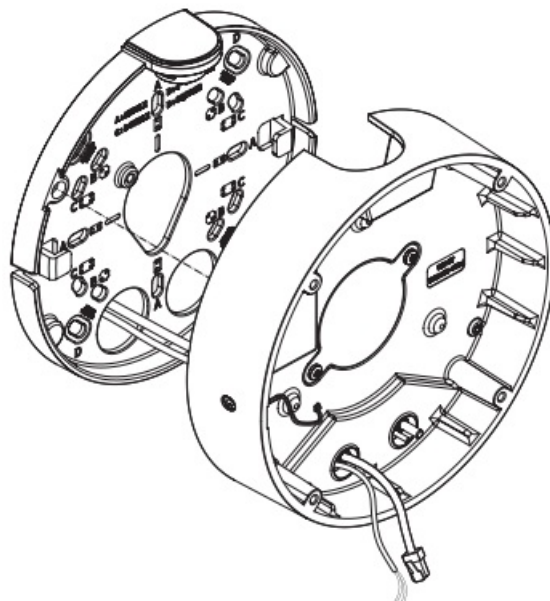
1-1. Pull off the extruded parts of the cable bushing to be used.

1-2. Route the network cable through the big hole of the cable bushing and connect to the network cable connector.

1-3. (When using the power) Route the power cable through the small hole of the cable bushing and connect it to the provided terminal block.



1-4. Mount the cable bushing to the camera case.

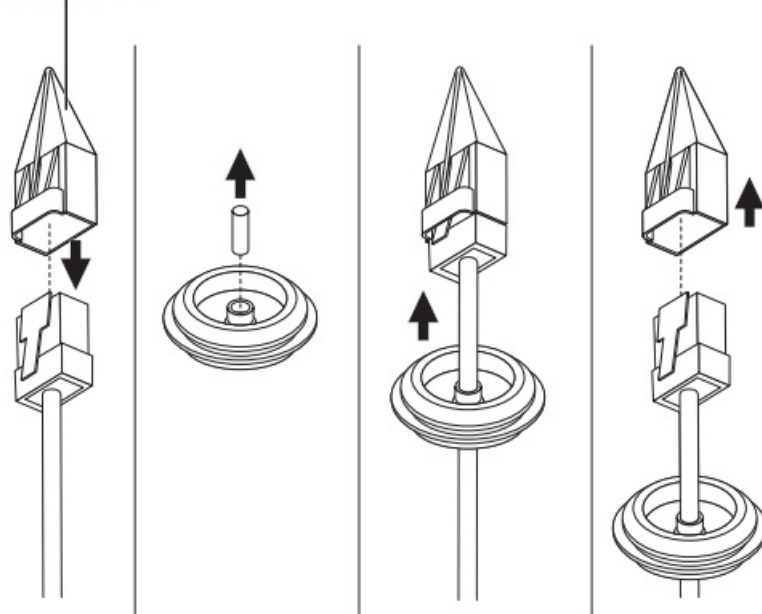


#### [Installing the network cable]

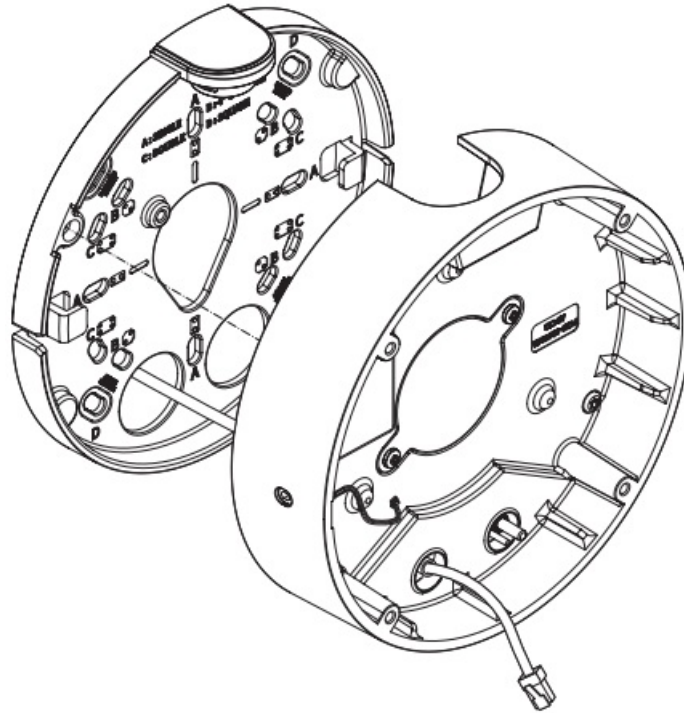
2-1. Pull off the extruded part of the 1-hole cable bushing provided.

2-2. Use the cap installer to pass through the RJ45 cable.

### Cap Installer

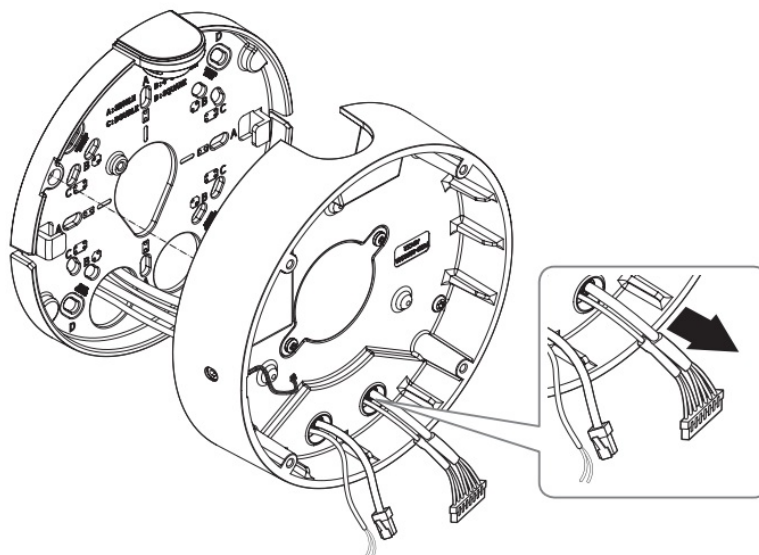


2-3. Mount the cable bushing to the camera case.

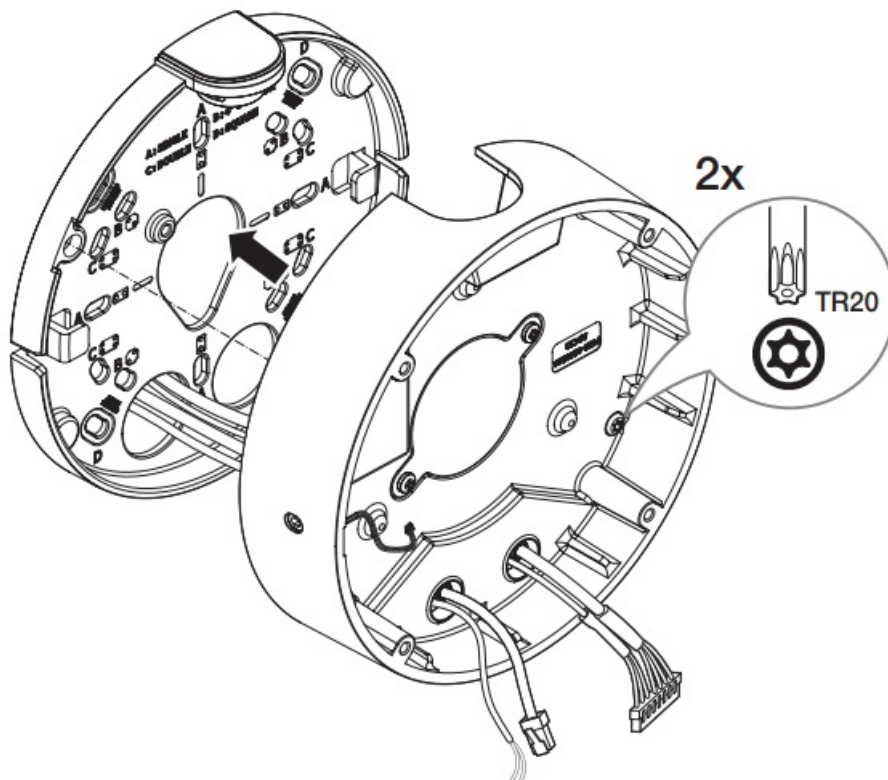


### [Installing audio/alarm cables]

3-1. Mount the cable bushing of the provided audio/alarm cables to the camera case.



4. Join the mount plate with the camera case.



### Installing the camera module

1. Connect the network/power/audio/alarm cables to the camera module terminal.
2. Attach the camera module to the case.

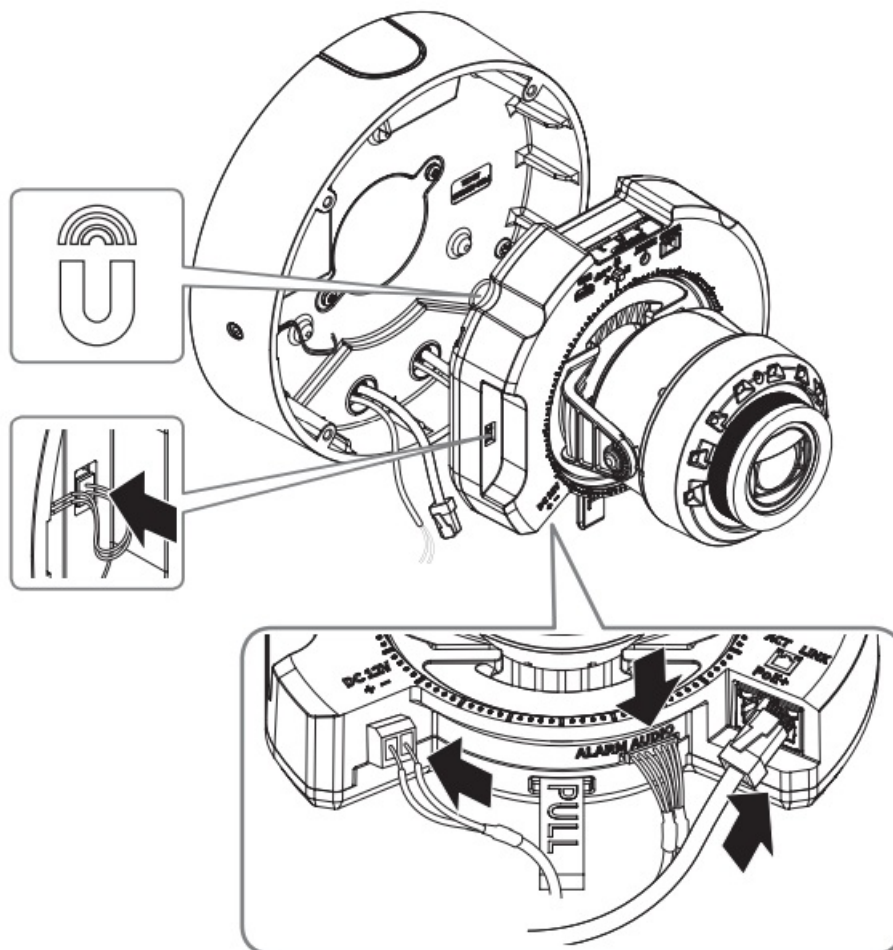


` A magnet is embedded at the bottom of the module

` Take caution not to allow any foreign objects between the attaching surfaces.

3. Connect the microphone cable to the camera module.





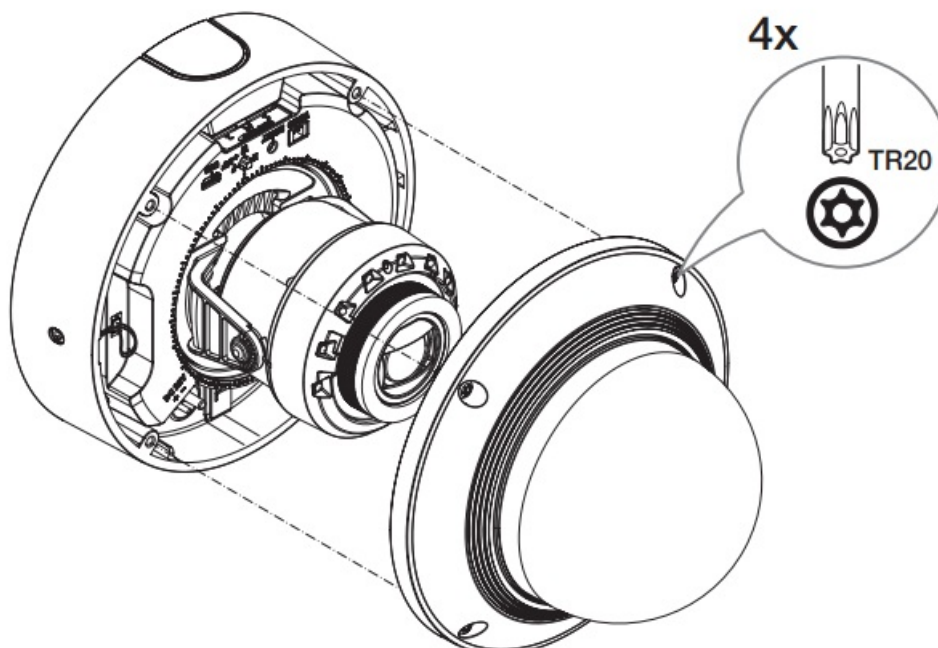
4. Adjust the lens to the desired direction with reference to “Adjusting the monitoring direction for the camera ” section. (page 41)

### Assembling the dome cover [Directly installing on wall/ceiling]

1. Assemble the dome cover.

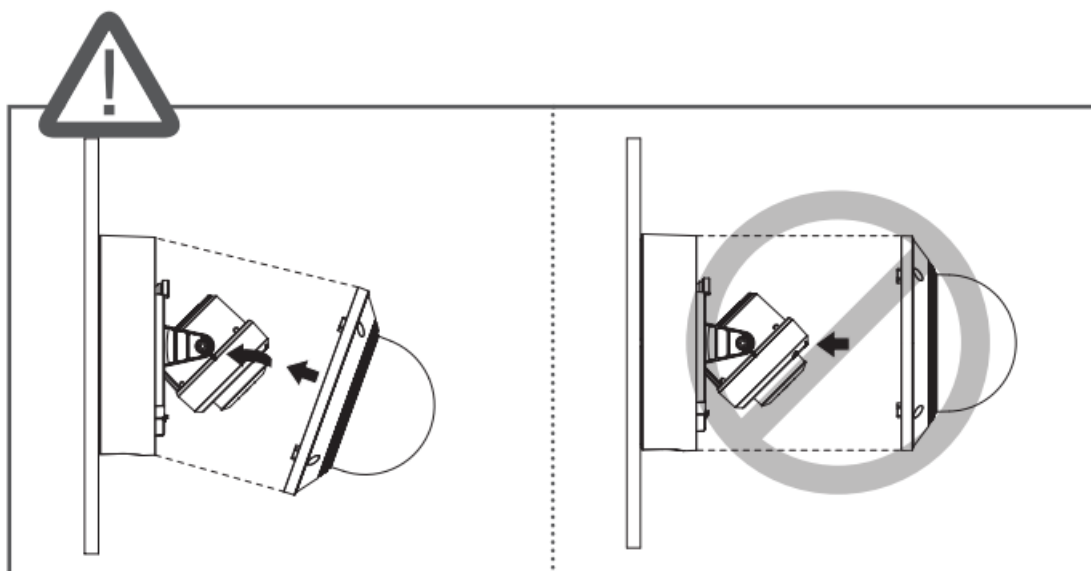


Make sure to firmly tighten the fastening screws so that there is no water damage issue.





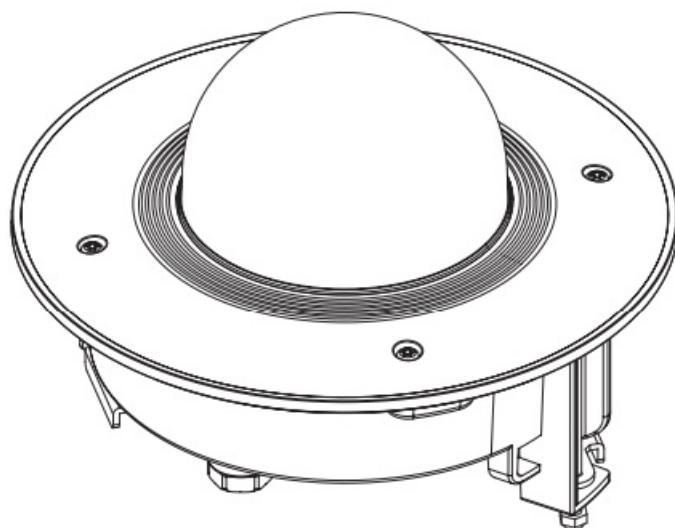
Be careful not to alter the monitoring direction of your camera.



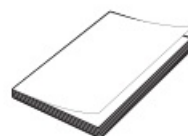
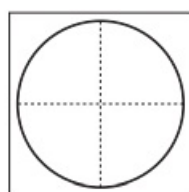
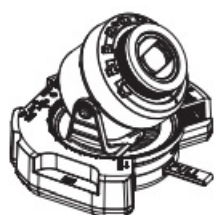
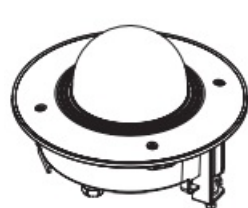
### flush mount dome camera

#### WHAT'S INCLUDED

As for each sales country, accessories are not the same.

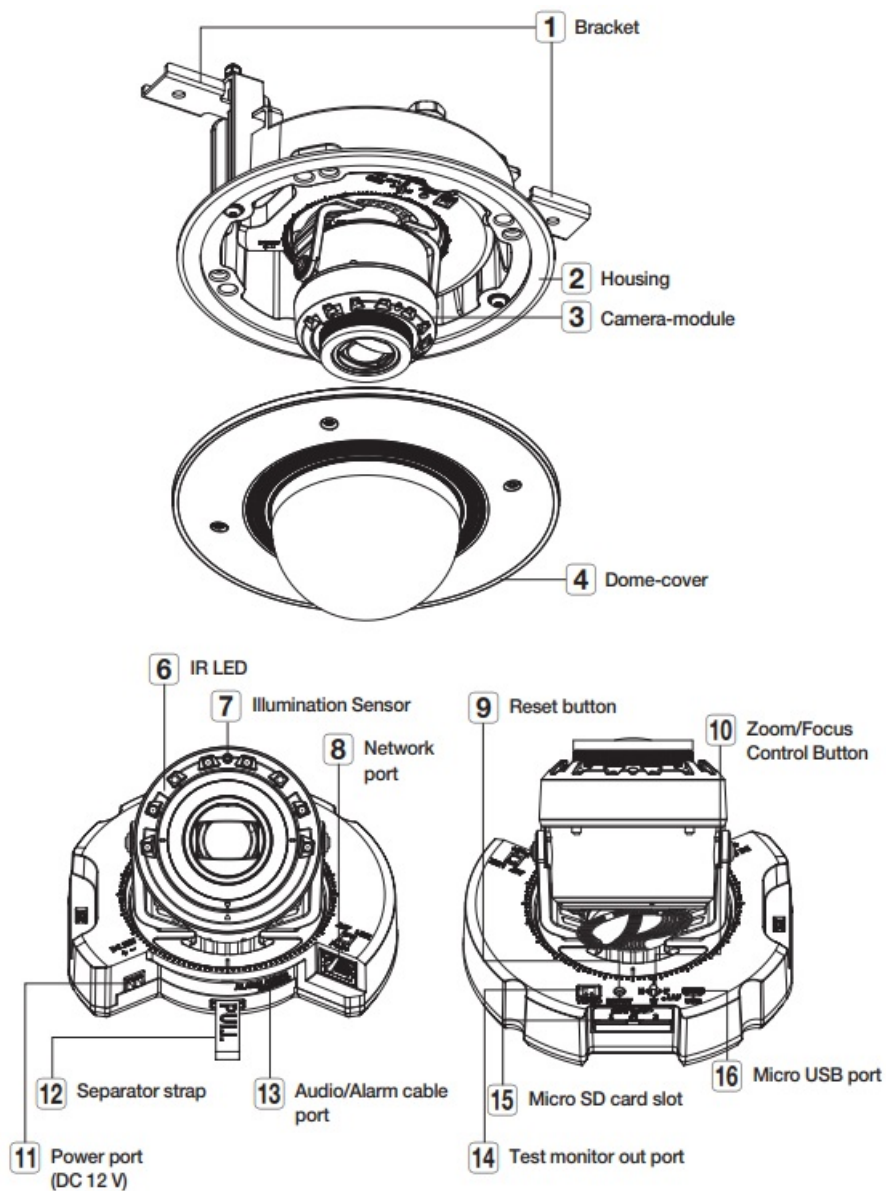


<PND-A6081RF>



AT A GLANCE





## INSTALLATION



This camera is waterproof and in compliance with the IP52 spec, but the jack connected to the external cable is not. You are recommended to install this product below the edge of eaves to prevent the cable from being externally exposed.

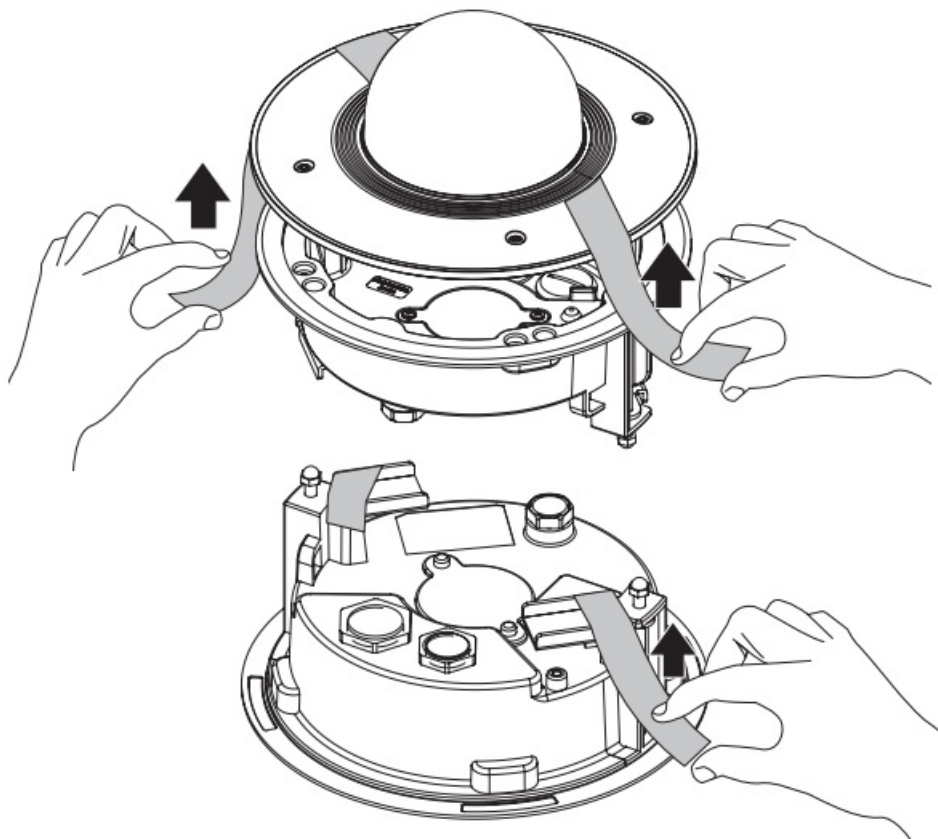
### Precautions before installation

Ensure you read out the following instructions before installing the camera:

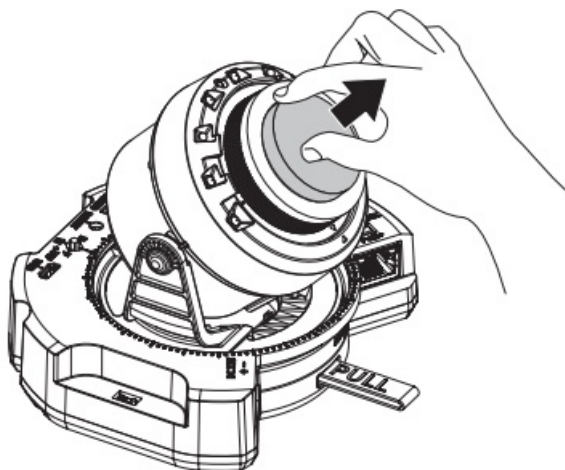
- Select an installation site that can hold at least 5 times the camera's weight.
- Stuck-in or peeled-off cables can cause damage to the product or a fire.
- For safety purposes, keep anyone else away from the installation site.  
And put aside personal belongings from the site, just in case.
- If the product is installed with excessive force, it may cause damage to the camera due to malfunction.  
Forcing assembly using non-compliant tools may damage the product.

## Removal

1. Peel off the tape fixing the camera case.

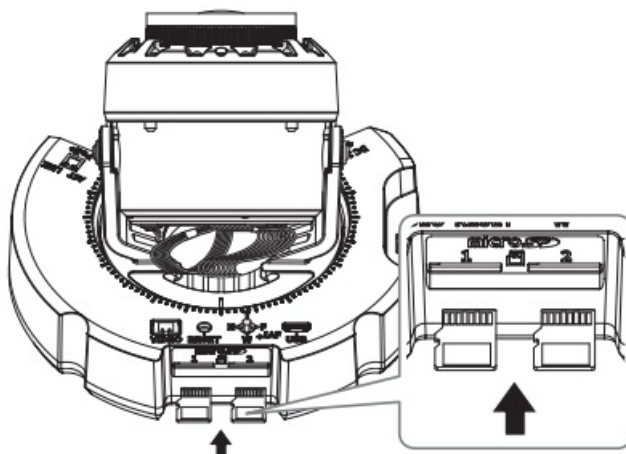



2. Take off the lens cover protecting the camera lens.



## Inserting a Micro SD card

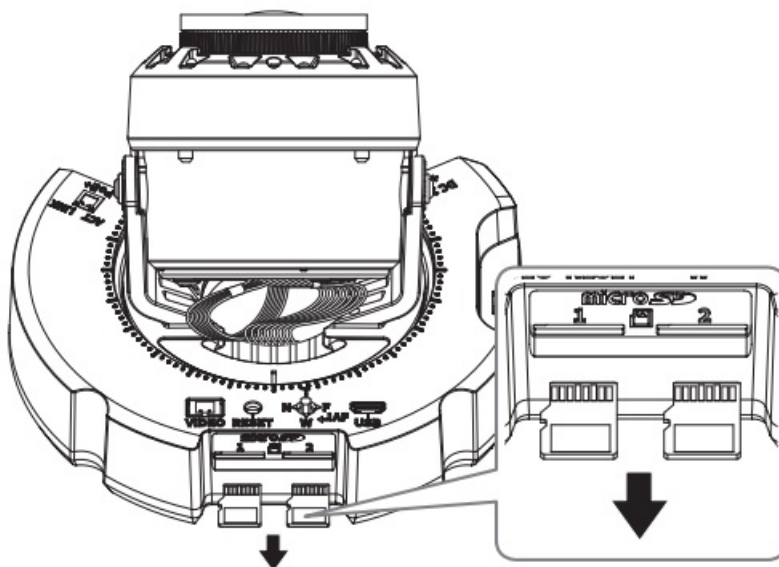
Slide the Micro SD card into the Micro SD card slot on the camera module in the direction of the arrow.




-  Before installing the camera, the Micro SD card should be inserted while the power source and the body are separated.
- Do not forcefully insert it in the reverse direction. It might damage your Micro SD card and your product.
- When it rains or the humidity is high, insertion or ejection of a Micro SD card is not recommended.
- When installing/removing the Micro SD card, make sure you put the product body on a flat ground before working on it in order to prevent accidents due to loss or drop of any parts.

### Removing a Micro SD card

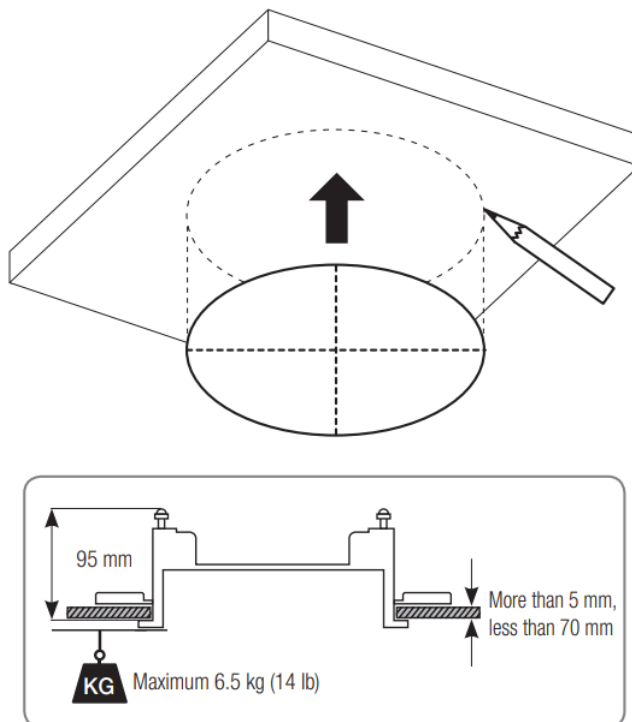
Gently press down on the exposed end of the Micro SD card as shown in the diagram to eject the Micro SD card from the slot.



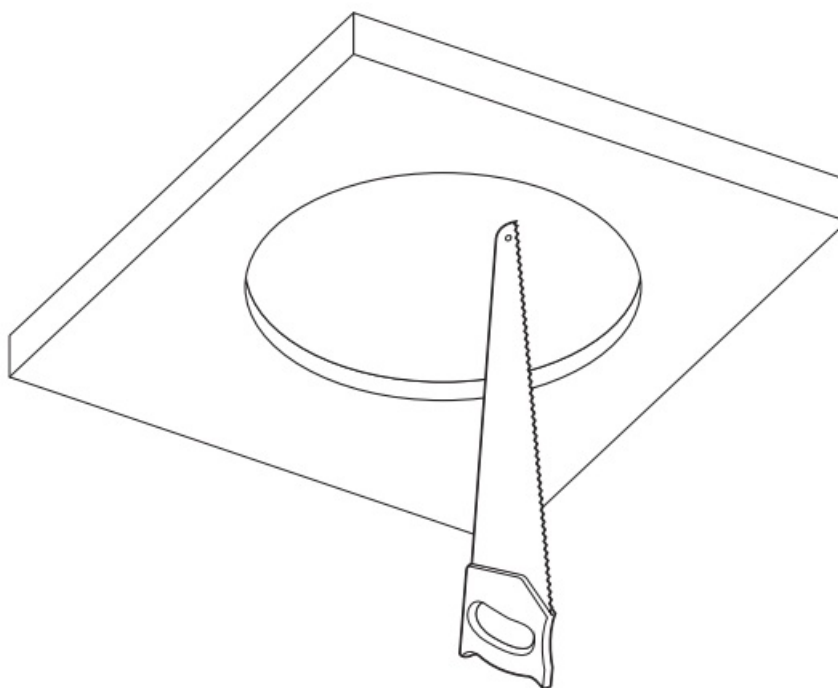
-  Before removing the Micro SD card, in <Storage>, set the device to <Off> and press the [Apply] button and turn the camera off.
- If you turn off the camera or remove the Micro SD card that contains data from the product, the data may be lost or damaged.

### Installation (housing)

1. Attach the installation template to the ceiling and mark its location with a pencil.



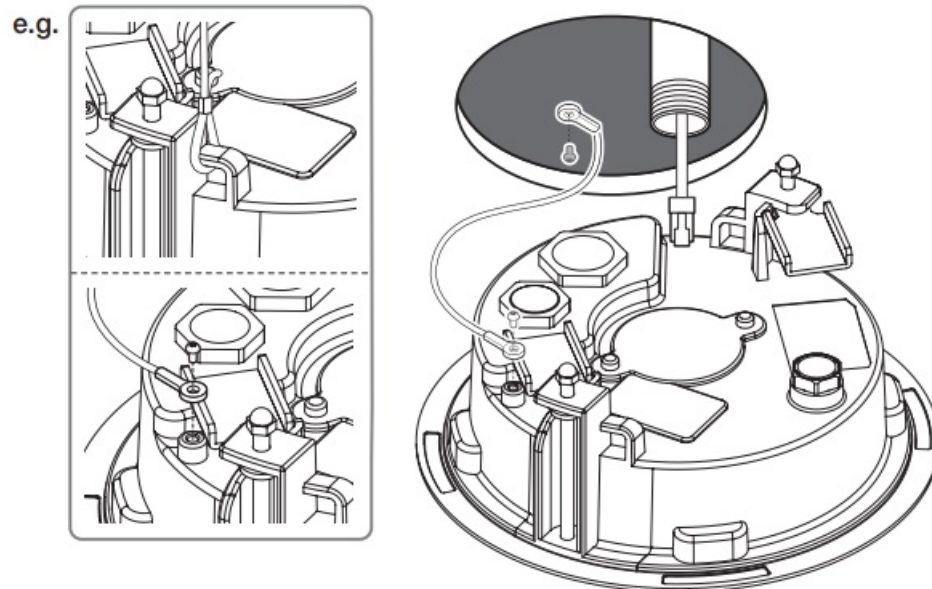
2. Attach the installation template and drill holes.



3. Connect the safety cable.

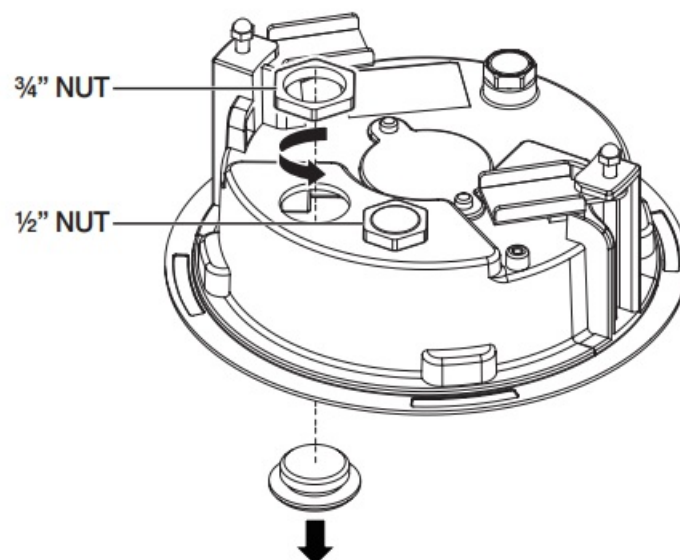


A safety cable is not provided.

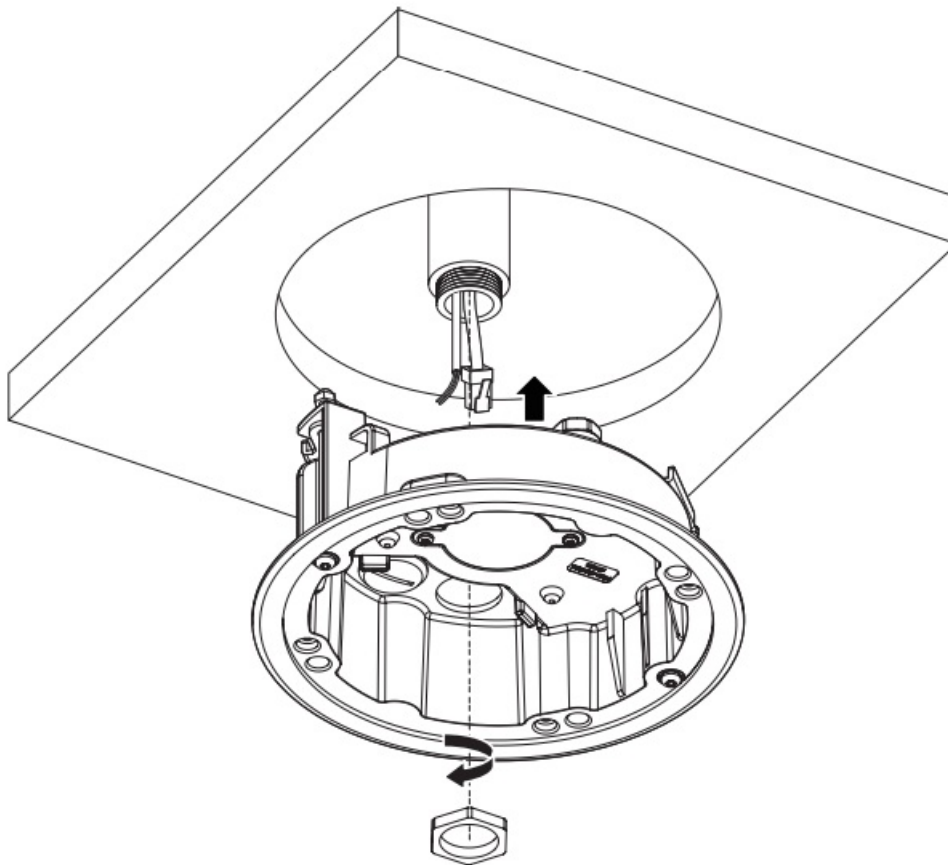


**[Using pipe]**

**4-1. Install the pipe in a fitting hole.**



**4-2. Pull out necessary cables among network/power/audio/alarm cables through the pipe.**



## Installation (camera case)



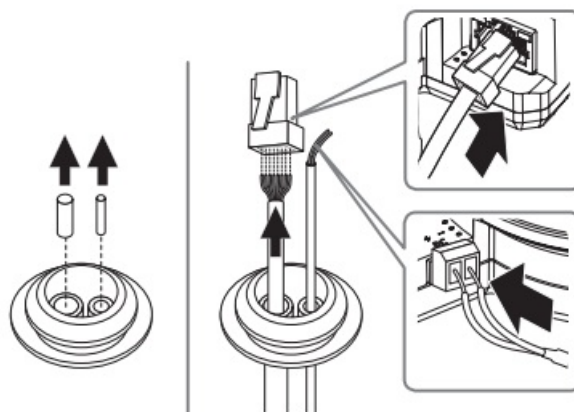
- Use a cable bushing compliant with the network cable to be connected.
  - Components: use a cable with the diameter of Ø5 to 8.5

### [Installing network/power cables]

1-1. Pull off the extruded parts of the cable bushing to be used.

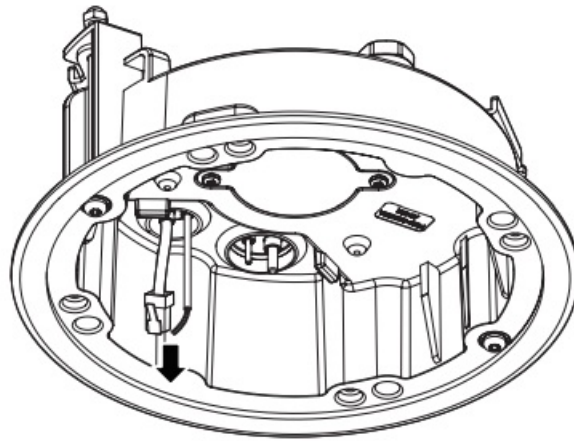
1-2. Route the network cable through the big hole of the cable bushing and connect to the network cable connector.

1-3. (When using the power) Route the power cable through the small hole of the cable bushing and connect it to the provided terminal block.



1-4. Mount the bush to the housing.



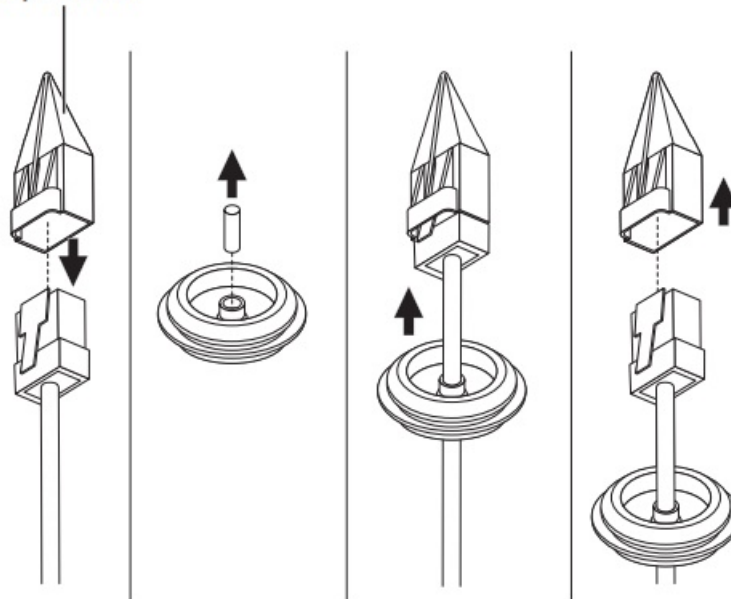


**[Installing the network cable]**

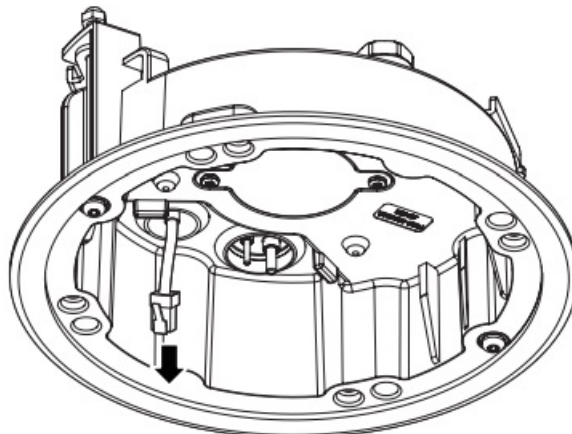
2-1. Pull off the extruded part of the 1-hole cable bushing provided.

2-2. Use the cap installer to pass through the RJ45 cable.

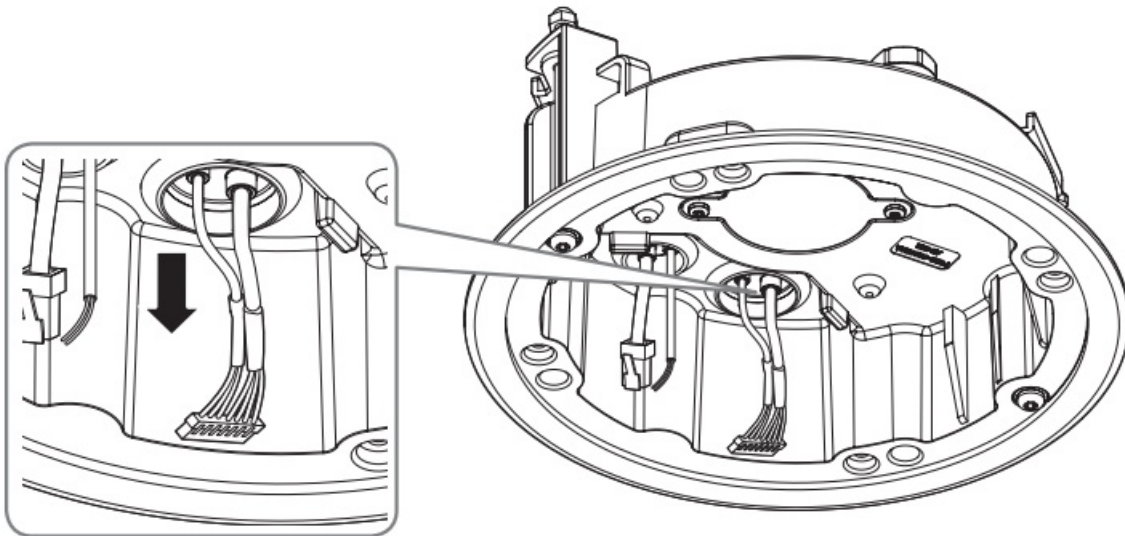
Cap Installer



2-3. Mount the cable bushing to the housing.



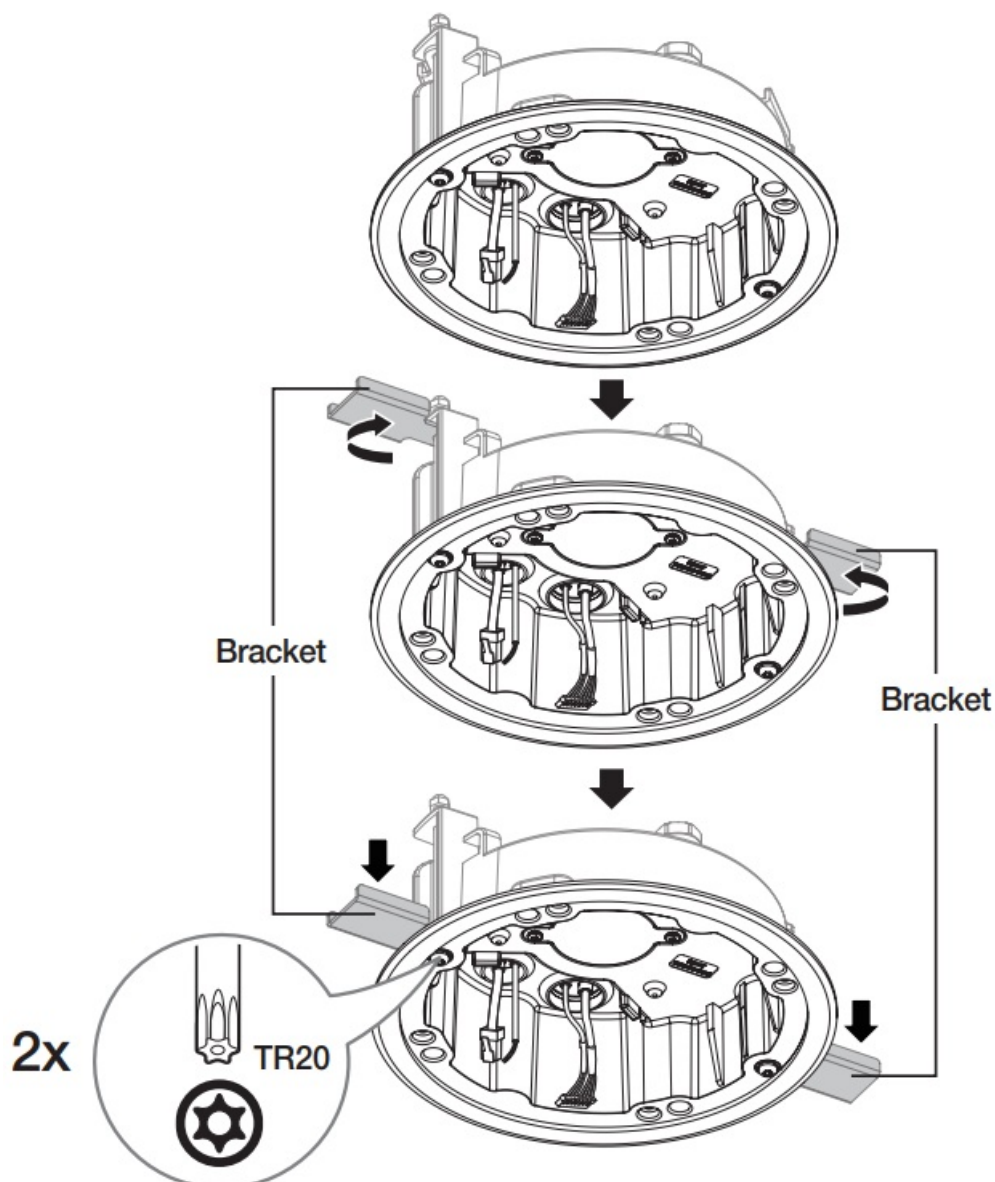
**[Installing audio/alarm cables]** 3-1. Mount the cable bushing of the provided audio/alarm cables to the camera case.



4. Turn the screws on the housing to fix the housing to the ceiling.




- The bracket will fix the housing to the ceiling.
- Ensure that the housing is firmly fixed to the ceiling.

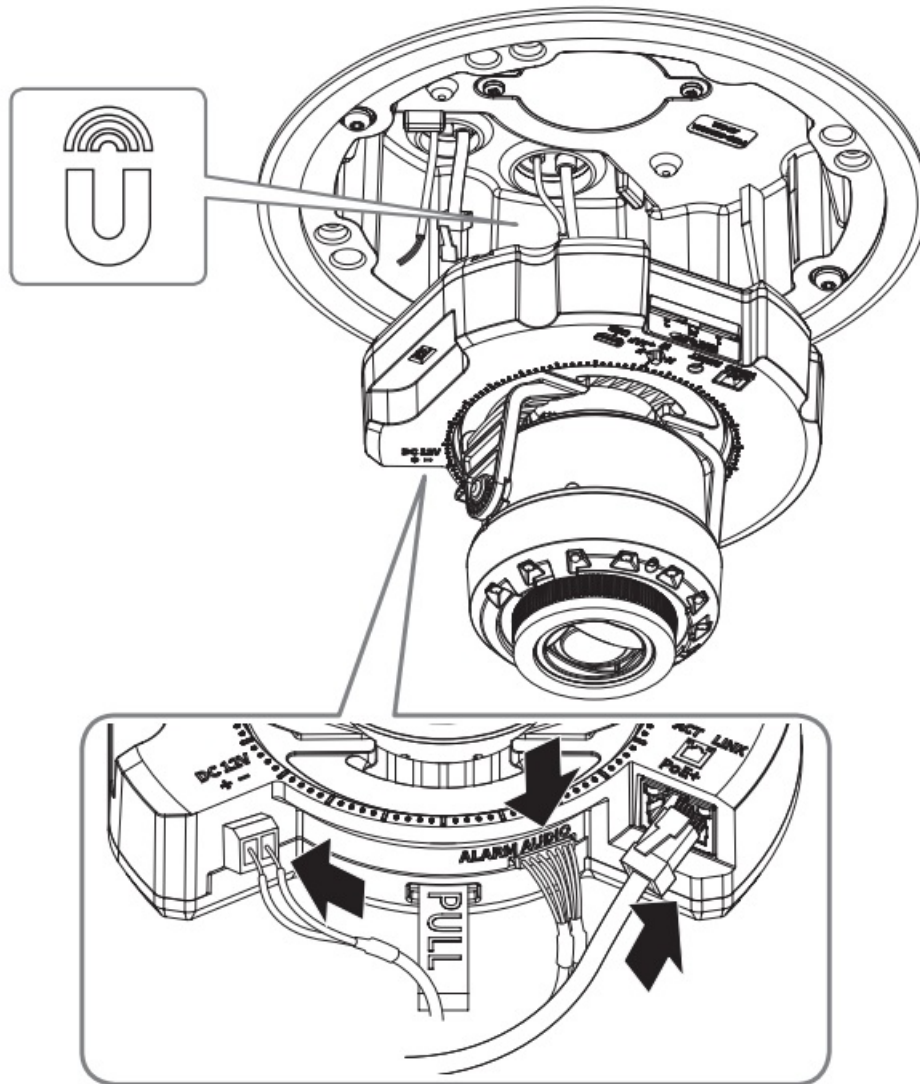




## Installing the camera module

1. Connect the network/power/audio/alarm cables to the camera module terminal.
2. Attach the camera module to the case.


-  A magnet is embedded at the bottom of the module
- Take caution not to allow any foreign objects between the attaching surfaces.

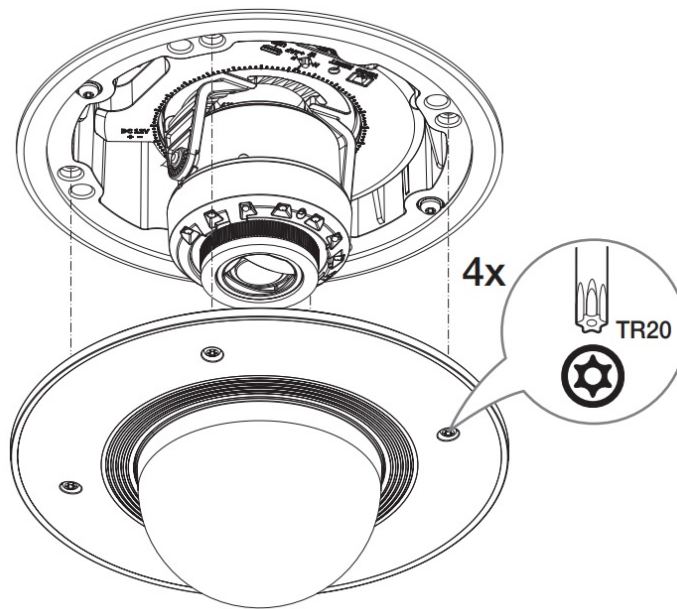


3. Adjust the lens to the desired direction with reference to “Adjusting the monitoring direction for the camera ” section. (page 41)

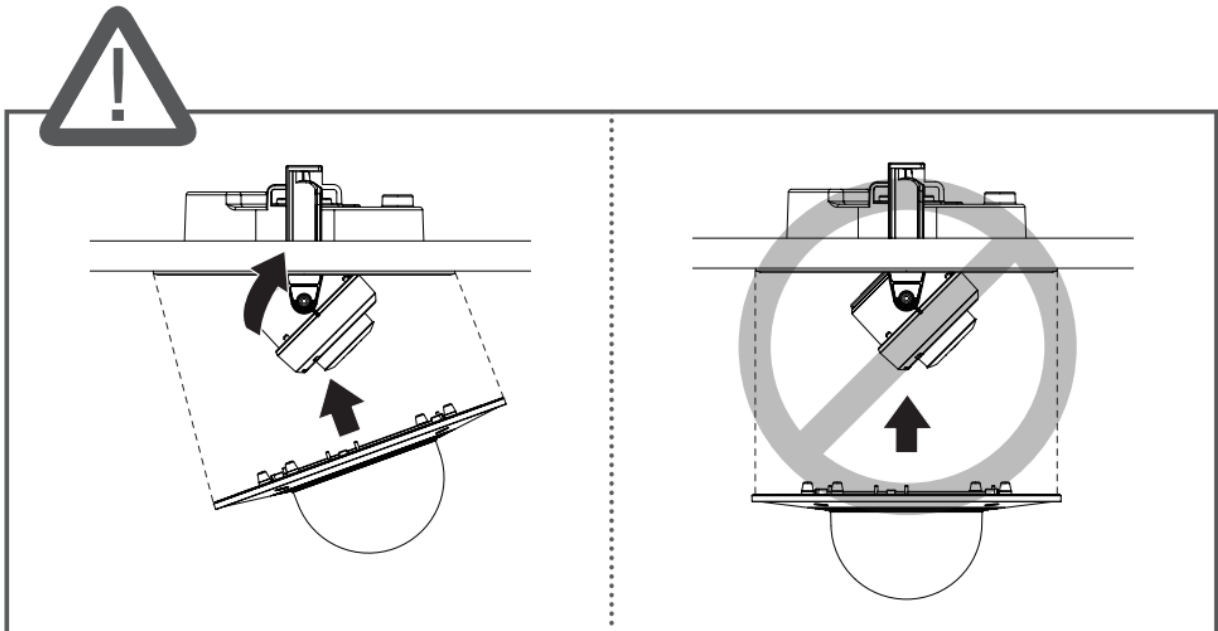
## Assembling the dome cover

1. Assemble the dome cover.

-  Make sure to firmly tighten the fastening screws so that there is no water damage issue.



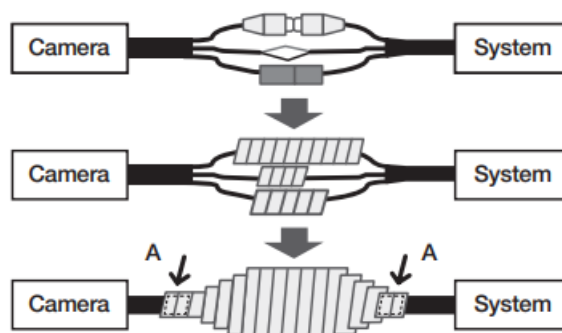
Be careful not to alter the monitoring direction of your camera.



### Waterproofing cables

If there is any possibility of moisture intrusion through the gap of the cable, please waterproof the concerned area with waterproof butyl rubber tape (can be purchased in stores) as below.

1. Connect the power, I/O, and network cables.
2. Wrap the black cable jacket (Area A) and the cable connection area with waterproof (butyl rubber) tape so that more than half of the butyl rubber tape is overlapped.





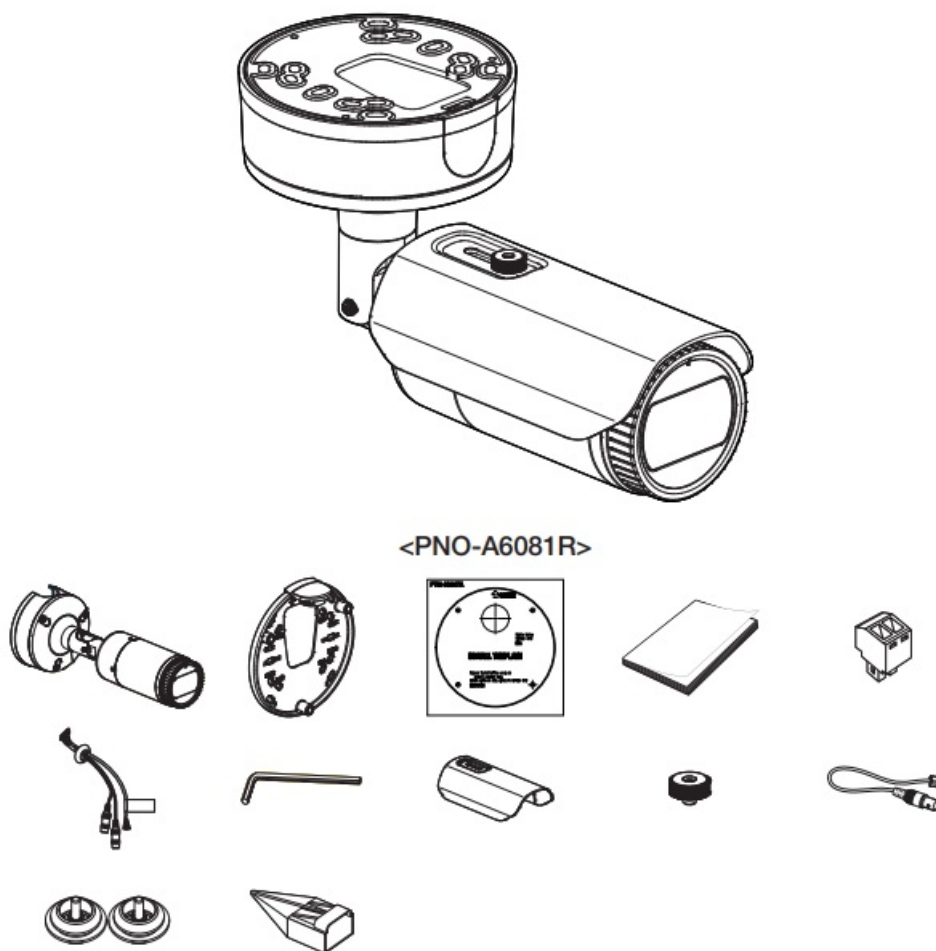
If the cable jacket is not waterproofed properly, then it can directly cause leakage. Make sure to protect the cable with a dense layer of taping.

- Waterproof butyl tape is made of butyl rubber that can be stretched to twice its normal length.

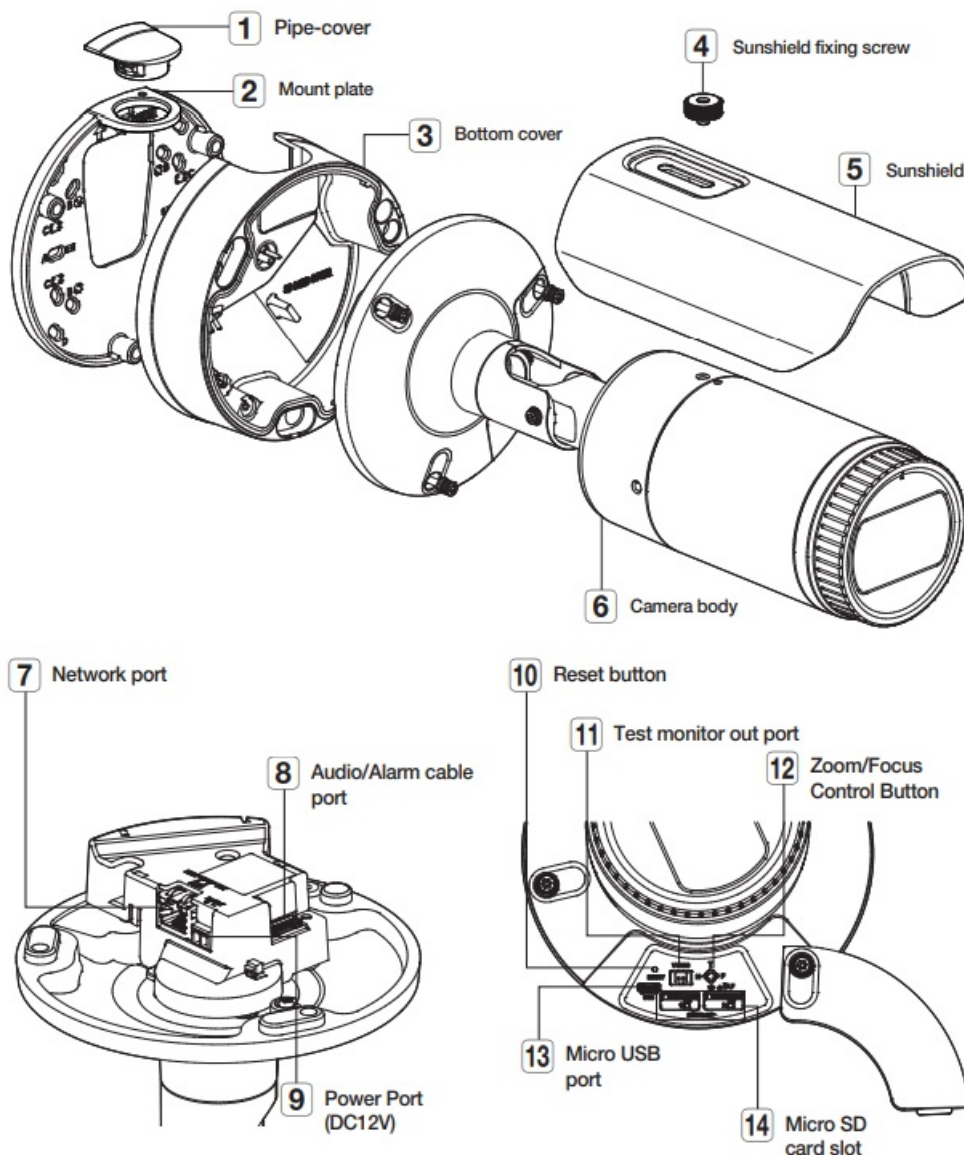
## outdoor bullet camera


### WHAT'S INCLUDED

As for each sales country, accessories are not the same.



### AT A GLANCE



-  Wipe out a dirty surface of the lens softly with a lens tissue or cloth to which you have applied ethanol.

## INSTALLATION

This camera is waterproof and in compliance with the IP67 spec, but the jack connected to the external cable is not. You are recommended to install this product below the edge of eaves to prevent the cable from being externally exposed.

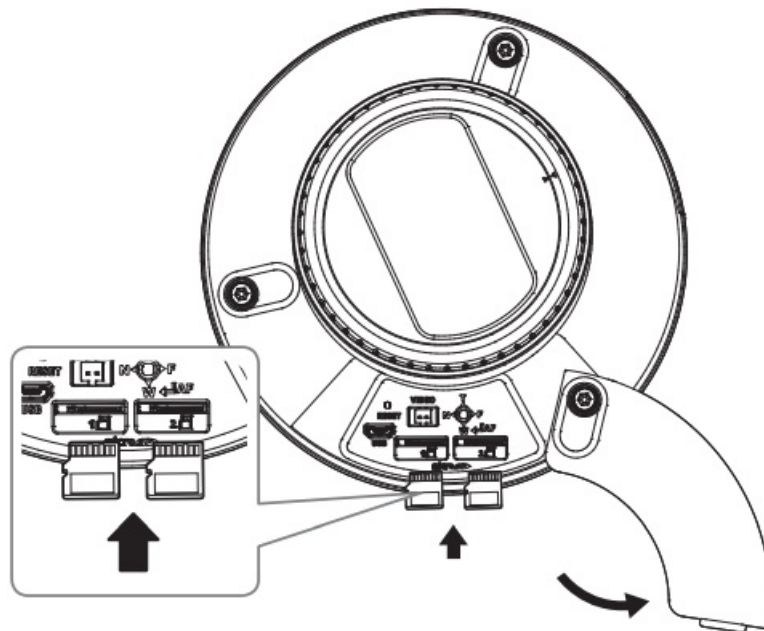
### Precautions before installation


Ensure you read out the following instructions before installing the camera:

- Select an installation site that can hold at least 5 times the camera's weight.
- Stuck-in or peeled-off cables can cause damage to the product or a fire.
- For safety purposes, keep anyone else away from the installation site.  
And put aside personal belongings from the site, just in case.
- If the product is installed with excessive force, it may cause damage to the camera due to malfunction.  
Forcing assembly using non-compliant tools may damage the product.
- Do not use the sunshield hole for any purpose other than for connecting the sunshield.

### Inserting a Micro SD card

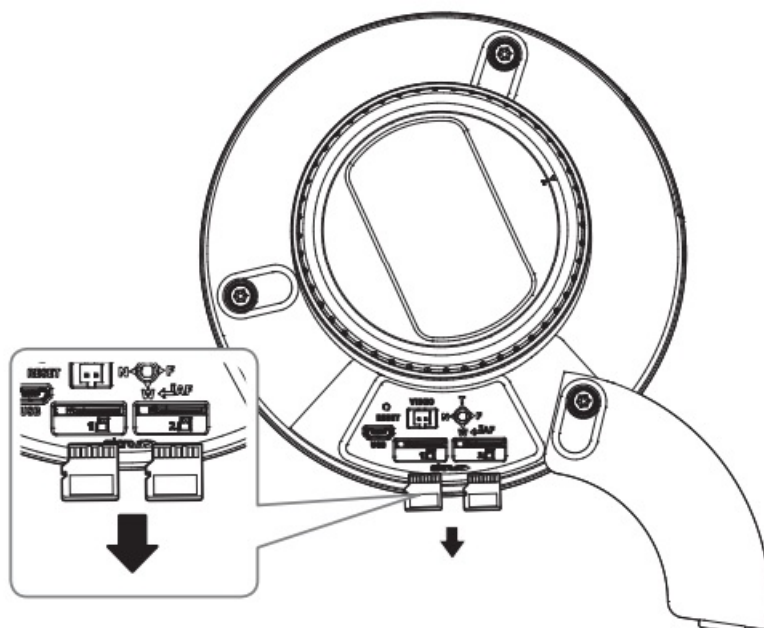
Slide the Micro SD card into the Micro SD card slot on the camera module in the direction of the arrow.




-  Before installing the camera, the Micro SD card should be inserted while the power source and the body are separated.
- Do not forcefully insert it in the reverse direction. It might damage your Micro SD card and your product.
- When it rains or the humidity is high, insertion or ejection of a Micro SD card is not recommended.
- When installing/removing the Micro SD card, make sure you put the product body on a flat ground before working on it in order to prevent accidents due to loss or drop of any parts.

### Removing a Micro SD card

Gently press down on the exposed end of the Micro SD card as shown in the diagram to eject the Micro SD card from the slot.



-  Before removing the Micro SD card, in <Storage>, set the device to <Off> and press the [Apply] button

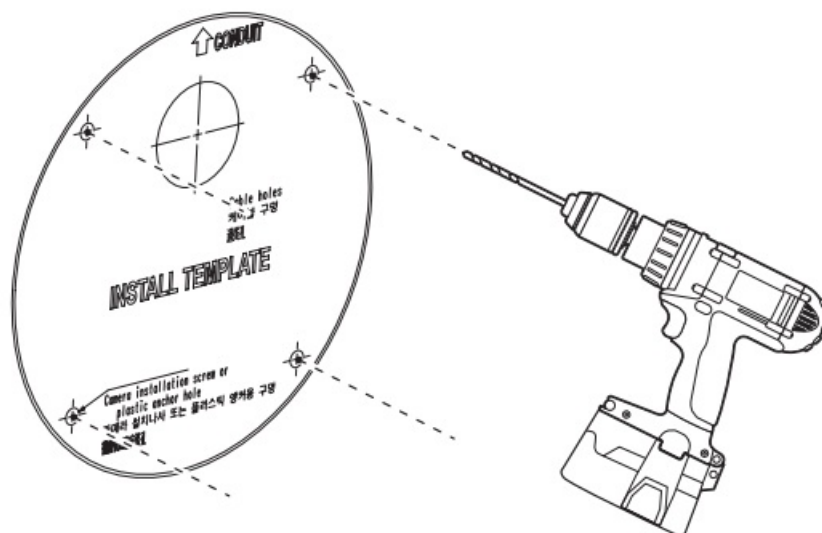
and turn the camera off.

- If you turn off the camera or remove the Micro SD card that contains data from the product, the data may be lost or damaged.

## Installation (Mount plate)

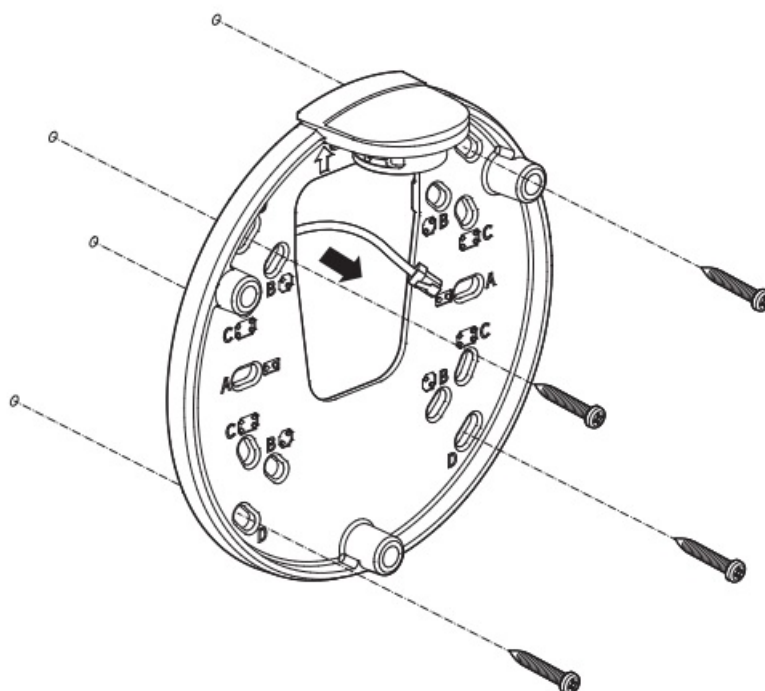
### [Directly installing on wall/ceiling]

1-1. Attach the installation template on the desired surface and drill holes for screws and cables.



1-2. Fix the Mount plate using appropriate screws.

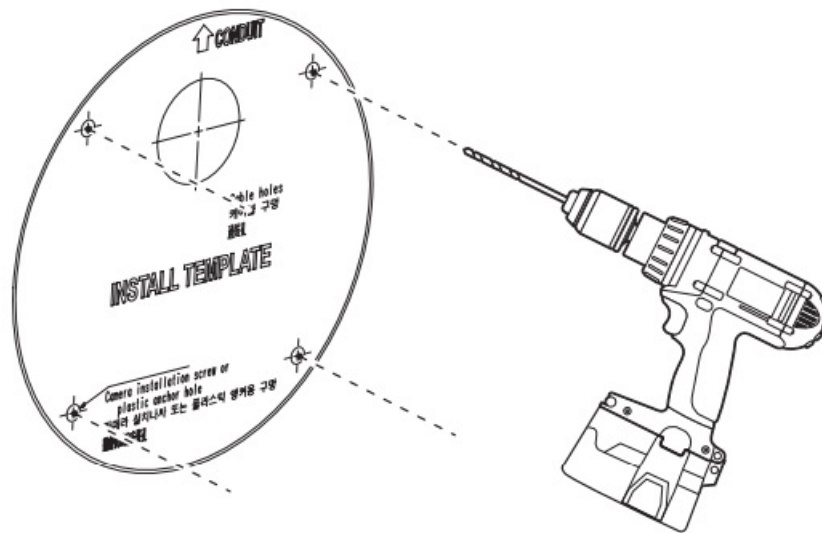
1-3. Pull out necessary cables among network/power/audio/alarm cables through the hole in the Mount plate.



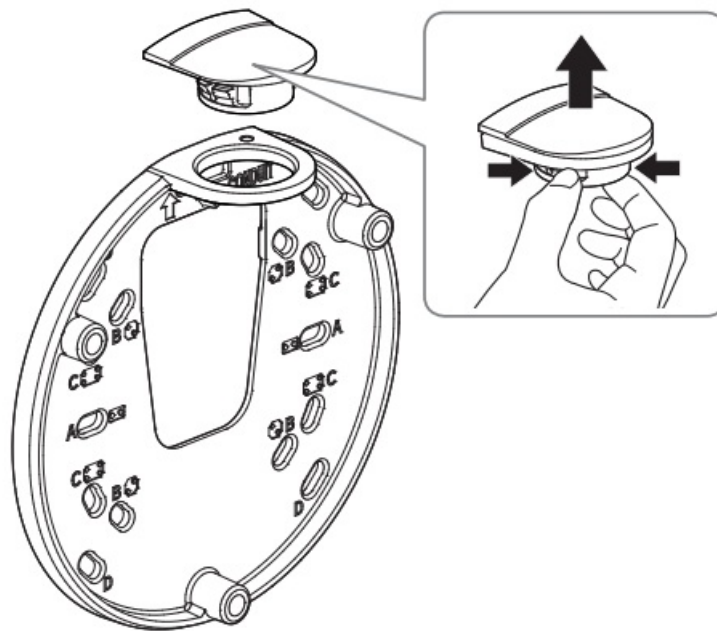
### [Installing using pipe]

2-1. Attach the installation template and drill holes for screws and cables.





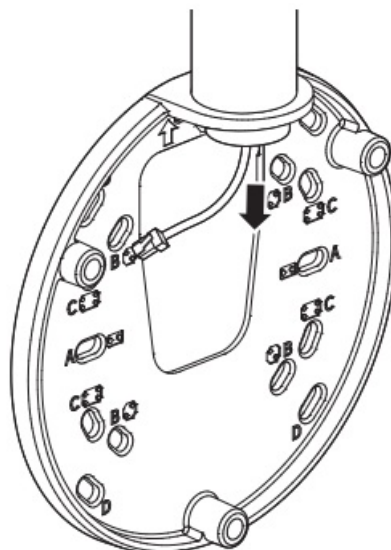
2-2. Separate the pipe cover of the Mount plate by pressing its sides.



2-3. Place the pipe on the Mount plate.

2-4. Fix the Mount plate using appropriate screws.

2-5. Pull out necessary cables among network/power/audio/alarm cables through the pipe.



Installation (Bottom cover)



Use a cable bushing compliant with the network cable to be connected.

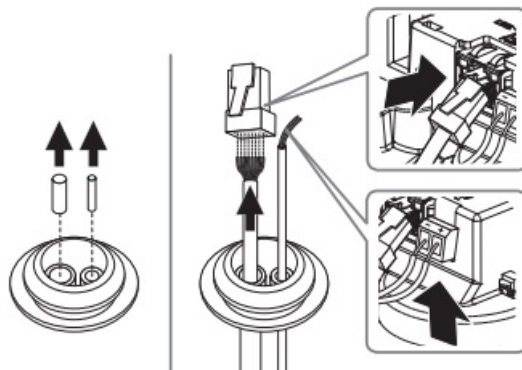
- Camera main: use a cable with the diameter of Ø5 to 6.5
- Components: use a cable with the diameter of Ø5 to 8.5

#### **[Installing network/power cables]**

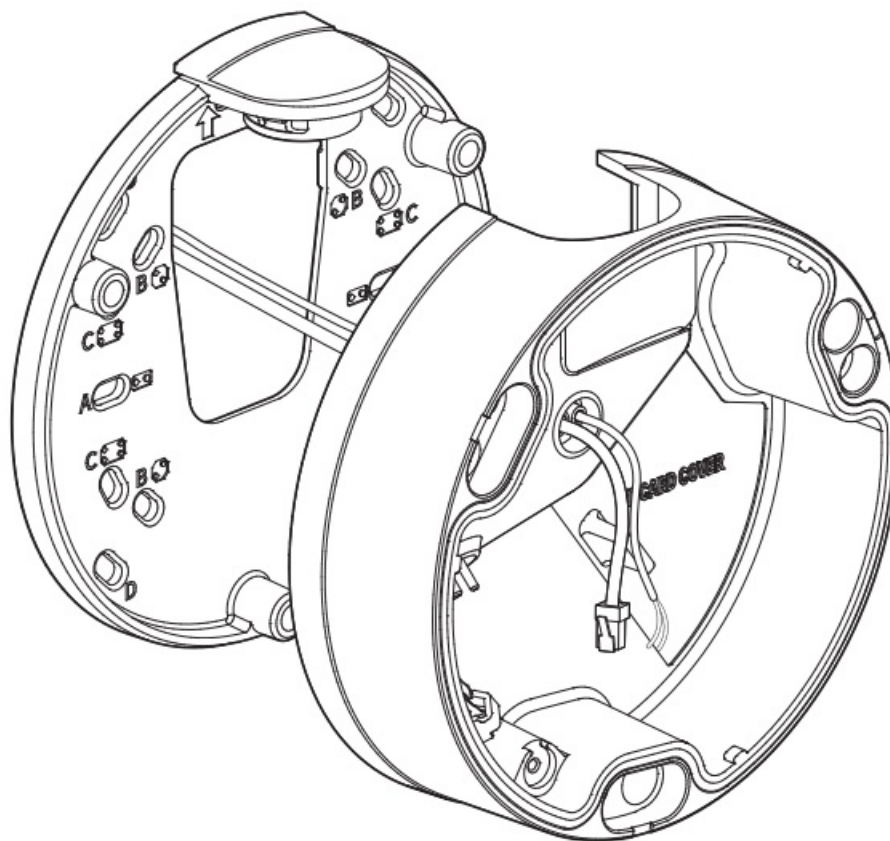
1-1. Pull off the extruded parts of the cable bushing to be used.

1-2. Route the network cable through the big hole of the cable bushing and connect to the network cable connector.

1-3. (When using the power) Route the power cable through the small hole of the cable bushing and connect it to the provided terminal block.



1-4. Mount the cable bushing to the Bottom cover.

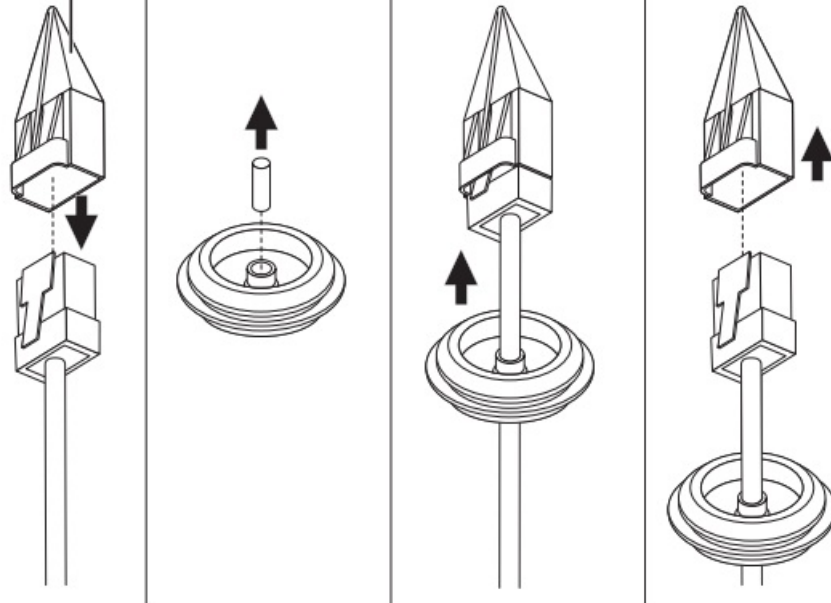


#### **[Installing the network cable]**

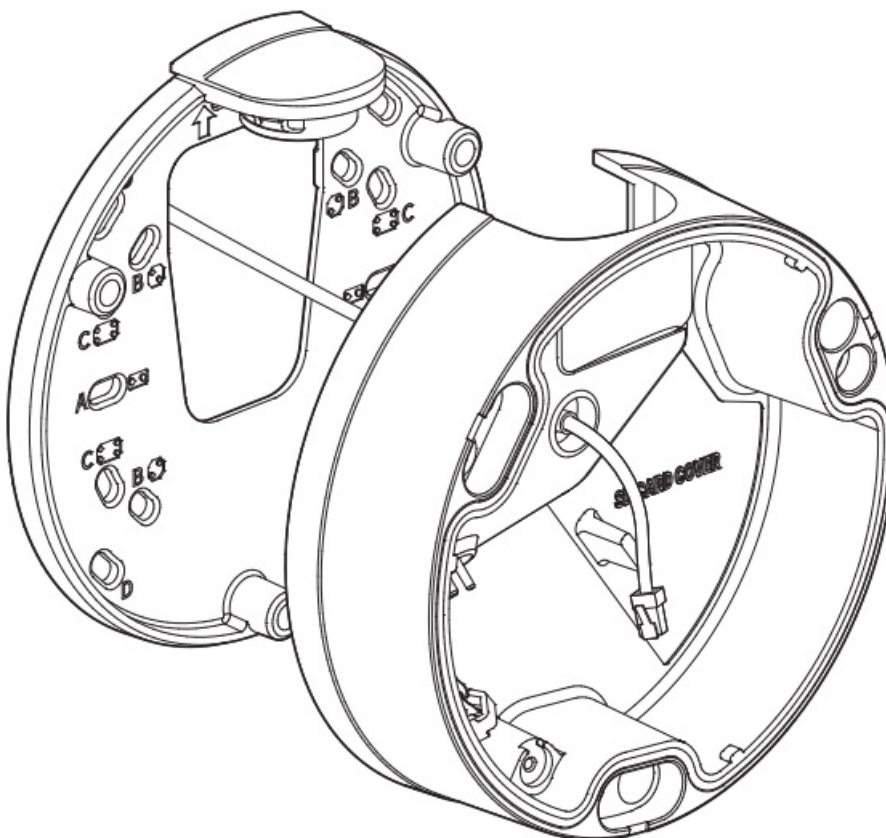
2-1. Pull off the extruded part of the 1-hole cable bushing provided.

2-2. Use the cap installer to pass through the RJ45 cable.

Cap Installer

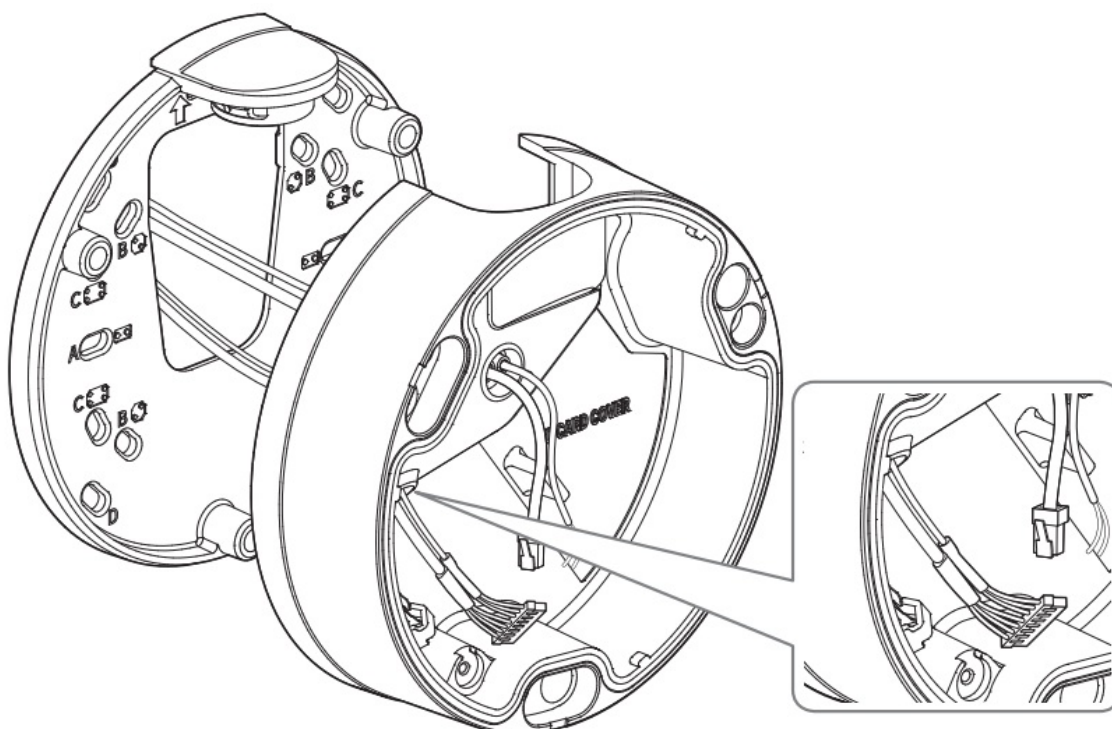


2-3. Mount the cable bushing to the Bottom cover.

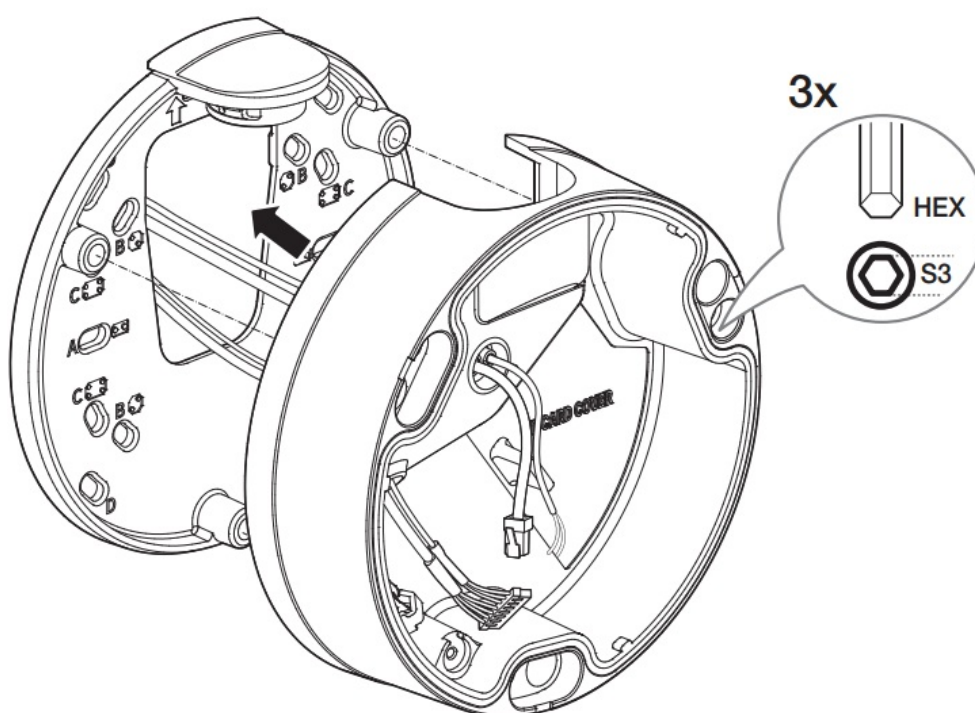


**[Installing audio/alarm cables]**

3-1. Mount the cable bushing of the provided audio/alarm cables to the Bottom cover.



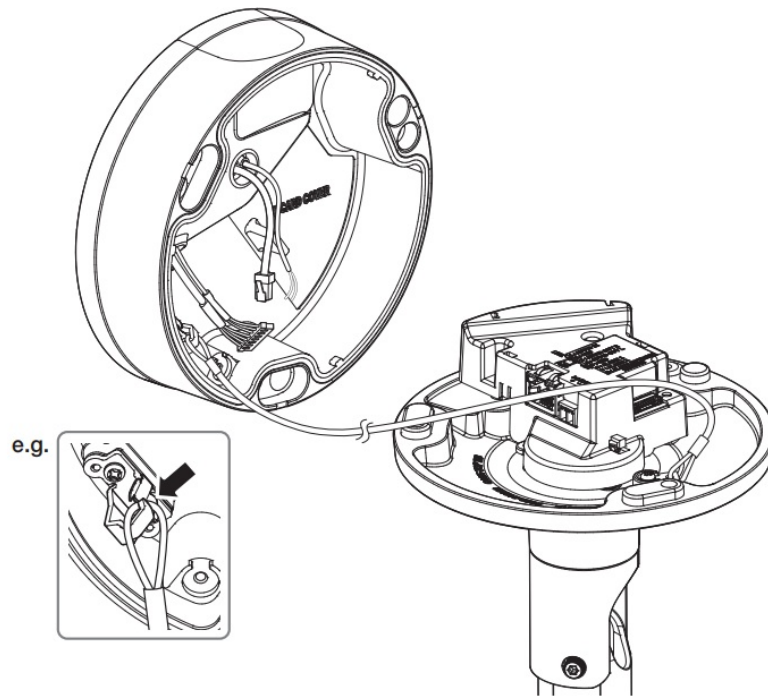
4. Join the Mount plate with the Bottom cover.



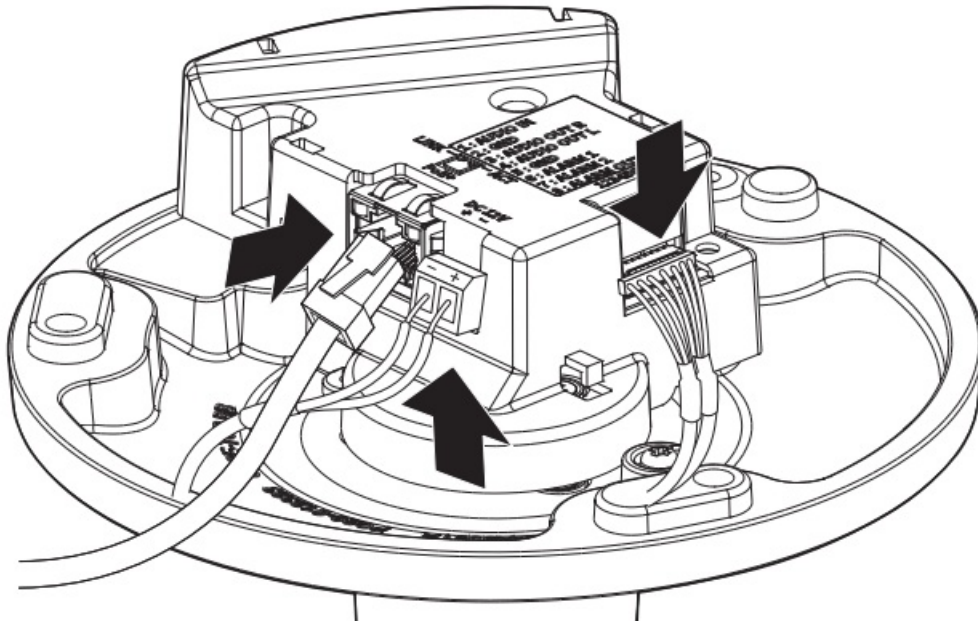
## Installing the camera module

1. Hang the safety cable up on a hook that looks like an arrow in the Bottom cover.





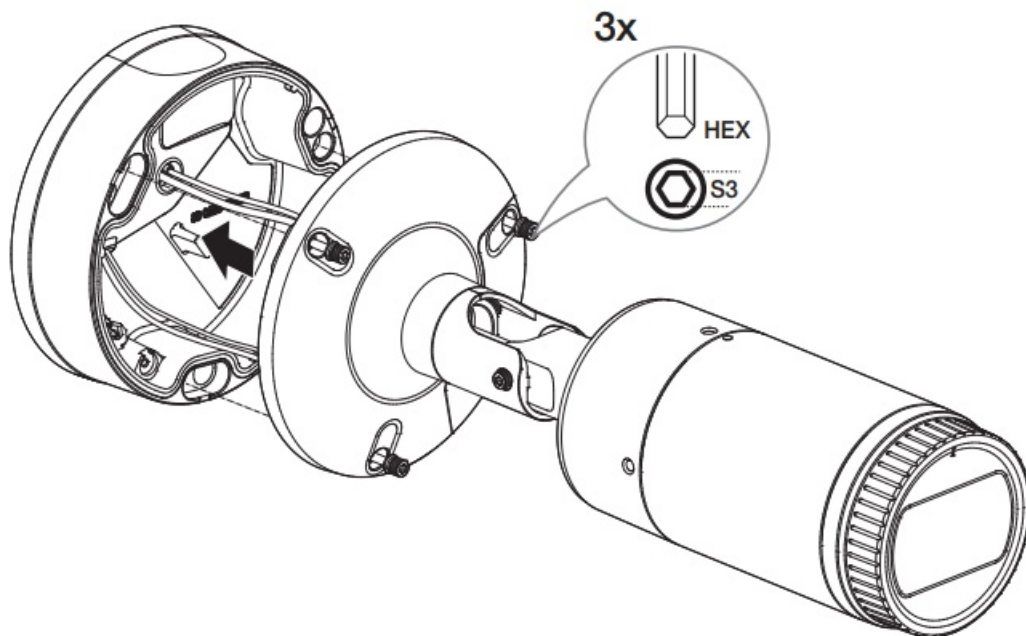
2. Connect the network/power/audio/alarm cables to the camera module terminal.



3. Attach the camera body to the Bottom cover.



Make sure to firmly tighten the fastening screws so that there is no water damage issue.

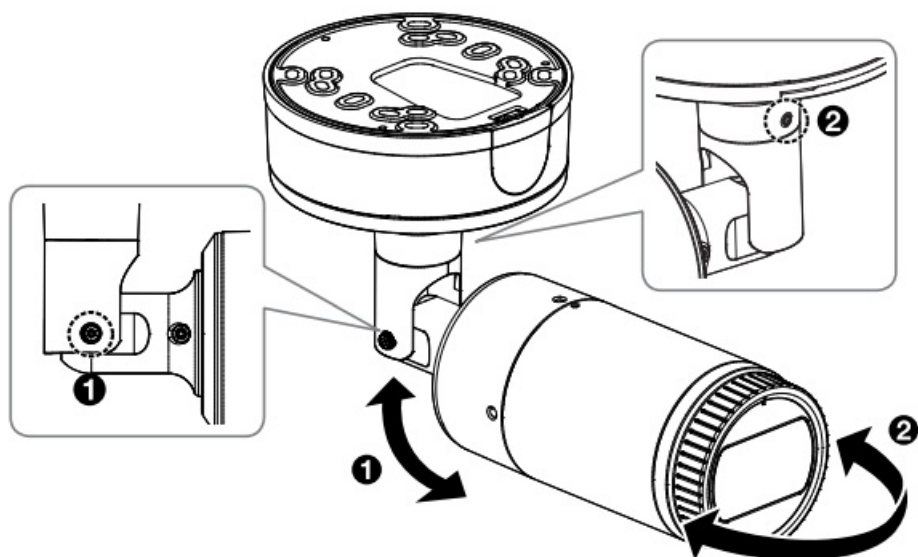


4. Adjust the camera direction using the Hex. L wrench provided.

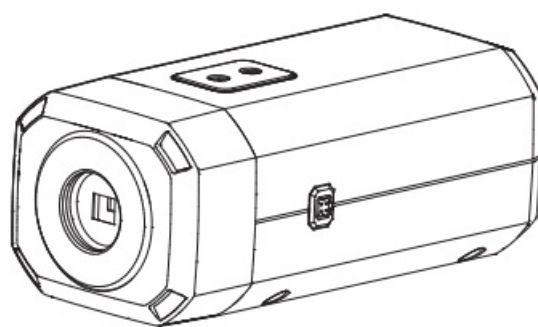
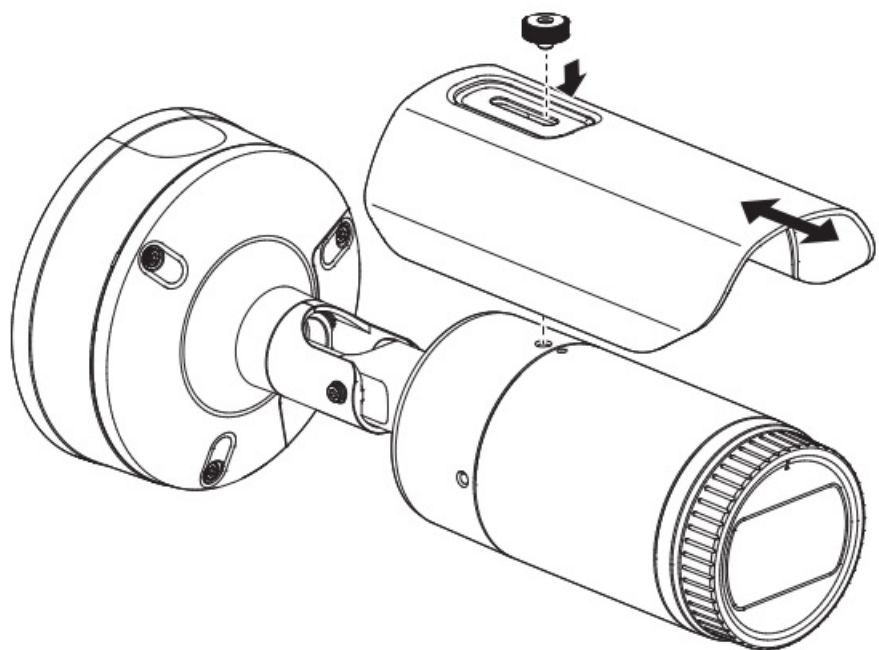


When you adjust the camera position using a bracket, please loosen the bracket screw, adjust the camera, and tighten it. If you attempt to adjust it forcibly while the screw is tight, it may result in a scratch or other problems.

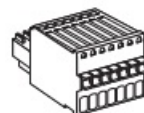
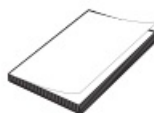
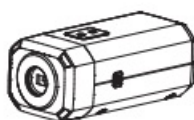
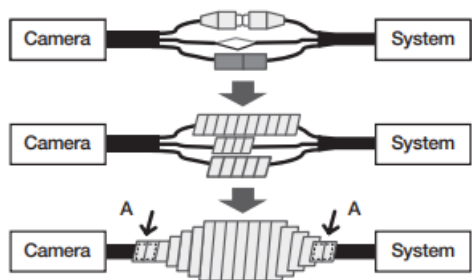
36pag







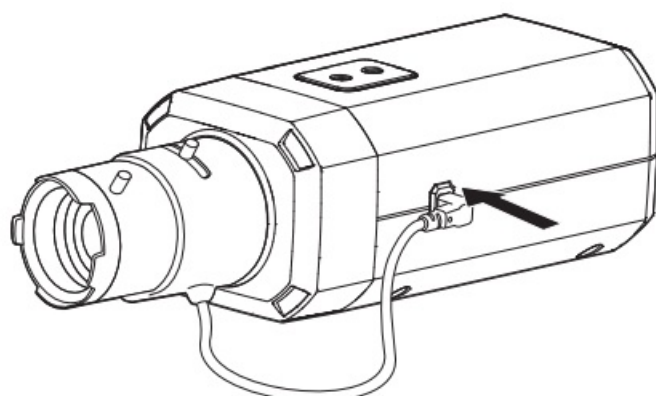
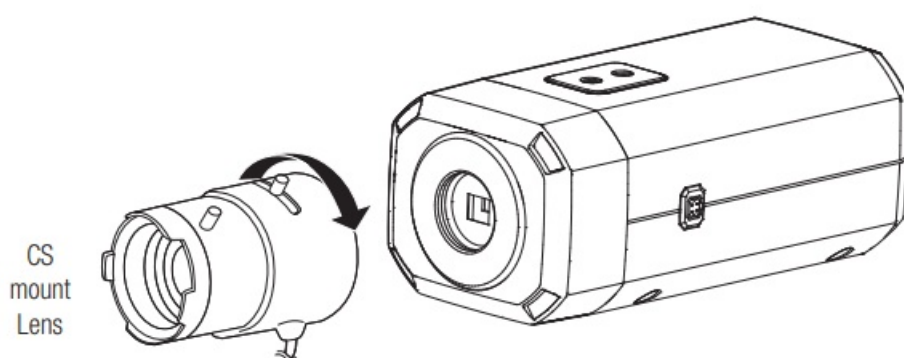
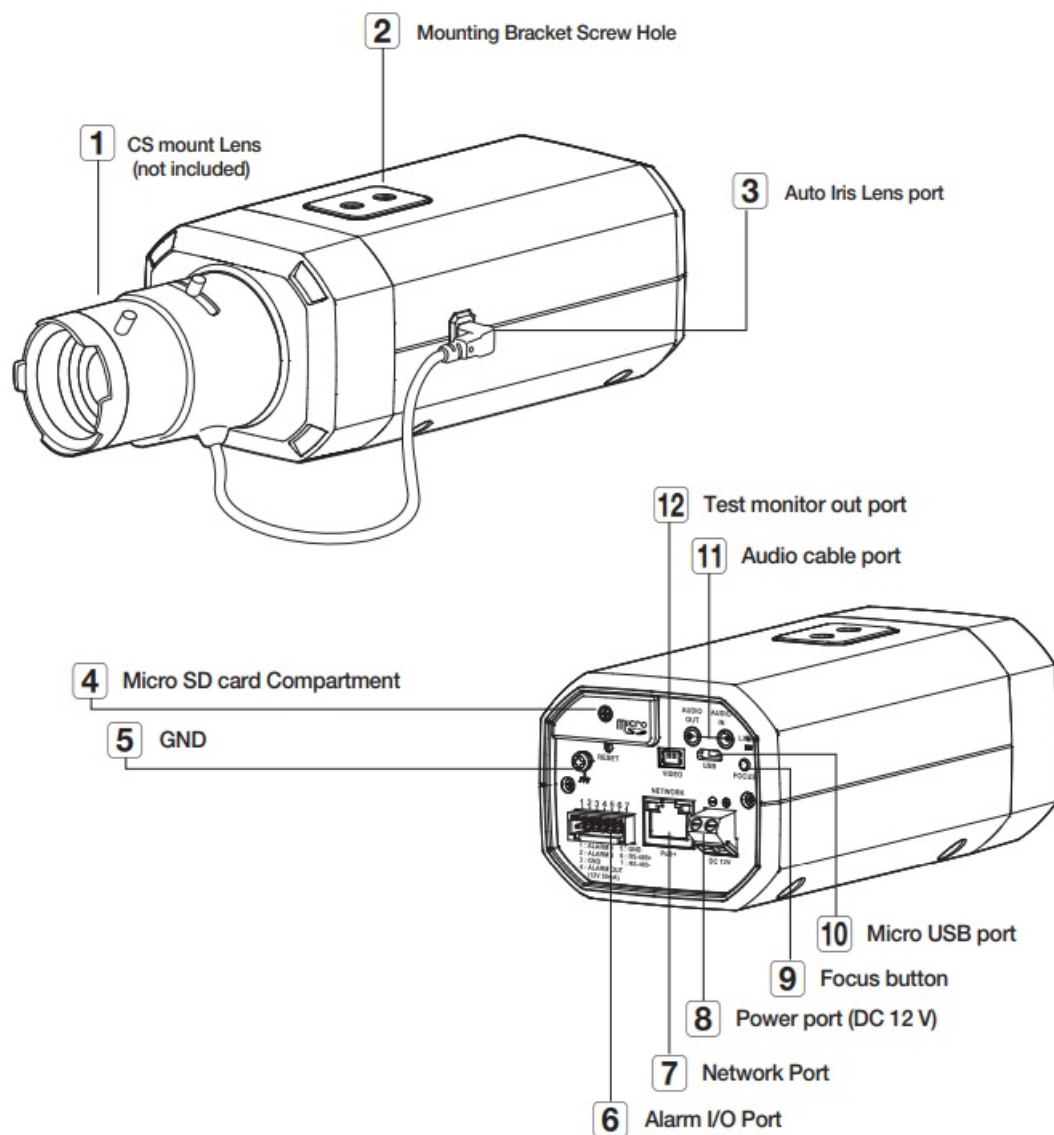
<PNB-A6001>

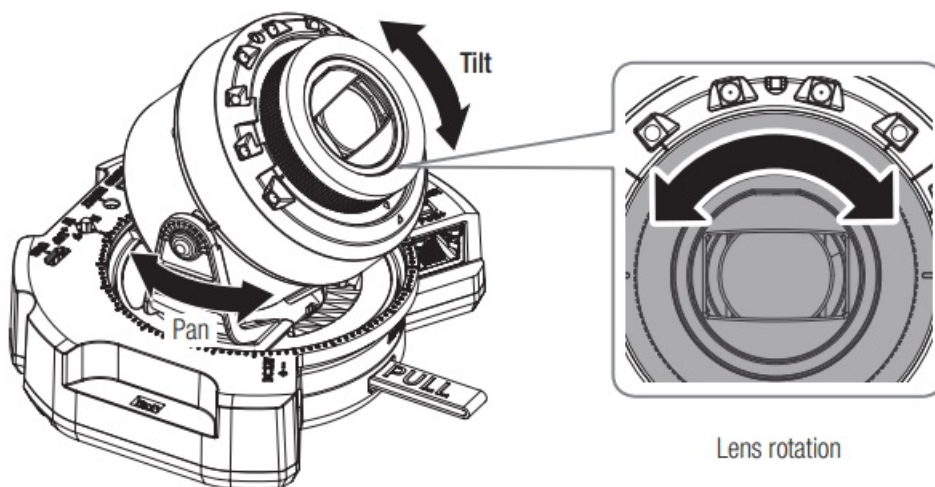
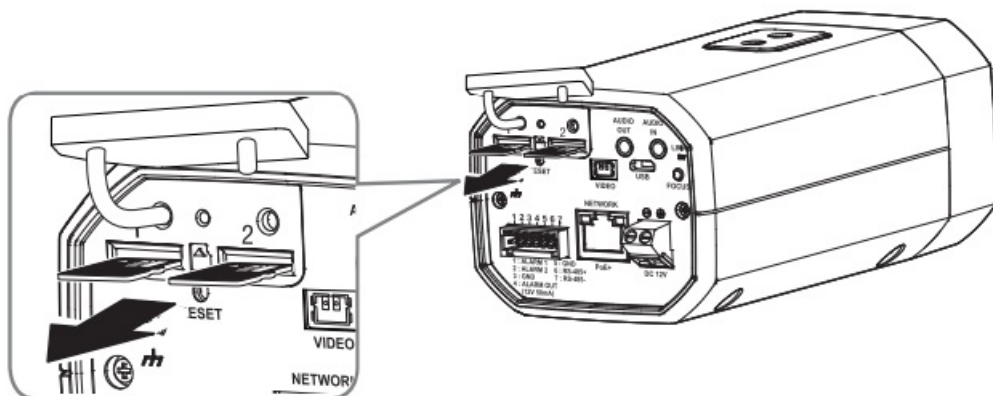
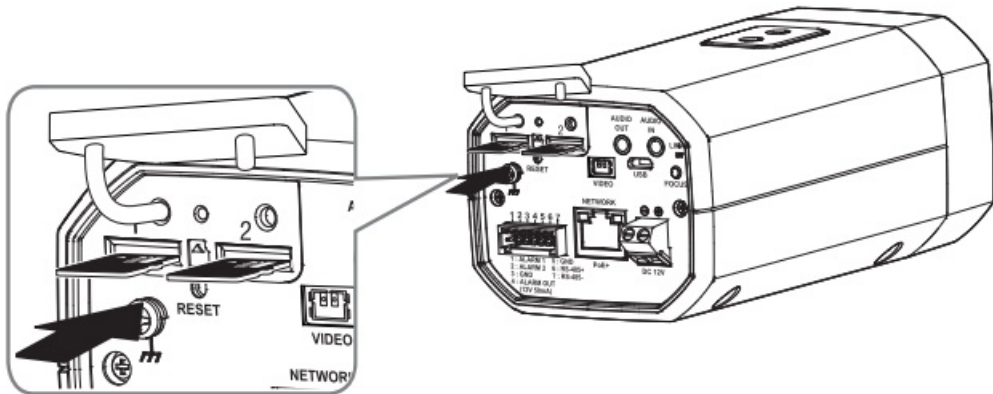
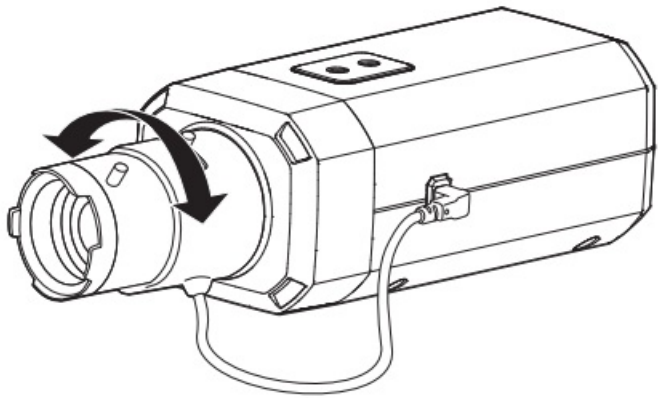


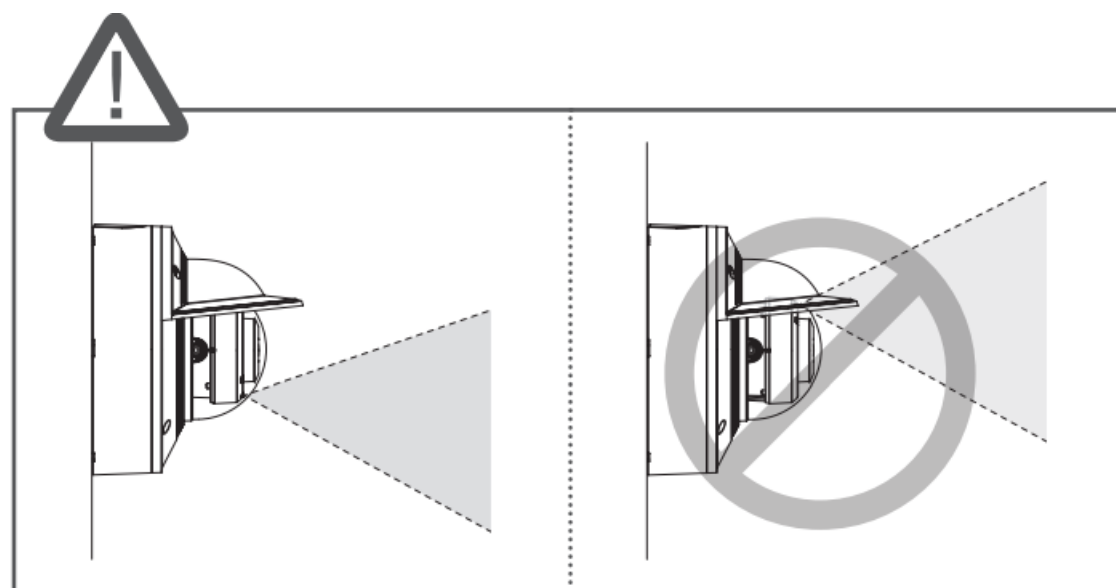
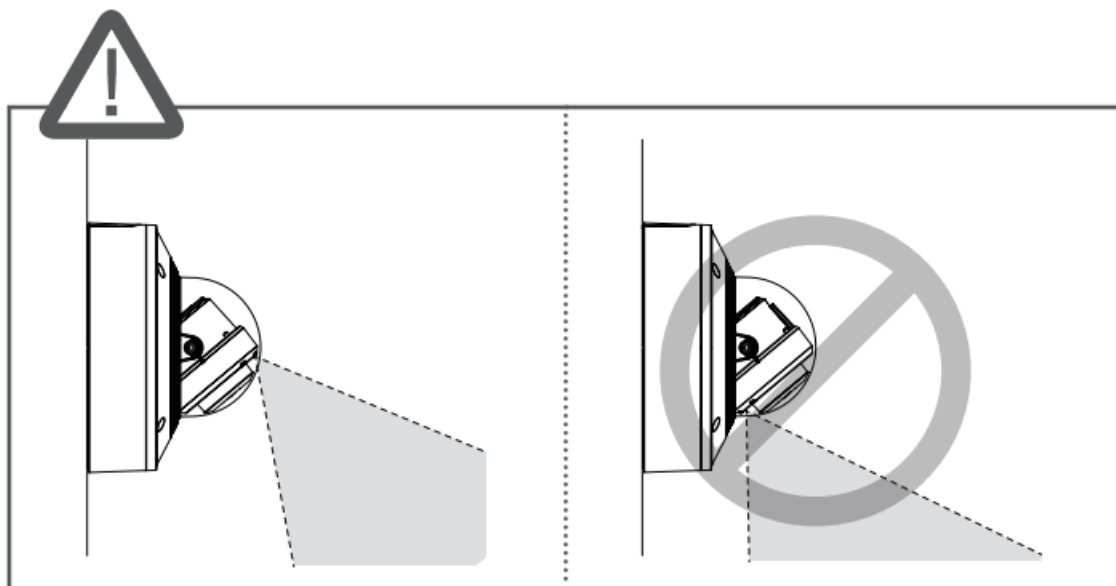
Option (not included)

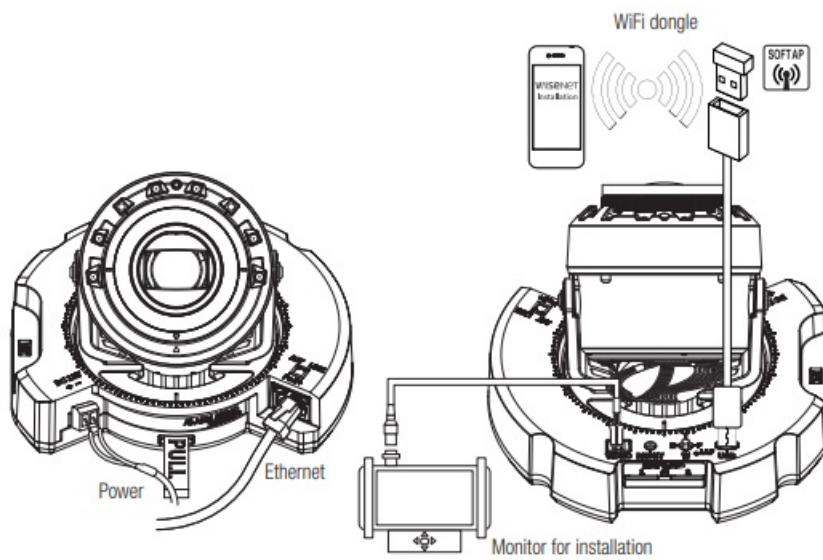


CS mount Lens

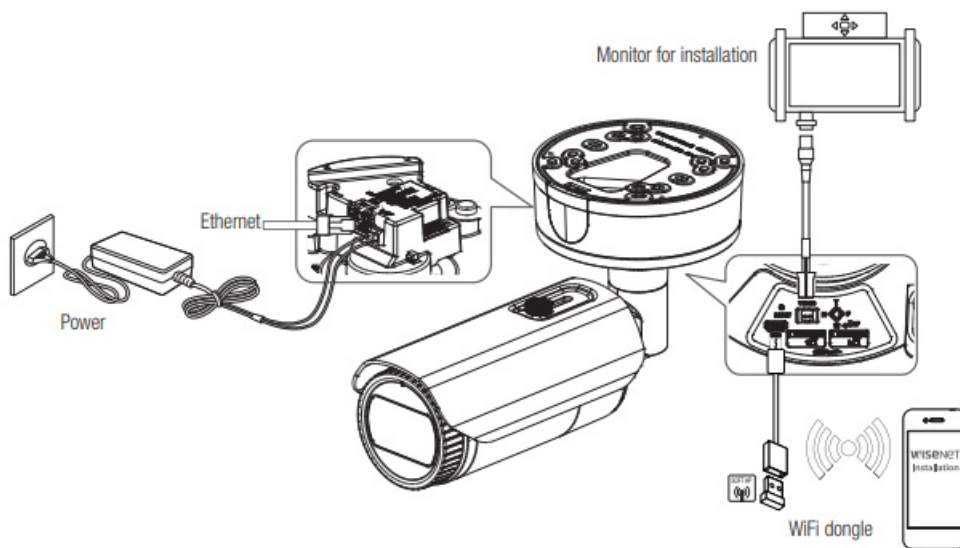




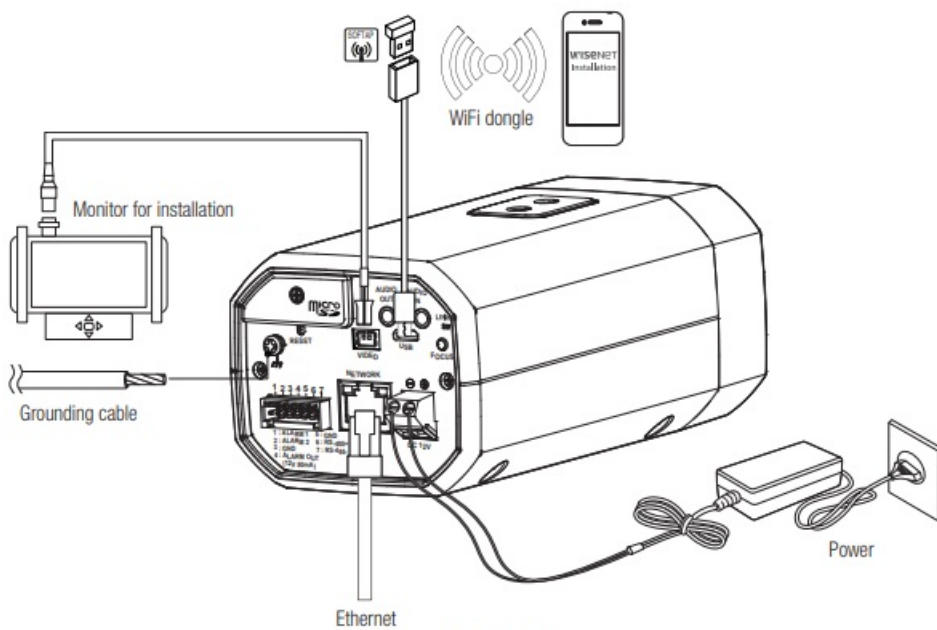




<PNV-A6081R/PND-A6081RV/PND-A6081RF>

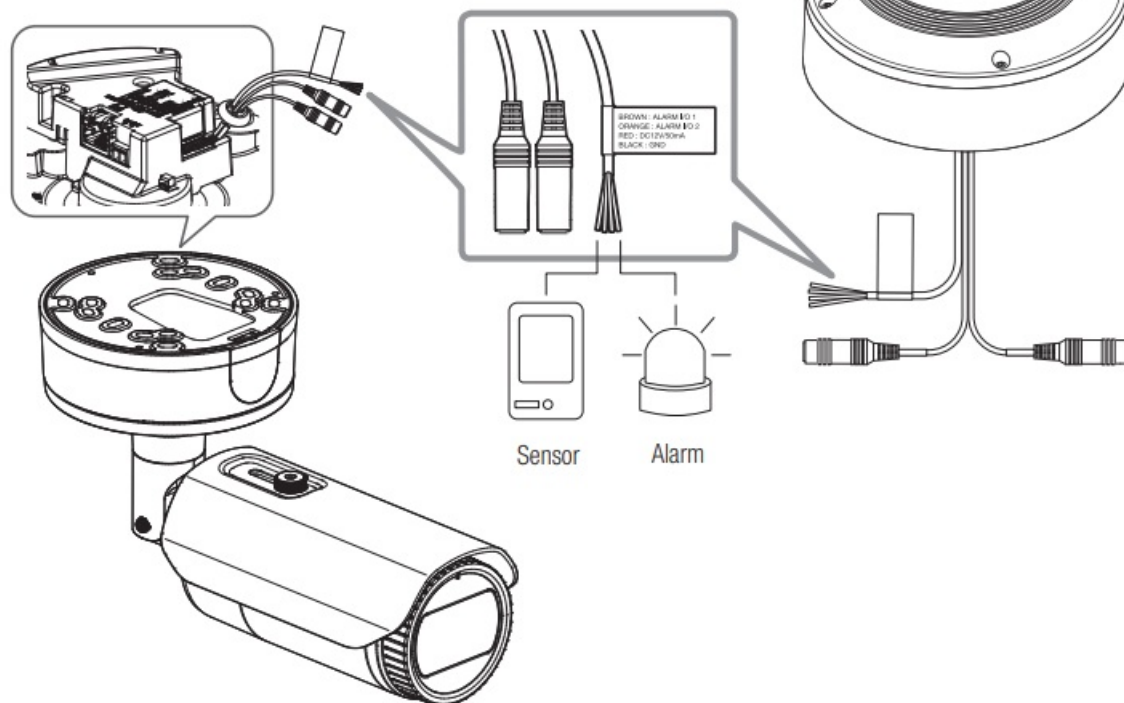
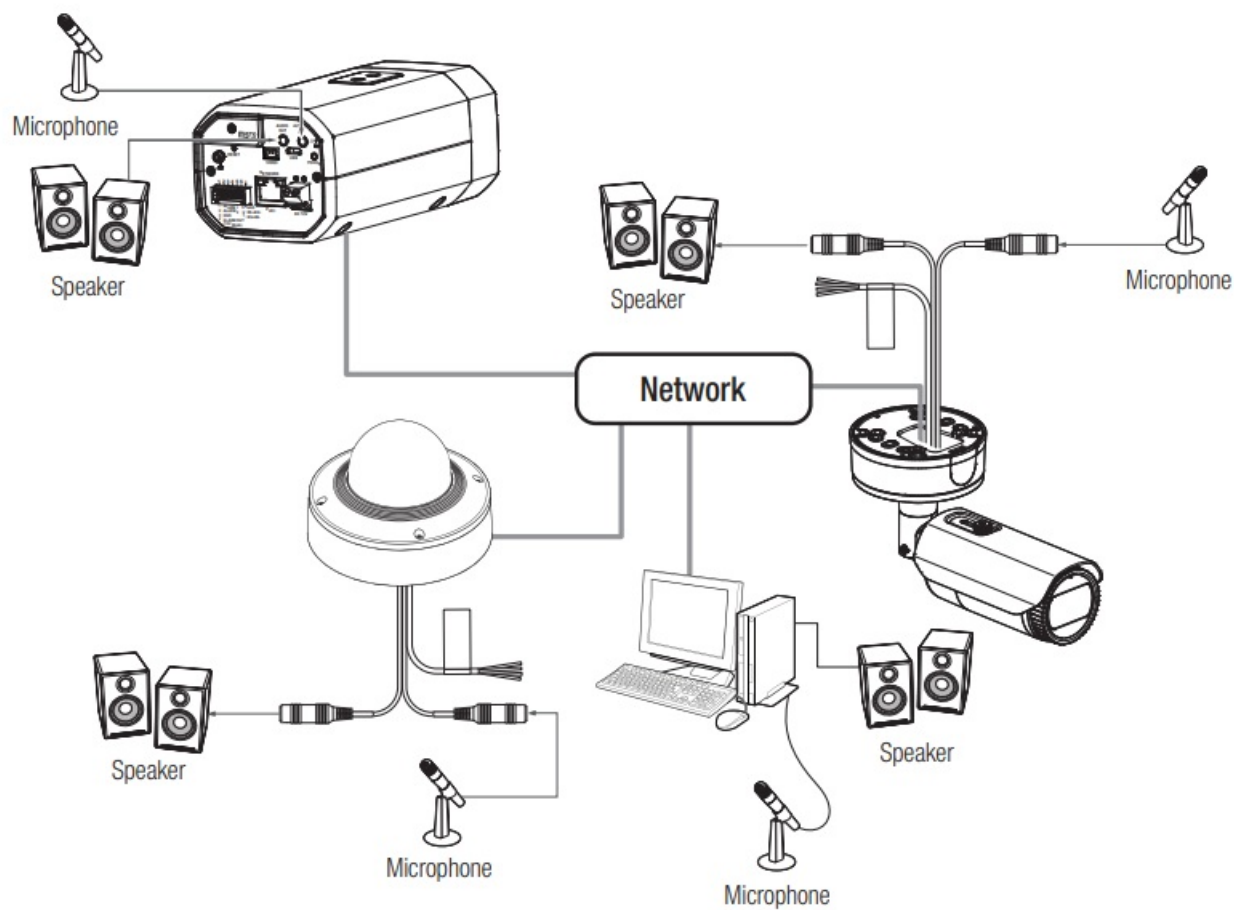


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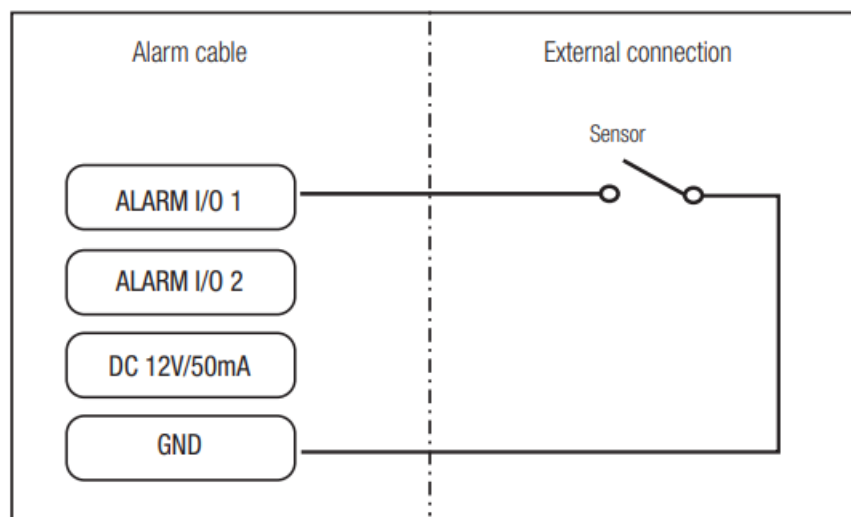
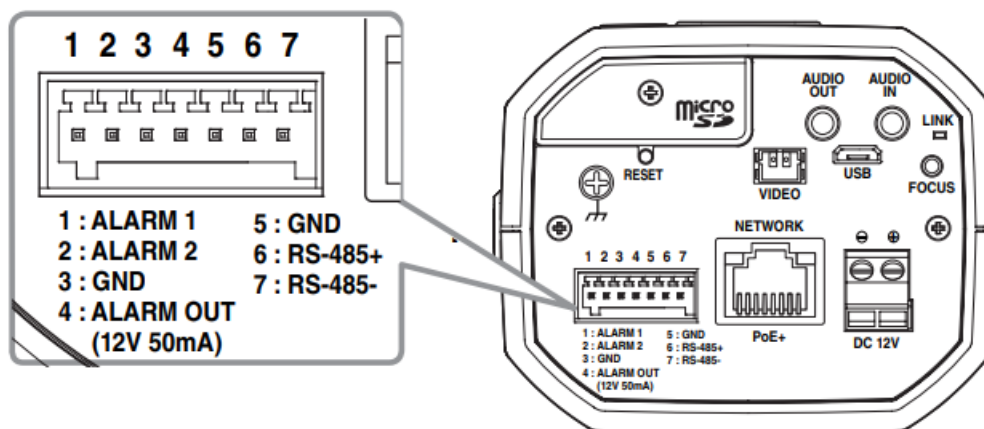


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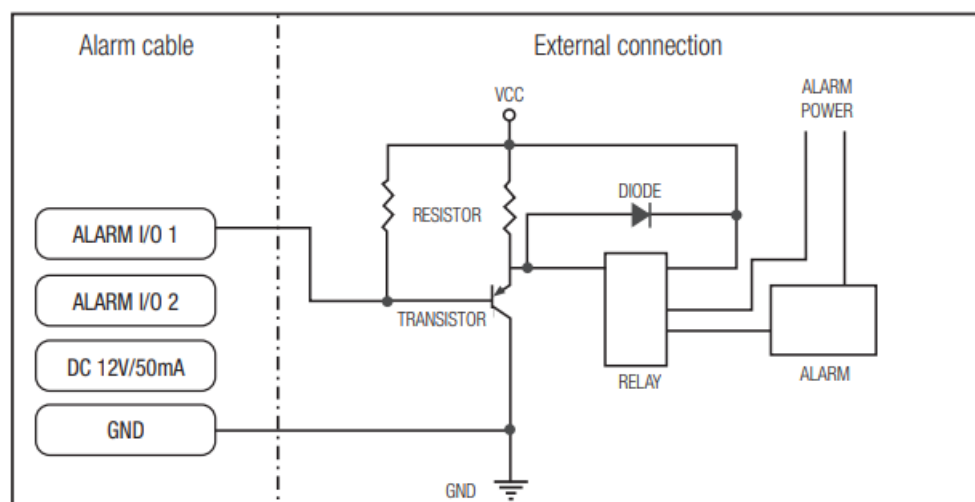






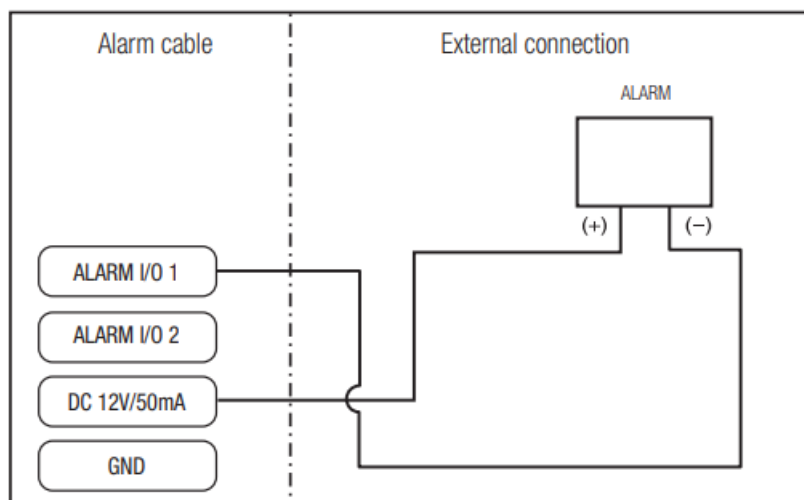


<If ALARM I/O 1 is set as an input terminal>

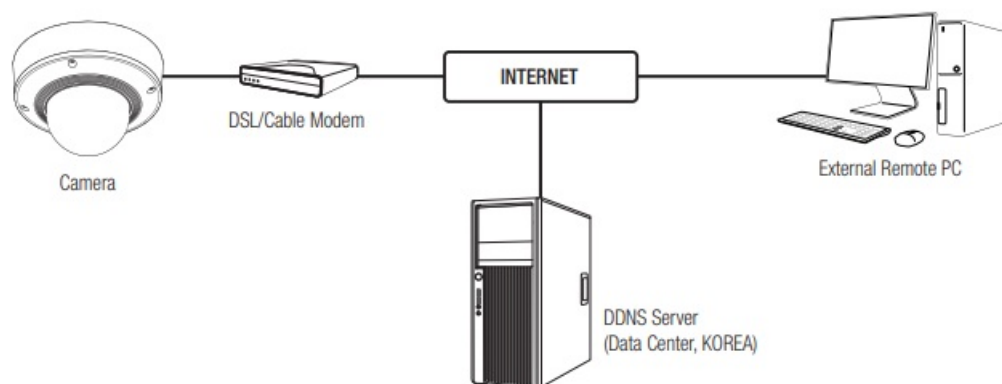
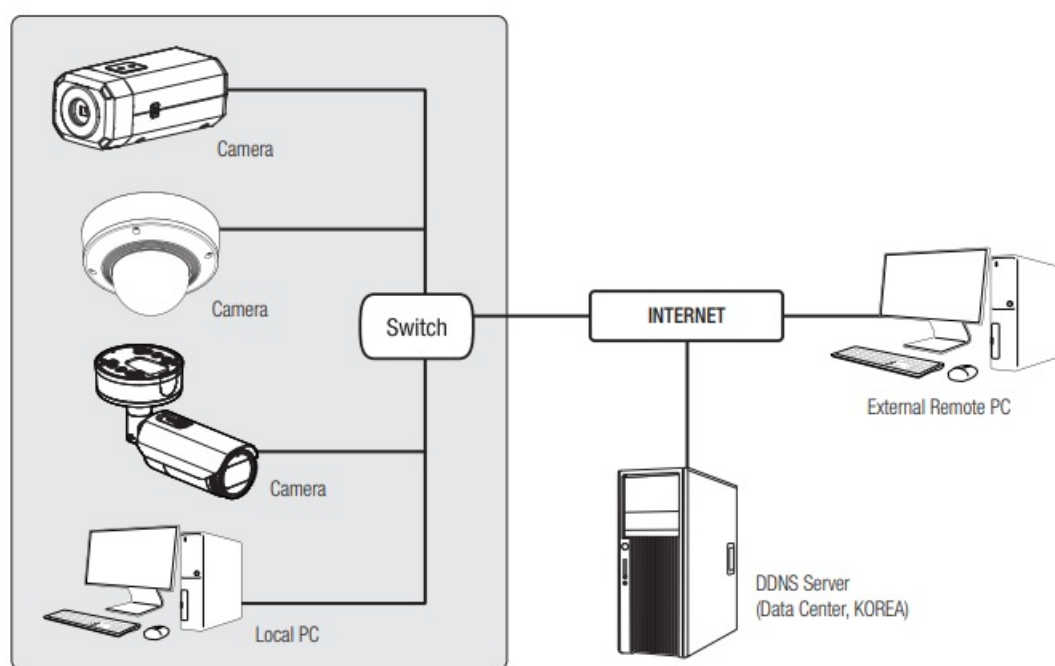


<If ALARM I/O 1 is set as an output terminal>

When the warning light/siren does not exceed DC 12V/50mA



<If ALARM I/O 1 is set as an output terminal>



IP Assign - Single device

☐ Obtain an IP address automatically (DHCP)
 

☒ Assign the following IP address

MAC Address :

00:09:18:5E:D0:92

IP Address :

192 . 168 . 0 . 31

HTTP Port :

80

Subnet mask :

255 . 255 . 255 . 0

VNP Port :

4520

Gateway :

192 . 168 . 0 . 1

RTSP Port :

554

DNS1 :

168 . 126 . 63 . 1

DNS2 :

168 . 126 . 63 . 2

Apply

Close

Setup

Wireless-G Broadl

Setup

Wireless

Security

Access Restrictions

Applications & Gaming

Basic Setup

DHCP

MAC Address Clone

Internet Setup

Internet Connection Type

Automatic Configuration - DHCP

Optional Settings (required by some ISPs)

Router Name :

Router\_1

Host Name :

Domain Name :

MTU :

Manual

Size :

1400

Network Setup

Router IP

Local IP Address :

192 . 168 . 1 . 1

Subnet Mask :

255 . 255 . 255 . 0

IP Assign - Single device

☒ Obtain an IP address automatically (DHCP)
 

☐ Assign the following IP address

MAC Address :

00:09:18:5E:D0:92

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Gateway :

192 . 168 . 0 . 1

RTSP Port :

554

DNS1 :

168 . 126 . 63 . 1

DNS2 :

168 . 126 . 63 . 2

Apply

Close

[illegible]

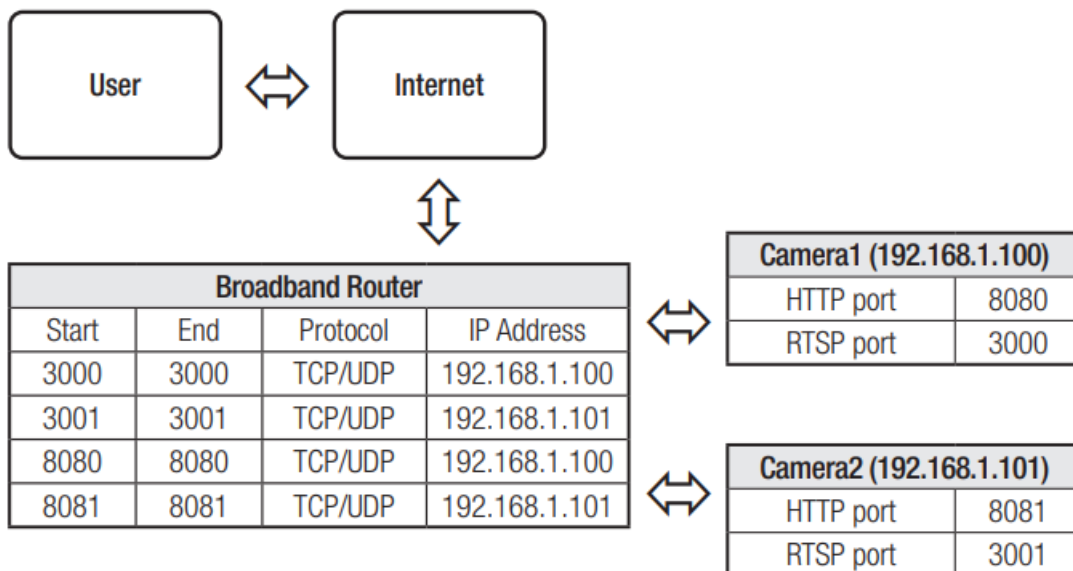
## Applications & Gaming

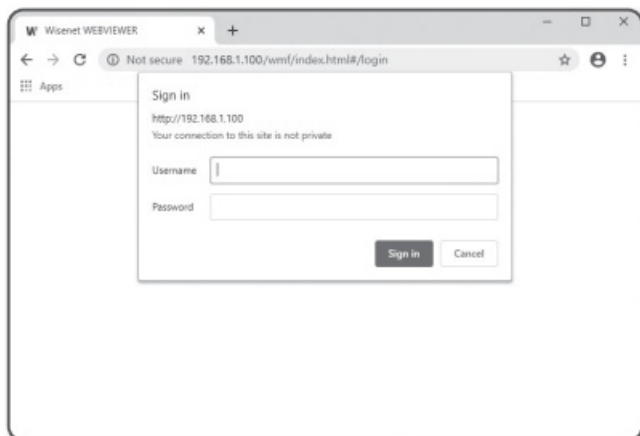
Setup	Wireless	Security	Access Restrictions	Applications & Gaming
Port Range Forward	Port Forwarding	DMZ	Load	

### Port Range Forward

Port Range						
Application	Start	End	Protocol	IP Address	Enable	
<input style="width: 100%;" type="text"/>	0	to 0	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.0	<input type="checkbox"/>	
DTSP1	3000	to 3000	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.100	<input checked="" type="checkbox"/>	
DTSP2	3001	to 3001	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.101	<input checked="" type="checkbox"/>	
VMP1	4520	to 4520	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.100	<input checked="" type="checkbox"/>	
VMP2	4521	to 4521	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.101	<input checked="" type="checkbox"/>	
WEB1	8080	to 8080	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.100	<input checked="" type="checkbox"/>	
WEB2	8081	to 8081	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.101	<input checked="" type="checkbox"/>	
<input style="width: 100%;" type="text"/>	0	to 0	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.0	<input type="checkbox"/>	
<input style="width: 100%;" type="text"/>	0	to 0	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.0	<input type="checkbox"/>	
<input style="width: 100%;" type="text"/>	0	to 0	Both <span style="border: 1px solid black; padding: 0 2px;">v</span>	192.168.1.0	<input type="checkbox"/>	

Save Settings
Cancel Changes





Administrator password change

**New password**

**Confirm new password**

- If the password is 8 to 9 characters long, then it must include a combination of at least 3 of the following character types: alphabet letters with uppercase or lowercase, numbers, and special characters.
- If the password is longer than 10 characters, then it must include a combination of at least 2 of the following character types: alphabet letters with uppercase or lowercase, numbers, and special characters.
- User name may not be used as password.
- The following special characters can be used: ~!@#%&\*()\_+~[]{}?`
- You may not use more than 4 consecutive characters. (example: 1234, abcd, etc.)
- You may not use the same character 4 or more times consecutively. (example: 1111, aaaa, etc.)

Sign in

http://192.168.1.100

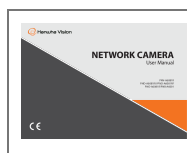
Your connection to this site is not private

Username

Password



## Documents / Resources



### [Hanwha Techwin PND-A6081RV Network Camera](#) [pdf] User Manual

PNV-A6081R, PND-A6081RV, PND-A6081RV Network Camera, Network Camera, Camera, PND-A6081RF, PNO-A6081R, PNB-A6001