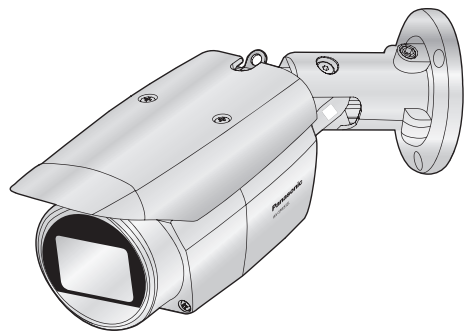# Panasonic®

Installation Guide
Included Installation Instructions

Network Camera

Model No. WV-SPW532L / WV-SPW312L

WV-SPW532L

- This manual describes the installation procedures, network camera installation, cable connections, and field-of-view adjustment.
- Before reading this manual, be sure to read the Important Information.
- This manual describes how to install the network camera using model WV-SPW532L as an example.

For U.S. and Canada:

Panasonic i-PRO Sensing Solutions
Corporation of America
800 Gessner Rd, Suite 700 Houston, TX 77024
https://www.security.us.panasonic.com/

Panasonic Canada Inc.
5770 Ambler Drive, Mississauga, Ontario, L4W 2T3 Canada
1-877-495-0580
https://www.panasonic.com/ca/

For Europe and other countries:

Panasonic Corporation
http://www.panasonic.com

Panasonic i-PRO Sensing Solutions Co., Ltd.
Fukuoka, Japan

Authorised Representative in EU:

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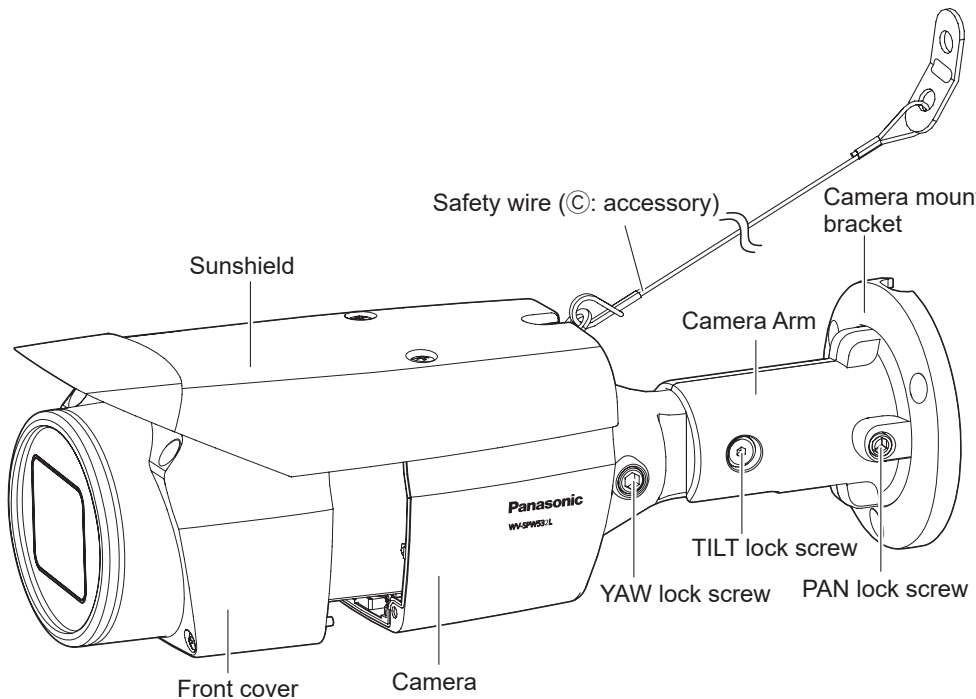Winsbergring 15, 22525 Hamburg, Germany

CE

Standard accessories

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

*1 The CD-ROM contains the operating instructions and different kinds of tool software programs.
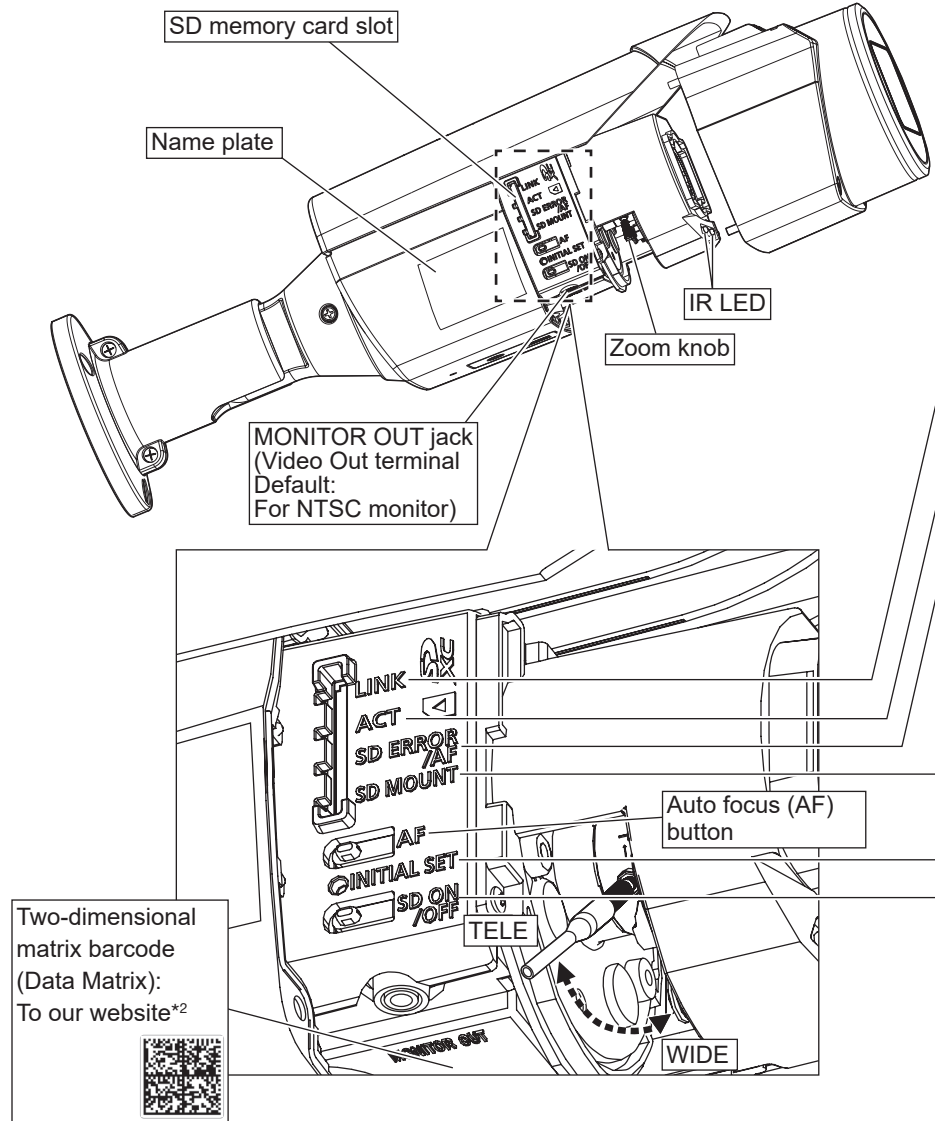*2 This label may be required for network management. The network administrator shall retain the code label.

The following parts are used during installation procedures.

Ⓐ Template .... 1 Sheet	Ⓔ Safety wire lug .... 1 pc.
Ⓑ LAN connector cover .... 1 Set	Ⓕ Auxiliary handle.................................... 1 pc.
Ⓒ Safety wire .... 1 pc.	Ⓖ Desiccant ....1 Sheet
Ⓓ Wire lug fixing screw	Ⓗ Waterproof tape .... 1 pc.
M3 × 10 mm {3/8 inches} .... 2 pcs.	
(of them, 1 for spare)	

Parts and functions

The component names of the camera are as follows. Refer to the illustration when installing or adjusting the camera.

SD memory card slot
Name plate
IR LED
Zoom knob
MONITOR OUT jack
(Video Out terminal
Default:
For NTSC monitor)
Auto focus (AF) button
Two-dimensional matrix barcode (Data Matrix): To our website*2
LINK
ACT
SD ERROR/AF
SD MOUNT
AF
INITIAL SET
SD ON/OFF
TELE
WIDE

*1 SDXC/SDHC/SD memory card is described as SD memory card.
*2 Depending on the scanning application used, the Data Matrix may not be able to be read correctly. In this case, access the site by directly entering the following URL.
http://security.panasonic.com/pss/security/support/qr_sp_select.html

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LINK indicator
- When the camera is able to communicate with the connected device ..... Lights orange

ACT indicator
- When data is being sent via the network camera ..... Blinks green (accessing)

SD ERROR/AF indicator
- When AF (Auto Focus) operation is being executed ..... Blinks red (about once per second)
- When the camera is being started ..... Lights red
- When an SD memory card*1 is recognized normally ..... Lights red → Lights off
- When the SD memory card slot is not used or an abnormality is detected in SD memory card after the camera has started ..... Lights red → Stays red

SD MOUNT indicator
- When an SD memory card is inserted and could be recognized ..... Lights off → Blinks green → Lights off
- When data can be saved after the SD memory card is inserted and the SD ON/OFF button is pressed (for less than 1 second) ..... Lights off → Lights green
- When data can be saved to the SD memory card ..... Lights green
- When the SD memory card is removed after holding down the SD ON/OFF button for about 2 seconds ..... Lights green → Blinks green → Lights off (recording) Lights green → Lights off (waiting for recording)
- When data cannot be saved to the SD memory card because an abnormality was detected or the SD memory card is configured not to be used ..... Lights off

INITIAL SET button (Initializing / NTSC⇔PAL switch button)
- How to initialize the camera
Follow the steps below to initialize the network camera.
① Turn off the power of the camera. When using a PoE hub, disconnect the Ethernet cable from the camera.
② Turn on the power of the camera while holding down the INITIAL SET button, and keep the INITIAL SET button held down till the SD MOUNT indicator is lit in green (more than 10 seconds). In about 2 minutes after releasing the INITIAL SET button, the camera will start up and the settings including the network settings will be initialized.

IMPORTANT:
- When the camera is initialized, the settings including the network settings will be initialized. Note that the CRT key (SSL encryption key) used for the HTTPS protocol will not be initialized.
- Before initializing the settings, it is recommended to write down the settings in advance.
- Do not turn off the power of the camera during the process of initialization. Otherwise, it may fail to initialize and may cause malfunction.

- When the INITIAL SET button (i.e. the initializing button) is pressed (less than 1 second) to switch the output signal of the MONITOR OUT terminal (NTSC⇔PAL output), the MONITOR OUT terminal can be switched for the NTSC monitor/PAL monitor.

SD ON/OFF button
① When the SD ON/OFF button is pressed for less than 1 second, the SD MOUNT indicator is lit green and data can be saved to the SD memory card.
② When the SD ON/OFF button is held down for about 2 seconds, the SD MOUNT indicator goes out, and the SD memory card can be removed.

Safety wire (Ⓒ: accessory)
Sunshield
Camera mount bracket
Camera Arm
Panasonic
TILT lock screw
YAW lock screw
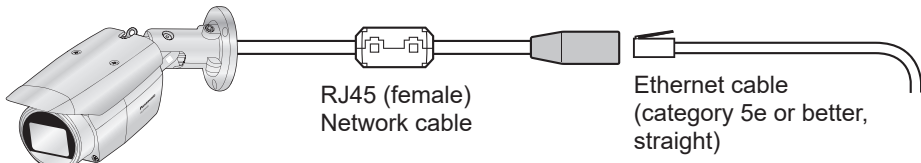PAN lock screw
Front cover
Camera

Making connections

Turn off each system's power supply before making a connection. Before making connections, prepare the required peripheral devices and cables.

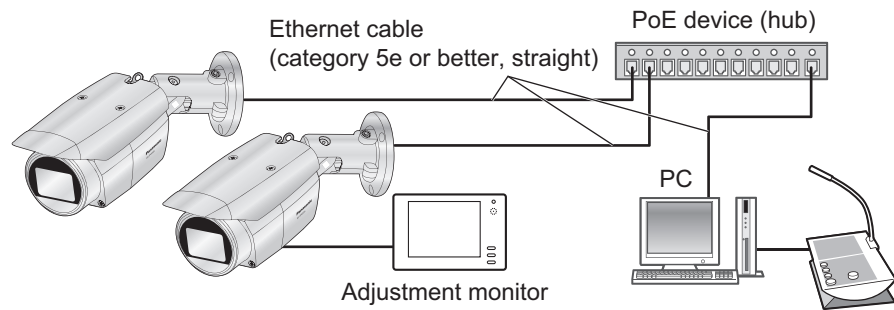### Connect an Ethernet cable (category 5e or better, straight)

IMPORTANT:
- Use all 4 pairs (8 pins) of the Ethernet cable (category 5e or better, straight).
- The maximum cable length is 100 m {328 feet}.
- Make sure that the PoE device in use is compliant with IEEE802.3af standard.
- When the Ethernet cable is disconnected once, reconnect the cable after around 2 seconds. When the cable is quickly reconnected, the power may not be supplied from the PoE device.
- When cables are used outdoors, there is a chance that they may be affected by lightning. In this case, install a lightning arrester just before where the Ethernet cable connects to the camera.

RJ45 (female)
Network cable
Ethernet cable
(category 5e or better, straight)

When connecting to a network using a PoE hub

Before starting the installation, check the entire system configuration.
The following illustration gives a wiring example of how to connect the camera to the network via a PoE device (hub).

Ethernet cable
(category 5e or better, straight)
PoE device (hub)
PC
Adjustment monitor

<Required cable>
Ethernet cable (category 5e or better, straight)
Use an Ethernet cable (category 5e or better, cross) when directly connecting the camera to a PC.

IMPORTANT:
- The adjustment monitor is used to adjust the field of view when installing or servicing the camera. It is not provided for recording/monitoring use.
- Depending on the adjustment monitor, some characters (camera title, preset ID, etc.) may not be displayed on the screen.
- Use a switching hub or a router which is compliant with 10BASE-T/100BASE-TX.

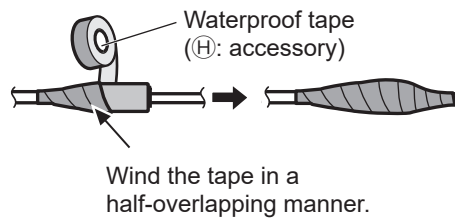### Waterproof treatment for the cable joint sections

Adequate waterproof treatment is required for the cables when installing the camera with cables exposed or installing it under the eaves.
The camera body is waterproof, but the cable ends are not waterproof.
Be sure to use the supplied waterproof tape at the points where the cables are connected to apply waterproof treatment in the following procedure.
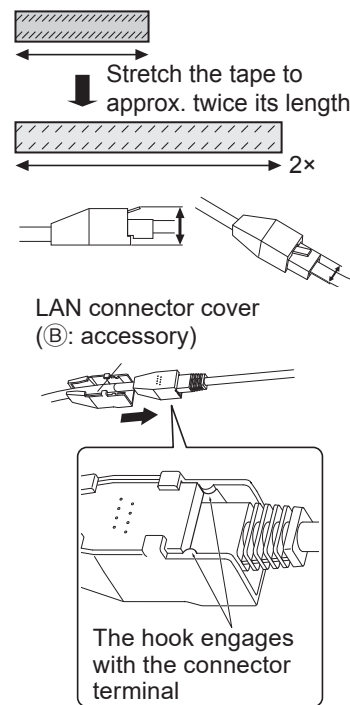Failure to observe this or use of a tape other than the provided waterproof tape (such as a vinyl tape) may cause water leakage resulting in malfunction.

<Ethernet cable>
Waterproof tape (Ⓗ: accessory)
Wind the tape in a half-overlapping manner.

IMPORTANT:
- Stretch the tape to approx. twice its length (see the illustration) and wind it around the cable. Insufficient tape stretch causes insufficient waterproofing.
- To prevent the Ethernet cable hook from coming loose easily, fit the LAN connector cover (Ⓑ: accessory) onto the pigtail cable as illustrated, and then slide it in the direction indicated by the arrow. The connector of the Ethernet cable used with this camera must meet the following restrictions.
Height when inserted (From bottom to hook.): Max. 16 mm {5/8 inches}
Connector width: Max. 14 mm {9/16 inches}
- To install this product outdoors, be sure to waterproof the cables. Waterproof grade (IEC IP66 or equivalent) is applied to this product only when it is installed correctly as described in these operating instructions and appropriate waterproof treatment is applied. The camera mount bracket and camera arm are not waterproof.

Stretch the tape to approx. twice its length.
2×
LAN connector cover (Ⓑ: accessory)
The hook engages with the connector terminal

Installation

The installation tasks are explained using 5 steps.

Step 1 Before starting the installation	⇨	Step 2 Preparation	⇨	Step 3 Fixing the camera	⇨	Step 4 Adjusting the camera	⇨	Step 5 Configure the network settings

Step 1 Before starting the installation

Tear off the blue tape attached on camera arm before installing the camera.
Prepare the required parts for installation method before starting the installation. The following is the requirements for the installation method.

Installation method	Recommended screw	Minimum pull-out strength
Directly mount the camera onto the ceiling or wall (when there is a space for wiring in the ceiling or the wall)	M4 screws × 3	724 N {163 lbf} (per 1 pc.)*1

*1 To mount the camera onto the ceiling or wall, the safety wire (Ⓒ: accessory) must be attached. Have an M6 bolt and nut or anchor (with the minimum pull-out strength of 724 N {163 lbf}) ready for securing the safety wire.
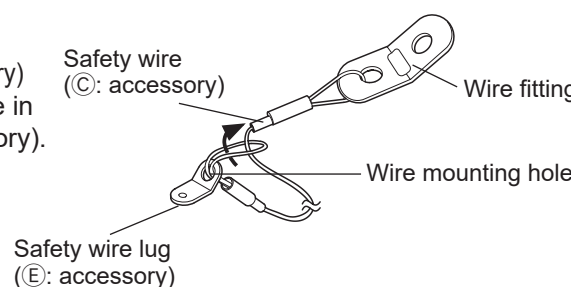
IMPORTANT:
- For the screws or anchor bolts used in the above method, be sure to secure the minimum pull-out strength of 724 N {163 lbf} per screw or bolt.
- Select screws according to the material of the ceiling or wall that the camera will be mounted to. In this case, wood screws and nails should not be used.
- If a ceiling or wall board such as plaster board is too weak to support the total weight, the area shall be sufficiently reinforced.
- Because the front cover is temporarily removed when installing or adjusting the camera, make sure no liquid enters the camera at these times.

Step 2 Preparation
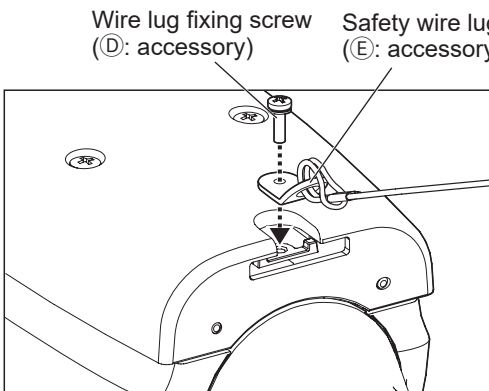
[1] Attaching the safety wire

① Pass the safety wire (Ⓒ: accessory) through the wire mounting hole in the safety wire lug (Ⓔ: accessory).

Safety wire (Ⓒ: accessory)
Wire fitting
Wire mounting hole
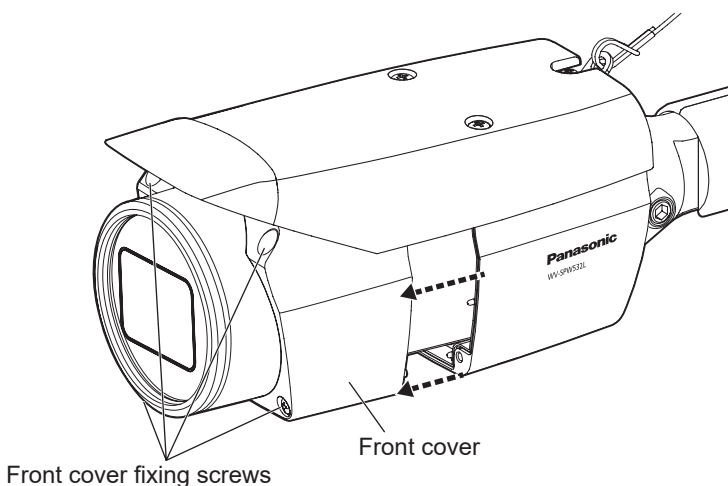Safety wire lug (Ⓔ: accessory)

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② Fit the Safety wire lug to the camera.

Recommended tightening torque: 0.59 N·m {0.44 lbf·ft}

* The safety wire is not shown in the subsequent illustrations.

Wire lug fixing screw (Ⓓ: accessory)
Safety wire lug (Ⓔ: accessory)

[2] Remove the front cover
Loosen the 4 front cover fixing screws, and then remove the front cover.

Panasonic
Front cover
Front cover fixing screws

Step 3 Fixing the camera

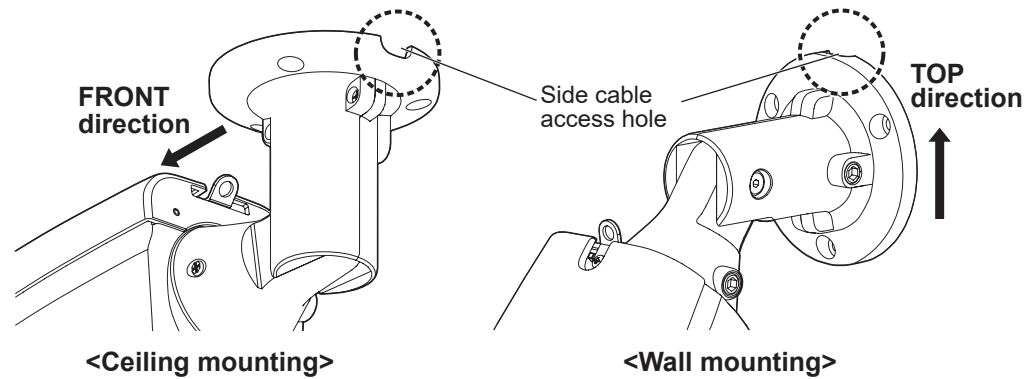## [1] Paste the template (Ⓐ: accessory) on the installation position, and drill a securing and wiring hole

■ When the camera is installed to the ceiling
- Attach the template (Ⓐ: accessory) to the ceiling with the FRONT mark of template towards the same direction which the camera is facing.
- Drill holes for securing the camera and wiring as shown in the illustration to the right.

■ When the camera is mounted on the wall
- Attach template (Ⓐ: accessory) onto the installation wall with the TOP mark facing upward.
- Drill holes for securing the camera and wiring as shown in the illustration to the upper right.
- When the side cable is installed, the Ethernet cable can come out from the direction towards the ceiling.
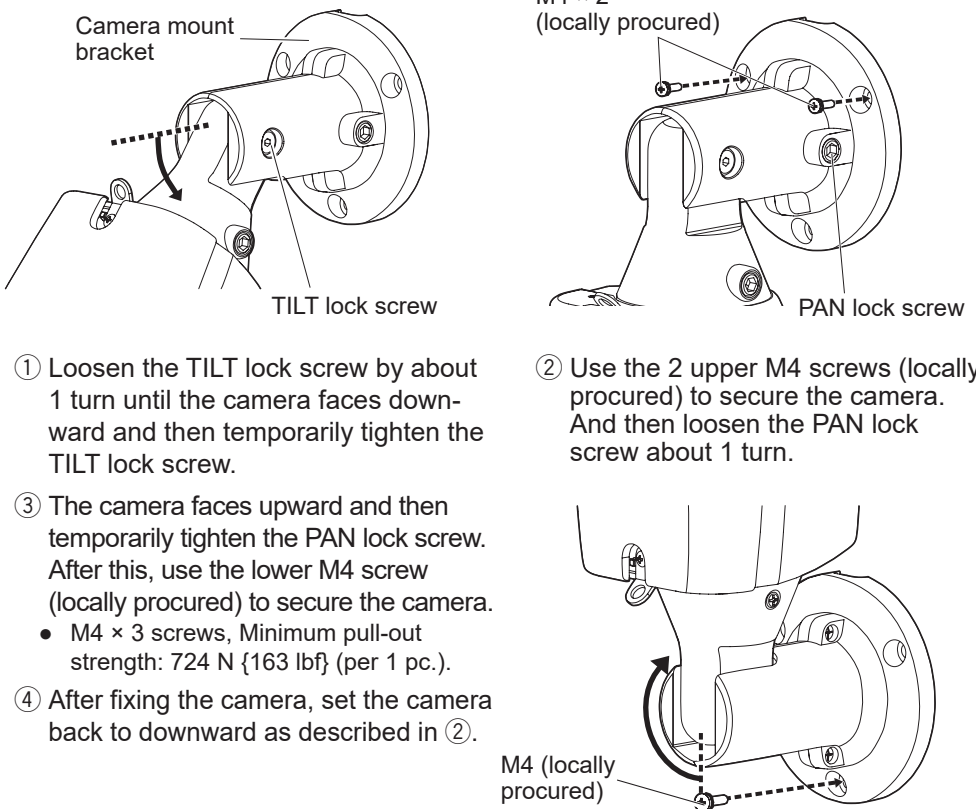* After drilling holes at the ceiling or wall, remove the template.

Side cable access hole
Template (Ⓐ: accessory)
TOP
M4 × 3
外形 Outline
模板 TEMPLATE
FRONT
Ø25 mm {1"}
Cable access hole

FRONT direction
Side cable access hole
TOP direction

<Ceiling mounting>   <Wall mounting>

* In the following illustrations, the safety wire is omitted.

[2] Connect the camera with an Ethernet cable
- Turn off each system's power supply before making a connection. Before making connections, prepare the required peripheral devices and cables.
- Connect the Ethernet cable coming from the camera and coming through the ceiling or wall according to the instructions in "Making connections". Waterproof the connections according to the instructions in "Waterproof treatment for the cable joint sections".
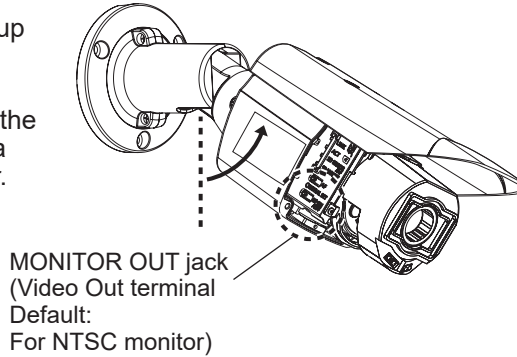
[3] Fixing the camera
The following example describes the case when the camera is mounted on the wall. Attach the camera body by following steps ①〜④.

Camera mount bracket
M4 × 2 (locally procured)
TILT lock screw
PAN lock screw

① Loosen the TILT lock screw by about 1 turn until the camera faces downward and then temporarily tighten the TILT lock screw.
③ The camera faces upward and then temporarily tighten the PAN lock screw. After this, use the lower M4 screw (locally procured) to secure the camera.
   - M4 × 3 screws, Minimum pull-out strength: 724 N {163 lbf} (per 1 pc.).
④ After fixing the camera, set the camera back to downward as described in ②.

② Use the 2 upper M4 screws (locally procured) to secure the camera. And then loosen the PAN lock screw about 1 turn.

M4 (locally procured)

[4] Connect the adjustment monitor to the camera
① Change the direction the camera is facing from directly down to facing up and temporarily fix the camera in place.
② Fit a pin cable (locally procured) to the MONITOR OUT jack on the camera and connect an adjustment monitor.

MONITOR OUT jack (Video Out terminal)
Default: For NTSC monitor

Step 4 Adjusting the camera ①, ②, ③

① **Turn on the camera.**
② **Insert an SD memory card into the SD memory card slot, if necessary.**
   Insert the SD memory card with its label facing the lens.
   - To remove the SD memory card, hold down the SD ON/OFF button for about 2 seconds. When the blinking SD MOUNT indicator goes out, you can remove the SD memory card.
   - After the SD memory card has been replaced, press the SD ON/OFF button (for less than 1 second), and make sure the SD MOUNT indicator is continually lit.
   - If you do not press the SD ON/OFF button after replacing the SD memory card, the SD MOUNT indicator is automatically lit approximately 5 minutes later.

SD memory card (Ensure that the label faces the lens.)
WIDE
TELE
Auto focus (AF) button
Auxiliary handle (Ⓕ: accessory)
Zoom knob
MONITOR OUT jack

③ **Adjust the camera field of view.**
   Adjust the direction of the camera with the PAN, TILT and YAW rotation parts, and turn the zoom knob until the desired field of view is achieved.
A) Using a 5 mm {3/16 inches} hex wrench (locally procured), loosen the PAN lock screw on the base of camera arm. To direct the camera to the left, turn the camera arm part clockwise when viewed from the front. To direct the camera to the right, turn it counterclockwise. (Panning range: ±180 °)
B) Using a 3 mm {1/8 inches} hex wrench (locally procured), loosen the TILT lock screw in the middle of camera arm and roughly adjust the direction of the camera. (Tilting range: 0 ° to 90 °)
C) Temporarily tighten PAN lock screw and TILT lock screw to prevent the camera from moving.
D) Using a 5 mm {3/16 inches} hex wrench (locally procured), loosen the YAW lock screw, turn the camera until the sunshield faces up and adjust the tilt of the camera. (Yawing range: -190 ° to +100 °)

IMPORTANT:
- Avoid touching the tilting part near the warning label when you change the tilting angle to secure the camera.
- If the TILT or PAN lock screw is loosened, the camera may not be held in place when it is secured to the wall or ceiling. If this is the case, temporarily tighten the appropriate lock screws to keep the camera from moving.

Warning label

E) As shown in the ② upper figure, insert the Auxiliary handle (Ⓕ: accessory) into the zoom knob and loosen the knob by rotating it to the left, and move it between TELE and WIDE to obtain the desired field of view. Then, lock the zoom knob by rotating it back to the right. Adjust the focus by pressing the auto focus (AF) button.

F) Adjust the camera angle and field of view by repeating steps A) through E). When the desired angle and field of view are achieved, tighten the PAN lock screw, TILT lock screw and YAW lock screw.
   Recommended tightening torque   PAN lock screw: 2.7 N·m {2.0 lbf·ft}
   TILT lock screw: 4.3 N·m {3.2 lbf·ft}
   YAW lock screw: 2.7 N·m {2.0 lbf·ft}

IMPORTANT:
- After adjustment, be sure to tighten the PAN, TILT and YAW lock screws.

Note:
- Any of the PAN, TILT and YAW lock screw can be adjusted by loosening them about 1 turn. Do not unscrew them more than necessary.
- Make sure the camera is supported by hand when loosening screws and adjusting the direction of the camera.
- When the camera is mounted on the wall, adjust the camera direction by turning the PAN, TILT and YAW parts as shown in the illustration below.
- The range of angles that the camera portion can actually be turned to in regards to a wall or ceiling is as follows.

	Wall mounting		Ceiling mounting	
	Angle	Adjustment part	Angle	Adjustment part
Horizontal	±90 °	TILT rotation part*	±180 °	PAN rotation part
Vertical	±90 °	TILT rotation part*	0 ° to 90 °	TILT rotation part
Yaw	from -190 ° to +100 °	YAW rotation part	from -190 ° to +100 °	YAW rotation part

* You can change between horizontal and vertical angles by adjusting the PAN rotation part.

* Do not adjust the PAN rotation part more than ±180 °. This may cause cables to be wrenched.

TILT rotation part
PAN rotation part
YAW rotation part
Camera arm part
YAW lock screw
PAN lock screw
TILT lock screw
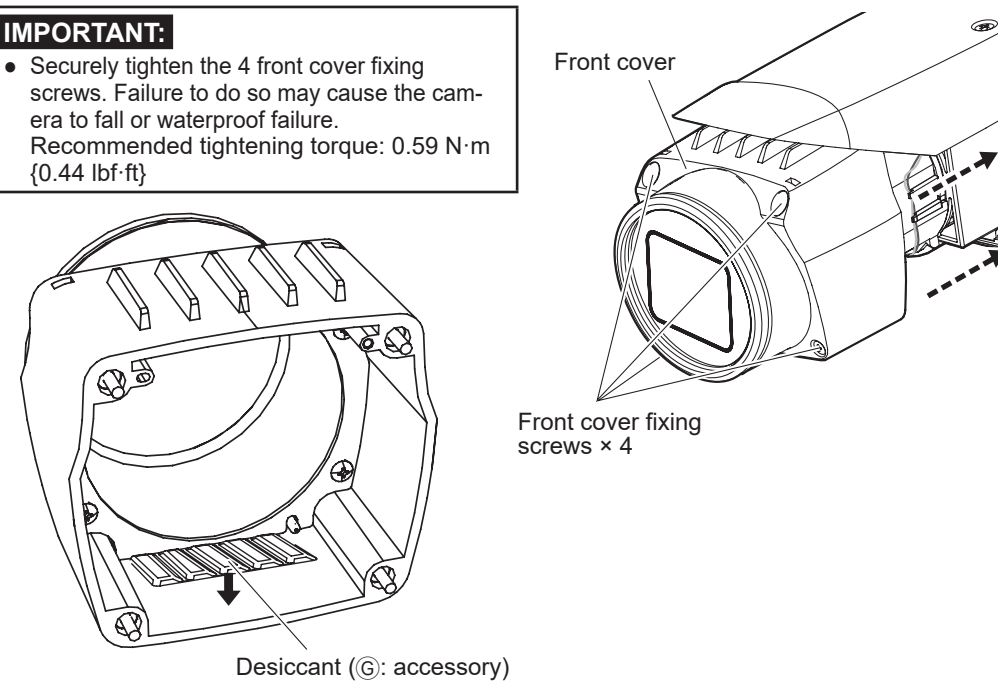

Step 4 Adjusting the camera (continued) ④, ⑤, ⑥, ⑦

④ After adjusting the focus by pressing the AF button, remove the adjustment monitor.
⑤ Stick the desiccant (Ⓖ: accessory) to the bottom sides inside the front cover and mount the front cover.
   - Peel off the backing paper of the double-sided tape from the desiccant.
   - As shown in the illustration below, stick the desiccant onto the bottom of the lens cover, and then mount the front cover to the camera with the 4 fixing screws as soon as possible (within 5 minutes).
   * Fasten the front cover fixing screws along the diagonal direction.

IMPORTANT:
- Securely tighten the 4 front cover fixing screws. Failure to do so may cause the camera to fall or waterproof failure.
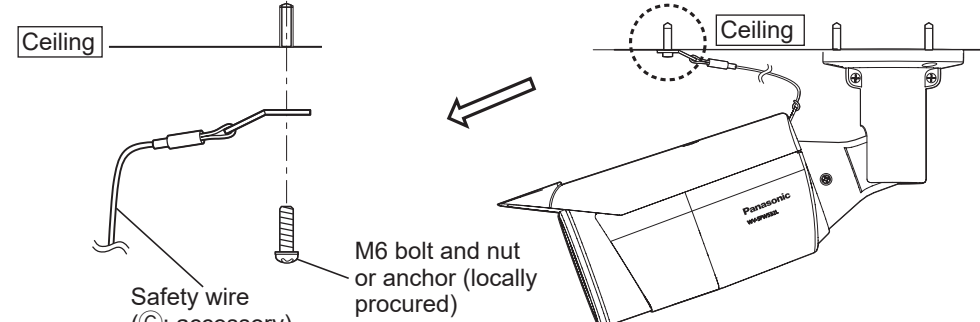   Recommended tightening torque: 0.59 N·m {0.44 lbf·ft}

Front cover
Front cover fixing screws × 4
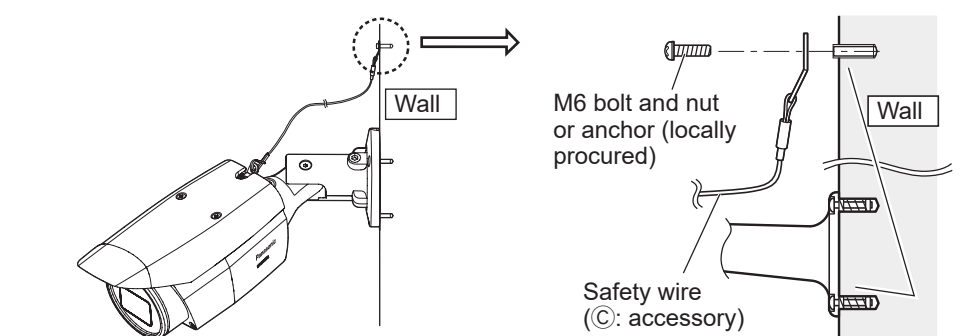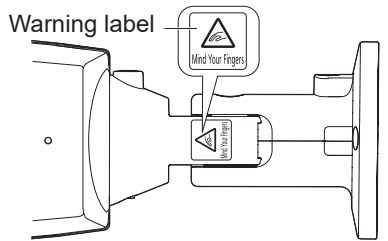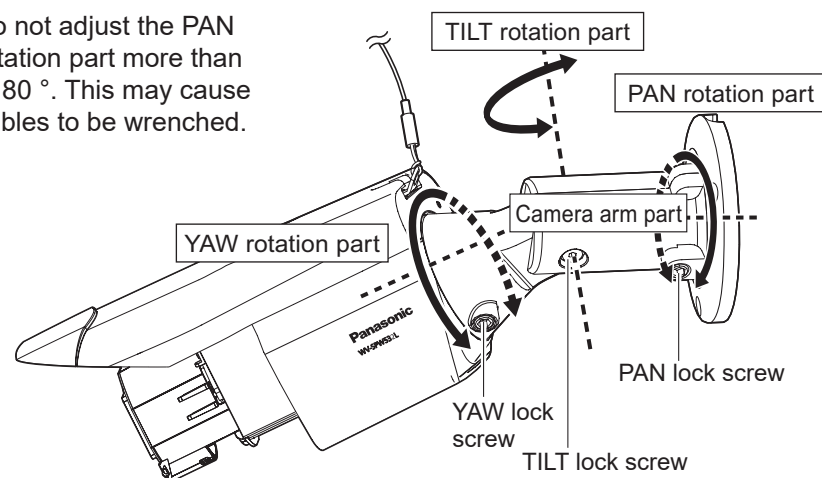Desiccant (Ⓖ: accessory)

Note:
- When sticking the desiccant, make sure it will not spill over the front cover.
- Do not let the desiccant (Ⓖ: accessory) get damp, nor touch it with wet hands.
- While adjusting the lens, do not let water drops drip into the lens cover or the camera.
- Do not stick the desiccant (Ⓖ: accessory) until you have finished adjusting the field of view and the camera focus. Do not unpack the desiccant too early; otherwise its performance may be affected.
- Desiccant should be replaced after about 3 years. The effective period may be shortened according to environment. Besides, when removing the front cover to adjust the camera or process other operations, replace the desiccant with a new one.
   Model No. of replacement part Desiccant 3CJ001261AAA

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⑥ **Secure the safety wire (Ⓒ: accessory) to the ceiling or wall.**

■ When the camera is installed to the ceiling

Ceiling
Ceiling
M6 bolt and nut or anchor (locally procured)
Safety wire (Ⓒ: accessory)

■ When the camera is mounted on the wall

Wall
Wall
M6 bolt and nut or anchor (locally procured)
Safety wire (Ⓒ: accessory)

IMPORTANT:
- Each M6 bolt and nut or anchor (locally procured) for securing the safety wire (Ⓒ: accessory) must have the minimum pull-out strength of 724 N {163 lbf}.
- Be sure to secure the safety wire (Ⓒ: accessory) to the foundation of a structure or an area that is strong enough.
- Be sure to install the camera at least 2 m 80 cm {9.2 feet} from the floor (the distance between the lowest part of the installed camera and the floor).
- Attach the safety wire (Ⓒ: accessory) so that if the camera were to become detached, it would not fall on nearby people.

⑦ **Remove the protection sheet on the front cover.**
When the camera has been installed, remove the protection sheet from the front cover. After removal, be sure not to touch the clear part of the front cover.

IMPORTANT:
- Once the front cover is installed, the camera may be slightly out of focus. After installing the front cover, use the auto focus via the settings menu.

Note:
- When removing the camera, perform removal by following the installation procedure in the reverse order.

Step 5 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.
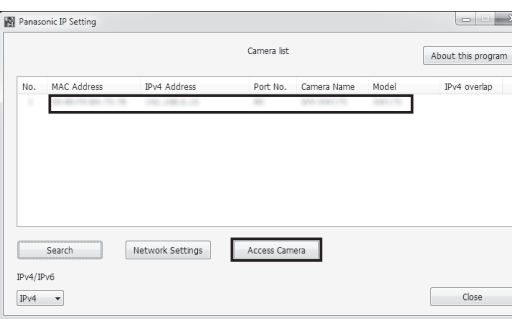
Panasonic
IP Setting Software   Install   Run
Manual   Install   Open
Viewer Software   Install
Please read first   About this software   Close

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. When a camera is found, information about it, such as its MAC address and IP address, is displayed.
③ Select the camera you want to configure, and click [Access Camera].

Panasonic IP Setting
Camera list
No. MAC Address IPv4 Address Port No. Camera Name Model IPv4 overlap
Search   Network Settings   Access Camera
IPv4/IPv6
IPv4
Close

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 [Panasonic IP Setting] 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 website (http://security.panasonic.com/pss/security/support/info.html).