

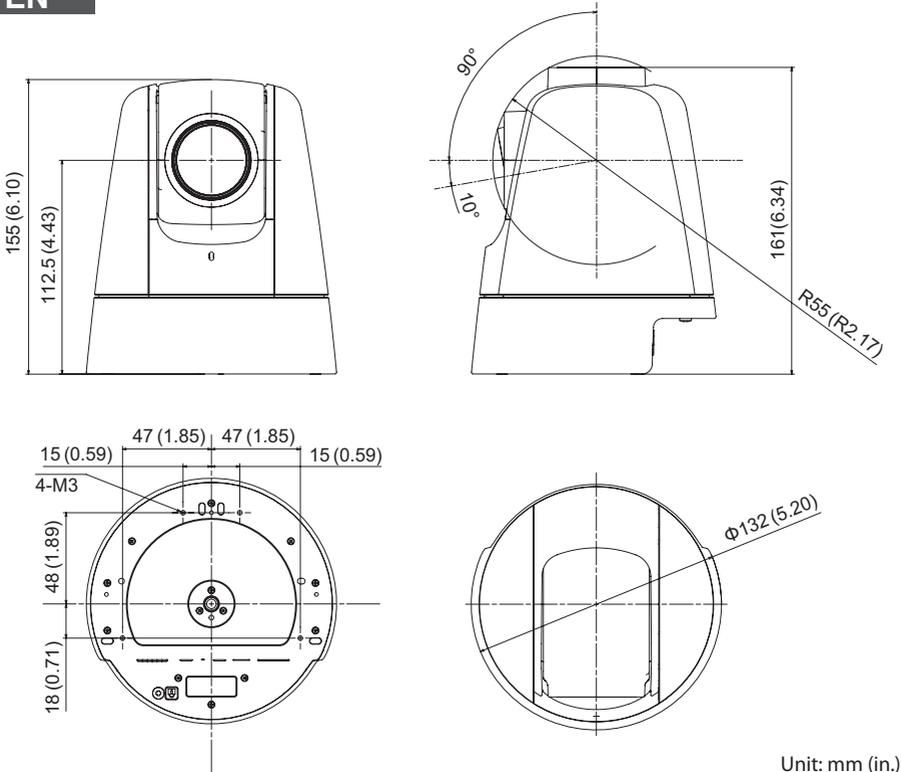
Canon

Network Camera

VB-H47/VB-M46

Installation Guide

EN



Please be sure to read the "Safety Precautions" section for correct use.



Caution

Request a professional installer for all installation work. Never try to install the camera yourself. Doing so may result in unforeseen accidents such as dropping the camera or electric shock.

Some cameras are not available in certain countries or regions.

Introduction

Included Items

Camera
Printed Materials

Power connector

User Manuals

■ Types of User Manuals

The following describes the different camera user manuals.

Installation Guide (this document)

This describes precautions and procedures for installing the camera.

Operation Guide

This explains the camera initial settings, camera viewer operations, settings on the Settings page, and troubleshooting, etc.

Specifications

This lists the camera specifications.

■ Notes

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The contents of this document are subject to change without any prior notice.

This document has been prepared with the utmost attention to accuracy. If you have any comments, however, please contact a Canon sales representative.

Canon shall assume no liability for any outcome of using this product, notwithstanding items listed above.

■ Symbols Indicating Camera Models

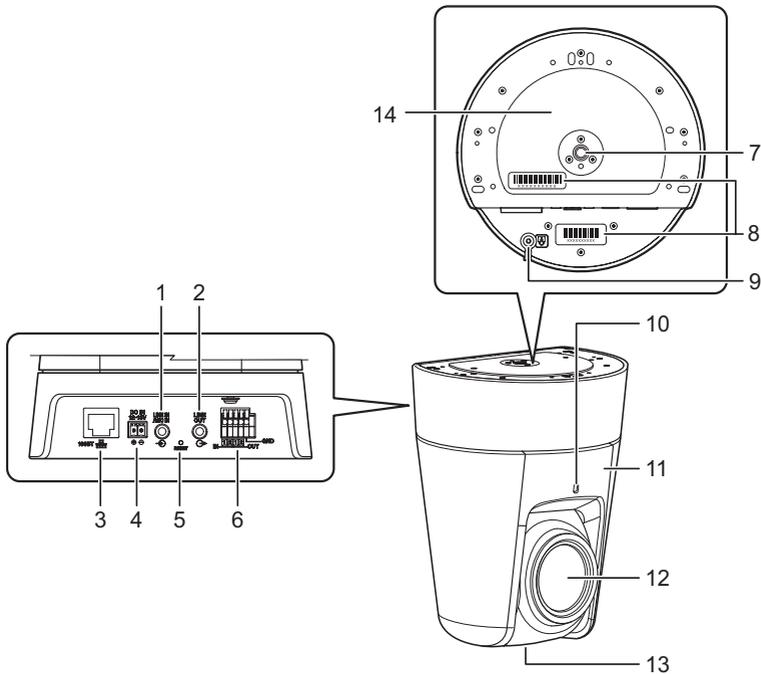
Explanations that differ depending on the camera model are indicated by the camera name and the following symbols.

H47: VB-H47 **M46**: VB-M46

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Part Names



- | | |
|--|--|
| 1. Audio input terminal (common LINE IN and MIC IN) (P.15) | 2. Audio output terminal (LINE OUT) (P.15) |
| 3. 100Base-TX LAN connector (P.11) | 4. Power connection terminal (P.12) |
| 5. Reset Switch* ¹ | 6. External Device I/O Terminals (P.13) |
| 7. Fixing screw hole for tripod | 8. Label* ² |
| 9. Safety wire attachment | 10. LED (Blue)* ³ |
| 11. Memory card cover | 12. Lens |
| 13. Camera head | 14. Rating label |

*1: Please refer to the "Operation Guide" for the method to reset the camera.

*2: It is recommended to write down the serial number and MAC address before installing the camera.

*3: LED

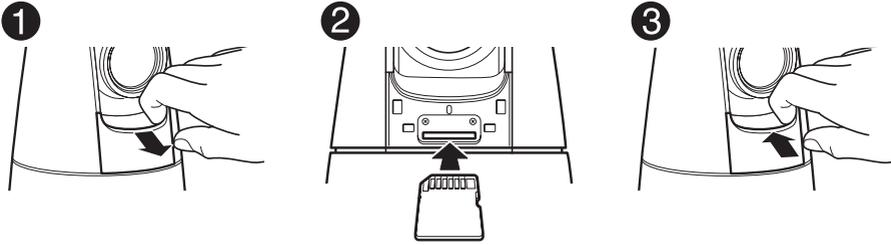
LED	Status
On	When powered on, during reboot, during normal use (when set to "ON"*)
Blinking	Updating the firmware, or initializing settings
Off	Lights up for a few seconds at startup, then turns off (when set to "OFF"*)

* Refer to "Operation Guide"

Before Installing the Camera

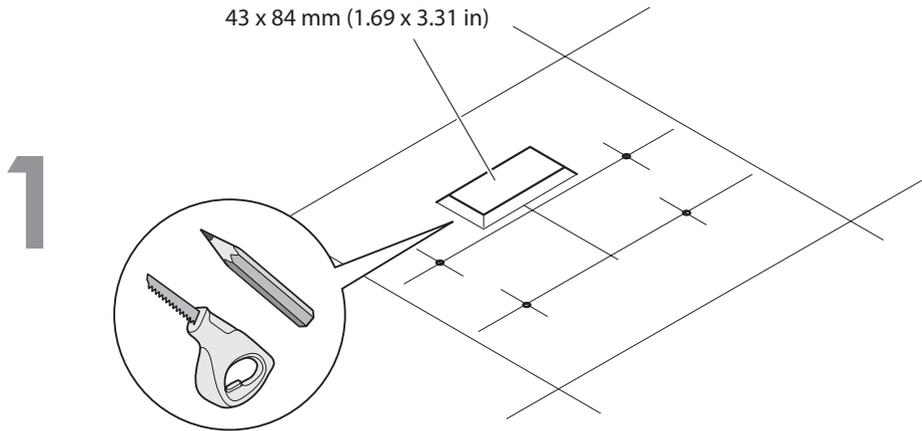
When Using a Memory Card

Insert a memory card before installing the camera.

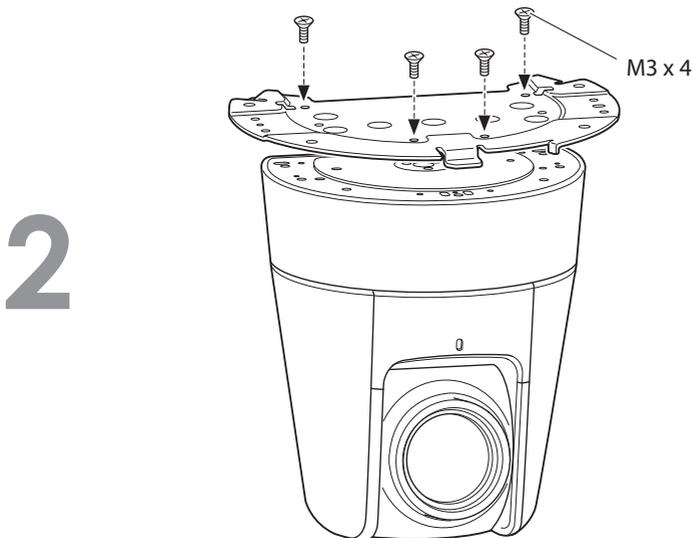


Installing the Camera

A ceiling mount cover or indoor dome housing is necessary to install the camera on a ceiling. The installation method using the ceiling mount cover is explained here.



Use the template to make mounting screw holes and wiring holes in the ceiling. The template is included in the ceiling mount cover (sold separately).

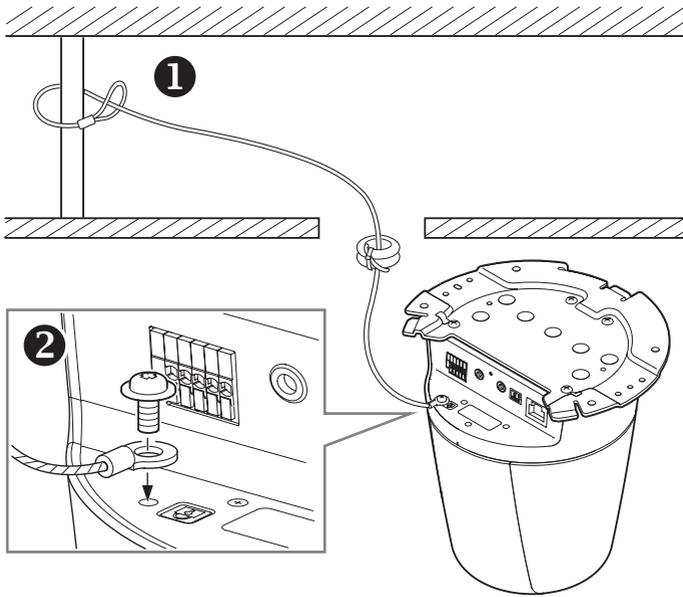


Attach the ceiling bracket to the camera.

Ceiling bracket and screws are included in the ceiling mount cover (sold separately).

III Installing the Camera

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Install the safety wire (0.7 m)(27.56 in.).

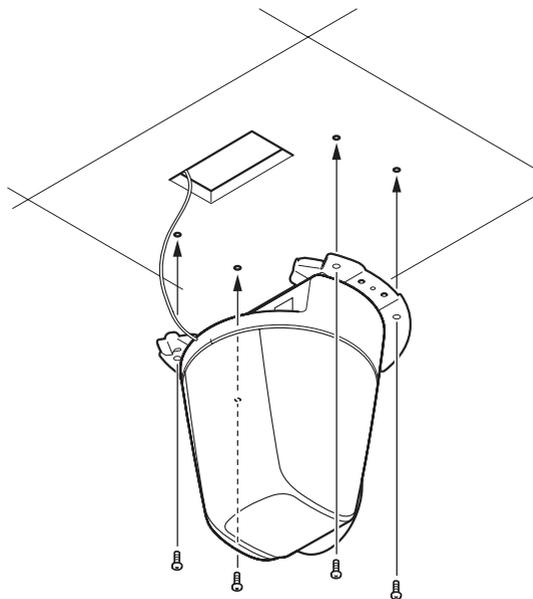
After firmly attaching the wire to the anchor or structure, secure it to the camera.

Safety wires are included in the ceiling mount cover (optional).

The screws (nominal diameter: M3, length: 6 mm (0.24 in.), head shape: bind) are to be fastened to the camera.

Installing the Camera

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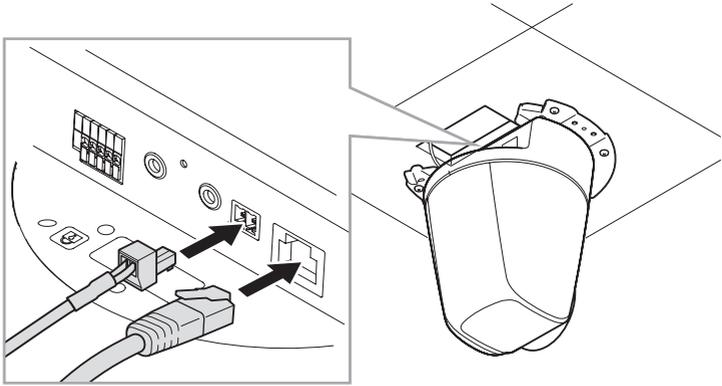
Fix the camera, which has the ceiling bracket is attached, to the ceiling.

Be sure to separately prepare mounting screws, according to the installation location and material.

(Nominal diameter: M4, Head Shape: pan, x 4)

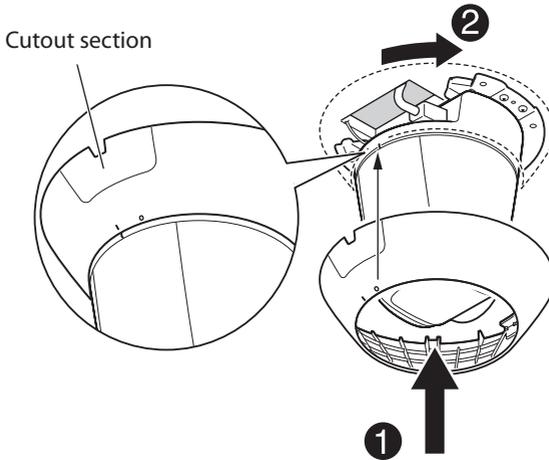
Installing the Camera

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Connect the cables that are passed through the wiring holes to the camera.
For power supply, refer to "Power Supply" (P. 11).
For network terminal, refer to "Interface" (P. 18).

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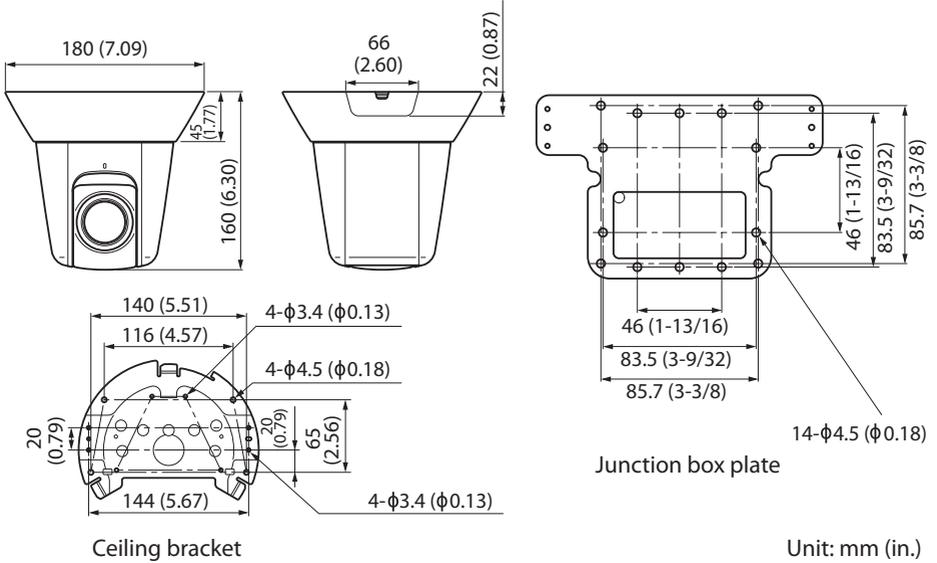
Install the ceiling mount cover.

Align the (○) mark on the ceiling mount cover with the (I) mark on the back of the camera, and turn it clockwise to the position of the (I) mark to mount it.

If the cables cannot be stored above a ceiling made of concrete, etc., or if the cables do not fit within the ceiling mount cover, bend the cutout section of the ceiling mount cover using diagonal pliers, etc., to create a cutout through which to guide the cables.

Installing the Camera

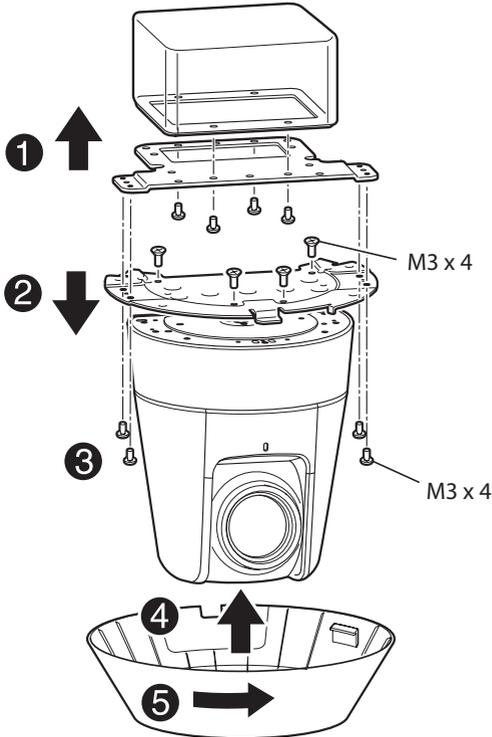
External dimensions of the ceiling mount cover (sold separately).



Installing the Camera

When Using the Junction Box

Use the mounting bracket of the junction box included in the ceiling mount cover (sold separately).



- 1** Install the junction box plate on the junction box. Prepare the screws separately by referring to the instruction manual of the junction box and the external dimensions of the junction box plate (P.9).
- 2** Install the ceiling bracket to the camera. The screws are included in the ceiling mount cover (sold separately).
- 3** Fix the camera, which has the ceiling bracket attached, to the junction box. The screws are included in the ceiling mount cover (sold separately).
- 4** **5** Install the ceiling mount cover (P.8).

Connecting the Camera

Power Supply

Please be sure to read the user manual for the dedicated power supply before use.

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 (please refer to the "Operation Guide").

■ PoE (Power over Ethernet)

For details, refer to "Other" > "Power Supply" (P. 19).

For PoE powered devices, check with a Canon's sales representative.

Some PoE devices allow power limits for each port, but applying limits may interfere with performance. In this case, use without any restrictions.

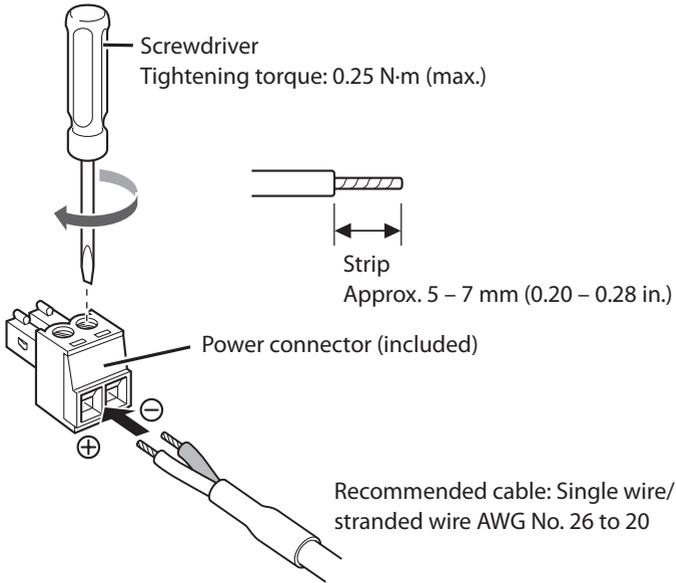
Some PoE devices have total consumption power limits for ports, which can interfere with performance when multiple ports are in use. For more information, check the instruction guide of the PoE device.

The camera can also be connected to an AC adapter (sold separately) while receiving power from a PoE power fed device. 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).

Connecting the Camera

External Power Supply

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



- The power supply should be within the following voltage range.
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.

AC Adapter

Use the dedicated AC adapter PA-V18 (sold separately).

Connecting the Camera

External Device I/O Terminals

The External Device I/O Terminal has two input terminals and two output terminals, and consist of two IN terminals, two OUT terminals, and one GND terminal for a total of five terminals

The GND terminal is a shared terminal, and is connected to the camera's interior GND.

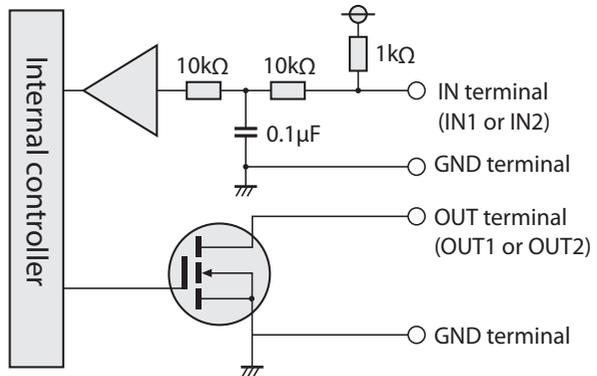
When using the external device input and output at the same time, couple the GND wire from the input cable with the GND wire from the output cable, conforming to the wire range, and connect it to the GND terminal.



Important

- Do not push the external device I/O terminal button with too much force. Doing so may cause the button to remain pushed-in.

Internal Connection Diagram



Connecting the Camera

External Device Input Terminal

The external device input terminal consists of an IN terminal (IN1 or IN2) and a GND terminal. Connecting wires to the IN and GND terminals and opening or closing the circuit notifies the Viewer.



Important

- When connecting sensors and switches, use those that have terminals which are isolated from internal power and GND.

External Device Output Terminals

The external device output terminal consists of an OUT terminal (OUT1 or OUT2) and a GND terminal. Controls from the viewer can be used to open and close the circuit between the two terminals. A MOS FET device is used for the output terminal.

Rating range of load connected to the external device output terminals

Rating between terminals	Maximum voltage 50 V DC
	Continuous load current at or below 100 mA
	On resistance: Below 1 Ω

Wires suitable for external device cables

Usable wire range (same for contact input and output)	Solid wire/Stranded wire AWG: No. 26 – 20 Stripped cable length should be approximately 11 mm (0.43 in.)
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||| Connecting the Camera

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.

■ Audio Input Terminals Common for LINE IN/MIC IN

Camera has a single audio input system supporting two types of microphone input: LINE IN and MIC IN. Before use, change [Audio Input Mode] on the Setting page (refer to the "Operation Guide"). LINE IN is selected by default.

- When Dynamic MIC IN is set
Input impedance: $1.5 \text{ k}\Omega \pm 50\%$
Corresponding microphone output impedance: 400Ω to 600Ω
- When Condenser MIC IN is set
Input impedance (microphone bias resistance): $2.2 \text{ k}\Omega \pm 20\%$
Microphone power supply: plug-in power (voltage: 1.8 V)
* Supported microphones: Condenser microphones with plug-in power support
- When LINE IN is set
Input level: up to 1 Vp-p
* Use a microphone with an amplifier

■ Audio Output Terminal LINE OUT

Connect the camera to a speaker with an amplifier. Audio can be sent to the speaker from Viewer.

Output terminal: 3.5 mm (0.14 in.) mini jack (monaural)

Output level: up to 1 Vp-p

* Use a speaker with an amplifier.



Important

- Using incorrect settings for [Audio Input Mode] may damage the camera and/or microphone. Be sure to configure the 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.

Accessories

The following dedicated accessories can be purchased separately as necessary. (Some accessories are not available in certain countries or regions.) A ceiling mount cover or indoor dome housing is necessary to install the camera on a ceiling.

Ceiling Mount Cover SS40-W-VB/SS40-B-VB

Dedicated accessory used to install the camera on a ceiling. The ceiling mount cover is available in two colors: white (SS40-W-VB) and black (SS40-B-VB).

Indoor Dome Housing DR41-C-VB/DR41-S-VB

Dedicated accessory used to embed the camera into the ceiling. The dome is available in two colors: clear (DR41-C-VB) and smoked (DR41-S-VB).

Pendant Mounting Kit PC600-VB

Dedicated accessory used to install the camera to the end of pipe that extends from high ceilings, such as in big-box stores.



Important

- When this accessory is used, the camera may shake more than the vibrations in the ceiling depending on how the pipe is mounted to the ceiling. If the camera angle is off, use pan and tilt to re-adjust the angle.

AC Adapter PA-V18

Dedicated AC adapter for this camera.

Specifications

For specifications not listed below, refer to Network Camera's "Specifications"

■ Camera

Lens	20x optical zoom (16x digital zoom) lens with auto focus
Angle of View	For 16:9 aspect ratios Horizontal: 62.4° (W) – 3.3° (T) Vertical: 36.3° (W) – 1.9° (T) For 4:3 aspect ratios Horizontal: 47.9° (W) – 2.5° (T) Vertical: 36.3° (W) – 1.9° (T)
Pan Angle Range	340° (±170°)
Tilt Angle Range	100° (ceiling-mounted position: -90° – +10°) – When the horizontal direction of the camera is 0°

■ Interface

Network Terminal	LAN x 1 (RJ45, 100Base-TX (auto))
Audio Input Terminal (common for LINE IN & MIC IN)	Ø3.5 mm (Ø0.14 in.) mini-jack connector (monaural) LINE IN or MIC IN
Audio Output Terminal (LINE OUT)	Ø3.5 mm (Ø0.14 in.) mini-jack connector (monaural) LINE OUT
External Device I/O Terminal	Input x 2, Output x 2
Memory Card	SD Memory Card, SDHC Memory Card, SDXC Memory Card Supported. – Class 10 recommended.

Specifications

Others

Operating Environment	Temperature: DC, PoE: -10°C – +50°C (+14°F – +122°F) Humidity: 5% – 85% (without condensation)
Storage Environment	Temperature: -30°C – +60°C (-22°F – +140°F) Humidity: 5% – 90% (without condensation)
Power Supply	PoE: PoE power supply via LAN connector (IEEE802.3at Type1 compliant) AC Adapter: PA-V18 (100 – 240 V AC) (sold separately) External power source: 12 V DC
Power Consumption	PoE: Max. approx. 9.1 W* AC Adapter PA-V18: Max. approx. 9.2 W (100 V AC) Max. approx. 9.7 W (240 V AC) DC: Max. approx. 7.9 W * Class 0 power sourcing equipment (requests 15.4 W)
Weight	Approx. 1100 g (2.43 lb.)

Safety Precautions



Warning

Failure to follow the instructions may result in death or serious injury.

Do not install in the following places:

- Places in direct sunlight, near heat-generating objects, or locations subject to high temperatures
- Places near fire sources or flammable solvents (alcohol, thinner, fuel, etc.)
- Humid or dusty places
- Places subject to oil smoke or steam
- Places subject to sea air
- Confined or enclosed places

Failure to do so may result in fire or electric shock.

Notes on Power Supply

- Only use the dedicated AC adapter (sold separately), when using AC adapter.
- Do not cover or wrap the AC adapter (sold separately) with cloth or blankets.
- Do not put heavy objects on, pull on, forcibly bend, scratch or modify the power cable (or the LAN cable for a PoE+/PoE power supply).

Failure to do so may result in fire or electric shock.

- If conditions such as smoke, strange sounds, heat or strange odors are discovered, immediately stop using the camera and contact a Canon's sales representative.

Continuing the use of the product may result in fire or electric shock.

- If thunder starts, stop installation or inspection etc. and do not touch the camera or the connecting cables.
- Do not disassemble or modify the camera.
- Do not damage the connecting cables.
- Do not get the camera wet.
- Do not insert foreign objects such as water or metal into the camera.
- Do not use flammable sprays near the camera.
- Do not leave the LAN cable, external power supply, or the power connector for the AC adapter (sold separately) connected when the camera is not in use for long periods.
- Do not use flammable solvents such as alcohol, thinner or benzine when cleaning the camera.

Failure to do so may result in fire or electric shock.

||| Safety Precautions

- This camera should not be used with medical devices or other life-support systems.
- Depending on the computer and network environment, high-precision video transmission cannot be guaranteed due to video latency or loss of video.

Canon will assume no liability for any accident or damage resulting from use of the camera under the conditions above.



Caution

Failure to follow the instructions may result in injury.

For installation or inspection of this camera, contact a Canon's sales representative.

- Network/power wiring should be made by a qualified service person and should conform to all local codes.
- When installing to a ceiling or wall, make sure the surface is capable of withstanding the total weight of the camera, accessories and any mounting bracket etc., and sufficiently reinforce if necessary.
- Be sure to use fixing screws designed for the type of surface the camera is to be installed.
- Periodically check the mounting bracket and screws for rust and loosening, in order to prevent injuries and equipment damage due to falling items.

- Do not install in unstable places, places subject to significant vibration or impact, or places subject to salt damage or corrosive gas.
- The camera cannot be installed on vertical surfaces such as walls.
- Be sure to attach the safety wire that connects the camera to the structure when installing the camera.
- The included safety wire is for the camera. Take separate measures to prevent the mounting bracket from falling.

Failure to do so may result in the camera falling or other accidents.

- If there are metal edges, do not touch them with bare hands.
- Be careful not to get your fingers caught when installing.

Failure to do so may result in injuries.



Important

- Installation of a lightning arrester (a surge protection device) is recommended as a measure against failures caused by lightning strikes.
- Do not hold the device by the camera head.
- Never touch the camera head during initialization.
- Do not turn the camera rotator by hand.
- Do not install the camera on an unstable surface.
- Make sure the camera is installed $\pm 5^\circ$ or less from the horizontal position.
- The camera can be installed and used in the upright position. Attach commercially available anti-slip guards to the base of the camera and set on a flat, stable surface without inclination, or fix the camera to a tripod, etc. Be sure to use a tripod with mounting screws shorter than 5.5 mm (0.22 in.). Using a tripod with mounting screws 5.5 mm (0.22 in.) or longer may damage the camera. Also, use a tripod with a base diameter of 30 mm (1.18 in.) or more.
- After turning off the power, do not turn the power on again for at least five seconds.
- Take measures to remove static electricity before performing any procedures.
- If there is condensation, wait to power on until the condensation dissipates.

Disclaimer

- The user is responsible for compliance with all applicable laws and regulations governing privacy protection and publicity rights implicated by the use of this product. In some cases, camera and/or audio monitoring or recording may be restricted or prohibited by the law or regulation, the details of which differ by country and region. Before installing the product, users should consult the laws and regulations of their country and region, including state and/or local laws and regulations in such country and region, to ensure that the product is installed in a manner compliant with all applicable legal requirements. The microphone should not be used if required by local law or regulation. Do not install the product in any spaces where occupants or visitors may reasonably have an expectation of privacy, such as bedrooms, dressing rooms and rest rooms.
- The product should be installed in such a manner that it is clearly visible to all persons whose images and voices are monitored by the product. In addition, signage prominently displayed in close proximity to the product and clearly visible to all persons monitored by the product should inform such persons that the product records both their images and their conversations.
- Please be advised that Canon shall not be liable in any way in the event of a dispute between any user and any third party concerning the installation of the product or camera and/or audio monitoring or recording.

