

# Network Camera VB-M50B Installation Guide

Please be sure to read the "Safety Precautions" section for correct use. After reading this Installation Guide, keep it in a readily accessible location for future reference. This camera is for indoor use only.

\* Some cameras are not available in certain countries or regions.

**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.

## Check Included Items

- |  |                                    |
|--|------------------------------------|
| Camera                                   | Installation Guide (This document) |
| Setup CD-ROM                             | Warranty Card                      |
| Power connector (Straight screw-in type) | Notice                             |
| Power connector (L-shape screw-in type)  |                                    |

## Accessories

The following accessories can be purchased separately as necessary. Some accessories are not available in certain countries or regions.

### Canon AC Adapter PA-V18

Dedicated AC adapter for this camera.

### Only for European Union and EEA (Norway, Iceland and Liechtenstein)

These symbols indicate that this product is not to be disposed of with your household waste, according to the WEEE Directive (2012/19/EU), the Battery Directive (2006/66/EC) and/or national legislation implementing those Directives.

If a chemical symbol is printed beneath the symbol shown above, in accordance with the Battery Directive, this indicates that a heavy metal (Hg = Mercury, Cd = Cadmium, Pb = Lead) is present in this battery or accumulator at a concentration above an applicable threshold specified in the Battery Directive.

This product should be handed over to a designated collection point, e.g., on an authorized one-for-one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE) and batteries and accumulators. Improper handling of this type of waste could have a possible impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. Your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources.

For more information about the recycling of this product, please contact your local city office, waste authority, approved scheme or your household waste disposal service or visit [www.canon-europe.com/weee](http://www.canon-europe.com/weee), or [www.canon-europe.com/battery](http://www.canon-europe.com/battery).

## Symbols Indicating Safety Precautions

This Installation Guide uses the following symbols to indicate important information the user should know in order to use the product safely. Explanations are provided for each symbol so that users will understand the level of importance for each. Be sure to observe these items.

	<b>Warning</b>	Failure to follow the instructions accompanied by this symbol may result in death or serious injury.
	<b>Caution</b>	Failure to follow the instructions accompanied by this symbol may result in injury.
	<b>Caution</b>	Failure to follow the instructions accompanied by this symbol may result in property damage.

## Safety Precautions

### Installation Precautions

**Warning**

**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 oily smoke or steam
- Places subject to sea air

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

**Notes on Power Supply**

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

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

**Caution**

For installation or inspection of this camera, consult the dealer where you purchased the product.

- This installation should be made by a qualified service person and should conform to all local codes.
- When installing, make sure the surface is capable of withstanding the total weight of the camera and accessories, and sufficiently reinforce if necessary.

• Do not install in unstable places, places subject to significant vibration or impact, or places subject to salt damage or corrosive gas.

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

- Do not touch the edges of metal parts with bare hands.
  - Be careful not to get your fingers caught when installing.
- Failure to do so may result in injuries.

**Caution**

- 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 on an unstable surface. Also, make sure the camera is installed  $\pm 5^\circ$  or less horizontal.
- 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, please wait to power on until the condensation dissipates.

Failure to do so may result in malfunctions.

- Take care not to damage wiring or piping.

Failure to do so may result in damage to peripheral items.

**Important**

- We recommend the installation of a lightning arrester (a surge protection device) as a measure against failures caused by lightning strikes. Please refer to our website for details.

### Precautions for Use

**Warning**

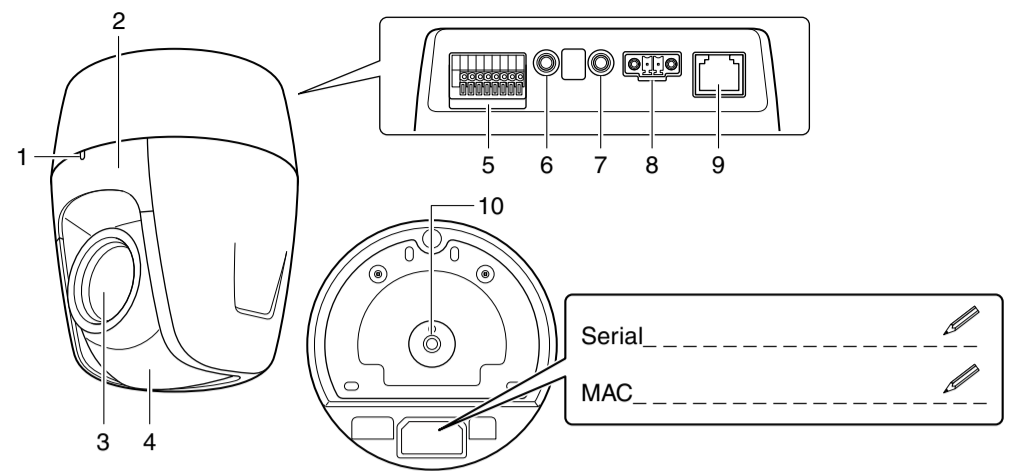
- If you discover defective conditions such as smoke, strange sounds, heat or strange odors, immediately stop using the camera and contact your nearest dealer.

Fire or electric shock may result from continued use of the product.

- If thunder starts, stop installation or inspection etc. and do not touch the camera or continue connecting the cable.
- Do not disassemble or modify the camera.
- Do not damage the connecting cable.
- Do not spray the camera with water, or otherwise make it 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 LAN cables, 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, paint thinner or benzene when cleaning the camera.

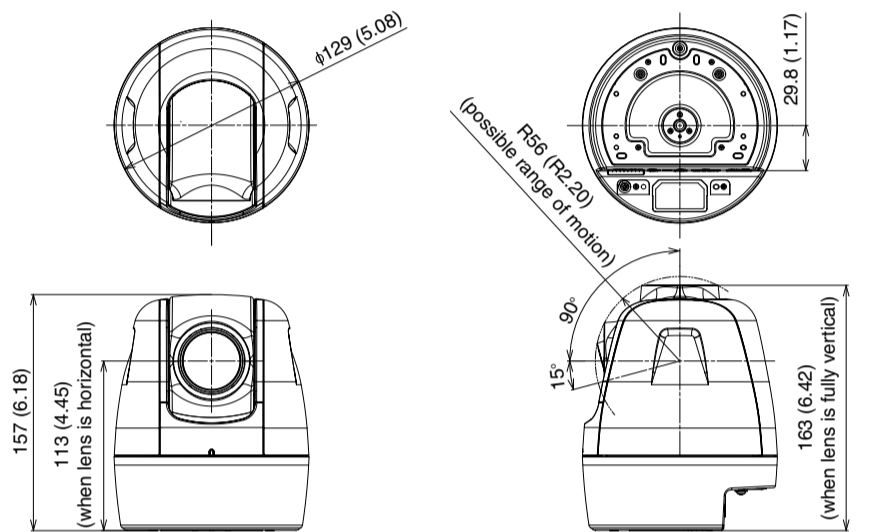
Failure to do so may result in fire or electric shock.

## Part Names



- \* On: when powered on, during reboot, during normal use / Off: when [Turn Off] is selected (please refer to the "Operation Guide")

## External Dimensions

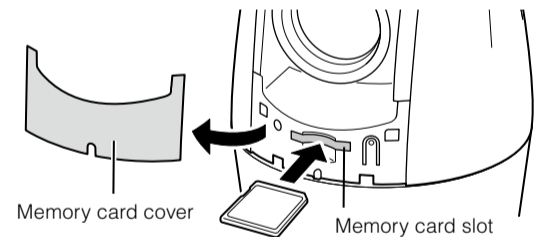


Unit: mm (in.)

## 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", please refer to the "Camera Management Tool User Manual".

### Using a Memory Card



### Remove the memory card cover

Place your fingers on the left and right edges of the memory card cover and pull to remove. To return the memory card cover to the camera, use the same procedure in reverse.

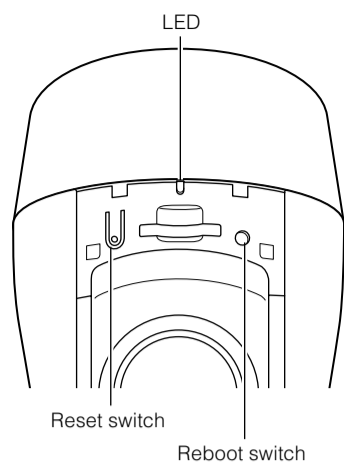
Place the memory card in the memory card slot. To remove the memory card, push it in all the way until the card slightly pops out and remove.

**Important**

- Insert a memory card before installing the camera.
- 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 (please refer to the "Operation Guide").
- Always unmount the memory card before removing it (please refer to the "Operation Guide").

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

## Rebooting/resetting the camera



### Rebooting

To reboot the camera by turning its power off and on, remove the memory card cover and press the reboot switch.

### Note

Rebooting can be done in the Setting Page as well (please refer to the "Operation Guide").

### Resetting

To reset the camera to its factory default settings, press the reset switch and reboot switch while checking the LED in the following order.

- 1) Hold the reset switch down, and press the reboot switch with a pointed object.
- 2) After holding down the reset switch for at least three seconds, release the reboot switch.
- 3) After the LED starts to blink, release the reset switch. When the blinking has stopped, the unit has finished resetting.

## 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

- Power supply should conform to all local codes.
- The power supply should also comply with IEC/UL60950-1(SELV/LPS) standards.

### PoE (Power over Ethernet)

The camera supports PoE functions. Power can be supplied to the camera by using a LAN cable connected to a PoE HUB that conforms to the IEEE802.3at Type1 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 currents for each port, but applying limits may interfere with performance. If using this type of PoE HUB, do not limit the operating current.
- Some PoE HUBs have limits for the total current 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.
- When the camera is connected to both a PoE HUB and an external power supply (12 V DC or 24 V AC), power from the power supply first connected is given priority. But when both power supplies are connected, according to the combination, problems such as failure of the network connection may occur. When a problem has occurred, either shut off the PoE HUB power supply setting or use the AC adapter that is sold separately as the external power supply.

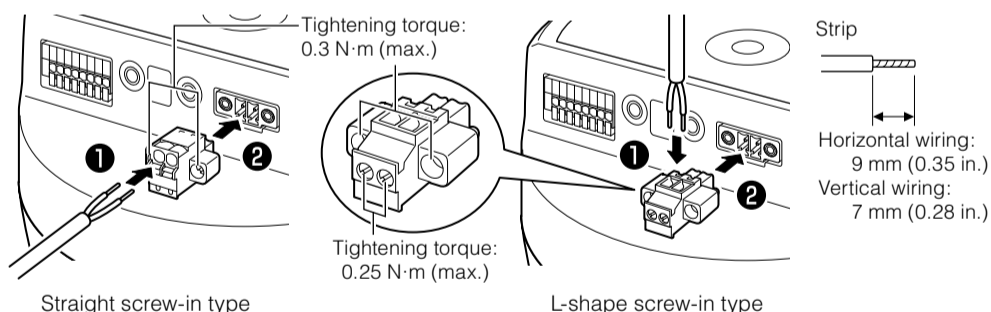
### External Power Supply

12 V DC or 24 V AC input can be used.

Connect the power connector included in the package, as shown below.

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

### Using the power connector included in the package (horizontal or vertical wiring)



### 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  $\pm 0.5$  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  $\Omega$ /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	32
	(ft.)	(16.4)	(29.5)	(45.9)	(75.5)	(105.0)
24 V AC maximum cable length	m	11	18	29	46	64
	(ft.)	(36.1)	(59.1)	(95.1)	(150.9)	(210.0)

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

### AC Adapter

Please use the dedicated AC Adapter (sold separately). When using the AC Adapter, remove the attached power connector, and attach the power connector included in the package.

### 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 (please refer to the "Operation Guide").

### 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:

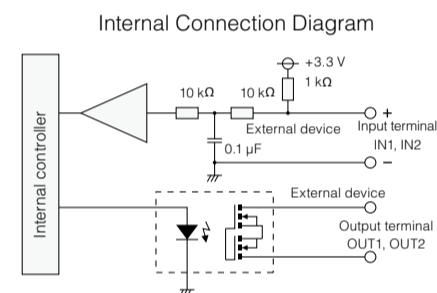
Maximum voltage 50 V DC

Continuous load current at or below 100 mA

On resistance: Max. 30  $\Omega$

### Note

Adaptive wiring for external device cables  
Solid wire/Stranded wire AWG: No. 26 – 20  
Cable strip should be approx. 11 mm (0.43 in.).



### 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  $\phi 3.5$  mm ( $\phi 0.14$  in.) monaural mini-jack connector to connect an audio input/output device.

### Audio Input Terminal Common 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, please confirm the [Audio Input] in the Setting Page (please refer to the "Operation Guide"). LINE IN is selected by default.

Input terminal:  $\phi 3.5$  mm ( $\phi 0.14$  in.) mini jack (monaural)

- Dynamic MIC IN  
Input impedance: 1.5 k $\Omega$   $\pm 5\%$   
\* Supported microphones: Output impedance: 400 – 600  $\Omega$
- Condenser MIC IN  
Input impedance (microphone bias resistance): 2.2 k $\Omega$   $\pm 5\%$   
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 the Viewer.

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

Output level: Max. 1 Vp-p

\* Use a speaker with an amplifier.

## Specifications

Please refer to the installation procedures or the Appendix – Specifications for specifications not listed below.

Camera	(Common for LINE IN & MIC IN)	LINE IN (connect to an amplifier microphone) or MIC IN (connect to a microphone w/o amplifier) – Switch LINE IN/MIC IN in the setting page.	Installation Method
Lens	5x optical zoom (20x digital zoom) lens with auto focus	$\phi 3.5$ mm ( $\phi 0.14$ in.) mini-jack connector (monaural)	Ceiling mount
Viewing Angle	For 16:9 aspect ratios Horizontal: 15.6° (W) – 3.2° (T) Vertical: 8.8° (W) – 1.8° (T) For 4:3 aspect ratios Horizontal: 15.6° (W) – 3.2° (T) Vertical: 11.7° (W) – 2.4° (T)	LINE OUT (connect to an amplifier speaker)	Canon will not guarantee proper operation if the cameras are installed on surfaces where the angle is more than $\pm 5^\circ$ from horizontal or on walls, because this will put a heavy load onto sliding mechanical parts and may affect durability.
Min. Subject Illumination	Day Mode (color): 0.04 lux (F1.8, shutter speed 1/30 sec., when smart shade control is off, 50IRE) Night Mode (monochrome): 0.002 lux (F1.8, shutter speed 1/30 sec., when smart shade control is off, 50IRE)	External Device I/O Terminal Memory Card*	PoE: PoE power supply via LAN connector (IEEE802.3at Type1 Class compliant) AC Adapter: PA-V18 (100 – 240 V AC) (sold separately) External power source: 24 V AC/12 V DC PoE: Max. approx. 9.8 W* AC Adapter PA-V18: Max. approx. 11.2 W (100 V AC) Max. approx. 11.2 W (240 V AC)
Pan Angle Range	348° ( $\pm 174^\circ$ )	SD Memory Card, SDHC Memory Card, SDXC Memory Card Compatible.	DC: Max. approx. 10 W
Tilt Angle Range	105° (ceiling-mounted position: -90° – +15°) – When the horizontal direction of the camera is 0°.	* To insure reliability in the recording speed, it is recommended to use CLASS 10 rated products. Even when using CLASS 10 products, reliability cannot be guaranteed during heavy access loads (e.g., when recording and deleting data at the same time).	AC: Max. approx. 9.6 W * Class 0 power sourcing equipment (requests 15.4 W) Approx. 1170 g (2.58 lb.)
Interface	LAN x 1 (RJ45, 100Base-TX (auto/full-duplex/half-duplex)) Audio Input Terminal $\phi 3.5$ mm ( $\phi 0.14$ in.) mini-jack connector (monaural)	<b>Others</b> Operating Environment Temperature AC, 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)	Weight