

* Illustrations without icons are examples of VB-H630D/VB-M620D.

Installing the Camera

The following describes procedures for mounting the camera to a ceiling. Before installing the camera, set the IP address and other network information on the camera using the "Camera Management Tool" on the Setup CD-ROM. For details on how to operate the "Camera Management Tool", see "Camera Management Tool User Manual".

1 Determine an installation position for the camera and drill holes in the ceiling

Use the included template to determine the positions of the fixing screw holes and wiring hole (ø40 mm (ø1.6 in.)) according to the camera orientation. Next, cut out the wiring hole, and drill the fixing screw holes in the ceiling. Use the template with the printed side facing you.

2 Loosen the three lock screws on the dome case and remove the dome case

H630VE M620VE

Special temper-resistant screws are used for the dome case lock screws. Use the included dome case lock screw wrench.

3 Remove the tape and the inner cover

Remove the 4 pieces of tape that prevent lens rotation during shipping, and push the inner cover in the direction of the arrows to remove it. Then remove the 2 pieces of tape attached to the base of the lens.

Important

Do not move the lens unit by hand. This can damage the lens unit.

4 Open the wiring hole according to the installation method

H630D M620D

Use a box cutter to cut a cross shape into the wiring hole cover in order to guide cables through. Do not remove the wiring hole cover.

H630VE M620VE

Use a coin to unscrew the wiring hole cover from the side through which cables will be guided. Screw the wiring hole cover into the other wiring hole. You can fit a composite pipe (NPT 3/4 inch threaded hole) to the wiring hole.

5 Secure the safety wire

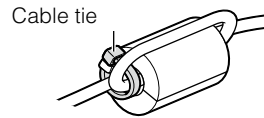
Securely attach the safety wire to an anchor or structure. After securing one end of the safety wire to the ceiling, secure the other end to the camera using the screw that is fastened to the camera.

6 Guide the LAN cable through the wiring hole

When using an external power supply, guide the power interface cable through the wiring hole. Guide the I/O interface cable and the audio interface cable (included) through the wiring hole if necessary.

Important

When using the AC Adapter (sold separately), cut the cable tie and remove the ferrite core. Be sure not to damage the power cable when cutting the cable tie.



7 Fix the camera to the ceiling

Fix the camera at three points to the ceiling using the appropriate screws. Three ceiling fixing screw holes are located on the camera. You must provide screws that correspond to the ceiling fixing screw holes.

8 Wire the cables

Wire the cables referring to "Cable Wiring Method".

Important

When wiring is complete, seal the wiring hole to keep out insects and dust.

9 Attach the inner cover

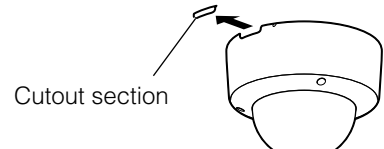
Attach the inner cover to its original position.

10 Attach the dome case

Firmly fix the dome case at three points to the camera using the dome case screws.

H630D M620D

If the cables cannot be stored above a ceiling made of concrete, etc., break the cutout section of the dome case using diagonal pliers to create a cutout through which to guide the cables.



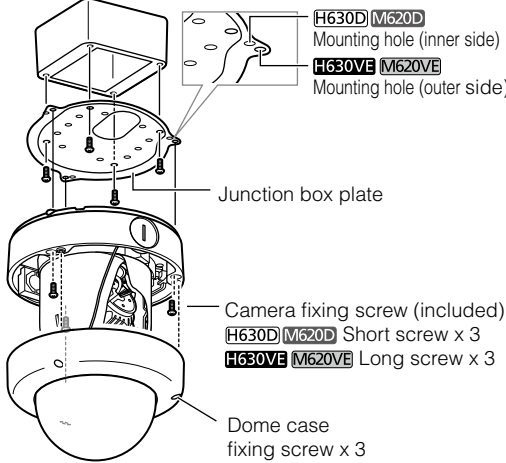
Important

When attaching the dome case, be sure not to pinch cables between the camera and dome case. Pinched cables may impair dust and waterproofing capabilities.

11 Set the camera angle

When installation is complete, use the Camera Angle Setting Tool to adjust the pan, tilt, rotation, zoom (and focus) see "Operation Guide" > "Camera Angle Setting Tool").

Attaching a Junction Box



* Diagram of VB-H630VE/VB-M620VE.

Using a Memory Card

Inserting the card

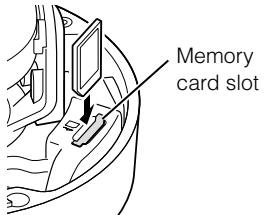
Push the memory card as far as possible into the memory card slot with the label facing outward.

Removing the card

Push the memory card in all the way until the card slightly pops out. Pinch the card and remove.

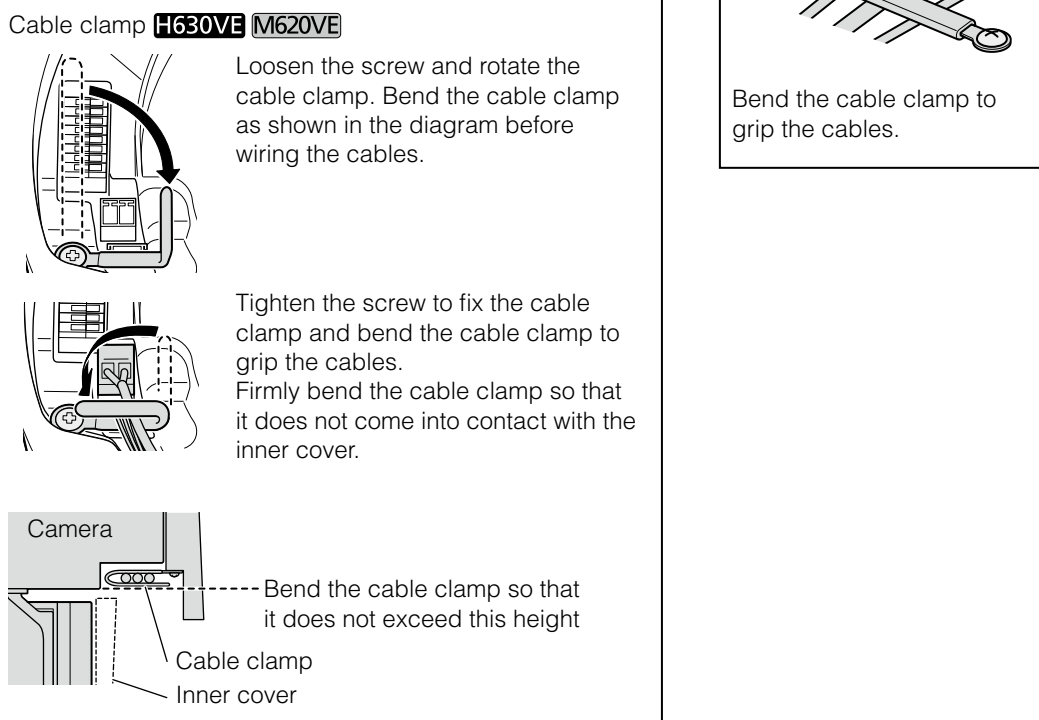
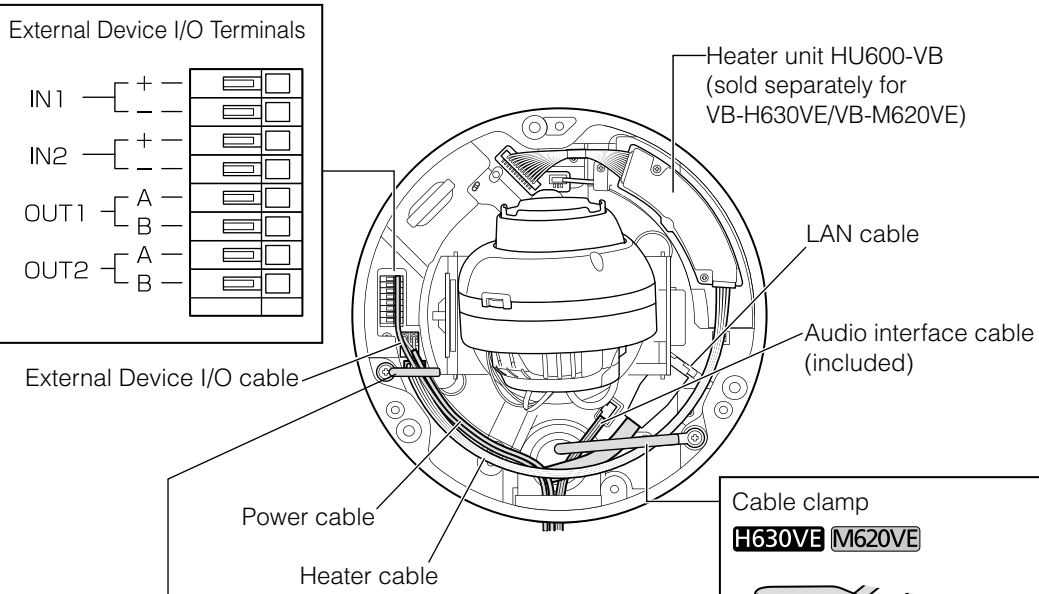
Important

- Insert the memory card before attaching the dome case.
- Make sure the memory card is not write-protected.
- When using a memory card with the camera for the first time, it is recommended to format the card after inserting it into the camera (see "Operation Guide" > "Setting Page" > "Memory Card").



Cable Wiring Method

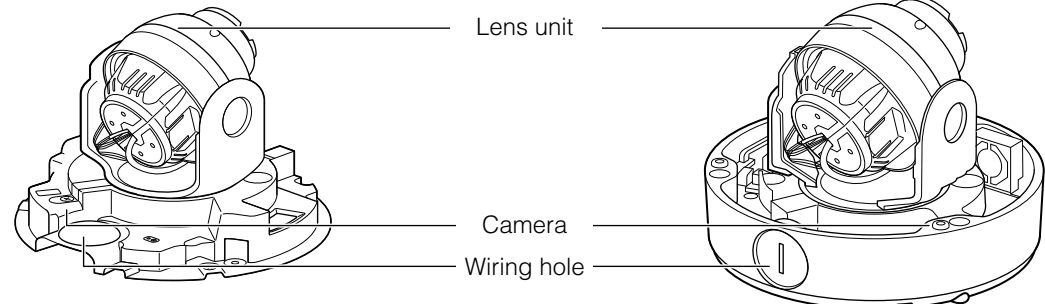
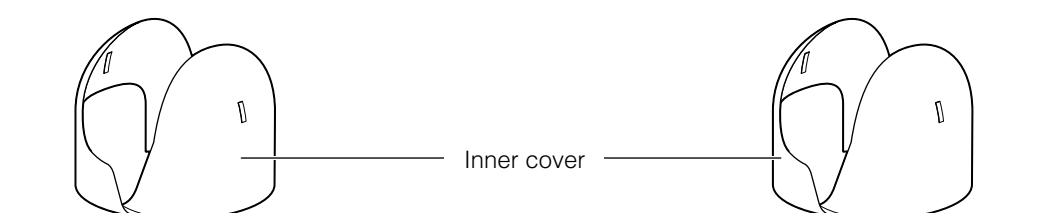
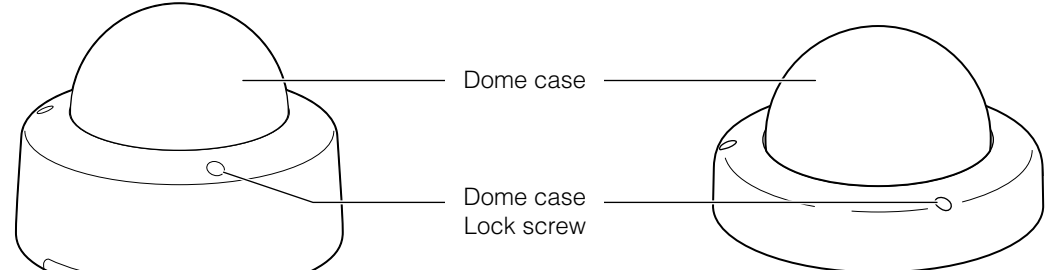
For VB-H630VE/VB-M620VE, secure the various cables with the cable clamps fastened to the camera to prevent damage to cables or connectors due to vibration, etc. *The diagram is a wiring example for VB-H630VE/VB-M620VE.



Part Names

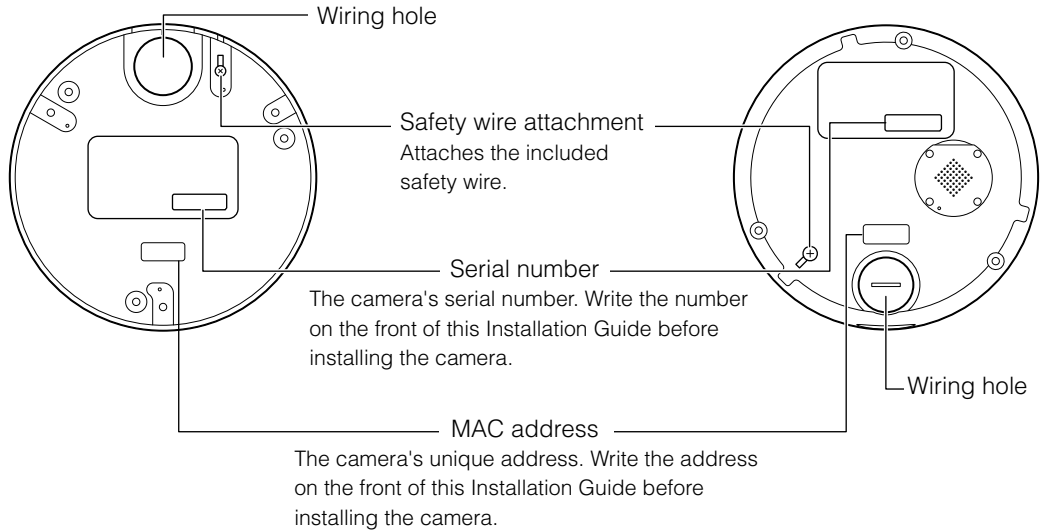
Dome Case/Inner Cover/Camera

H630D M620D



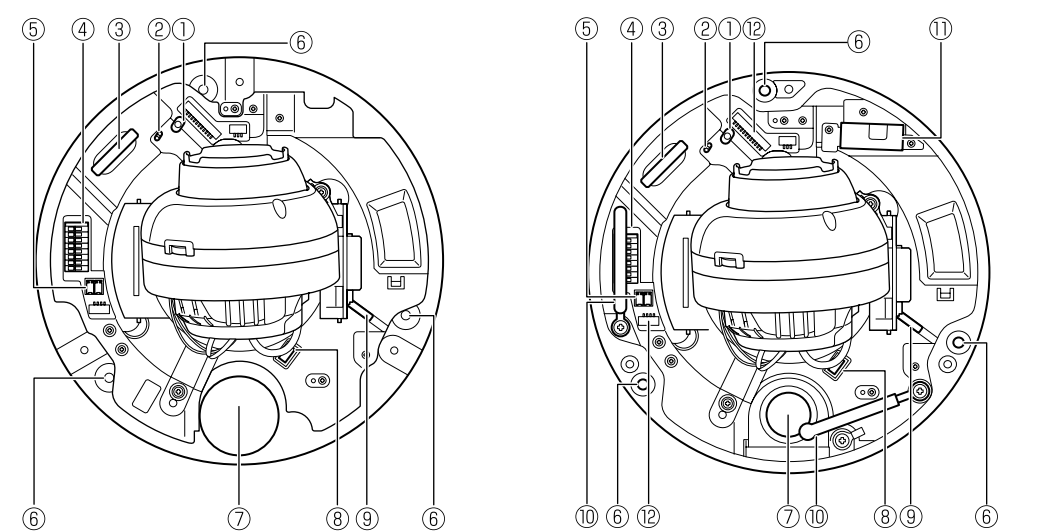
Bottom

H630D M620D



Top view of the camera interior

H630D M620D



- Reset switch
Turn on the power while pushing this switch using a sharp object. Continue to push the switch for 5 seconds or more to restore all factory settings except for the date and time.
- LED
The blue LED light comes on.
On: When powered on, during reboot
Off: During normal use
- Memory card slot
- External device I/O terminals
- Power connection terminal
- Installation screw holes
Used when securing the camera to the installation surface, the junction box mounting kit (sold separately), or the recessed mounting kit (sold separately).
- Wiring hole
- Audio I/O terminal
Connect the included audio interface cable here to connect audio input and output devices to the camera.
- 100Base-TX LAN connector
- Cable clamps H630VE M620VE
- Fan H630VE M620VE
- Heater connection terminal H630VE M620VE

Connecting the Camera

Power Connection

Power can be supplied to the camera in the three ways described below. Please be sure to read the user manual for the dedicated power supply before use.

Note

- The camera does not have a power switch. Connecting and disconnecting the LAN cable (PoE power supply), AC adapter, or external power supply plug turns the power ON and OFF, respectively.
- When the camera needs to be rebooted, perform the reboot operation from the camera setting page (see "Operation Guide" > "Setting Page" > "Maintenance").
- When using the heater unit HU600-VB (sold separately), use 24 V AC for the VB-H630VE/VB-M620VE power supply. PoE, 12 V DC and the AC adapter cannot be used.

PoE (Power over Ethernet)

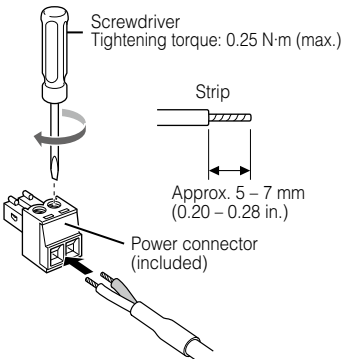
The camera supports PoE functions. Power can be supplied to the camera by using a LAN cable to connect it to a PoE HUB that conforms to the IEEE 802.3af standard.

Important

- Check with your dealer for more information about PoE HUB and Midspan technology. Midspan (a LAN cable power supply device) is a device that, like a PoE HUB, supplies power to the camera via a LAN cable.
- Some PoE HUBs allow the limitation of power for each port, but applying limits may interfere with performance. If using this type of PoE HUB, do not limit the operating power.
- Some PoE HUBs have limits for the total power consumption for the ports, which can interfere with performance when multiple ports are in use. For more information, check the instruction guide for your PoE HUB.
- The camera can also be connected to an AC adapter (sold separately) while receiving power from a PoE HUB. In such cases, the PoE power supply is given priority, and the camera does not use the power supply from the AC adapter (sold separately). When the PoE power supply is disconnected, power is supplied automatically from the AC adapter (sold separately).

External Power Supply

12 V DC or 24 V AC input can be used. Connect the included power connector as shown below.



12 V DC can be connected in a non-polar configuration.

Important

- The power supply should be within the following voltage range.
- 24 V AC: Voltage fluctuation within $\pm 10\%$ of 24 V AC (50 Hz or 60 Hz ± 0.5 Hz or less)
Current supply capacity of at least 1.0 A per camera
- 12 V DC: Voltage fluctuation within $\pm 10\%$ of 12 V DC
Current supply capacity of at least 1.5 A per camera
- When using a 12 V DC battery power supply, be sure to connect resistors of at least 0.5 – 1.0 Ω /20 W in series to the power line.
- For an external power supply, use a double-insulated device.

Recommended Power Cables [Reference]

Cable (AWG)	24	22	20	18	16
12 V DC maximum cable length	m	5	9	14	23
	(ft.)	(16.4)	(29.5)	(45.9)	(75.5)
24 V AC maximum cable length	m	11	18	29	46
	(ft.)	(36.1)	(59.1)	(95.1)	(150.9)

Use UL cable (UL-1015 or equivalent) for 12 V DC or 24 V AC wiring.

AC Adapter

Use the dedicated AC Adapter (sold separately).

External Device I/O Terminals

External device I/O terminals consist of two input and output systems each. Viewer can be used to check external device input status and control output to an external device (see "Operation Guide" > "Selecting the External Device Output" and "Displaying Event Status").

External Device Input Terminals (IN1, IN2)

External device input terminals consist of two sets (IN1, IN2) of two terminals, with the negative terminals connected to the camera interior GND. Connecting cables to the positive and negative terminals and opening or closing the circuit notifies the Viewer.

Important

- When connecting sensors and switches, connect terminals that are electrically isolated from the respective power and GND.
- Do not push the external device I/O terminal button with too much force. Doing so may cause the button to remain pushed-in.

External Device Output Terminals (OUT1, OUT2)

External device output terminals consist of two sets (OUT1, OUT2) of two terminals. The sets have no polarity. Controls from the viewer can be used to open and close the circuit between the terminals. Using optical couplers, the output terminals are isolated from the camera's internal circuit.

The load connected to the output terminals should be within the following rating range.

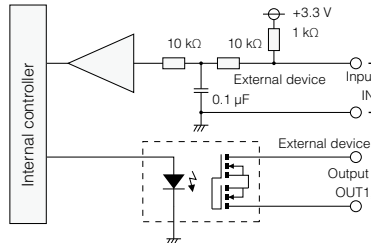
Rating between output terminals:

Maximum voltage 50 V DC
Continuous load current at or below 100 mA
On resistance: Max. 30 Ω

Note

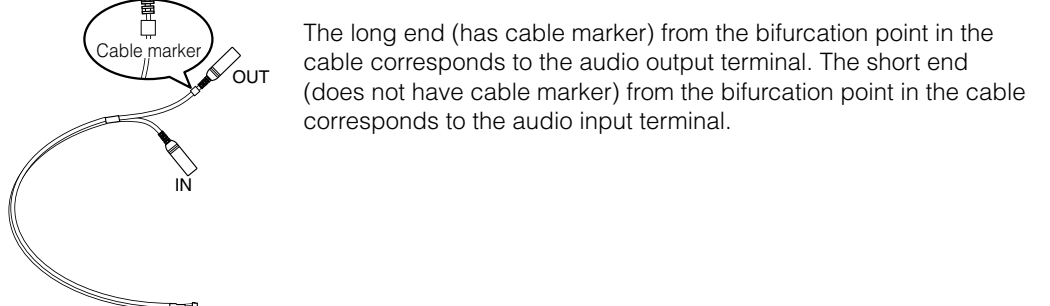
Adaptive wiring for external device cables
Solid conductor AWG: No. 28 – 22
Cable strip should be approx. 8 – 9 mm (0.31 – 0.35 in.).

Internal Connection Diagram



Audio Input/Output Terminals

Each audio input/output terminal has one input system and one output system. Connecting the camera to an audio input/output device such as a microphone or a speaker with an amplifier allows you to send/receive audio through the viewer. Use the included audio interface cable to connect audio input/output devices to the camera. Use the ø3.5 mm (ø0.14 in.) monaural mini-jack connector to connect an audio output device with the audio interface cable.



Audio Input Dual LINE IN/MIC IN (monaural input)

Although the camera has a single audio input system, it supports two types of microphone input: LINE IN and MIC IN. Before using the audio input, change the [Audio Input] on the Setting Page (see "Operation Guide" > "Audio Input"). LINE IN is selected by default. Input terminal: ø3.5 mm (ø0.14 in.) mini-jack (monaural)

- Dynamic MIC IN
Input impedance: 1.5 k Ω \pm 5%
* Supported microphones: Output impedance: 400 Ω – 600 Ω
- Condenser MIC IN
Input impedance (microphone bias resistance): 2.2 k Ω \pm 5%
Microphone power supply: plug-in power (voltage: 2.3 V)
* Supported microphones: Condenser microphones with plug-in power support
- LINE IN
Input level: Max. 1 Vp-p
* Use a microphone with an amplifier.

Audio Output Terminal LINE OUT (monaural output)

Connect the camera to a speaker with an amplifier. Audio can be sent to the speaker from Viewer. Output terminal: ø3.5 mm (ø0.14 in.) mini-jack (monaural)

Output level: Max. 1 Vp-p

* Use a speaker with an amplifier.

Important

- Using the wrong settings in [Audio Input] may damage the camera and/or microphone. Be sure to configure settings correctly.
- Microphone characteristics may affect volume and sound quality.
- Images and audio do not always synchronize properly.
- Audio may be interrupted depending on PC characteristics and network environment.
- Video and audio can be streamed to up to 30 clients. However, audio may be interrupted when streaming to many clients or using SSL.
- Audio may be interrupted when using antivirus software.
- Connecting and disconnecting the LAN cable interrupts the audio. Use the viewer to reconnect.