

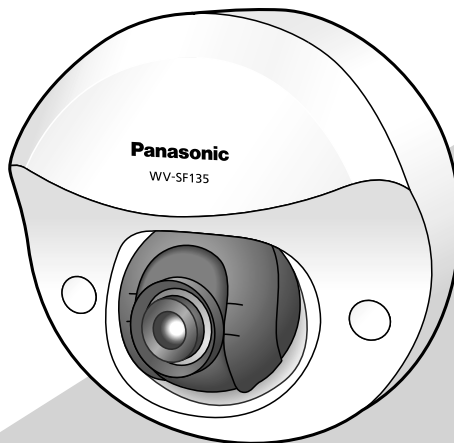
# Panasonic<sup>®</sup>

## Installation Guide

Included Installation Instructions

### Network Camera

Model No. **WV-SF135/WV-SF132**



WV-SF135

Before attempting to connect or operate this product,  
please read these instructions carefully and save this manual for future use.

The model number is abbreviated in some descriptions in this manual.  
This document is the Installation Guide for use in other countries except Japan.

For Canada  
CAN ICES-3(A)/NMB-3(A)

For U.S.A  
NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.  
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

For U.S.A  
The model number and serial number of this product may be found on the surface of the unit. You should note the model number and serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. \_\_\_\_\_  
Serial No. \_\_\_\_\_

For Europe

We declare under our sole responsibility that the product to which this declaration relates is in conformity with the standard or other normative document following the provisions of Directive 2004/108/EC.

Wir erklären in alleiniger Verantwortung, daß das Produkt, auf das sich diese Erklärung bezieht, mit der folgenden Norm oder normativen Dokument übereinstimmt. Gemäß den Bestimmungen der Richtlinie 2004/108/EC.

Nous déclarons sous notre propre responsabilité que le produit auquel se réfère la présente déclaration est conforme à la norme spécifiée ou à tout autre document normatif conformément aux dispositions de la directive 2004/108/CE.

Nosotros declaramos bajo nuestra única responsabilidad que el producto a que hace referencia esta declaración está conforme con la norma u otro documento normativo siguiendo las estipulaciones de la directiva 2004/108/CE.

Noi dichiariamo sotto nostra esclusiva responsabilità che il prodotto a cui si riferisce la presente dichiarazione risulta conforme al seguente standard o altro documento normativo conforme alle disposizioni della direttiva 2004/108/CE.

Wij verklaren als enige aansprakelijke, dat het product waarop deze verklaring betrekking heeft, voldoet aan de volgende norm of ander normatief document, overeenkomstig de bepalingen van Richtlijn 2004/108/EC.

Vi erklærer os eneansvarlige for, at dette produkt, som denne deklaration omhandler, er i overensstemmelse med standard eller andre normative dokumenter i følge bestemmelsene i direktiv 2004/108/EC.

Vi deklarerar härmed vårt fulla ansvar för att den produkt till vilken denna deklaration hänvisar är i överensstämmelse med standarddokument eller annat normativt dokument som framställs i direktiv 2004/108/EC.

Ilmoitamme yksinomaisella vastuullamme, että tuote, jota tämä ilmoitus koskee, noudattaa seuraavaa standardia tai muuta ohjeellista asiakirjaa, jotka noudattavat direktiivin 2004/108/EC säädöksiä.

Vi erklærer oss alene ansvarlige for at produktet som denne erklæringen gjelder for, er i overensstemmelse med følgende norm eller andre normgivende dokumenter som følger bestemmelsene i direktiv 2004/108/EC.

# Contents

Important safety instructions.....	4
Limitation of liability.....	5
Disclaimer of warranty.....	5
Preface .....	6
Main functions.....	6
About the user manuals .....	6
About notations.....	7
System requirements for a PC .....	7
Trademarks and registered trademarks.....	8
Copyright.....	8
Network security .....	8
Precautions .....	9
Precautions for Installation.....	12
Major operating controls .....	14
Removing the enclosure.....	15
Preparations .....	16
Connection .....	18
Installation .....	20
Adjustment .....	21
Attaching the enclosure.....	23
Configure the network settings .....	24
Troubleshooting.....	26
Specifications.....	27
Standard accessories.....	30
Optional accessories.....	30

## Important safety instructions

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Only use attachments/accessories specified by the manufacturer.
- 10) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 11) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 12) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## Limitation of liability

THIS PUBLICATION IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THE THIRD PARTY'S RIGHT.

THIS PUBLICATION COULD INCLUDE TECHNICAL INACCURACIES OR TYPOGRAPHICAL ERRORS. CHANGES ARE ADDED TO THE INFORMATION HEREIN, AT ANY TIME, FOR THE IMPROVEMENTS OF THIS PUBLICATION AND/OR THE CORRESPONDING PRODUCT (S).

## Disclaimer of warranty

IN NO EVENT SHALL Panasonic Corporation BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR REPLACEMENT OR REASONABLE MAINTENANCE OF THE PRODUCT, FOR THE CASES, INCLUDING BUT NOT LIMITED TO BELOW:

- (1) ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT;
- (2) PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER;
- (3) ALL MALFUNCTIONS OR TROUBLES FROM UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER, REGARDLESS OF THE CAUSE OF THE MALFUNCTION OR TROUBLE;
- (4) INCONVENIENCE OR ANY LOSS ARISING WHEN IMAGES ARE NOT DISPLAYED, DUE TO ANY REASON OR CAUSE INCLUDING ANY FAILURE OR PROBLEM OF THE PRODUCT;
- (5) ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY;
- (6) ANY CLAIM OR ACTION FOR DAMAGES, BROUGHT BY ANY PERSON OR ORGANIZATION BEING A PHOTOGENIC SUBJECT, DUE TO VIOLATION OF PRIVACY WITH THE RESULT OF THAT SURVEILLANCE-CAMERA'S PICTURE, INCLUDING SAVED DATA, FOR SOME REASON, BECOMES PUBLIC OR IS USED FOR ANY PURPOSE;
- (7) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE.

# Preface

The network cameras WV-SF135 series and WV-SF132 series are designed to operate using a PC on a network (10BASE-T/100BASE-TX).

By connecting to a network (LAN) or the Internet, images from the camera can be monitored on a PC via a network.

## SF135

- Maximum image capture size (1280 x 960 (Aspect ratio of 4:3), 1280 x 720 (Aspect ratio of 16:9))

## SF132

- Maximum image capture size (640 x 480 (Aspect ratio of 4:3), 640 x 360 (Aspect ratio of 16:9))

---

### Note:

- It is necessary to configure the network settings of the PC and its network environment to monitor images from the camera on the PC. It is also necessary to install a web browser on the PC.
- 

# Main functions

## H.264 and JPEG triple encoding

The 2 types of H.264 stream outputs and the JPEG output can be simultaneously provided.

## Power over Ethernet function

When connecting with a PoE (Power over Ethernet) device, power will be supplied by simply connecting a LAN cable. (IEEE802.3af compliant)

## Adaptive darkness correction mode

Corrects the blacked-out parts of dark areas of objects that have different illumination intensities.

# About the user manuals

There are 2 sets of operating instructions for the WV-SF135 and WV-SF132 as follows.

- Installation Guide: Explains how to install and connect devices.
- Operating Instructions (included in the CD-ROM): Explains how to perform the settings and how to operate this camera.

SF135, SF132 shown in the instructions and illustrations used in these operating instructions indicates the WV-SF135, WV-SF132.

English screens are used in these operating instructions.

## About notations

The following notations are used when describing the functions limited for specified models. The functions without the notations are supported by all models.

**SF135**: The functions with this notation are available when using the model WV-SF135.

**SF132**: The functions with this notation are available when using the model WV-SF132.

## System requirements for a PC

CPU:	Intel® Core™2 Duo 2.4 GHz or faster recommended
Memory:	512 MB or more (A minimum of 1 GB memory is required when using Microsoft® Windows® 7 or Microsoft® Windows Vista®.)
Network Interface:	10BASE-T/100BASE-TX 1 port
Monitor:	Image capture size: 1024 x 768 pixels or more Color: 24-bit True color or better
OS:	Microsoft® Windows® 7 Microsoft® Windows Vista® Microsoft® Windows® XP SP3
Web browser:	Windows® Internet Explorer® 9.0 (32-bit) Windows® Internet Explorer® 8.0 (32-bit) Windows® Internet Explorer® 7.0 (32-bit) Microsoft® Internet Explorer® 6.0 SP3
Other:	CD-ROM drive (It is necessary to read the operating instructions and use the software on the provided CD-ROM.) DirectX® 9.0c or later Adobe® Reader® (It is necessary to view the PDF file on the provided CD-ROM.)

---

### IMPORTANT:

- When using a PC that does not meet the above requirements, displaying of images may become slower or the web browser may become inoperable.
- Microsoft® Windows® 7 Starter, Microsoft® Windows Vista® Starter and Microsoft® Windows® XP Professional 64-bit Edition are not supported.
- When using IPv6 for communication, use Microsoft® Windows® 7 or Microsoft® Windows Vista®.

---

### Note:

- Refer to "Notes on Windows Vista® / Windows® 7" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 7 or Microsoft® Windows Vista®.
- If using Microsoft® Windows® XP, screen tearing\* may occur when the shooting scene drastically changes (for example, while shooting fast-moving subjects) due to the GDI restrictions of the OS.  
\* A phenomenon in which portions of the screen are displayed out of alignment
- For information on the operation verification of the supported operating systems and web browsers, refer to our website at <http://security.panasonic.com/pss/security/support/index.html>.

## Trademarks and registered trademarks

- Microsoft, Windows, Windows Vista, Internet Explorer, ActiveX, and DirectX are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.
- Intel and Intel Core are trademarks or registered trademarks of Intel Corporation in the United States and other countries.
- Adobe, Acrobat Reader and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- iPad, iPhone, and iPod touch are registered trademarks of Apple Inc., registered in the U.S. and other countries.
- Android is a trademark of Google Inc. Use of this trademark is subject to Google Permissions.
- All other trademarks identified herein are the property of their respective owners.

## Copyright

Distributing, copying, disassembling, reverse compiling and reverse engineering of the software provided with this product are all expressly prohibited. In addition, exporting any software provided with this product violating export laws is prohibited.

## Network security

As you will use this unit connected to a network, your attention is called to the following security risks.

- ① Leakage or theft of information through this unit
- ② Use of this unit for illegal operations by persons with malicious intent
- ③ Interference with or stoppage of this unit by persons with malicious intent

It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.

- Use this unit in a network secured by a firewall, etc.
- If this unit is connected to a network that includes PCs, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated anti-virus program, anti-spyware program, etc.).
- Protect your network against unauthorized access by restricting users to those who log in with an authorized user name and password.
- Apply measures such as user authentication to protect your network against leakage or theft of information, including image data, authentication information (user names and passwords), alarm mail information, FTP server information and DDNS server information.
- After the unit is accessed by the administrator, make sure to close the browser.
- Change the administrator password periodically.
- Do not install the camera in locations where the camera or the cables can be destroyed or damaged by persons with malicious intent.



# Precautions

## **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. Be sure to consult the dealer.

## **Stop the operation immediately when something is wrong with this product.**

When smoke goes up from the product, the smell of smoke comes from the product, or the exterior of the product has deteriorated, continued use will cause a fire or fall of the product resulting in injury, accidents, or damage to the product.

Turn the power off immediately and contact qualified service personnel for service.

## **Do not attempt to disassemble or modify this product.**

Failure to observe this may cause fire or electric shock.

Consult the dealer for the repair or inspections.

## **Do not insert any foreign objects.**

This could permanently damage the apparatus.

Turn the power off immediately and contact qualified service personnel for service.

## **Select an installation area that can support the total weight.**

Selecting an inappropriate installation surface may cause the product to fall down or topple over, resulting in injury.

Installation work shall be started after sufficient reinforcement.

## **Periodic inspections shall be conducted.**

Rust on the metal parts or screws may cause a fall of the product resulting in injury or accidents.

Consult the dealer for the inspections.

## **Do not use this product in an inflammable atmosphere.**

Failure to observe this may cause an explosion resulting in injury.

## **Avoid installing this bracket in the locations where salt damage occurs or corrosive gas is produced.**

Otherwise, the mounting portions will deteriorate and accidents such as a fall of this product may occur.

## **The screws and bolts must be tightened to the specified torque.**

Failure to observe this may cause a drop resulting in injury or accidents.

## **Do not install this product in locations subject to vibration.**

Loosening of mounting screws or bolts may cause a fall of the product resulting in injury.

## **Install this product in a location high enough to avoid people and objects from bumping the product.**

Failure to observe this may cause a drop resulting in injury or accidents.

## **Do not strike or give a strong shock to this product.**

Failure to observe this may cause fire or injury.

## **Do not rub the edges of metal parts with your hand.**

Failure to observe this may cause injury.

## **Turn the power off when do wiring of this product.**

Failure to observe this may cause electric shock. In addition, short circuit or wrong wiring may cause fire.

## **Do not touch this product or the connected cables during thunder. (even in the process of work)**

Failure to observe this may cause electric shock.

## **Turn the power off when cleaning of this product.**

Failure to observe this may cause injury.

## **[Precautions for use]**

**This product is designed to be used indoors. This product is not operable outdoors.**

### **This product has no power switch.**

When turning off the power, turn off a PoE hub or remove a network cable.

### **To keep on using with stable performance**

Do not use this camera in hot and humid conditions for a long time.

Failure to observe this causes component degradation resulting in life shortening of this product.

Do not expose this camera to direct heat sources such as a heater.

### **Do not touch the dome cover with your bare hands.**

A dirty dome cover causes deterioration of picture quality.

### **Handle this camera with care.**

Do not drop this camera, nor apply shock or vibration to this camera.

Failure to observe this may cause trouble.

### **About the PC monitor**

Displaying the same image on a monitor for a long time may damage the monitor. It is recommended to use a screen-saver.

### **When an error is detected, this product will restart automatically.**

This product will be inoperable for around 2 minutes after the restart just as when the power is turned on.

### **Product disposal/transfer**

Data saved on this product or a storage device used with this product may lead to personal information leakage.

When it is necessary to dispose or give this product to someone, even when for repair, make sure that there is no data on this product.

## **Cleaning this product body**

Be sure to turn off the power before cleaning. Do not use strong abrasive detergent when cleaning this camera. Otherwise, it may cause discoloration.

## **Cleaning the lens**

Use a lens cleaning paper (used to clean camera lenses or lenses of spectacles). When using solvent, use an alcohol solvent and do not use a thinner or a glass cleaner.

## **Transmission interval**

Image transmission interval may become slow depending on the network environment, PC performance, shooting subject, access number, etc.

## **Code label**

The code labels (accessory) are required at inquiry for trouble. Use caution not to lose these labels. It is recommended to paste one of the labels onto the CD-ROM case.

## **About the MOS image sensor**

- When continuously shooting a bright light source such as a spotlight, the color filter of the MOS image sensor may have deteriorated and it may cause discoloration. Even when changing the fixed shooting direction after continuously shooting a spotlight for a certain period, the discoloration may remain.
- When shooting fast-moving subjects or performing panning/tilting operations, objects crossing the shooting area may look to be bending askew.

### **AVC Patent Portfolio License**

THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C.  
SEE [HTTP://WWW.MPEGLA.COM](http://www.mpegla.com)

### **Flickering**

Due to the influence of lighting, flickering may sometimes happen. In this case, select "Indoor scene" for "Light control mode". Select "Indoor scene(50Hz)" or "Indoor scene(60Hz)" in accordance with the power supply frequency in your locality. Refer to the Operating Instructions (included in the CD-ROM) for further information about the setting. Under extremely strong lighting, flickering may happen even when "Indoor scene" is selected for "Light control mode".

When the brightness (illuminance) level on the screen is set to a relatively low level with the [Brightness] buttons, flickering may frequently happen. In such cases, either of the following can reduce flickering.

- Moderate the illumination intensities of objects by changing the camera direction.
- Set the brightness (illuminance) level on the screen to a brighter level with the [Brightness] buttons.

### **White-out on images caused by the effect of light control mode**

When "Indoor scene" is selected for "Light control mode", the tone of the brighter parts on the screen may be deteriorated than the case when "ELC" is selected.

### **Color blurring on detailed drawing patterns**

When there are detailed drawing patterns on images, color blurring may happen over these parts.

### **White dot noise**

When the brightness levels of objects are too low, white dot noise may appear on the screen.

### **Brightness around the images**

The surrounding area of the image may appear slightly dark depending on the shooting subject.

# Precautions for Installation

**Panasonic assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this documentation.**

## **This camera is designed to be used indoors.**

This product is not operable outdoors. Do not expose this camera to direct sunlight for hours and do not install the product near a heater or an air conditioner. Otherwise, it may cause deformation, discoloration and malfunction. Keep this camera away from water and moisture.

## **Installing place**

Do not place this product in the following places:

- Locations where it may get wet from rain or water splash
- Locations where a chemical agent is used such as a swimming pool
- Locations subject to humidity, dust, steam and oil smoke
- Locations in a specific environment where a solvent or a flammable atmosphere exists
- Locations where a radiation, an X-ray, a strong radio wave or a strong magnetic field is generated
- Locations where corrosive gas is produced, Locations where it may be damaged by briny air such as seashores
- Locations where the temperature is not within 0 °C to +40 °C {32 °F to 104 °F}.
- Locations subject to vibrations that exceed the railway specifications (EN50155)
- Locations subject to condensation as the result of severe changes in temperature (In case of installing the camera in such locations, the dome cover may become foggy or condensation may be caused on the cover.)

## **Be sure to remove this product if it is not in use.**

## **Before installation**

- When this camera is mounted on a ceiling or a wall, use the screws described on page 16. The screws to be used are not provided. Prepare the screws according to the material, structure, strength and other factors of the mounting area and the total weight of objects to be mounted.
- Ensure that the mounting surface, anchor and screws are sufficiently strong.
- Do not mount this product on a plaster board or a wooden section because they are too weak. If this product is unavoidably mounted on such a section, the section shall be sufficiently reinforced.

## **Design and engineer the power supply system to turn on/off the power of this product.**

The product has no power switch. When installing the product, use a PoE hub equipped with the ON-OFF switch for servicing.

## **About the network connection**

When connecting to a network using the network cable of this product, observe the following.

- When wiring for the network, design and engineer to not to be affected by thunder.
- It is impossible to install this product in combination with a pan/tilt head.

## **Screw tightening**

- The screws and bolts must be tightened with an appropriate tightening torque according to the material and strength of the installation area.
- Do not use an impact driver. Use of an impact driver may damage the screws or cause tightening excessively.
- When a screw is tightened, make the screw at a right angle to the surface. After tightening the screws or bolts, perform visual check to ensure tightening is enough and there is no backlash.

## **Procure fixing screws separately.**

The screws that secure this product are not supplied. Prepare them according to the material and strength of the area where the product is to be installed.

## **Do not remove or loosen the internal camera screws**

Do not loosen the internal camera screws. Otherwise, the camera may malfunction, or fall, resulting in injury.

## **Radio disturbance**

When this product is used near TV/radio antenna, strong electric field or magnetic field (near a motor, a transformer or a power line), images may be distorted and noise sound may be produced.

## **PoE (Power over Ethernet)**

Use a PoE hub/device that is compliant with IEEE802.3af standard.

## **Router**

When connecting this product to the Internet, use a broadband router with the port forwarding function (NAT, IP masquerade).

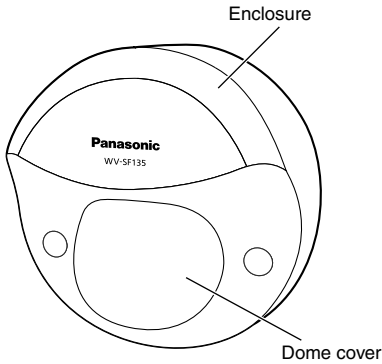
Refer to the Operating Instructions (included in the CD-ROM) for further information about the port forwarding function.

## **Time & date setting**

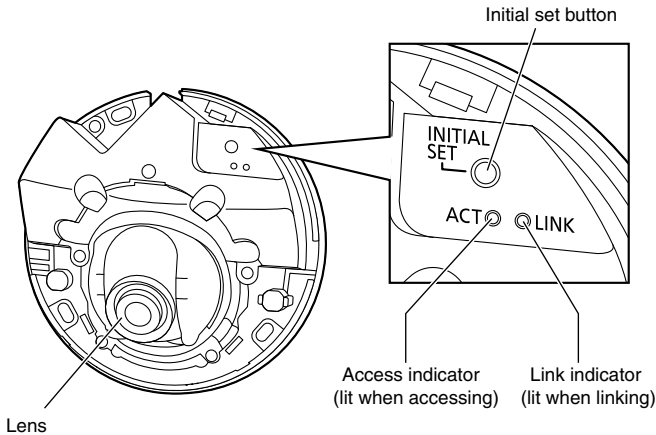
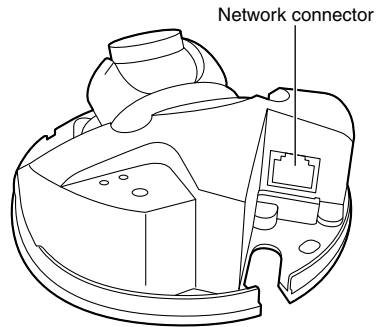
It is necessary to set the time & date before putting this product into operation. Refer to the Operating Instructions (included in the CD-ROM) for further information about the time & date setting.

# Major operating controls

## <Front view>



## <Rear view>



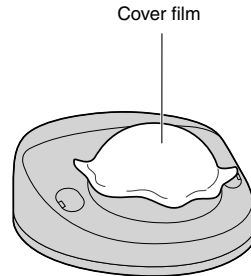
### About the initial set button

After turning off the power of the camera, turn on the power of the camera while holding down this button, and wait for around 5 seconds or more without releasing this button. Wait around 2 minutes after releasing the button. The camera will start up and the settings including the network settings will be initialized. Do not turn off the power of the camera during the process of initialization. Before initializing the settings, it is recommended to write down the settings in advance.

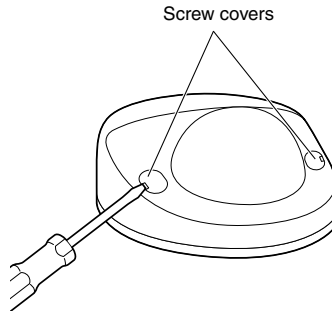
# Removing the enclosure

## IMPORTANT:

- Remove the cover film from the dome cover of the enclosure after the installation is complete. Do not touch the dome cover by hand directly after removing the cover film.

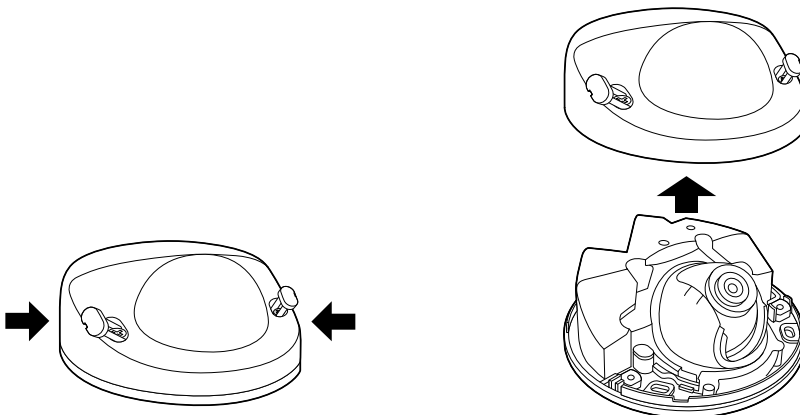


- 1 Use a slotted head screwdriver to open the screw covers (2 places), and then loosen the 2 screws (M3).



- 2 Remove the enclosure.

- Hold both sides of the enclosure, release the hook and remove the enclosure.



# Preparations

You can install the camera on a ceiling or a wall. (☞ Pages 16 and 17)

## IMPORTANT:

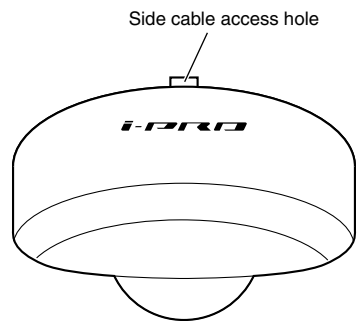
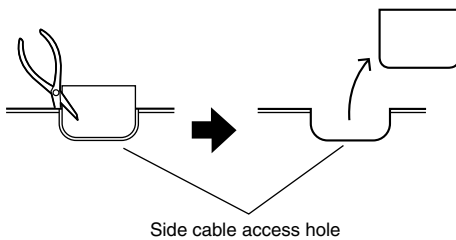
- Procure 3 screws (M4) to secure the camera to a ceiling or a wall, according to the material of the installation area. In this case, wood screws and nails should not be used. For mounting a camera on a concrete ceiling, use an anchor bolt (for M4) or an AY plug bolt (M4) for securing. (Recommended tightening torque: 1.6 N·m {1.18 lbf·ft})
- Required pull-out capacity of a single screw/bolt is 196 N {44 lbf} or more.
- If a ceiling board such as plaster board is too weak to support the total weight, the area shall be sufficiently reinforced.

The mounting conditions of the camera are described as follows:

Installation place		Recommended screw	Number of screw	Minimum pull-out strength (per 1 pc.)
Ceiling/wall	(Direct mounting)	M4	3 pcs.	196 N {44 lbf}

## Using the side cable access hole

When installing the camera directly on the ceiling or wall with cables exposed, cut out a portion of the enclosure to open a cable access hole.



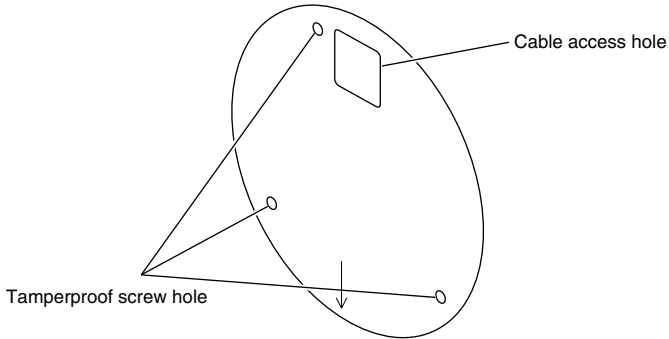


# Method of camera installation

## Installing the camera directly on the ceiling or wall

### Note:

- Use the installation template label (accessory) with the side with the arrow facing you.
- Ceiling installation:  
Place the installation template label so that the "↓" is pointing to the front of the camera (the lens side).
- Wall installation:  
Place the installation template label so that the "↓" is pointing down.



### <Connecting the cable through holes opened in the ceiling or wall>

Place the installation template label (accessory) on the ceiling or wall, mark the hole for the cable to be passed through and for the fixing screws (3 places), then open the holes.

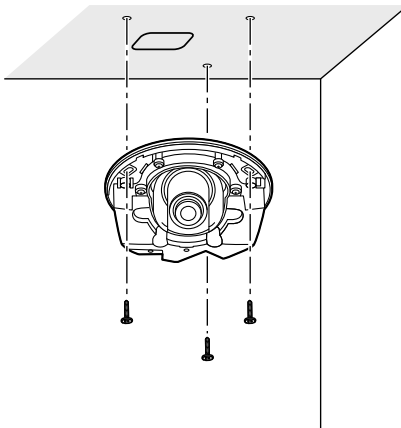
Remove the installation template label, and mount the camera with 3 fixing screws (locally procured). (☞ Page 20)

### <Connecting the cable through the side cable access hole>

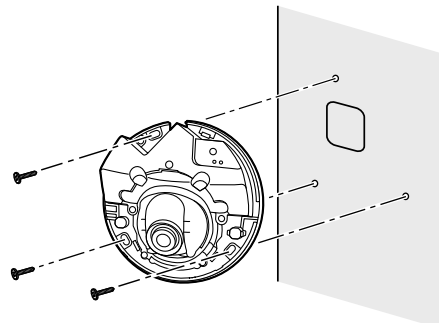
Place the installation template label (accessory) on the ceiling or wall, mark the holes for the fixing screws (3 places), then open the holes.

Remove the installation template label, and mount the camera with 3 fixing screws (locally procured). (☞ Page 20)

■ Ceiling



■ Wall



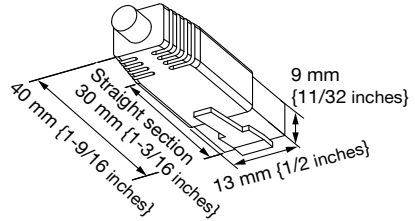
# Connection

Before starting the connection, turn off the power of the devices to be connected. Check and prepare the required devices and cables for connection.

---

**Note:**

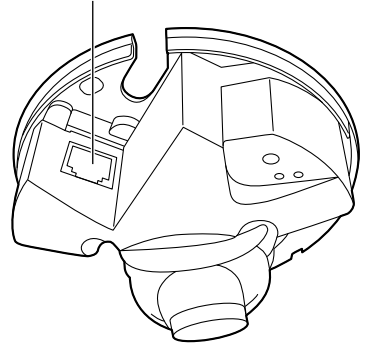
- Since the connector storage section does not have a sufficient space, use a LAN cable that does not exceed the sizes described in the illustrations.



Example of LAN cable connector

- 
- 1** Connect a LAN cable (category 5 or better, straight, STP) between a PoE device (such as a hub) and the network connector of the camera.

Network connector

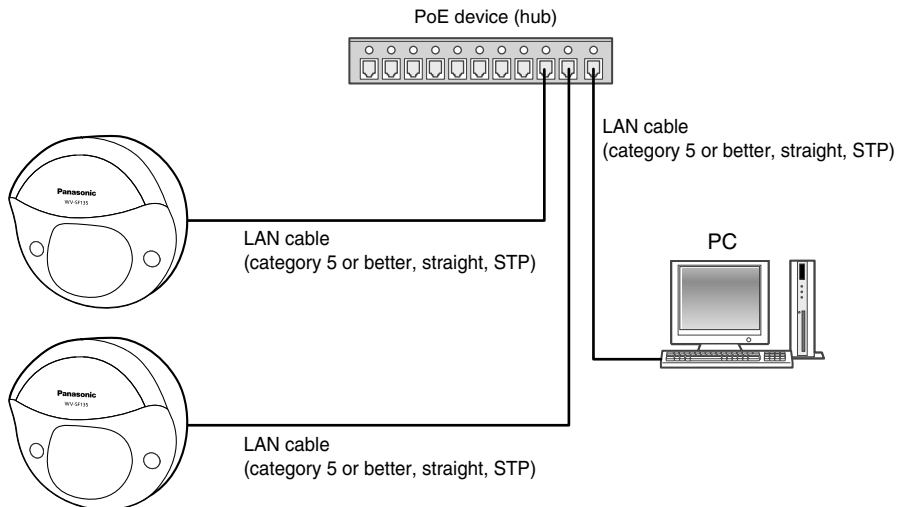


---

**IMPORTANT:**

- Use all 4 pairs (8 pins) of the LAN cable.
  - The maximum cable length is 100 m {328 feet}.
  - Make sure that the PoE device in use is compliant with IEEE802.3af standard.
  - When disconnecting the LAN cable once, reconnect the cable after around 2 seconds. When the cable is quickly connected, the power may not be supplied from the PoE device.
-

## Connection example



### <Required cable>

LAN cable (category 5 or better, straight, STP)

---

### IMPORTANT:

- A PoE hub is required.
-

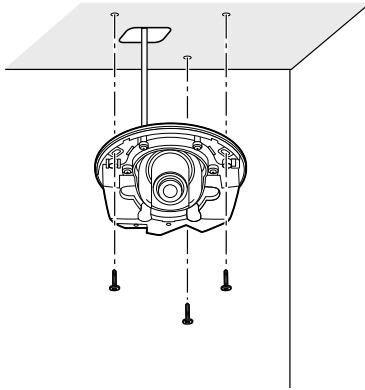
# Installation

## Camera mounting

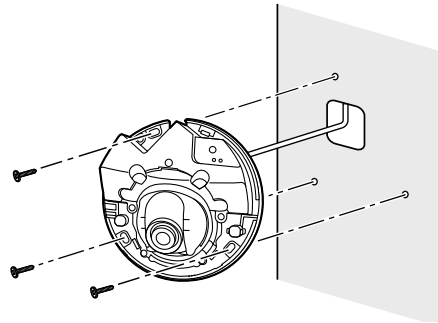
Installation shall be conducted after turning off each device.

- 1 Remove the enclosure. (☞ Page 15)
- 2 Connect the cables to the camera. (☞ Pages 18 and 19)
- 3 Fix the camera with 3 screws (M4) (locally procured).

■ Ceiling



■ Wall



---

### IMPORTANT:

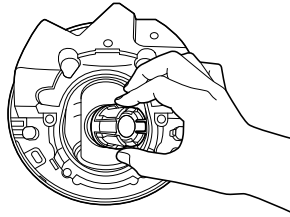
- Do not touch the lens.
  - When tightening the screws, be careful to ensure that the cables does not tangle the cables.
-

# Adjustment

## 1 Adjust the camera angle.

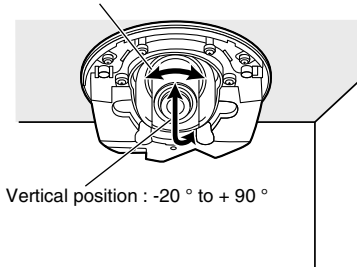
When determining the camera angle, repeat fine adjustments by gradually moving the panning table and tilting table.

- Attach the lens adjuster (accessory) to the lens and adjust the direction of the lens. Attach the wider end of the lens adjuster to the lens.
- Do not touch the lens with your hand when making adjustments.
- Make adjustments to the direction of the lens while confirming the picture displayed on computer's monitor.



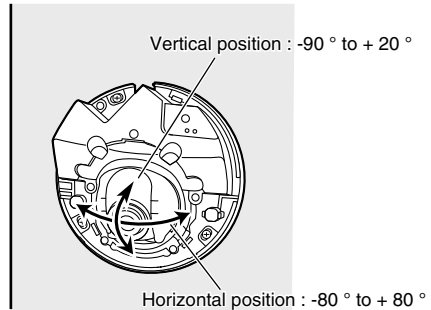
### ■ Ceiling

Horizontal position :  $-20^{\circ}$  to  $+20^{\circ}$

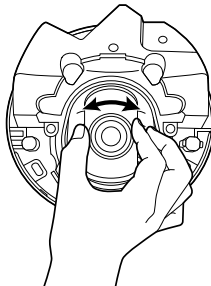


### ■ Wall

Vertical position :  $-90^{\circ}$  to  $+20^{\circ}$



- When adjusting the horizontal angle of cameras mounted to a ceiling, adjust the direction of the lens by moving the lens holding the indentations on the sides of the lens.



---

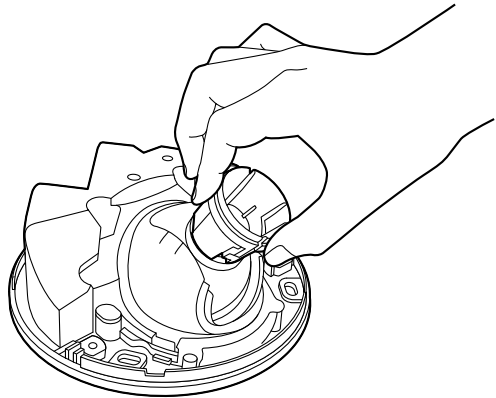
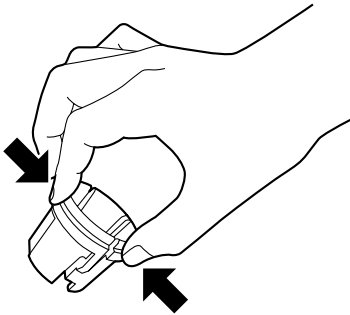
**Note:**

- Depending on the vertical/horizontal angle used, the edges of the camera may be projected.
  - Use Extra Zoom when you want to adjust the angular field of view on the "Tele" side. When VGA or a lower resolution is selected, the angular field of view can be adjusted without deterioration in the image quality. **SF135**
  - If the 2x extra zoom is applied when "1280x960" is selected for the image capture size, the image quality will be deteriorated because the effect of Extra Zoom is not provided. **SF135**
- 

**2 <Adjusting the focus of the lens>**

Attach the lens adjuster (accessory), and rotate the lens to adjust the focus of the lens.

- When making adjustments to the focus of the lens, attach the narrower end of the lens adjuster to the lens.



When attaching or removing the lens adjuster, squeeze the wider end of the lens adjuster as shown in the illustration to open the narrower end of the lens adjuster.

---

**Note:**

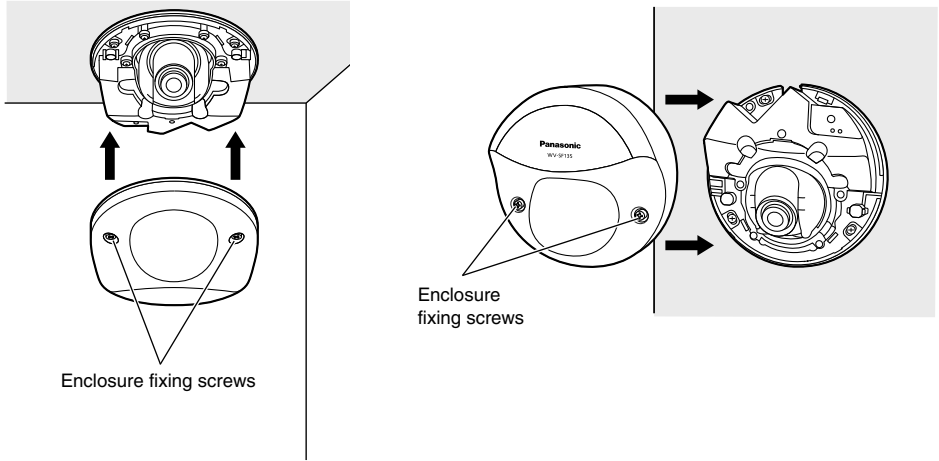
- When the focus is difficult to adjust, set the [Zoom] button on the "Live" page to "x2".
-

# Attaching the enclosure

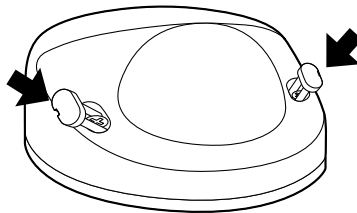
- 1 Attach the enclosure to the camera with 2 enclosure fixing screws (M3) and the hook. (Recommended tightening torque: 0.4 N·m {0.3 lbf·ft})

■ Ceiling

■ Wall



- 2 Close the screw covers.



- 3 Remove the cover film completely.

## IMPORTANT:

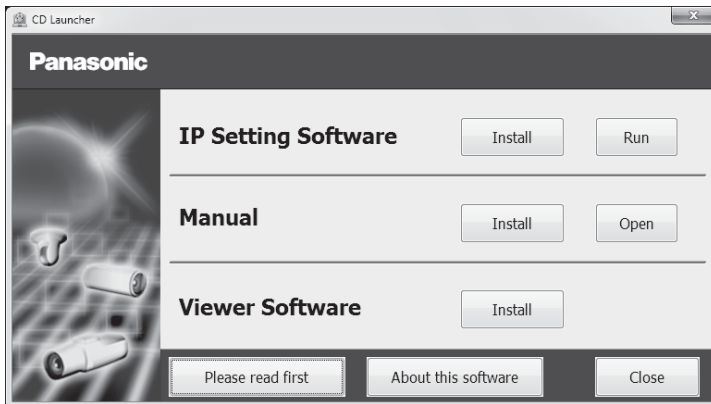
- When attaching the enclosure the focus may be slightly disturbed. If this occurs, remove the enclosure and make the necessary adjustments.
- Before attaching the enclosure, make sure that the subject is present.
- Securely tighten all the fixing screws (x2) of enclosure. Otherwise, the camera may malfunction, or the enclosure may fall, resulting in injury. (Recommended tightening torque: 0.4 N·m {0.3 lbf·ft})
- Remove the cover film from the dome cover.

# Configure the network settings

## Configuring the camera so that it can be accessed from a PC

The following are descriptions for when the camera with default settings is configured. If you are using firewall software on your PC, the Setup Program may not be able to find any cameras on your network. Configure the setting of the camera after temporarily invalidating the firewall software. Contact the network administrator or your Internet service provider for information about configuring the settings of the network.

- 1 Insert the provided CD-ROM into the CD-ROM drive of your PC.
  - The License Agreement will be displayed. Read the Agreement and choose “I accept the term in the license agreement”, and click [OK].
  - The launcher window will be displayed. If the launcher window is not displayed, double click the “CDLauncher.exe” file on the CD-ROM.



---

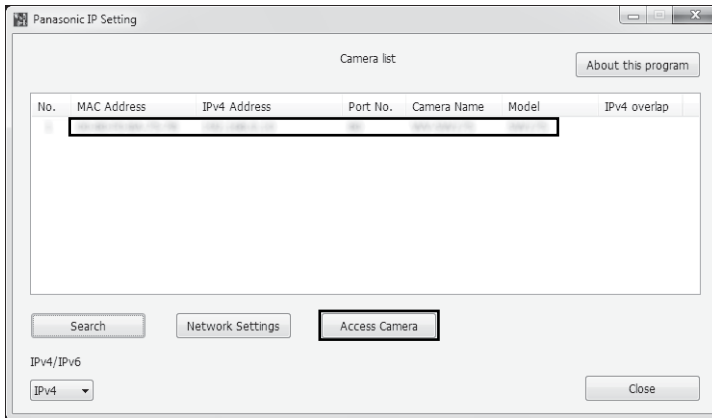
**Note:**

- Refer to “Using the CD-ROM” in the Operating Instructions on the provided CD-ROM for further information about CDLauncher.
- 

- 2 Click the [Run] button next to [IP Setting Software]. [Panasonic IP Setting] screen will be displayed. Click the [Network Settings] button after selecting the MAC address/IP address of the camera to be configured.



- 3 Select the camera you want to configure, and click [Access Camera].



---

**Note:**

- When cameras are displayed in [Panasonic IP Setting] screen, click the camera with same MAC address as the MAC address printed on the camera that you want to configure.

- 4 If the installation screen of the viewer software “Network Camera View 4S” is displayed, follow the instructions of the wizard to start the installation. (The viewer software is installed from the camera.)
- The “Live” page will be displayed.
  - If you cannot install the viewer software “Network Camera View 4S” or if images are not displayed, click the [Install] button next to [Viewer Software] on the launcher window to install the software.
  - Perform the [Time & date] settings in the “Setup” - “Basic” page before using the camera.

---

**Note:**

- When no image is displayed on the “Live” page, refer to the Troubleshooting in the Operating Instructions on the provided CD-ROM.
- It is possible to enhance the network security by encrypting the access to cameras using the HTTPS function. Refer to the Operating instructions on the provided CD-ROM for how to configure the HTTPS settings.
- Click the [Setup] button on the “Live” page, the user authentication window will be displayed. Enter the default user name and password as follows, and log in.  
User name: admin  
Password: 12345
- When changing settings related to the network settings, such as connection mode, IP address, and subnet mask, click the [Network Settings] button in [IP Setting Software] screen as shown in step 3, then change each setting.
- Due to security enhancements in “IP Setting Software”, “Network settings” of the camera to be configured cannot be changed when around 20 minutes have passed after turning on the power of the camera. (When the effective period is set to “20 min” in the “Easy IP Setup accommodate period”.)  
However, settings can be changed after 20 minutes for cameras in the initial set mode.
- “Network Camera Recorder with Viewer Software Lite” which supports live monitoring and recording images from multiple cameras is available. For further information, refer to our web-site (<http://security.panasonic.com/pss/security/support/info.html>).

# Troubleshooting

## Before asking for repairs, check the symptoms with the following table.

Contact your dealer if a problem cannot be solved even after checking and trying the solution in the table or a problem is not described below.

Symptom	Cause/solution	Reference pages
<b>Power is not turned on.</b>	<ul style="list-style-type: none"><li>• Are the PoE device and the network connector on the rear of the camera connected using a LAN cable? → Check whether the connection is appropriately established.</li><li>• Depending on the PoE device, the power supply will stop when the demanded power exceeds its total power limit for all PoE ports. → Refer to the operating instructions of the PoE device in use.</li></ul>	18

# Specifications

## • Basic

Power source:	PoE (IEEE802.3af compliant)
Power consumption:	<b>SF135</b> PoE 48 V: 54 mA (Class 1 device) <b>SF132</b> PoE 48 V: 46 mA (Class 1 device)
Ambient operating temperature:	0 °C to +40 °C {32 °F to 104 °F}
Ambient operating humidity:	Less than 90 % (no condensation)
Dimensions:	ø100 mm x 47 (H) mm {ø3-15/16 inches x 1-27/32 inches (H)}
Mass:	Approx. 200 g {0.44 lbs}
Finish:	Main body: ABS resin, sail white Dome cover: Clear polycarbonate resin

## • Camera

Image sensor:	<b>SF135</b> 1/3-type MOS image sensor <b>SF132</b> 1/5-type MOS image sensor
Effective pixels:	<b>SF135</b> Approx. 1.3 megapixels <b>SF132</b> Approx. 0.32 megapixels
Scanning area:	<b>SF135</b> 4.80 mm (H) x 3.60 mm (V) {3/16 inches (H) x 5/32 inches (V)} <b>SF132</b> 2.69 mm (H) x 2.01 mm (V) {1/8 inches (H) x 1/16 inches (V)}
Scanning system:	Progressive
Minimum illumination <b>SF135</b> :	Color: 0.8 lx {0.08 footcandle} (F2.2, Auto slow shutter: Off (1/30 s), AGC: On (High)) 0.05 lx {0.005 footcandle} (F2.2, Auto slow shutter: Max. 16/30 s, AGC: On (High))*
	BW: 0.6 lx {0.06 footcandle} (F2.2, Auto slow shutter: Off (1/30 s), AGC: On (High)) 0.04 lx {0.004 footcandle} (F2.2, Auto slow shutter: Max. 16/30 s, AGC: On (High))*
Minimum illumination <b>SF132</b> :	Color: 2.0 lx {0.2 footcandle} (F2.9, Auto slow shutter: Off (1/30 s), AGC: On (High)) 0.3 lx {0.03 footcandle} (F2.9, Auto slow shutter: Max. 8/30 s, AGC: On (High))*
	BW: 1.3 lx {0.13 footcandle} (F2.9, Auto slow shutter: Off (1/30 s), AGC: On (High)) 0.16 lx {0.016 footcandle} (F2.9, Auto slow shutter: Max. 8/30 s, AGC: On (High))*
	* Converted value
Gain (AGC):	On (High)/ On (Mid)/ On (Low)/Off
Adaptive black stretch:	On/Off
Light control mode setting:	Indoor scene (50 Hz/60 Hz)/ ELC
ELC(Maximum exposure time):	ELC(1/30 s), ELC(3/100 s), ELC(3/120 s), ELC(2/100 s), ELC(2/120 s), ELC(1/100 s), ELC(1/120 s), ELC(1/250 s), ELC(1/500 s), ELC(1/1000 s), ELC(1/2000 s), ELC(1/4000 s), ELC(1/8000 s) <b>SF132</b> , ELC(1/10000 s) <b>SF135</b>
Auto slow shutter:	<b>SF135</b> Off(1/30 s), Max. 2/30 s, Max. 4/30 s, Max. 6/30 s, Max. 10/30 s, Max. 16/30 s <b>SF132</b> Off(1/30 s), Max. 2/30 s, Max. 3/30 s, Max. 4/30 s, Max. 8/30 s
Day & Night (electrical):	Off/ Auto
White balance:	ATW1/ ATW2/ AWC

Digital noise reduction:	High/Low
Video analytics	
Face detection*:	On/Off (with the XML notification setting)
Privacy zone:	On/Off (up to 2 zones available)
VIQS:	On/Off
Camera title on screen:	Up to 20 characters (alphanumeric characters, marks)
	On/Off
Video motion detection (VMD alarm):	On/Off, 4 areas available

\* To use the "XML notification" and "Face detection" functions, you need to install the extension software.

#### • Lens

Zoom ratio:	<b>SF135</b> 1x Extra zoom: 2x (under VGA resolution)
	<b>SF132</b> -
Focal length:	<b>SF135</b> 1.95 mm <b>SF132</b> 1.95 mm
Maximum aperture ratio:	<b>SF135</b> 1:2.2 <b>SF132</b> 1:2.9
Angular field of view:	<b>SF135</b> Horizontal: 104 °, Vertical: 85 ° <b>SF132</b> Horizontal: 68 °, Vertical: 53 °
Adjusting angle:	<ul style="list-style-type: none"> <li>• Ceiling installation           <ul style="list-style-type: none"> <li>Horizontal: -20 ° to +20 °</li> <li>Vertical: -20 ° to +90 °</li> </ul> </li> <li>• Wall installation           <ul style="list-style-type: none"> <li>Horizontal: -80 ° to +80 °</li> <li>Vertical: -90 ° to +20 °</li> </ul> </li> </ul>

#### • Network

Network:	10BASE-T/100BASE-TX, RJ45 connector
Resolution <b>SF135</b> :	Aspect ratio: 4:3 H.264 1280×960/ VGA (640×480)/ QVGA (320×240), Max. 30 fps JPEG 1280×960/ VGA (640×480)/ QVGA (320×240), Max. 30 fps Aspect ratio: 16:9 H.264 1280×720/ 640×360/ 320×180, Max. 30 fps JPEG 1280×720/ 640×360/ 320×180, Max. 30 fps
Resolution <b>SF132</b> :	Aspect ratio: 4:3 H.264 VGA (640×480)/ QVGA (320×240), Max. 30 fps JPEG VGA (640×480)/ QVGA (320×240), Max. 30 fps Aspect ratio: 16:9 H.264 640×360/ 320×180, Max. 30 fps JPEG 640×360/ 320×180, Max. 30 fps

Image compression method* <sup>1</sup> :	H.264 Image quality: Low/Normal/Fine Transmission type: Unicast/Multicast Bit rate: Constant bit rate/Best effort: 64 kbps/ 128 kbps/ 256 kbps/ 384 kbps/ 512 kbps/ 768 kbps/ 1024 kbps/ 1536 kbps/ 2048 kbps/ 3072 kbps/ 4096 kbps/ 8192 kbps <b>SF135</b> Frame rate: 1 fps/ 3 fps/ 5 fps/ 7.5 fps/ 10 fps/ 12 fps/ 15 fps/ 20 fps/ 30 fps JPEG Image quality: 0 SUPER FINE/ 1 FINE/ 2/ 3/ 4/ 5 NORMAL/ 6/ 7/ 8/ 9 LOW (10 steps: 0-9) Transmission type: PULL/PUSH
Transmission interval:	0.1 fps - 30 fps (JPEG frame rate will be restricted when displaying both JPEG and H.264 images.)
Bandwidth control:	Unlimited/ 64 kbps/ 128 kbps/ 256 kbps/ 384 kbps/ 512 kbps/ 768 kbps/ 1024 kbps/ 2048 kbps/ 4096 kbps/ 8192 kbps
Protocol:	IPv6: TCP/IP, UDP/IP, HTTP, HTTPS, RTP, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, MLD, ICMP, ARP IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP
OS* <sup>2</sup> * <sup>3</sup> :	Microsoft® Windows® 7 Microsoft® Windows Vista® Microsoft® Windows® XP SP3
Browser:	Windows® Internet Explorer® 9.0 (32-bit) Windows® Internet Explorer® 8.0 (32-bit) Windows® Internet Explorer® 7.0 (32-bit) Microsoft® Internet Explorer® 6.0 SP3
Maximum concurrent access number:	14 (Depends on network conditions)
FTP client:	Alarm image transmission, FTP periodic transmission
Multi-screen:	Up to 16 camera images can be displayed simultaneously on a multi-screen. (Including the camera itself)
Cellular phone compatibility:	JPEG image
Mobile terminal compatibility: (As of October, 2013)* <sup>4</sup>	iPad, iPhone, iPod touch (iOS 4.2.1 or later) Android™ mobile terminals

\*1 Transmission for 2 streams can be individually set in the same compression method.

\*2 Refer to "Notes on Windows Vista® / Windows® 7" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 7 or Microsoft® Windows Vista®.

\*3 When using IPv6 for communication, use Microsoft® Windows® 7 or Microsoft® Windows Vista®.

\*4 For further information about compatible devices, refer to our website (<http://security.panasonic.com/pss/security/support/info.html>).

## Standard accessories

Installation Guide (this document) .....	1 set
Important Safety Instructions .....	1 pc.
Warranty card .....	1 set
CD-ROM*1 .....	1 pc.
Code label*2 .....	1 pc.
Lens adjuster.....	1 pc.

The following parts are used during installation procedures.

Installation template label .....	1 pc.
-----------------------------------	-------

\*1 The CD-ROM contains the operating instructions and different kinds of tool software programs.

\*2 This label may be required for network management. The network administrator shall retain the code label.

## Optional accessories

User License Accessory (For H.264) .....	BB-HCA8A
	BB-HCA8CE



## Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



### For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

### [Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.



**Cd**

### Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

### For U.S. and Canada:

#### Panasonic System Communications Company of North America, Unit of Panasonic Corporation of North America

[www.panasonic.com/business/](http://www.panasonic.com/business/)  
For customer support, call 1.800.528.6747  
Two Riverfront Plaza, Newark, NJ 07102-5490

#### Panasonic Canada Inc.

5770 Ambler Drive, Mississauga,  
Ontario, L4W 2T3 Canada  
(905)624-5010  
[www.panasonic.ca](http://www.panasonic.ca)

### For Europe and other countries:

#### Panasonic Corporation

<http://www.panasonic.com>

Panasonic Corporation  
Osaka, Japan

Authorised Representative in EU:

Panasonic Testing Centre  
Panasonic Marketing Europe GmbH  
Winsbergring 15, 22525 Hamburg, Germany

