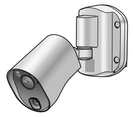
Panasonic

Installation Guide

Wireless Sensor Camera

Model No. **VL-WD812EX**



(Wireless sensor camera is described as "camera" in this guide.)

Note to the installer

- Please read this guide carefully, and install the product safely and correctly by following the instructions. Carefully read the information found in the section titled "For your safety" in particular.
- Only use attachments/accessories specified by the manufacturer.
- The installation shall be carried out in accordance with all applicable installation rules.
- Panasonic assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this guide. Additionally, any resulting malfunction will not be covered under the warranty.
- After installation, make sure to leave this guide with the customer.

Supplied accessories for installation

□ Wall mount bracket x 1

□ Screw x 4

(4 mm × 20 mm)

Used to attach the wall mount bracket to the camera

□ Sensor range cap x 1 set of 4

Used for the heat sensor

□ Cap removement tool x 1

Used to remove the sensor range caps from the camera

□ Screw cover x 4

□ Washer x 1

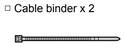
Used when attaching the safety wire to the wall

Power supply unit and related items

□ Power supply unit x 1

(Part No. VL-PS240)

□ Cable binder x 2



Important:

- **You will need the following additional items to install and configure the camera.**
  [Locally procured]
  – Screws (for wall mount bracket: × 4, for safety wire: × 1):
  Prepare the screws (☞ the drawing on the right) according to the material, structure, strength and other factors of the mounting area and the total weight of objects to be mounted.
  – Power cables (AC/DC cables), wires (for an external sensor connection):
  Prepare cables and wires of the appropriate specification. (☞ "Wire type and length")

- Retain the cap removement tool and any unused sensor range caps as they may be needed when making adjustments in the future.

Note:

- The illustrations in the supplied manual(s) may vary slightly from the actual product.

For your safety

To prevent severe injury and loss of life/property, read this section carefully before using the product to ensure proper and safe operation of your product.

⚠WARNING

Preventing fire, electric shock and short circuits

- Refer installation work to the dealer.
  Installation work requires technique and experiences. Failure to observe this may cause fire, electric shock, injury, or damage to the product. Consult the dealer.
- Electrical connection work should be performed by certified personnel only. Certification is required for performing electrical connection work. Consult your dealer.
- Use only the specified power supply unit.
- Do not attempt to disassemble or modify this product. Contact an authorised service centre for repairs.
- Never install wiring during a lightning storm.
- Do not connect non-specified devices.
- Do not connect a power cable to a terminal that is not specified in this guide.
- When opening holes in walls for installation or wiring, or when securing the power cable, make sure you do not damage existing wiring and ductwork.
- Do not make any wiring connections when the power supply is turned on.
- Do not use the supplied power supply unit for outdoor installations (it is for indoor use only).
- Do not install the power supply unit in the following places:
  - Places where the power supply unit may be splashed with water or chemicals.
  - Places where there is a high concentration of dust, or high humidity.
- Do not leave the power cable exposed outdoors.
- Do not perform any actions (such as fabricating, twisting, stretching, bundling, forcibly bending, damaging, altering, exposing to heat sources, or placing heavy objects on the power cable) that may damage the power cable. Using the product with a damaged power cable may cause electric shock, short circuits, or fire. Contact an authorised service centre for repairs.
- Mount the wall mount bracket so that the "⬆UP" mark faces up. Caulk the mounting face of the wall mount bracket, except for the bottom part of the bracket, with a water-resistant sealant, making sure to fill in any gaps. If the bracket is mounted upside down or if the bracket is not properly waterproofed, water may enter, which may result in fire or electric shock.

Preventing accidents and injuries

- Do not install or use the product in an inflammable atmosphere. Failure to observe this may cause an explosion resulting in injury.
- Do not install or use the product in health care facilities if any regulations posted in the area instruct you not to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF (radio frequency) energy.
- Do not install or use this product near automatically controlled devices such as automatic doors and fire alarms. Radio waves emitted from this product may cause such devices to malfunction, resulting in an accident.
- Do not mount the bracket in an unstable location, in a location subject to frequent vibration, on a ceiling, or on a weak wall. (Do not mount on plaster board, concrete blocks, wooden materials exposed to the outdoors, walls with very rough surfaces, or surfaces that are narrower than the width of the wall mount bracket.) There is a risk of injury if the product falls, or of fire or electric shock if water enters the product.
- Keep the sensor range caps out of the reach of children. There is a risk of swallowing. In the event they are swallowed, seek medical advice immediately.

⚠CAUTION

Preventing electric shock

- If the wiring is underground, do not make any connections underground.
- If the wiring is underground, make sure the power cable and other wiring is properly waterproofed by running the cables through a conduit.

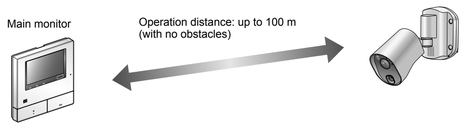
Preventing injury

- The safety wire must be used when mounting the product. There is a risk of injury if the product falls.

Precautions for installation

Before installation

The main monitor station (called "main monitor") and the camera use radio waves to communicate with each other. (The product operates in the frequency range of 1.88 GHz to 1.90 GHz, and the RF transmission power is 250 mW (max.).) Read the following and install the product in an appropriate location.



Communication between the main monitor and the camera

- The maximum communication distance between the main monitor and the camera (up to 100 m) may be shortened when the product is used in places where there are the following obstacles between the main monitor and the camera.
  - Metal doors or metal shutters.
  - Heat insulation including aluminium foil.
  - Concrete walls or walls made of galvanized iron sheet.
  - If the wireless monitor station (called "sub monitor") is being used in a different building, or a different part of the house, i.e. a different floor to the where the main monitor has been installed.
  - Many walls
  - Double insulated glass windows

  If there are the above obstacles, images displayed on the main monitor may be distorted or delayed, audio may cut out, and the product may not be usable. In this case, the camera's indicator lamp lights or flashes red. (☞ "Camera signal status" below.)
- You can rectify these problems by using an optional DECT Repeater VL-FKD2EX to relay the signal from the main monitor. (☞ Operating Instructions of the Video Intercom System)

Confirming the signal condition at the installation location

If your Video Intercom System includes a sub monitor, it can be used to easily check the signal status. (If there is no sub monitor, use a camera.)

■ **Using the sub monitor to confirm**

By taking the sub monitor to the installation site, you can confirm the signal status on the sub monitor's screen.

Sub monitor signal condition

Strong		Weak	Out of range

Install within this range

■ **Using the camera to confirm**

Temporarily connect the camera and the power supply unit to turn on the camera, and then register it to the main monitor. Later, you can take the camera to the installation site and confirm the signal status using the camera's indicator lamp.

Camera signal status

Strong		Weak	Out of range
Lit green	Lit orange	Lit red	Flashing red

Install within this range

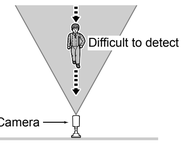
Do not install in these locations

■ **To prevent deformation, discolouration, malfunction, operational failure**

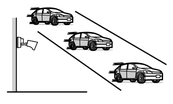
- In direct sunlight or directly under an outdoor light (even if the surrounding areas are within the operational temperature range, portions of the product may become hot)
- Areas subject to frequent vibration, shock, or impact
- Near fire, heating devices, or magnetic fields (such as near magnets)
- Near heating or cooling systems, including outdoor equipment such as air conditioning unit compressors
- In greasy or moist locations
- Near devices that emit radio waves, such as mobile phones
- Areas subject to extreme temperature variation (which can lead to condensation)
- Near ocean coasts, where sea breezes will contact the product directly, or near sulphuric hot springs (exposure to salt can reduce the product's life expectancy)
- Near TVs, radios, computers, air conditioners, boiler control panels with intercom, or home security equipment (these may cause noise)
- Near satellite broadcast receiving devices, including tuners, TVs with built-in satellite tuners, and recorders (broadcast images may be distorted)
- Areas where hydrogen sulphide, ammonia, dust, or noxious gases are present

■ **Incorrect detections may occur in the following locations**

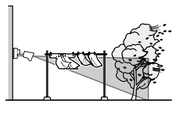
- Areas where people approach from directly in front of the camera, such as narrow walkways



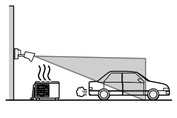
- On high-traffic streets (passing cars may cause detections even if they are more than 5 m away)



- In areas where objects move naturally, such as where the wind blows trees or hanging laundry (temperature variation and motion may cause incorrect detections)



- In areas subject to breezes from fans, air conditioning unit compressors, or hot water heaters, or areas affected by car exhaust (severe temperature variations may cause incorrect detections)



- In areas with strong winds (wind can vibrate the camera, causing incorrect motion detection.)
- Where reflective objects are in front of the camera and can interfere with the heat detection, such as glass.
- In areas where brightness changes easily (for example where shadows form in the afternoon and where lights turn on at night)
- In areas where backlight occurs (faces in the dark may not be able to be identified.)
- If a strong light is shining on the camera, the visitor's face may not be distinguishable.
  Do not place the camera in the following locations.
  – Where most of the background is the sky.
  – Where the background is a white wall, and direct sunlight will reflect off it.
  – Where direct sunlight will shine on the camera.

Privacy and rights of portrait

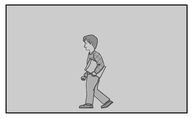
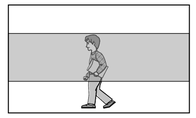
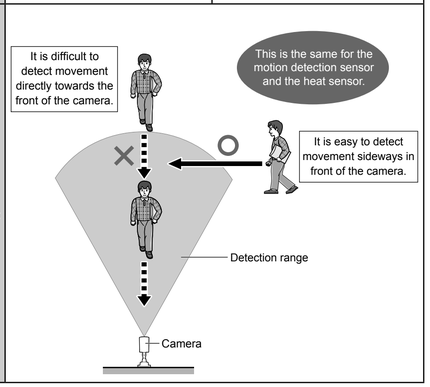
When installing or using the camera, please take into consideration the rights of others with regard to privacy.

- It is generally said that "privacy" means the ability of an individual or group to stop information about themselves from becoming known to people other than those whom they choose to give the information. "Rights of portrait" means the right to be safe from having your own image taken and used indiscriminately without consent.

About the sensors (motion detection sensor and heat sensor)

The camera has 2 sensors: the motion detection sensor and the heat sensor.
Please read the following information about the camera's motion detection sensor and heat sensor before deciding where to mount the camera.

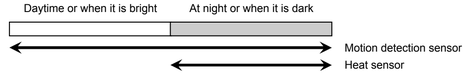
Sensor characteristics and detection range

	Motion detection sensor	Heat sensor
Detection method	The camera detects changes in the images being displayed. • The camera detects changes in the brightness levels of moving objects.	The camera detects temperature differences of objects in the images being displayed. • The heat sensor uses infrared rays to detect temperature differences within its range that are emitted naturally by people, animals, etc.
Main characteristics	Easily detects movement in the daytime or when it is bright. • Movement may be incorrectly detected when the moving object and the background have a similar colour. • Movement may be incorrectly detected when there are sudden changes to the overall brightness levels such as when external lights are used.	Easily detects when there is a big difference between the temperatures of objects and the surrounding environment, such as in winter or late at night. • The sensor cannot easily detect when there is no difference between the temperatures of objects and the surrounding environment, such as in summer or during the daytime. • If the camera is mounted facing a road, the sensor may detect incorrectly due to interference caused by the heat from passing cars.
Detection range	**Entire viewed image**  • The detection range can be reduced. ☞ "Changing the detection range of the motion detection sensor" on the reverse side	**Part of viewed image (grey area)**  • The detection range can be changed. ☞ "Changing the angle of the heat sensor" "Using the sensor range caps" on the reverse side
Easy to detect/ Difficult to detect		

- The motion detection sensor and heat sensor are not designed to be used in situations that require high reliability. We do not recommend use of the motion detection sensor and heat sensor in these situations.
- Panasonic takes no responsibility for any injury or damages caused by use of the motion detection sensor and heat sensor.

Sensor operating range

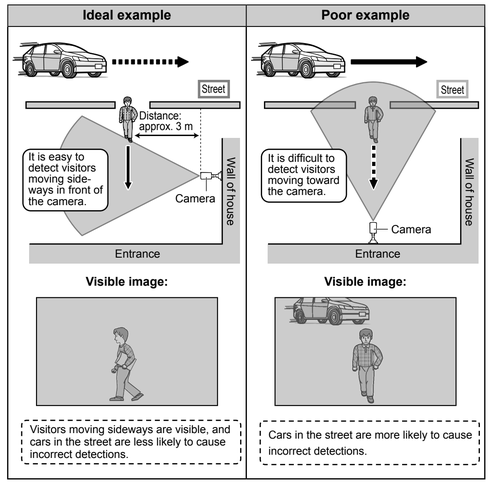
In the default settings, the motion detection sensor and heat sensor operate in the following way depending on changes to the brightness levels.



- The brightness level is automatically determined by the camera when viewing images. A timer can be configured to switch the modes between day and night modes at specified times. (☞ [Day and night switch] setting in the Operating Instructions of the Video Intercom System)
- The settings can be configured to match the installation environment by only operating the motion detection sensor and heat sensor at certain times, for example only during the day or only at night. (☞ [Heat sensor detection] and [Motion detection] settings in the Operating Instructions of the Video Intercom System)

Installation example ① (detect visitors)

To detect visitors at the entrance (gate) without detecting cars in the street

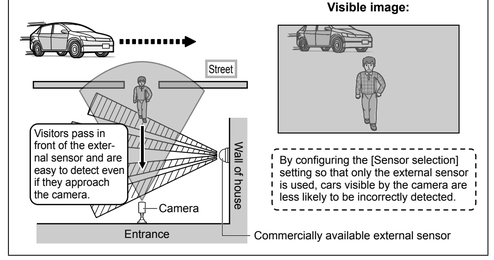


If you want to detect visitors as well as see the view directly in front of the camera, use a commercially available external sensor.

Installation example (using a commercially available external sensor)

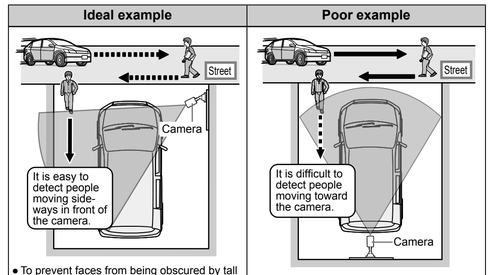
You can connect commercially available external sensors to the external input terminal.

- In this case you must use the main monitor to change the camera's [Sensor selection] setting. (☞ Operating Instructions of the Video Intercom System)
- Refer to "About the external input terminal" (☞ above right) and connect the external sensor properly according to its specifications.



Installation example ② (detect people entering a garage)

To detect people entering a garage without detecting cars in the street



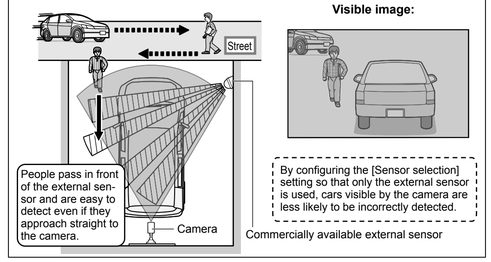
- To prevent faces from being obscured by tall vehicles, adjust the installation location and angle of the camera.

If you want to detect people as well as see the view directly in front of the camera, use a commercially available external sensor.

Installation example (using a commercially available external sensor)

You can connect commercially available external sensors to the external input terminal.

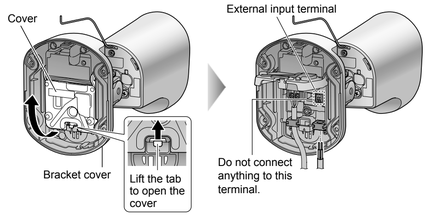
- In this case you must use the main monitor to change the camera's [Sensor selection] setting. (☞ Operating Instructions of the Video Intercom System)
- Refer to "About the external input terminal" (☞ above right) and connect the external sensor properly according to its specifications.



About the external input terminal (for an external sensor connection)

Choose an external sensor that is compatible with the specifications of the external input terminal.

- After connection, use the main monitor to select the contact type ([Make contact] or [Break contact]) that matches the device. (☞ [External sensor] setting in the Operating Instructions of the Video Intercom System)



■ **External input terminal specifications**

Detection can occur when the terminal is closed or opened.

- Voltage when open: approx. 9 V
- Current when closed: approx. 6 mA (detection occurs after 0.1 s of continual close/open)

■ **Wire type and length** (☞ "Wire type and length" below)

About installation

- Install so that the power shutoff device is located near the power supply unit and is easily accessible.
- Use 600 V AC or higher insulated wiring.

Wire type and length

	Wiring run	Wire type*1		
		Diameter		Length (Max.)
①	Camera - Power supply unit	φ 0.65 mm	22 AWG	50 m
		φ 1.0 mm	18 AWG	100 m
②	Power supply unit - AC power source	φ 1.2 mm	17 AWG	No requirement
		φ 2.0 mm	12 AWG	
③	Camera - External sensor	φ 0.5 mm	24 AWG	According to specification of connected device. Must be no longer than 20 m.
		φ 0.8 mm	20 AWG	

*1 Type: Single-pair cable with outer sheath (jacket)
Conductor: Copper solid
Outer diameter ①,③: φ 8 mm (Max.)

- A certified power supply wiring has to be used with this equipment. The relevant national installation and/or equipment regulations shall be considered. A certified power supply wiring not lighter than ordinary polyvinyl chloride flexible wiring according to IEC 60227 shall be used.

Installation overview

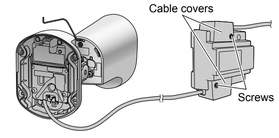
Before installing the camera on the wall, be sure to register the camera to the main monitor nearby so that you will be able to check the signal strength at the installation point.

1. Temporarily connect the camera and the main monitor to turn on the camera, and then register the camera to the main monitor. (☞ below)
2. Check that the signal can reach from the camera's installation location. (☞ "Confirming the signal condition at the installation location")
3. Install the power supply unit. (☞ reverse side)
4. Install the camera. (☞ reverse side)

Temporarily connecting to the power supply unit

Temporarily connecting is necessary to register the camera to the main monitor and to confirm the condition of the signal at the installation location.
Refer to "Installing the power supply unit and camera" on the reverse side for information about connecting a cable from the camera to the power supply unit.

- Make sure you turn off the power at the breaker before connecting a power cable.
- Make sure you attach the cable covers after you make the temporary connection.



Registering to the main monitor

Temporarily connect the camera to turn it on, and then register it to the main monitor as explained below.

- You cannot register more than one camera at a time. Register each camera one at a time.
- The operations described here are based on the VL-SWD501EX series main monitor. See the Operating Instructions of the Video Intercom System for more information.

1 Main monitor operation

From the top menu of the main monitor, touch [wrench] → [wrench+] → [Register/Cancel] → [Register] → [Camera] → the camera number of the camera to be registered.

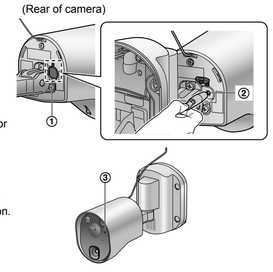
- After this, use the camera and complete the following steps within about 5 minutes.

2 Camera operation

Perform the following registration procedure while the camera is turned on.

2-1 Peel open the register button cover (①) and use the thin end of the cap removement tool (accessory) to press and hold the register button (②) for about 3 seconds.

2-2 Make sure to firmly close the register button cover.



- The camera's indicator lamp (③) flashes in green during registration. When registration is complete, a beep sounds and the indicator lamp lights in green.

3 To end the operation, press OFF on the main monitor.

Installing the power supply unit and camera

Important:

- Register the camera to the main monitor station before installation. (☞ reverse side)
- Do not attach to a ceiling.
- Do not install in areas directly exposed to water or rain.
- Holes must be made in the wall for cables and wires to pass through. Panasonic takes no responsibility for issues related to opening holes in walls.
- Make sure to waterproof the holes made in walls.
- Make sure you use the safety wire attached to the camera to prevent the camera from falling.
- Required pull-out capacity of a single screw is 294 N {30 kgf} or more. If this criteria is not met, make sure to take additional measures to increase strength.
- Do not use an impact driver. (This may lead to damaged screws or over tightening.)

Install the power supply unit

■ About the installation location

- The device must be installed inside an electrical panel or cabinet.
- A readily accessible disconnect device shall be incorporated external to the equipment.
  - External disconnect device must be certified and have a creepage and clearance distance of 3 mm or more.

■ Precautions for wiring

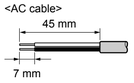
- Make sure you turn off the power at the breaker before performing any wiring work.
- Always connect AC or DC cables to the appropriate connection terminals. Incorrectly connecting the AC or DC cables may damage the power supply unit.
- To prevent the power cables from disconnecting and to prevent electric shock, secure the power cables using the cable binders (accessory) and attach the cable covers.

How to connect the power cable (AC/DC)

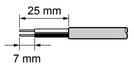
Connect the power supply unit (accessory) and AC/DC cables (locally procured).

1 Strip the AC/DC cables as follows:

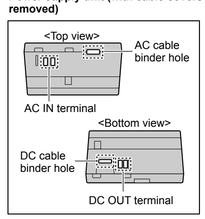
<AC cable>



<DC cable>



Power supply unit (with cable covers removed)



2 Remove the screws (②) and then remove the cable covers (①).

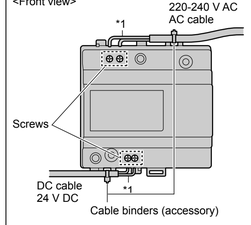
3 Connect the AC/DC cable to the AC IN terminal/DC OUT terminal on the top and bottom of the power supply unit, and then secure the wires by tightening the screws.

- Recommended torque:
  - AC terminal: 0.4 N·m {4.1 kgf·cm}
  - DC terminal: 0.45 N·m {4.6 kgf·cm}

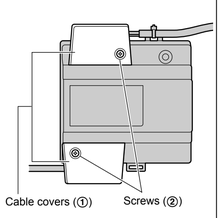
⚠CAUTION

Insert the cables firmly all the way into the terminals.
If the cables are not inserted all the way, heat may be generated.

<Front view>



*1 Make sure that there are no bare wires exposed outside the product.



4 Use the cable binders (accessory) to secure the AC/DC cables (double-coated area) to the power supply unit.

5 Make sure to replace the cable covers (①).

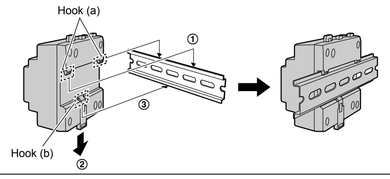
Attach to the DIN rail

Attach in the order described below so that hook (b) is positioned at the bottom.

1 Hang hook (a) on the DIN rail (①).

2 Pull and hold the lever down (②).

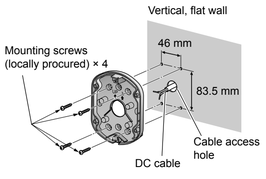
3 Secure hook (b) to the DIN rail (③).



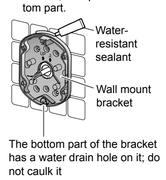
Install the camera

1 Attach the wall mount bracket to the wall that has the cable access hole and caulk the bracket.

1-1 Secure the wall mount bracket.



1-2 Use a water-resistant sealant to caulk around the bracket, except for the bottom part.



- Mount the wall mount bracket so that the "⬆UP" mark faces up, and caulk as shown here, making sure to fill in any gaps.
  (If the bracket is not properly waterproofed, water may enter, which may result in fire or electric shock.)

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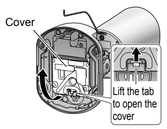
PNQW3991ZA PC1113MT1113

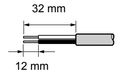
Install the camera (continued)

2 Open the cover on the rear and connect the DC cable.

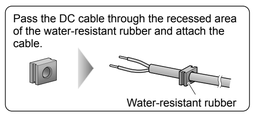
2-1 Open the cover.

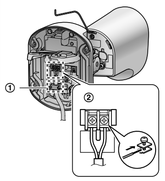


2-2 Strip the DC cable.



2-3 Remove the water-resistant rubber (①) from the camera and attach it to the DC cable.





2-4 Loosen the screws (②) and push in the wires of the DC cable to the terminal connectors (non-polar), then tighten the screws.

- Recommended torque:
  0.8 N·m {8.2 kgf·cm}
- Secure the water-resistant rubber attached to the cable to its original position.

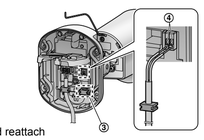
3 **If connecting an external sensor**

Connect wires to the external input terminal.

- Refer to "About the external input terminal" on the reverse side and connect the wires properly.

3-1 Strip the wires.

- Refer to 2-2 of step 2 for stripping wires.



3-2 Remove the water-resistant rubber (③) from the camera and attach it to the wires.

- Refer to the drawing in 2-3 of step 2.

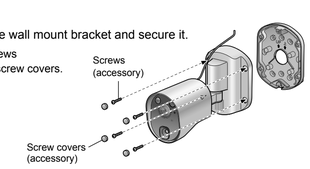
3-3 Connect the wires to the terminals (④) and reattach the water-resistant rubber and secure it in its original position.

- Insert the wires while pressing the terminal buttons with the tip of a screwdriver.

4 Close the cover (push closed until it clicks).

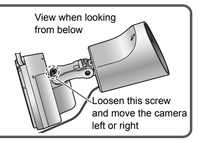
5 Attach the camera to the wall mount bracket and secure it.

- After attaching the 4 screws (accessory), attach the screw covers.
- Recommended torque:
  1.2 N·m {12.2 kgf·cm}

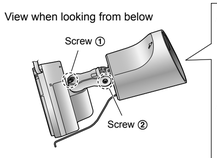


When tightening screws

It is difficult to tighten the screw when the camera is facing forward. Using the method shown to the right, tighten the screw after rotating the camera body to the left or right.



6 Adjusting the camera angle.



Adjusting angle left and right:

1. Loosen screw ① and adjust the angle left or right.
2. Tighten screw ①.

Adjusting angle up and down:

1. Hold the camera in one hand and loosen screw ② to adjust the angle up or down.
2. Tighten screw ②.

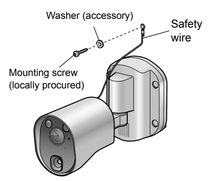
- Recommended torque for screw ①, ②: 0.7 N·m {7.1 kgf·cm}

7 Turn on the camera, monitor the camera image, confirm the viewable area and the camera audio. (☞ Operating Instructions of the Video Intercom System)

- If you're not satisfied with the viewable area, adjust the camera angle and confirm the results.
- If the Video Intercom System includes a sub monitor, take it to the camera installation location and confirm the image displayed on the sub monitor while adjusting the camera angle as necessary.

8 After you have adjusted the angle, attach the safety wire to the wall.

- Attach the safety wire high on the wall so that the camera does not strike anyone in the event the camera becomes detached from the wall.
- Do not hang from the camera.



9 Test the sensor detection and image recording. (☞ at right)

Confirming sensor detections

Use the main monitor to confirm the detections made by the heat sensor or motion detection.

- The operations described here are based on the VL-SWD501EX series main monitor. See the Operating Instructions of the Video Intercom System for more information.

1 From the top menu of the main monitor, touch [🔧] → [🔧] → [Connected devices] → [Camera] → camera number → [Sensor settings] → [Check sensors] → tap each type of sensor to confirm.

- The camera waits for the sensors to be triggered and live images from the camera are displayed.

2 You must trigger the sensor at the camera within about 20 minutes.

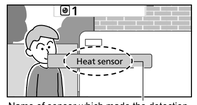
■ Confirm with a subject that you want to detect

Check whether the sensor is triggered at the location where you want to detect movement, with people moving in the direction you want to detect.

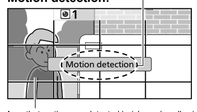
■ Confirm with a subject that you do not want to detect

Check whether the sensor is not triggered by subjects that you do not want to detect, such as people or cars moving on a street.

Heat sensor:



Motion detection:



The sensor name is displayed for about 1 second. When the sensor is triggered again, the name is displayed.

- When sensors make a detection
  – The camera's LED lights and indicator lamp flash.
  – The display on the main monitor changes as shown to the right according to the sensor type selected in step 1.

3 To end the operation, press [OFF].

Note:

- The camera image turns off automatically after about 20 minutes when confirming the sensor. If 20 minutes pass while confirming, start over from the beginning.
- You can also use the above procedure to confirm a commercially available external sensor, if connected.

When detections are not made correctly or when incorrect detections are made

■ When detections are not made properly

Refer to "Adjusting sensor sensitivity and detection range" (☞ at right) and make adjustments as explained below.

Heat sensor:

- Change the [Heat sensor sensitivity] setting (increase sensitivity)

Motion detection:

- Change the [Motion detection sensitivity] setting (increase sensitivity)

■ When incorrect detections are made

Refer to "Adjusting sensor sensitivity and detection range" (☞ at right) and make adjustments as explained below.

Heat sensor:

- Use the sensor range caps
- Change the angle of the heat sensor
- Change the [Heat sensor sensitivity] setting (decrease sensitivity)

Motion detection:

- Change the [Motion detection sensitivity] setting (decrease sensitivity)
- Change the [Motion detection range] setting (change the range)

Testing the sensor detection images

Confirm if images are correctly recorded before and after images are recorded for sensor detections.

- The operations described here are based on the VL-SWD501EX series main monitor. See the Operating Instructions of the Video Intercom System for more information.

1 From the top menu of the main monitor, touch [🔧] → [🔧] → [Connected devices] → [Camera]→ camera number → [Sensor settings] → [Recording test].

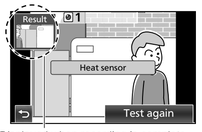
2 Confirm the displayed message and then touch [Next].

- The camera waits for the sensors to be triggered.

3 You must trigger the sensor at the camera within about 20 minutes.

- A screen such as the one shown on the right is displayed on the main monitor, and images from when the detection occurred are retained (up to 4 still images).

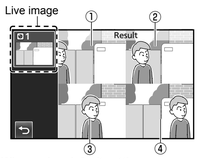
(Example) When the heat sensor makes a detection



Displayed when recording is complete

4 When recording ends, touch [Result] and confirm the recorded images (①-④).

- Touch an image (①-④) to display it full-screen.
- To perform a recording test again, touch ⮌ in the screen shown to the right, and touch [Test again] when the screen in step 3 is displayed.



When using default setting:

①: Image from 1 second before detection
② to ④: Images from time of detection until about 2 seconds after detection

You can use the [Recording before detection] setting to retain images from up to 2 seconds before the detection. (☞ Operating Instructions of the Video Intercom System)

5 To end the operation, press [OFF].

Adjusting sensor sensitivity and detection range

When using the heat sensor

Using the sensor range caps

If there are objects that you do not want the heat sensor to detect, you can limit the detectable area by attaching the sensor range caps.

■ Sensor range cap types and detection range

In addition to the standard cap (already attached to the camera), there are four cap types (caps 1-4). Each cap prevents a different area from being detected and can be attached at 45-degree increments. Refer to the following and attach the proper cap at the proper angle.

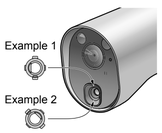
- The detection area is an approximation for when the [Heat sensor sensitivity] setting (☞ "Changing the sensitivity of the heat sensor", below right) is set to [Normal]. (Varies by ambient temperature at camera installation location)

Cap type	Approximate detection range (view when looking from above)		
	20 ºC	0 ºC	30 ºC
Standard (attached to camera)	Detection range / About 5 m	Detection range / About 6 m	Detection range / About 4 m
Cap 1	(Example) Cap 1 / About 5 m	(Example) Cap 1 / About 6 m	(Example) Cap 1 / About 4 m
Cap 2			
Cap 3	(Example) Cap 3 / About 5 m	(Example) Cap 3 / About 6 m	(Example) Cap 3 / About 4 m
When you want to make one side not detectable			
Cap 4	About 5 m	About 6 m	About 4 m
When you want to make both sides not detectable			

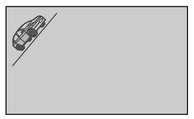
- The detection range rotates according to the sensor range cap angle.

(Example 1) When there is an object on the right side of the viewable area that you do not want to be detected (house next door, street, etc.).

Attach one of caps 1-3 as shown on the right according to the area you do not want to be detected.



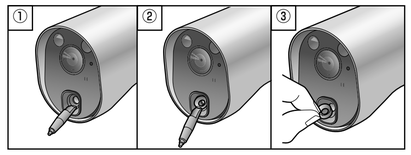
(Example 2) When there is an object in the top left of the viewable area that you do not want to be detected (cars in a street, etc.).



Attach one of caps 1-3 as shown above according to the area you do not want to be detected

■ Removing and attaching sensor range caps

When removing: Use the thick end of the cap removement tool (accessory) to remove.

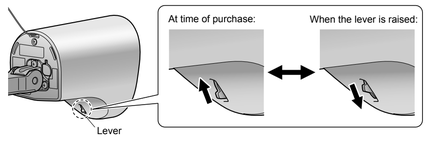


When attaching:

Rotate the tab on the cap toward the top or at a 45-degree angle according to the type of cap or direction, and attach the cap on the camera as shown on the right.

Changing the angle of the heat sensor

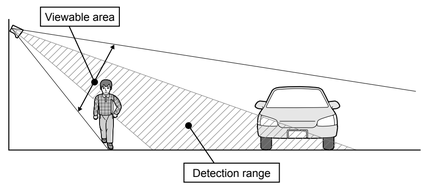
You can use the heat sensor adjustment lever on the camera to set the heat sensor to one of two positions.



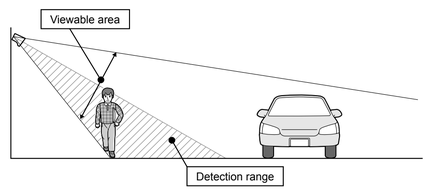
■ Lever position and sensor detection range

The detection range shown below is an approximation. (Varies by ambient temperature and environment of installation location)

At time of purchase:



When lever is raised:



Changing the sensitivity of the heat sensor

Use the main monitor to change the camera's [Heat sensor sensitivity] setting.
(The heat sensor's range of detection varies by the selected sensitivity.)

Changing the setting (Example: Video Intercom System VL-SWD501EX series)

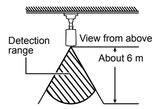
Use the main monitor settings, select [Connected devices] → [Camera] → camera number → [Sensor settings] → [Heat sensor sensitivity] → the sensitivity from the 4 levels.

■ Heat sensor sensitivity and detection range

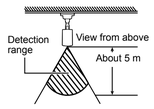
The detection range shown below is an approximation. (Varies by ambient temperature and environment of installation location)

Ambient temperature: 20 °C

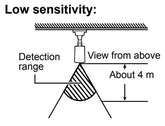
High sensitivity:



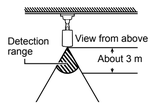
Normal (default setting):



Low sensitivity:



Very low sensitivity:



Note:

- When [High sensitivity] is selected, it is more likely that wind or objects outside the viewable area will cause detections. (Use this setting only when the installation environment absolutely requires it)

When using motion detection

Changing the detection range of the motion detection sensor

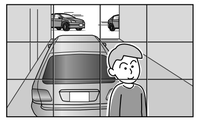
Use the main monitor to change the camera's [Motion detection range] setting.

- By setting the areas that you do not want motion to be detected from the 12 blocks shown in the screen below, you can narrow down the areas that motion can be detected in.

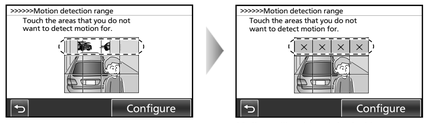
Changing the setting (Example: Video Intercom System VL-SWD501EX series)

Use the main monitor settings, select [Connected devices] → [Camera] → camera number → [Sensor settings] → [Motion detection range] → the areas not subject to detection from the 12 blocks, and then touch [Configure].

(Example) When checking motion detection performance, a car in the street that you do not want to be detected is displayed in the top of the screen



In the motion detection range screen, select the area containing the street that you do not want to be detected.



Motion will not be detected in areas with an "X".

Changing the sensitivity of the motion detection sensor

Use the main monitor to change the camera's [Motion detection sensitivity] setting. (You can adjust the amount of motion that will be detected by setting the sensitivity setting.)

Changing the setting (Example: Video Intercom System VL-SWD501EX series)

Use the main monitor settings, select [Connected devices] → [Camera] → camera number → [Sensor settings] → [Motion detection sensitivity] → the sensitivity from the 4 levels.

■ Motion detection sensitivity setting (4 levels)

- High sensitivity
- Normal (default setting)
- Low sensitivity
- Very low sensitivity

If you want to detect small changes in motion, select [High sensitivity], and select [Low sensitivity] or [Very low sensitivity] if you want to detect only drastic changes in motion.