

360 degree Omnidirection Camera

Dome Type

Model : **NM33D-F**

User's Manual



Thank you very much for purchasing the 360 degree omnidirection camera NM33D-F. Please read this manual carefully before using the product for proper operation. Preserve this manual and use this when it is necessary.

◆ The description may be modified without any notice.

V. 1.30

For Safety Use – Warning

Please read this manual carefully before using the product for proper operation.

The followings are very important notices for the safety use of the product. Make sure to follow the instructions described here.



Neglecting the instruction may cause death or serious injury.

- If smoke or nasty smell is observed from the unit, unplug Power Cable of the AC Adaptor immediately. Otherwise it may cause electric shock or fire.
- Use only the AC Adaptor (**5V, 2A**) and the USB Cable originally supplied with the product. Otherwise the product can not work properly or cause electric shock or fire.
- Do not let water or foreign items in the unit. If it happens, turn the power off immediately and unplug Power Cable. Otherwise it may cause fire or electric shock.
- Do not damage Power Cable or AC Adaptor. Otherwise it would cause fire or electric shock.
 - Do not modify or and repair Power Cable or AC Adaptor.
 - Do not squeeze Power Cable in a wall or a cabinet.
 - Do not place heavy items on or drag Power Cable.
 - Do not heat Power Cable or AC Adaptor as placing near thermal appliances.
 - When unplug AC Adaptor from the wall outlet, hold its body to pull.
- When Power Cable or AC Adaptor is damaged, or the plug is loose, do not use it. Otherwise it may cause electric shock, short circuit, or fire.
- Make sure to plug firmly. Otherwise it may cause fire or electric shock.
- Remove dust on the plug by using a dry cloth. Otherwise it may cause fire.
- Do not place the product in following places. Otherwise it may cause fire or malfunction.
 - Place near fire or full of hot-air
 - Direct sunlight
 - Poorly-ventilated space
 - Place with humid and dust
 - Place where ventilating hole is closed
 - Place not flat or uneven
 - Place where a lot of vibrations exist
- Do not place heavy items on the unit. Otherwise it may cause damage or malfunction.
- Do not touch the unit or the plug when lightning starts. Otherwise it may cause electric shock.
- Do not disassemble or modify the unit. Otherwise it would cause fire, electric shock or malfunction.

For Safety Use – Caution & Remarks



Caution

Neglecting the instruction may cause risks of injury or property damages.

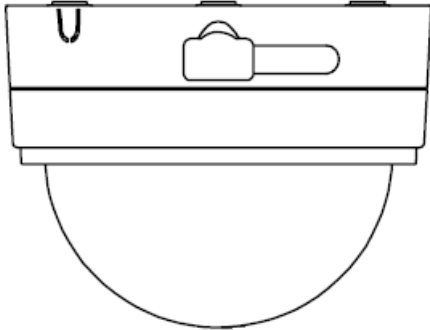
- Installation or wiring of the product must be done with the power off. Unplug Power Cable surely before taking proper care for the unit. Otherwise it may cause fire, electric shock, or injury.
- Don't use the product under the circumstance beyond the product specified range.
- Don't use the product near the device to generate the electric noise.

Other Remarks

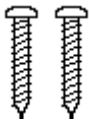
- Please acknowledge beforehand that OPT Corporation is not responsible for any claims such as the losses and passive damages in which the operation of this product is assumed to be a reason.
- OPT Corporation is not responsible for any loss or missing of the taking image.
- Don't block the product with other items from the easiness for the maintenance and the heat radiation purpose.
- Please use the AC Adaptor (**5V, 2A**) or the USB Cable originally supplied with the product. Otherwise, OPT Corporation does not warrant the feature and performance of the product.
- Without any notice, the product might be improved or changed in parts or design.
- If you use AC Adaptor and USB Cable simultaneously as a power source, connect AC Adaptor first to supply the power to the camera, then connect USB Cable. When unplug, disconnect USB Cable first, then AC Adaptor.
- If the camera lens or Dome Cover becomes dusty or oily, the image may be garbled. Use a soft cloth with the lens cleaner to wipe the dust or oil off.

1. Contents

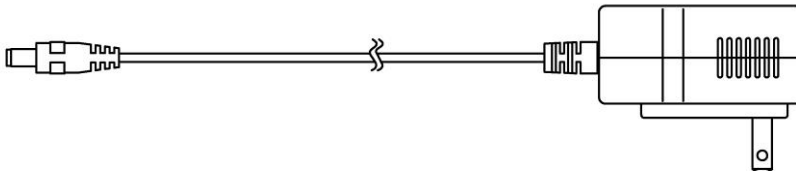
(1) Camera (NM33D-F) : 1 pc



(2) Camera Fixing Screw (3.5 × 20) : 2 pcs

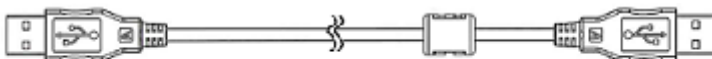


(3) AC Adaptor (5V2A) : 1 pc



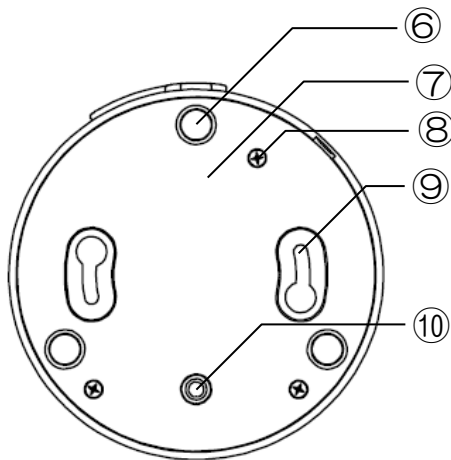
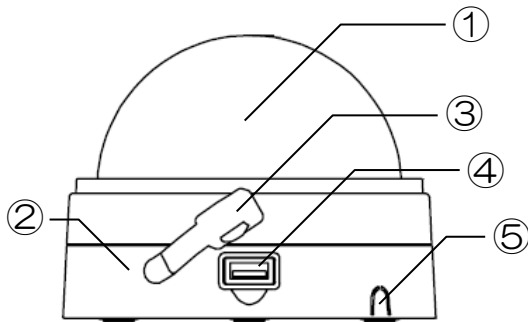
Caution: Use only the AC Adaptor (5V, 2A) originally supplied with the product.

(4) USB Extension Cable (3 m) : 1 pc

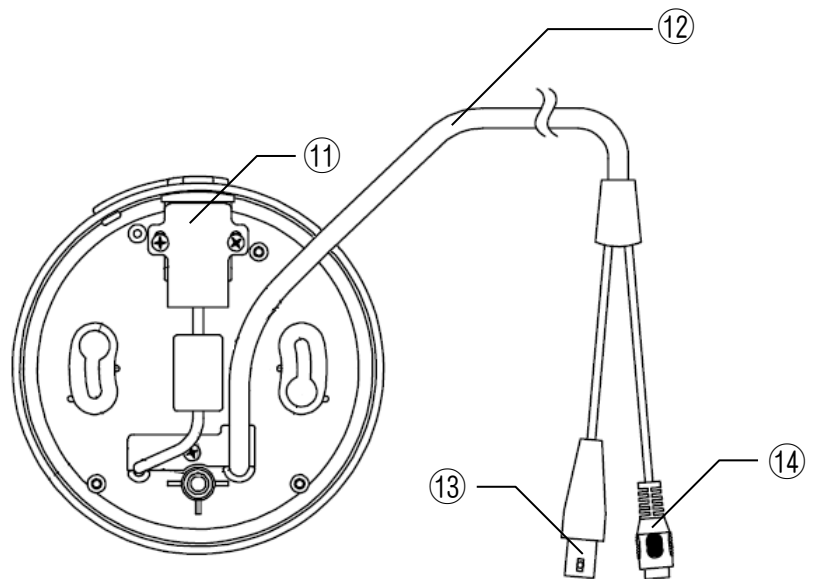


Note: According to the package you purchase, other accessories may be enclosed. Please refer to the instruction included in the package.

2. Name of Part



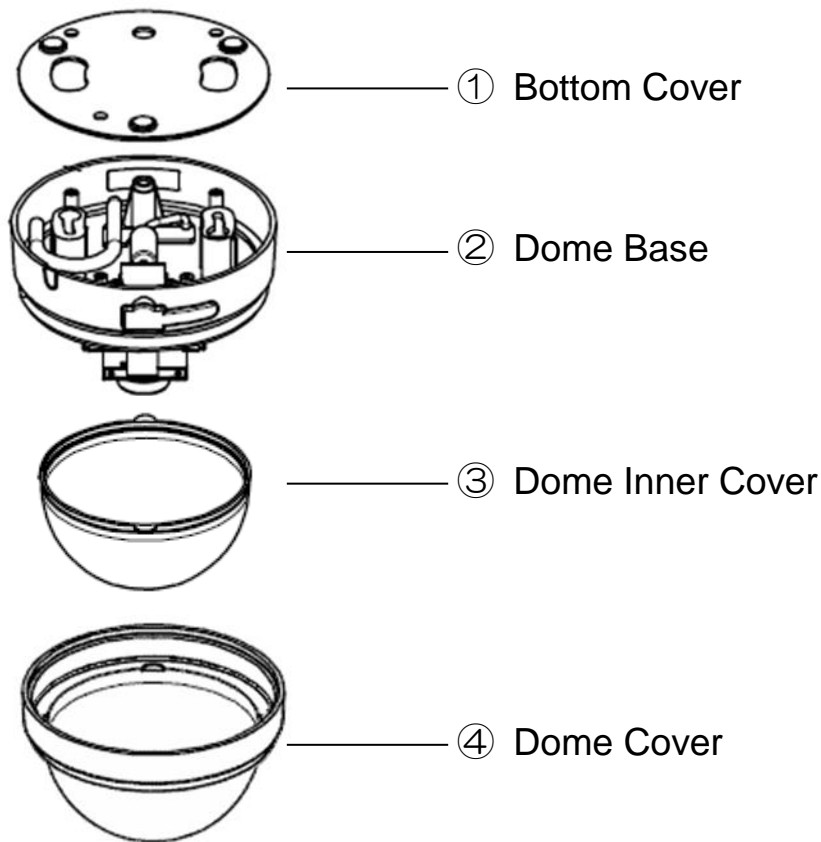
《 view with Bottom Cover on 》



《 view with Bottom Cover off 》

Name of Part	
① Dome Cover	⑧ Bottom Cover Fixing Screw (3 places)
② Dome Base	⑨ Screw Hole (2 places)
③ USB Packing	⑩ Camera Tripod Screw Mount
④ USB Socket	⑪ USB Socket Holder
⑤ Cable Gate	⑫ BNC/DC Cable
⑥ Rubber Foot (3 places)	⑬ BNC Connector (Male)
⑦ Bottom Cover	⑭ Power Connector (for AC Adaptor)

3. Construction of Camera



① Bottom Cover

This is necessary to place the camera on the table. Remove it when installing the camera on the wall or under the ceiling.

② Dome Base

Camera Module, BNC/DC Cable and else are mounted on this base.

③ Dome Inner Cover

The protect cover for Camera Module.

④ Dome Cover

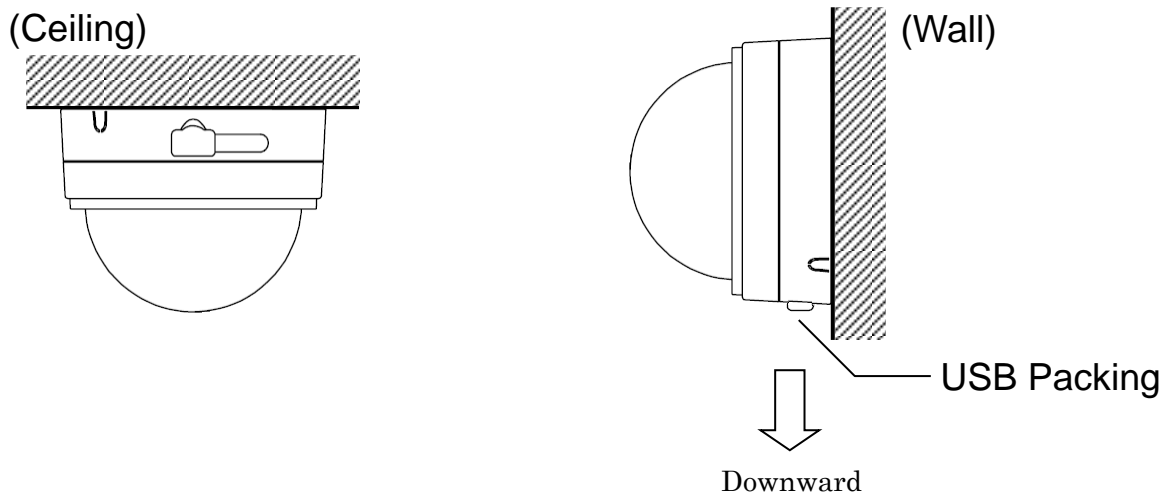
The protect cover for Camera Lens.

4. Advice for Installing Camera

① when Installing on the wall or under the ceiling

Remove Bottom Cover when installing the camera on the wall or under the ceiling.
Please refer to the section 6 for the installation.

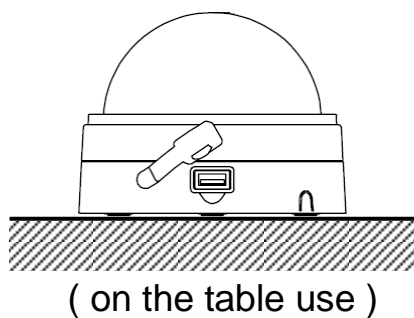
For the Installation vertically, align USB Packing downward.



② when placing on the table (for the TV conference use)

When using the camera placing on the table, store BNC/DC Cable into Dome Base and attach Bottom Cover on.

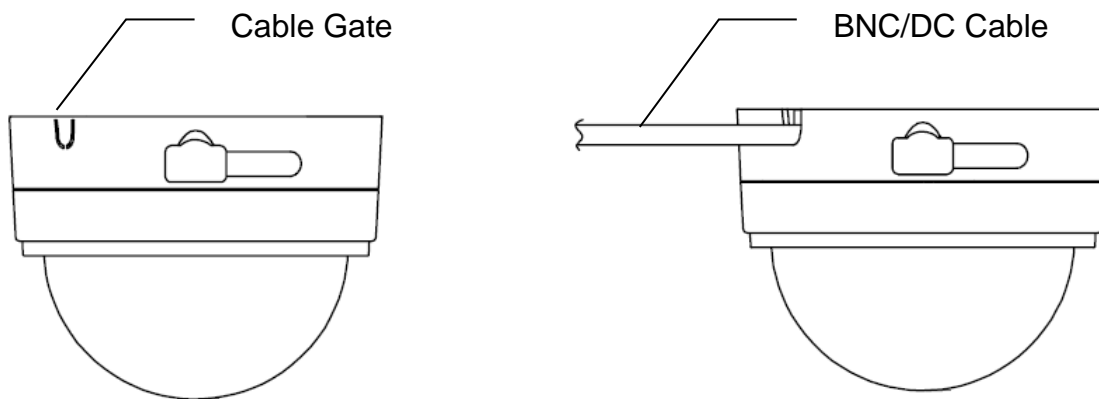
Note: For the TV conference use, a PC and the recorder software are necessary.



5. Advice for Cable Lining

In a normal case, BNC/DC Cable would like to be located behind the camera bottom with Bottom Cover taken off.

If installing the camera on a concrete wall (no room behind the wall), it is impossible to line the cables behind the camera. In such the case, crack the plastic piece of Cable Gate and line the cables from the side of camera.



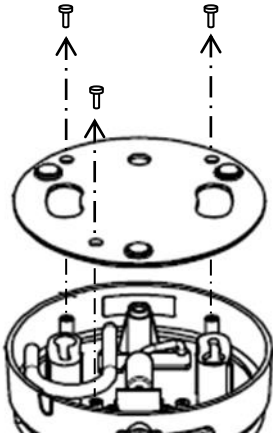
Note 1: The plastic piece of Cable Gate can be removed by a nipper like tool. After remove the plastic piece, clean burrs off from Cable Gate. If burrs are left, it may cause injure or damage of the cable.

Note 2 : The plastic piece of Cable Gate can not be replaced after once removed.

6. Installation (Ceiling, Wall) - Preparation

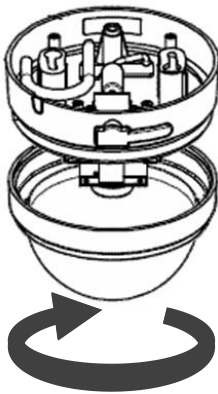
① Remove Bottom Cover

Remove Bottom Cover Screws and remove Bottom Cover from Dome Base.



② Remove Dome Cover and Dome Inner Cover

Hold Dome Cover and Dome Base firmly by hands, rotate Dome Cover counterclockwise to remove Dome Cover from Dome Base.

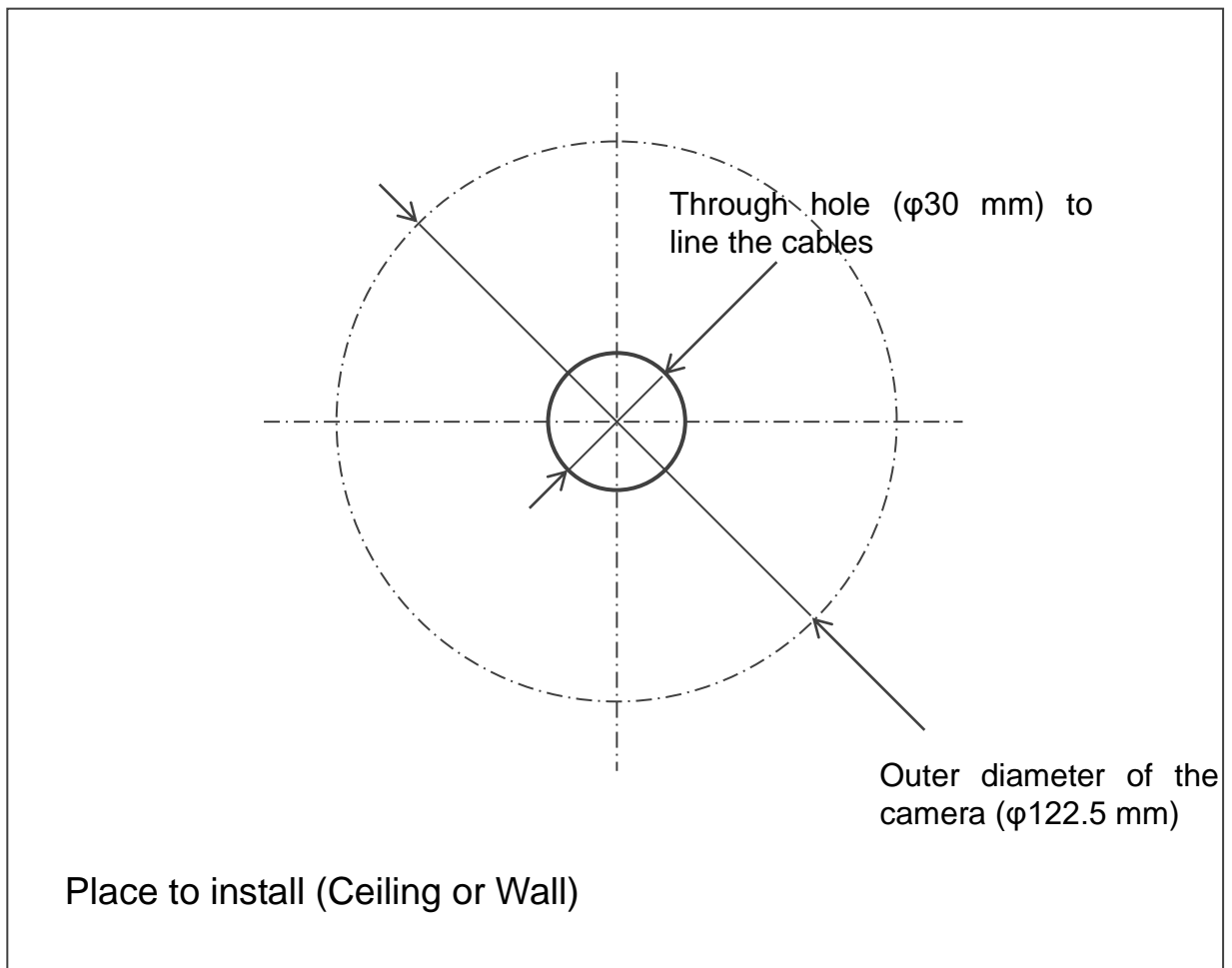


Note: There is Dome Inner Cover inside of Dome Cover. Please pay attention not to drop Dome Cover and Dome Inner Cover when removing.

6. Installation (Ceiling, Wall) – Mark the install position

- ③ Mark at the place to install the camera and make a through hole for lining the cables.

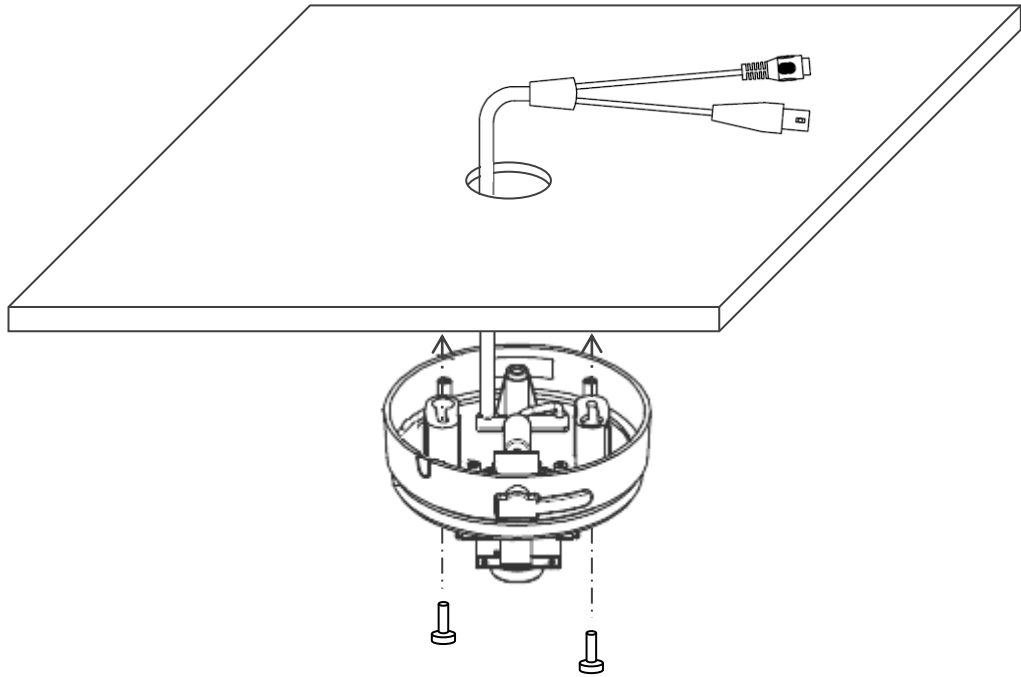
Make a through hole of ($\Phi 30\text{mm}$) at the center of the place to install the camera.



6. Installation (Ceiling, Wall) – Fixing the Camera

④ Line the cables in the hole and fix Dome Base

Lining BNC/DC Cable in the hole, push Dome Base against the installation surface, then fix Dome Base to the ceiling or wall by Camera Fixing Screws.



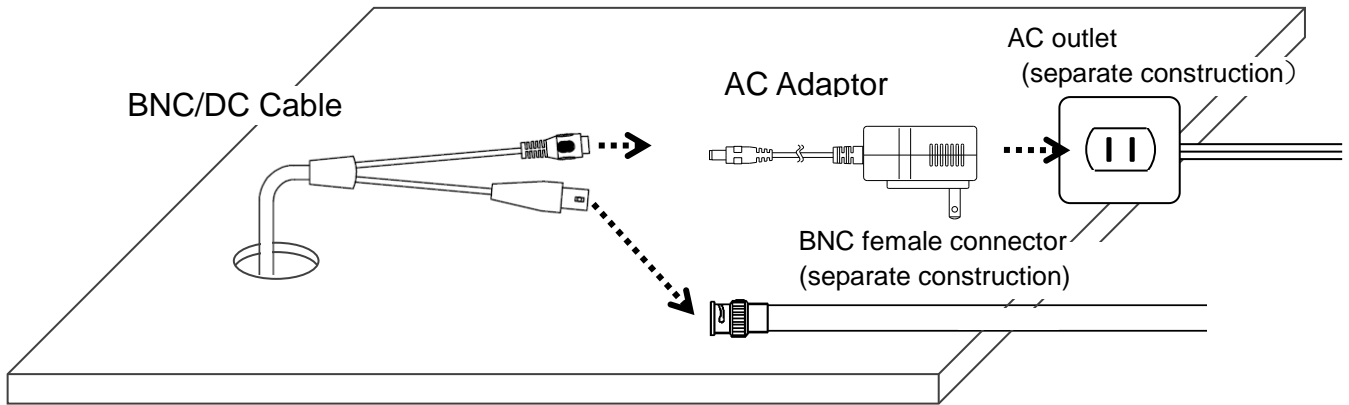
Note 1: The Camera Fixing Screws provided with the camera are for the plaster board. According to the material and the strength of the installation surface, use most suitable screws (ϕ 3.5~4.0 size).

Note 2: For the Installation vertically, align USB Packing downward.

6. Installation (Ceiling, Wall) – Connecting Cables

⑤ Connect Signal and Power Connectors

Connect AC Adaptor and BNC cable to the connectors of BNC/DC Cable as shown in the below figure.



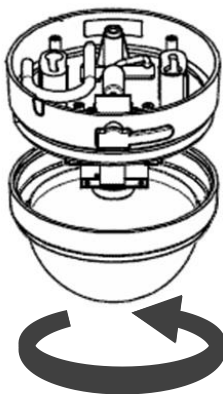
Note 1: If excessive load is applied on the connection of BNC/DC Cable or AC Adaptor, the power line may be disconnected. It is recommended to fix the connection firmly by taping.

Note 2: As for the separate construction of the AC outlet and the BNC cable, make them with sufficient length.

Note 3: Never connect the BNC/DC Cable to the superimposed cable where the electric power is imposed on the signal line. Otherwise it will cause the damage to the camera.

⑥ Install Dome Cover and Dome Inner Cover

Make sure whether Dome Inner Cover is in the right place of Dome Cover. Holding Dome Cover and Dome Base firmly by hands, rotate Dome Cover clockwise to install the Dome Cover.

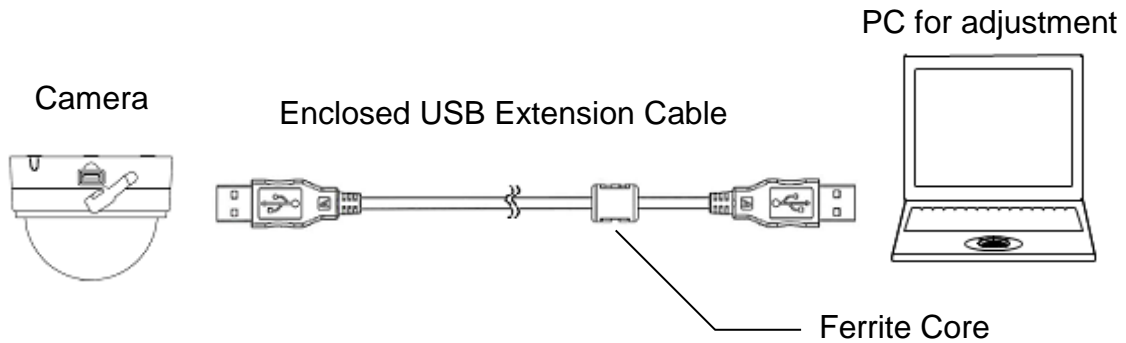


Note : Align the ribs of Dome Inner Cover to recession of Dome Cover when placing Dome Inner Cover into Dome Cover.

7. Adjust Output Image

① Connect the camera to a PC

Connect the camera with a PC by the enclosed USB Extension Cable (between USB Socket and the USB port of the PC).



Note 1: If using AC Adaptor simultaneously with USB power, supply of power from AC Adaptor must be done before connecting USB Cable.

Note 2: When using USB Cable connecting with a PC, never plug on/off of AC Adaptor.

Note 3: USB Extension Cable must connect to the PC with the Ferrite Core side to the PC.

Note 4: For the first connection of the camera to a PC, installation of the driver software to the PC is required. Please refer to the software manual for detail.

② Adjust Output Image

The image dewarping software is pre-installed in the camera. The software works for the output image adjustment and the pre-setting (store the initial setting).

Please refer to the software manual for the manner to install the software and its operation.

8. Trouble Shooting

If you are facing any trouble with the product, please check the followings.

Phenomenon	Please Check
No image output	Is the power provided to the camera properly? Are the cables connected properly? Is the power to the recorder or the monitor turned ON properly? → Connect cables properly and turn the power ON.
Image is blur	Is the lens or Dome Cover on the camera stained? → Clean the lens and Dome Cover.
Image is dark	Is the light at the place sufficient? → Minimum light required to recognize the human skin color is 5 lux.
By turning the power to the camera ON/OFF, the previously set image pattern is shown.	Did save the pre-set of the camera image pattern? ※ Refer to the enclosed Software Manual for the manner to pre-set the image pattern.
After disconnect and connect AC Adaptor, PC does not recognize the camera.	When a PC is connected with the camera using USB Cable, if AC Adaptor is disconnected and connected, it may be happened that the PC does not recognize the camera. In such the case, disconnect AC Adaptor and USB Cable from the camera first, then connect AC Adaptor and USB Cable in this order.

※ If the condition can not be recovered, please ask us or the distributor.

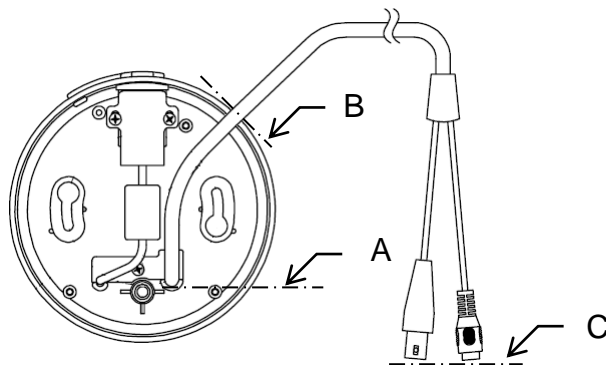
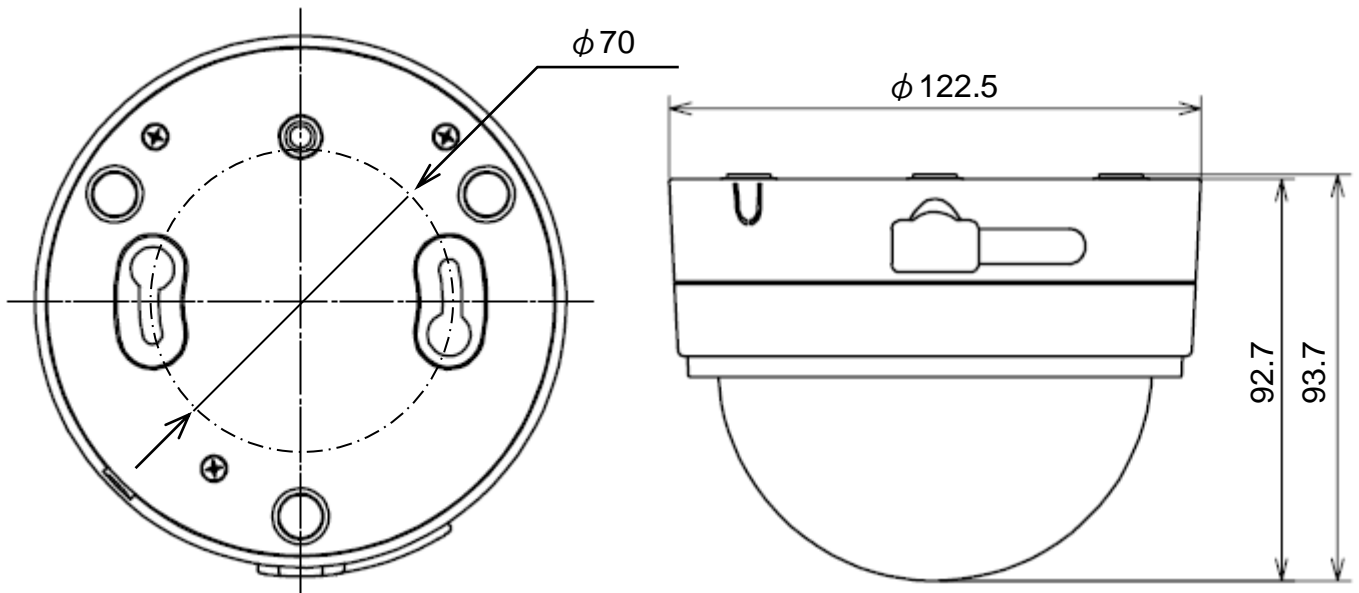
9. Specification

Items	Value	Remarks
Product	360 degree Omnidirection Camera (Model : NM33D-F)	
Power	Voltage : 5.00 V \pm 5% (Absolute Maximum Rated Voltage: : -0.3 ~ 6 V) Maximum Current Consumption : 500 mA	
Dimensions	Size : 122.5(W) x 122.5(D) x 93.7(H) [mm] Weight : 400 g	
Operation Environment	Temperature : 5 ~ 35°C Humidity : 45 ~ 85% (RH)	No condense
Storage Environment	Temperature : -20 ~ 60°C Humidity : 5 ~ 80% (RH)	
Lens	Distance to Subject : 10mm (lens surface) ~ infinity View Angle : 180° x 360°	
Image Sensor	Effective Pixel : H:2048 x V:1536 (approx. 3.15 Mega pixels) Usable Pixel : approx. 1.70 Mega pixels Minimum Light Required : 5 lux	1/2" single CMOS RGB Color
Video Output (Analog)	Image Signal : COMPOSITE VIDEO 1Vp-p Output Drive Capacity : 75 Ω	NTSC
Video Output (Digital)	Signal method : USB1.1 (Full Speed mode) Image Signal : JPEG Movie Size : 640 x 480、320 x 240 [Pixel] Maximum Frame Rate : 15 fps	VGA/QVGA
Control Signal Input	USB1.1	

1 0. Appearance

[Unit : mm]

(Camera)



※ Length of BNC/DC Cable
 Whole length (A - C) : 430 mm
 Exposed length (B - C) : 350 mm

《 view with Bottom Cover off 》

(AC Adaptor)

