

Installation Guide

Included Installation Instructions

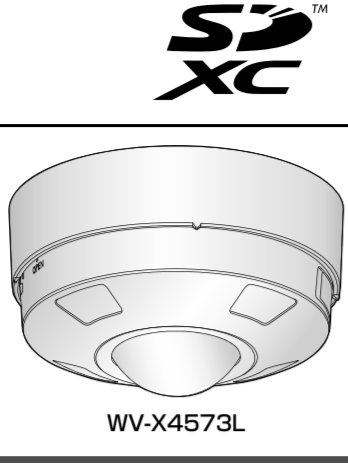
Network Camera For professional use only

Model No. **WV-X4573L** Outdoor use

WV-X4573LM Outdoor use

WV-S4551L Outdoor use

WV-S4551LM Outdoor use



About the user manuals
Product documentation is composed of the following documents.

- **Installation Guide (this document):** Provides information about "Precautions", "Precautions for installation" and the installation method.
- **Basic Information (in the following website):** Provides information about "Precautions for use" and "Detail specifications".
- **Operating Instructions (in the following website):** Explains how to perform the settings and how to operate this camera. https://i-pro.com/global/en/surveillance/documentation_database

"<Control No.: C****>" used in these documents should be used to search for information on our support website (https://i-pro.com/global/en/surveillance/training_support/support/technical_information) and will guide you to the right information.

- Before attempting to connect or operate this product, please read these instructions carefully and save this manual for future use.
- SDXC/ SDHC/ SD memory card is described as SD memory card.
- The external appearance and other parts shown in this manual may differ from the actual product within the scope that will not interfere with normal use due to improvement of the product.

For U.S. and Canada:
For Europe and other countries:

i-PRO Americas Inc.
<https://www.i-pro.com/>

i-PRO Co., Ltd. Fukuoka, Japan
<https://www.i-pro.com/>

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 Amsterdam, Netherlands

* PGQX 2 4 3 6 Y A * Cs1020-1042
 Printed in China

Disposal of Old Equipment and Batteries Only for European Union and countries with recycling systems

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries must 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. By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment. For more information about collection and recycling, please contact your local authority. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

Note for the battery symbol (bottom symbol)
 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.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: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Supplier's Declaration of conformity
 Trade name : i-PRO
 Model No. : WV-X4573L/WV-X4573LM
 WV-S4551L/WV-S4551LM
 Responsible Party : i-PRO Americas Inc.
 8550 Fallbrook Drive, Suite 200 Houston,
 Texas 77064
 Support Contact : 1-800-513-5417

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 U.S.A.
 This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

Méthode d'installation	Vis de fixation recommandée	La capacité de traction minimale requise
Quand la caméra vidéo est directement installée au plafond ou sur le mur.	M4/ 4 éL.	196 N {44 lbf}

Caution:

- The DC power supply connected to the camera must be in the same building.
- The network camera is only intended for a connection to an ethernet or PoE network without routing to the outside plant.
- This product has no power switch. Be sure to install disconnect devices such as a circuit breaker to shut down the main power of power supplying equipment to this product.
- Only connect 12 V DC Class 2 power supply (UL 1310/CSA 223) or limited power source (IEC/EN/UL/CSA 60950-1 or IEC/EN/UL/CSA 62368-1 Annex Q).
- Before attempting to connect or operate this product, please read these instructions carefully.

Notice:

- This product is not suitable for use in locations where children are likely to be present.
- Do not install this product in locations where ordinary persons can easily reach.
- This product is a professional equipment.
- For information about screws and other parts required for installation, refer to the corresponding section of this document.

■ ■ ■ : Direct current symbol

Precautions

- **Do not insert any foreign objects.**
 Fire or electrical shock may be caused if water or any foreign objects, such as metal objects, enter inside the unit. Turn the power off immediately and contact qualified service personnel for service.
- **Do not use this product in an inflammable atmosphere.**
 Failure to observe this may cause an explosion resulting in injury.
- **Avoid installing this product in the locations where salt damage occurs or corrosive gas is produced.**
 Otherwise, the mounting portions will deteriorate and injury or accidents due to a fall of the product may occur.
- **Do not strike or give a strong shock to this product.**
 Failure to observe this may cause injury or fire.
- **Keep SD memory cards away from infants and children.**
 Otherwise, they may swallow the cards by mistake. In this case, consult a doctor immediately.
- **Do not hang down from this product or use this product as a pedestal.**
 Failure to observe this may cause injury or accidents.
- **Do not damage the power cable.**
 Do not damage, fabricate, twist, stretch, bundle, or forcibly bend the power cable. Do not place heavy objects on it, and keep it away from heat sources. Use of a damaged power cable may cause electric shock, short circuit, or fire. Consult the dealer for repair.
- **Do not install this product on a place that is greatly influenced by wind.**
 Installation on a place where the wind speed is 60 m/s (approx. 134 mph) or more may cause a fall of the product resulting in injury or accidents.
- **Do not sprinkle more water, exceeding the performance limit of waterproof with a high pressure cleaning machine, etc.**
 Fire or electrical shock may be caused by immersion.
- **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 install or clean the camera, or touch this product, the power cable or the connected cables during thunder storms.**
 Failure to observe this may cause electric shock.
- **Refer installation work to the dealer.**
 Installation work requires technique and experience. 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, or damage to the product. In this case, 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 this product to fall down or topple over, resulting in injury or accidents. 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.
- **The exclusively designed mount bracket shall be used.**
 Failure to observe this may cause a drop resulting in injury or accidents. Use the exclusively designed mount bracket for installation.
- **The screws and bolts must be tightened to the specified torque.**
 Failure to observe this may cause a drop resulting in injury or accidents.
- **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.
- **Install this product in a location high enough to avoid people and objects from bumping the product.**
 Failure to observe this may cause injury.
- **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 or accidents.
- **Correctly perform all wiring.**
 Short circuits in the wiring or incorrect wiring may cause fire or electrical shock.
- **Install the product securely on a wall or a ceiling in accordance with the installation instructions.**
 Failure to observe this may cause injury or accidents.
- **Do not rub the edges of metal parts with your hand.**
 Failure to observe this may cause injury.
- **Do not touch the metal part of the bottom side of the product.**
 The metal part of the bottom side may become hot while the product is in use. Direct skin contact with high-temperature parts of the product may cause burns.
- **Turn the power off when cleaning this product.**
 Failure to observe this may cause injury.

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.

X4573L The functions with this notation are available when using the model WV-X4573L (9-megapixel model).

X4573LM The functions with this notation are available when using the model WV-X4573LM (9-megapixel model).

S4551L The functions with this notation are available when using the model WV-S4551L (5-megapixel model).

S4551LM The functions with this notation are available when using the model WV-S4551LM (5-megapixel model).

Open Source Software

- This product contains open source software licensed under GPL (GNU General Public License), LGPL (GNU Lesser General Public License), etc.
- Customers can duplicate, distribute and modify the source code of the software under license of GPL and/or LGPL.
- For details concerning licensing and source code of open source software, click "Click here for OSS information" on "Support" page of the setup menu of this product and read the displayed content.
- Please note that we shall not respond to any inquiries regarding the contents of the source code.

Copyright

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- Firefox is a trademark of the Mozilla Foundation in the US and other countries.
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Precautions for installation

- i-PRO Co., Ltd. assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this documentation.**
- **In order to prevent injury, the product must be securely mounted to a ceiling or wall according to Installation Guide.**
 - **Installation area for this product**
 Select an appropriate place for the installation area (such as a strong wall or ceiling) in your particular environment. Make sure that the installation area is strong enough to hold this product, such as a concrete ceiling. Install the camera in the foundation area of the architecture or where sufficient strength is assured. Do not mount the product on a plaster board or a wooden section because they are too weak. If the product is unavoidably mounted on such a section, the section shall be sufficiently reinforced.
 - **Install the product in areas that do not receive direct sunlight.**
 - **Do not place this product in the following places**
 - Locations where a chemical agent is used such as a swimming pool
 - Locations subject to moisture or oil smoke such as a kitchen
 - Locations that have a specific environment that is subject to an inflammable atmosphere or solvents
 - Locations where a radiation, an X-ray, a strong radio wave or a strong magnetic field is generated
 - Locations near coasts directly subjected to sea breezes, or locations subject to corrosive gases such as from hot springs, volcanic regions, etc.
 - Locations where the temperature is not within the specified range
 - Locations subject to vibrations, such as on vehicles, marine vessels, or above product lines (This product is not designed for on-vehicle use.)
 - Locations subject to condensation as the result of severe changes in temperature
 - Locations near rubber products (packing, rubber feet, etc.)
 - **Screw tightening**
 Do not use an impact driver. Use of an impact driver may damage the screws or cause tightening excessively.

- **About installing in low temperature environments**
 When this product is installed and operated in low temperatures below -20 °C [-4 °F], it may not be able to be used normally. If you wait and the camera still does not start up, start using it once the temperature in the environment it is operated in goes above -20 °C [-4 °F]. As the camera warms up, snow or frost accumulated on the dome cover will melt. However, it may not be defrosted from the dome cover depending on the ambient temperature or weather condition.
- **About reflection of light from outside or IR light**
 A ghost may appear on the screen depending on the incident angle of external light. In the case of using the IR light, installation of a camera near a wall may cause reflection of infrared rays resulting in a part of the screen or the entire screen turning whitish. Refer to our support website <Control No.: C0109> for image examples and measures to take.
- **Take notice of humidity**
 Install this product when the humidity is low. If installation is performed when it is raining or in very humid conditions, the inside may be affected by humidity, causing mist-over inside the dome cover.
- **Protection from lightning**
 When cables are used outdoors, there is a chance that they may be affected by lightning. In such a case, install a lightning arrester close to the camera, and make the length of the network cable between the camera and lightning arrester as short as possible to prevent the camera from being affected by lightning.
- **When noise disturbance may happen**
 Noise may appear in video or audio near a strong electric field from a TV or radio antenna, motors and transformers, or a strong electric field/magnetic field from a power line (lamp line) of AC100 V or more. Conduct the power distribution work to keep 1 m (3.28 feet) away from them or conduct the electric conduit work using metal pipes. (Be sure to make ground connection of the metal pipes.)
- **Make sure to remove this product if it will no longer be used.**
- **This product has no power switch.**
 When turning off the power, disconnect the power supply from the 12 V DC power supply or the PoE device.
- **About the battery**
 A battery is installed inside the camera. Do not leave the battery exposed in environments of excessive heat as a result of sunlight or fire.
- **Equipment classification and power source indication label**
 Refer to the indication label on the bottom side of this unit for the equipment classification, power source, and other information.

Troubleshooting

Before requesting service, refer to "Troubleshooting" of Basic Information and Operating Instructions. Then, confirm the trouble.

Specifications* *For further information, refer to the Basic Information.

Power source *1:	DC 12 V PoE (IEEE802.3af compliant)
Power consumption *1:	X4573L X4573LM DC 12 V: 1.04 A/Approx. 12.5 W PoE DC 48 V: 260 mA/Approx. 12.5 W (Class 0 device) S4551L S4551LM DC 12 V: 930 mA/Approx. 11.2 W PoE DC 48 V: 240 mA/Approx. 11.5 W (Class 0 device)
Operating environment Ambient operating temperature:	-40 °C to +60 °C *2 [-40 °F to +140 °F] (Power On range: -20 °C to +60 °C [-4 °F to +140 °F])
Ambient operating humidity:	10 % to 100 % (no condensation)

Storage environment Storage temperature: Storage humidity:	-30 °C to +60 °C [-22 °F to +140 °F] 10 % to 95 % (no condensation)
Monitor output *3 (for adjustment):	VBS: 1.0 V [p-p]/75 Ω, composite, ø3.5 mm mini jack (Audio output terminal) An NTSC or PAL signal can be outputted from camera (use software to select NTSC or PAL signal).
EXT I/O terminals:	ALARM IN1 (Alarm input 1/ Black & white input/ Auto time adjustment input) : x1 ALARM IN2 (Alarm input 2/ ALARM OUT) : x1 ALARM IN3 (Alarm input 3/ AUX OUT) : x1
Audio input: For microphone input:	ø3.5 mm stereo mini jack Recommended applicable microphone: Plug-in power type (Sensitivity of microphone: -48 dB±3 dB (0 dB=1 V/Pa, 1 kHz)) Input impedance: Approx. 2 kΩ (unbalanced) Supply voltage: 2.5 V ±0.5 V Input level: Approx. -10 dBV
For line input:	ø3.5 mm stereo mini jack (Audio output is monaural.) Output impedance: Approx. 600 Ω (unbalanced) Output level: -20 dBV
Waterproof *4:	IP66 (IEC 60529), Type 4X (UL50E) NEMA 4X compliant
Shock resistance:	50 J (IEC 60068-2-75 compliant), IK10 (IEC 62262)
Wind resistance:	Up to 40 m/s (approx. 89 mph)
Dimensions:	When using base bracket: X4573L S4551L ø164 mm × 96.3 mm (H) [ø6-15/32 inches × 3-25/32 inches (H)] Dome radius 35 mm (1-3/8 inches) When using attachment plate only: ø154 mm × 60.3 mm (H) [ø6-1/16 inches × 2-3/8 inches (H)] Dome radius 35 mm (1-3/8 inches)
Mass:	When using base bracket: Approx. 1.3 kg [2.87 lbs] When using attachment plate only: X4573L X4573LM Approx. 880 g (1.94 lbs) S4551L S4551LM Approx. 870 g (1.92 lbs)
Finish:	Main body: Aluminum die cast, i-PRO white Outer fixing screws: Stainless steel (Corrosion-resistant treatment) Dome cover: Polycarbonate resin (with ClearSight coating), Clear
Others:	Tamper-resistant enclosure*5 EN50155 (railroad standard) X4573LM S4551LM ECE-R10 (E approval)

*1 Refer to our support website <Control No.: C0106> for further information about Power source and Power consumption information.
 *2 When using with the IR LED light constantly lit, the upper limit of the operating temperature range is +50 °C [+122 °F].
 *3 The audio output can be switched to the monitor output. Refer to the Operating Instructions on the our support web site for descriptions of how to switch the output.
 *4 Only when installation work is properly performed according to the Installation Guide and appropriate waterproof treatment is performed.
 *5 Component that has a structure on which the screws that are accessible after installation cannot be screwed or unscrewed using an ordinary screwdriver.

Optional accessories*1 **X4573L** **S4551L**

Ceiling mount bracket :	WV-Q105A*2
<i-PRO white brackets>	
Selling mount bracket :	WV-QCL501-W Wall Mount Bracket: WV-QWL500-W
Wall Mount Bracket :	WV-QWL501-W
Attachment Pipe Bracket :	WV-QAT500-W
Mount bracket :	WV-QSR501-W

*1 Refer to our support website <Control No.: C0501, C0112> for other optional accessories that can be installed.
 *2 This product can only be installed indoors when WV-Q105A is used to install it on the ceiling.

Standard accessories

Installation Guide (this document)	1 pc.	Code label*1	1 pc.
IMPORTANT SAFETY INSTRUCTIONS			
*1 This label may be required for network management. Use caution not to lose this label.			
The following parts are used during installation procedures.			
Base bracket X4573L S4551L	1 pc.	Bit (Hex wrench, screw size 6.35 mm [1/4 inches] T20)	1 pc.
Attachment plate	1 pc.	Template A (for the attachment plate).....	1 sheet
Fixing screws for attachment plate (M4 × 8 mm [5/16 inches]) X4573L S4551L ...5 pcs. (of them, 1 for spare) X4573L S4551L	1 sheet	Waterproof tape.....	1 pc.
RJ45 waterproof connector cover X4573L S4551L	1 pc.	4P alarm cable	1 pc.
RJ45 waterproof connector cap X4573L S4551L	1 pc.	2P power cable	1 pc.

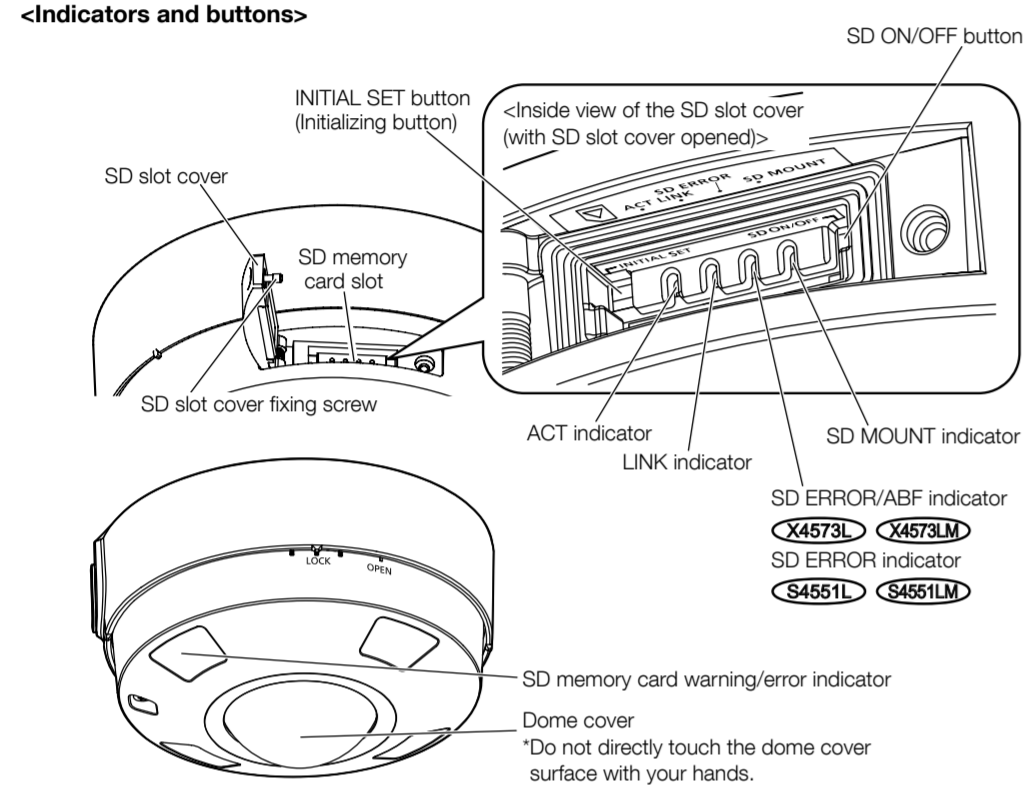
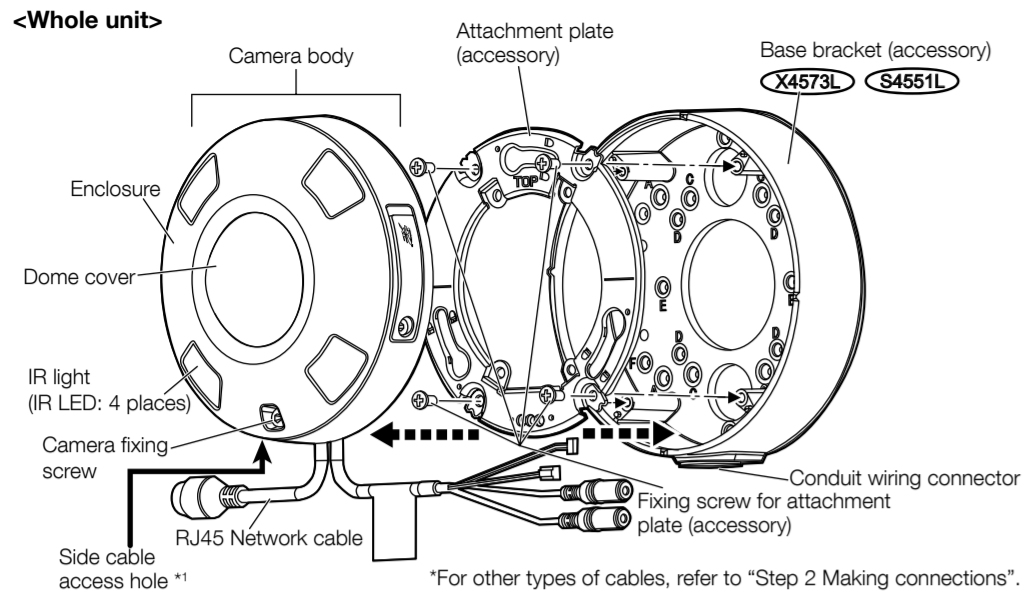
Other items that are needed (not included)

• Fixing screw			
Installation method	Recommended screw*1	Minimum pull-out strength*2	
Junction box	: Mount the camera on the two-gang junction box using the attachment plate	M4/ 4 pcs.	196 N {44 lbf}
Directly mount	: Directly mount the camera onto the ceiling or wall using the attachment plate		
Base bracket	: Mount the camera onto the ceiling or wall using the base bracket X4573L S4551L		
When mounting the camera using the optional bracket		Refer to the Installation Guide for each bracket	

*1 Select screws according to the material of the location that the camera will be mounted to. In this case, wood screws and nails should not be used.
 *2 For information about the minimum pull-out strength, refer to our support website <Control No.: C0120>.

- RJ45plug, Ethernet cable (category 5e or better, straight, all 4 pairs (8 pins))
- As necessary, audio input cable, audio output cable, alarm I/O cables, power supply cable
- Tools

Parts and functions



Indicators

Note:
 • Lighting/blinking LED can be turned off with the software settings at any time. (The initial state is lighting or blinking.) Refer to the Operating instructions for information about settings.

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 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 (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 (about 2 seconds)	(recording) Lights green → Lights off
(waiting for recording)	Lights green → Lights off
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
SD ERROR/AF indicator (X4573L) (X4573LM) (S4551L) (S4551LM) When ABF (Auto Back Focus) operation is being executed	Blinks red (Interval of 1 time/second)
When the network camera is being started	Lights red
When an SD memory card is recognized normally	Lights red → Lights off
When the SD slot is not used or an abnormality is detected in SD card after the camera has started	Lights red → Stays red
SD memory card warning/error indicator (off in the initial state)	Lights red
When a warning status is detected (SD memory card warning detection conditions: After the total use time has exceeded 6 years and the number of overwrite times has exceeded 2000)	Blinks red
When an error status is detected (SD memory card error detection conditions: Write error, read error, etc.)	Blinks red

Buttons

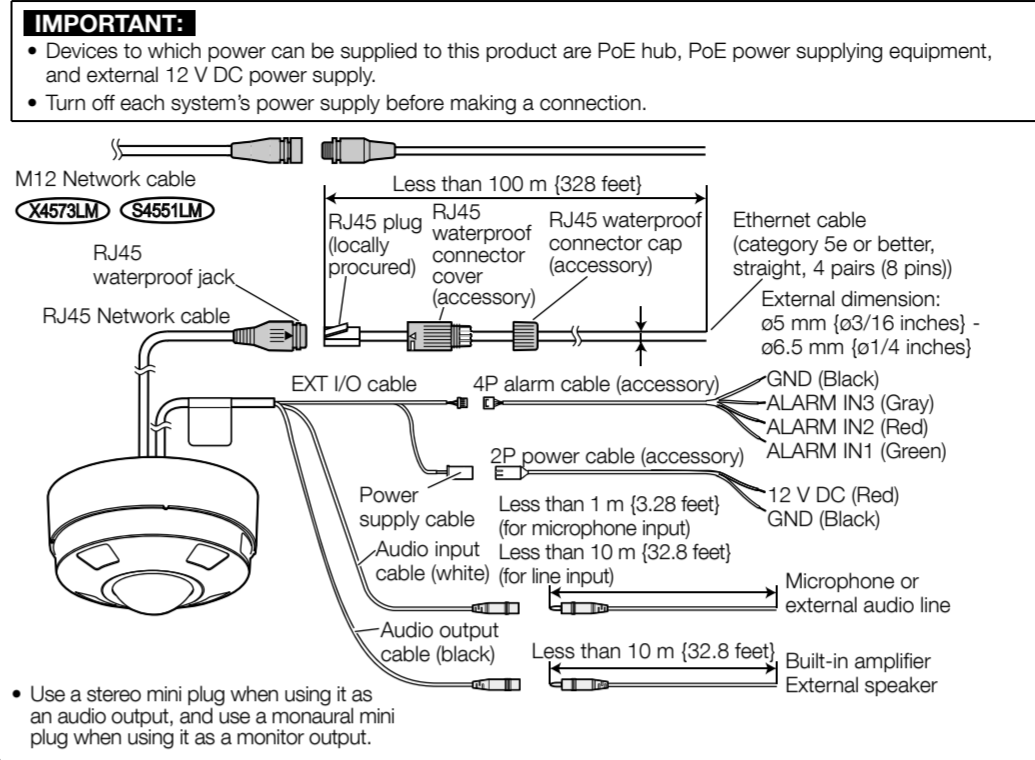
- INITIAL SET button (Initializing)**
Follow the steps below to initialize the network camera. Retry if the camera does not start up normally.

*Do not turn off the power of the camera during the process of initialization. Otherwise, it may fail to initialize and may cause malfunction.

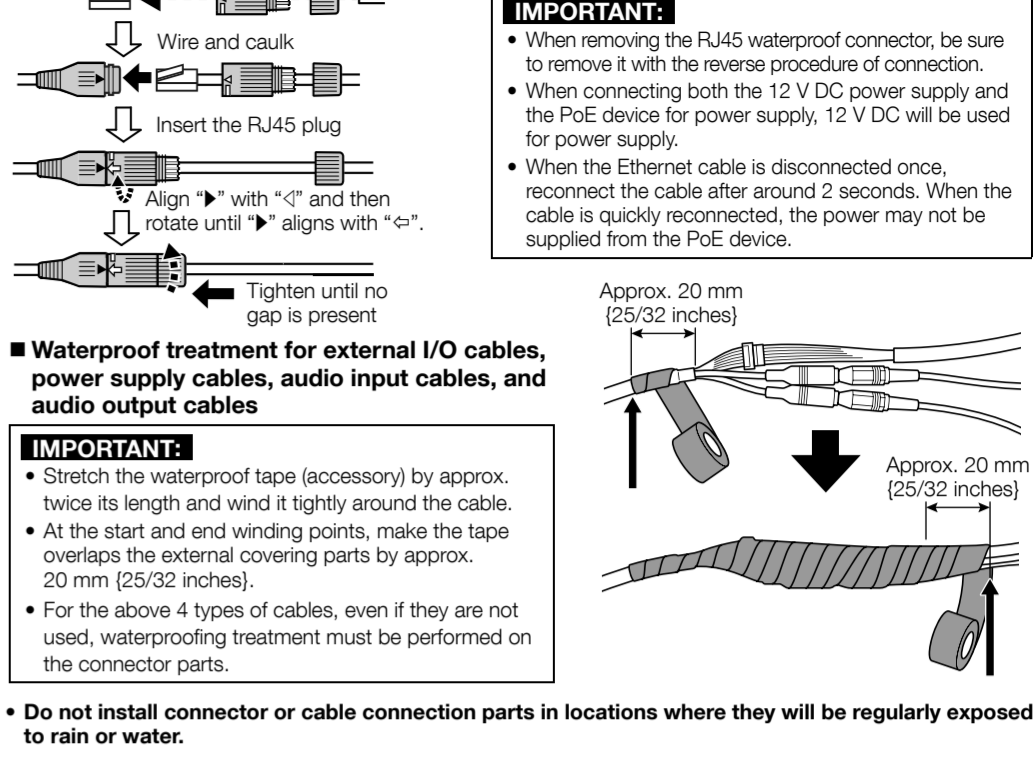
- SD ON/OFF button**
 - When the SD ON/OFF button is pressed (less than 1 second), the SD MOUNT indicator lights up in green and data can be saved to the SD memory card.
 - When the SD ON/OFF button is held down (about 2 seconds), the SD MOUNT indicator lights off and the SD memory card can be removed.

*1 Processing of side cable access hole (X4573LM) (S4551LM)

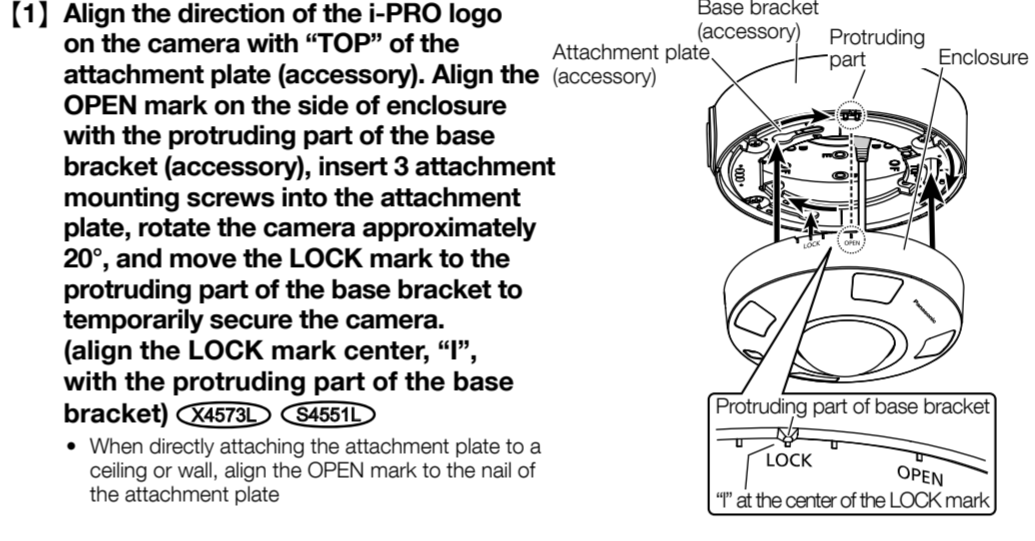
Step2 Making connections



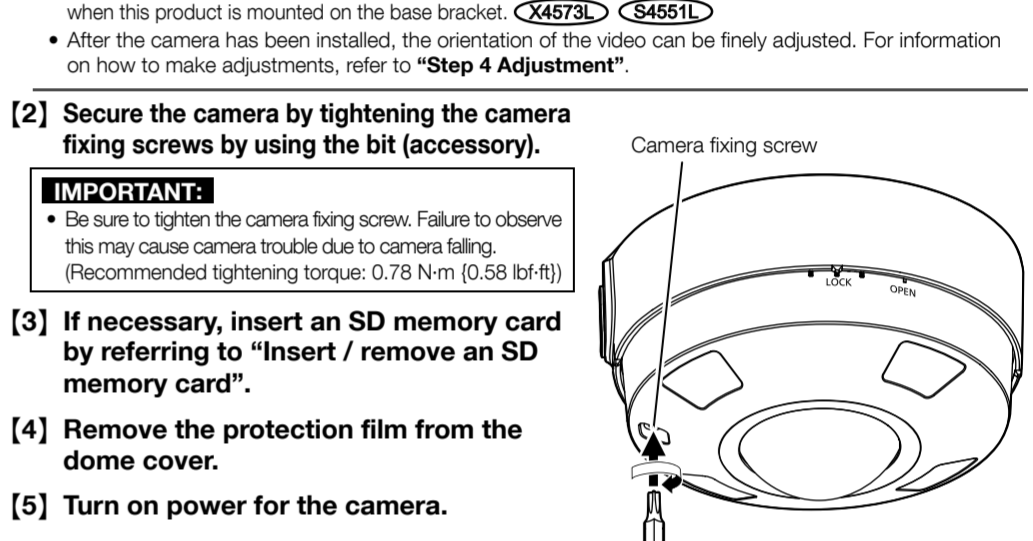
How to connect a RJ45 waterproof connector



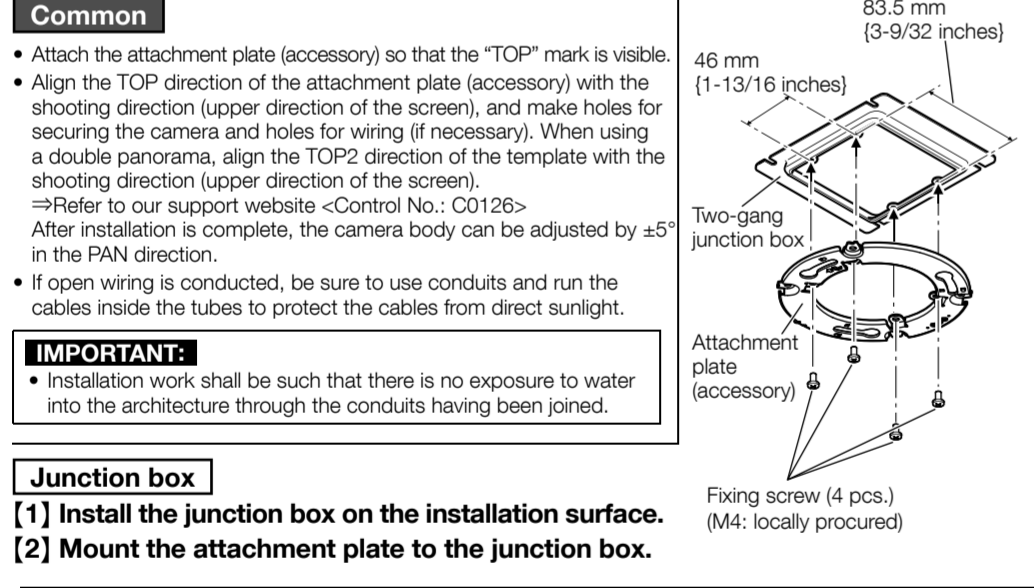
Step3 Mount the camera



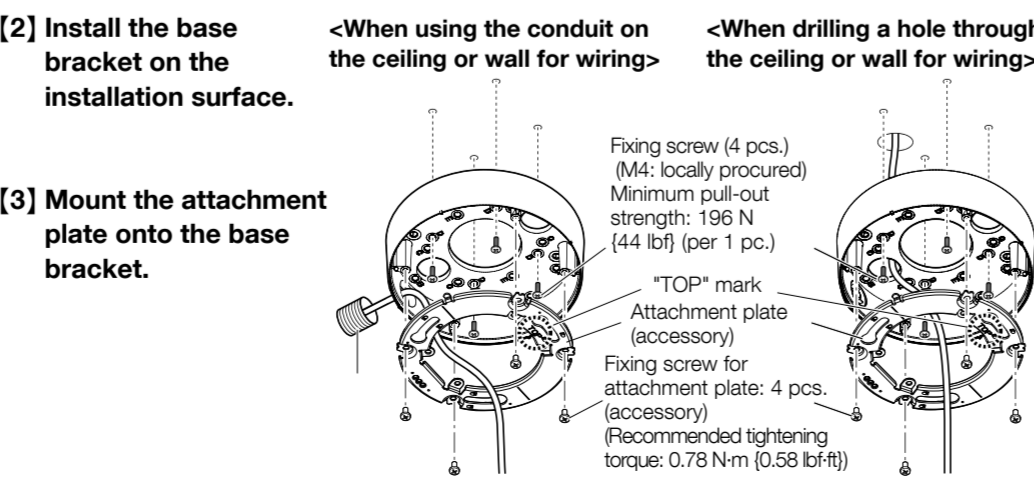
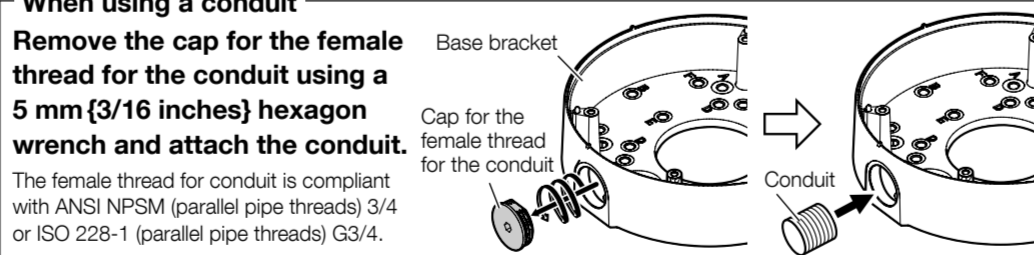
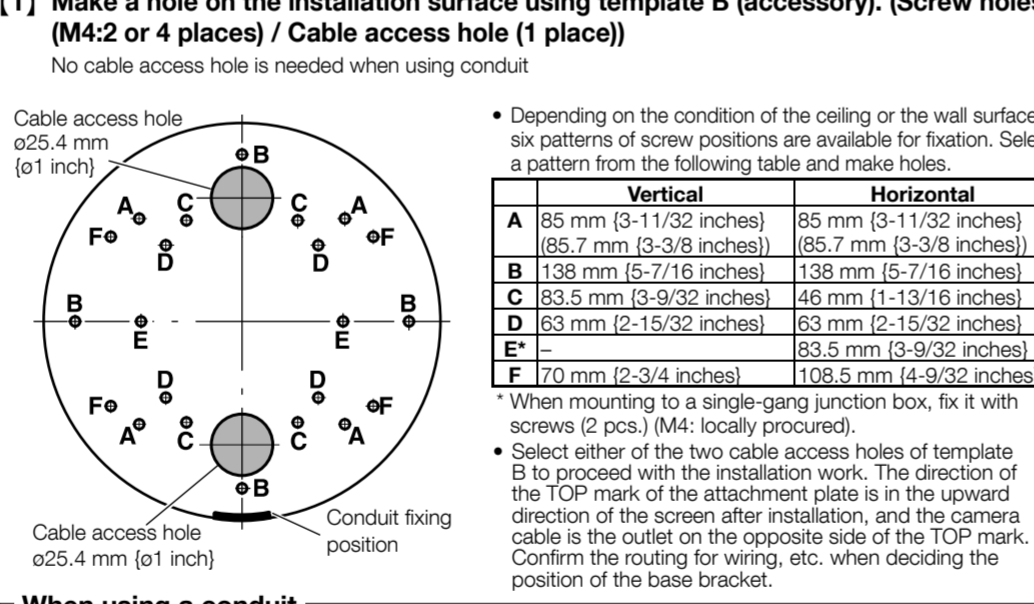
Note:



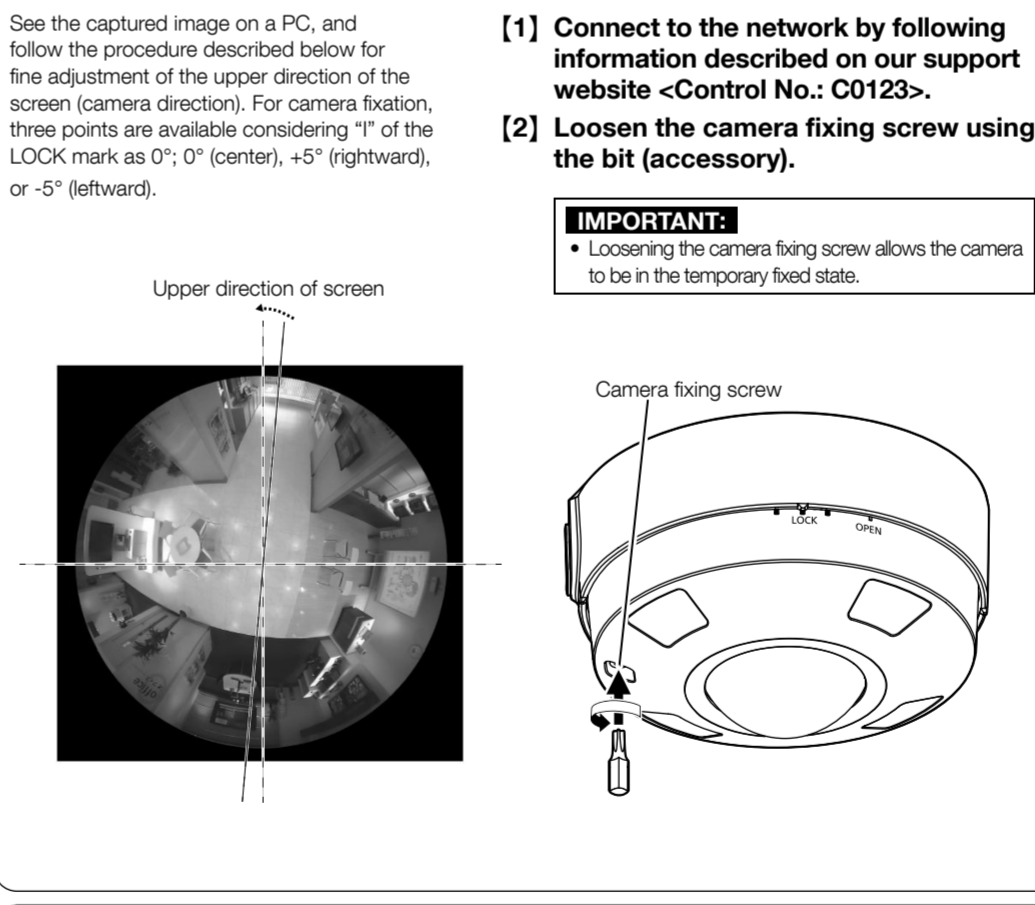
Step1 Processing the installation surface (process according to the installation type)



Base bracket (X4573L) (S4551L)



Step4 Adjustment



Insert / remove an SD memory card

