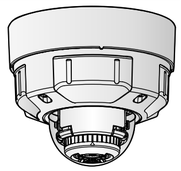
i-PRO

Installation Guide

Included Installation Instructions

Network Camera For professional use only

Model No. WV-X2571LN 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:

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

For Europe and other countries:

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

i-PRO EMEA B.V. UK Branch
1010 Cambourne Business Park,
Cambridgeshire CB23 6DP

Authorised Representative in EU:
i-PRO EMEA B.V.
Laarderhoogtweg 25, 1101 EB
Amsterdam, Netherlands

© i-PRO Co., Ltd. 2022

* PGQX2421XA *

Cs0920-2042
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-X2571LN
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 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}

For U.S.A. and Canada

This device complies with part 15 of FCC Rules and Innovation, Science and Economic Development Canada’s licence-exempt RSS(s).
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.

Le présent appareil est conforme à la partie 15 des règles de la FCC et aux normes des CNR d’Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.
L’exploitation est autorisée aux deux conditions suivantes : (1) l’appareil ne doit pas produire de brouillage, et (2) l’appareil doit accepter tout brouillage subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.

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 brackets 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.

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

Except for open source software licensed under GPL/LGPL and so on, 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.

Trademarks and registered trademarks

- Microsoft, Windows, Windows Media, Internet Explorer, Microsoft Edge, and ActiveX are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
- Intel and Intel Core are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries.
- Adobe, Acrobat, and Reader are either registered trademarks or trademarks of Adobe in the United States and/or other countries.
- SDXC Logo is a trademark of SD-3C, LLC.
- iPad and iPhone are trademarks of Apple Inc., registered in the U.S. and other countries.
- Android and Google Chrome are trademark of Google LLC.
- Firefox is a trademark of the Mozilla Foundation in the US and other countries.
- The word “QR Code” is a registered trademark of DENSO WAVE INCORPORATED in Japan and other countries.
- All other trademarks identified herein are the property of their respective owners.

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.**
When the product is installed outside in areas that receive direct sunlight, such as on external walls, use the optional “WV-QSR500-W or WV-Q7118: Sun Shade”.

■ **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.

■ **Heater unit**
This product is equipped with an internal heater unit for use in cold climates. The heater unit turns on automatically when the temperature inside the product drops below around 0°C {32 °F}. When this product is installed and operated in low temperatures below –20 °C {–4 °F}, it may require time to start up since the camera will wait to be warmed up internally by the internal heater right after the power is turned on. Also, the camera may not function properly, if it is installed and operated in an environment where the temperature is below –25 °C {–13 °F}. In such a case, wait approximately 2 hours or more until the camera is warmed up. Then, turn on the power again.
As the camera warms up, snow or frost accumulated on the dome cover will melt. However, it may not be defrosted from the 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 arrestor close to the camera, and make the length of the network cable between the camera and lightning arrestor 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 {3-15/16 inches} 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:	DC 12 V: 980 mA/Approx. 11.8 W PoE DC 48 V: 260 mA/Approx. 12.5 W (Class 0 device)
Operating environment Ambient operating temperature:	–40 °C to +60 °C *2 {–40 °F to +140 °F} (Power On range: –30 °C to +60 °C {–22 °F to +140 °F})
Ambient operating humidity:	10 % to 100 % (no condensation)
Storage environment Storage temperature:	–30 °C to +60 °C {–22 °F to +140 °F}
Storage humidity:	10 % to 95 % (no condensation)
Monitor output (for adjustment):	VBS: 1.0 V {p-p}/75 Ω, composite, ø3.5 mm mini jack An NTSC or PAL signal can be outputted from camera (either press the INITIAL SET switch quickly (within 1 second) or 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
For line input:	Input level: Approx. –10 dBV
Audio output *3:	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:** ø164 mm × 139 mm (H) {ø6-15/32 inches × 5-15/32 inches (H)} Dome radius 42 mm {1-21/32 inches} **When using attachment plate only:** ø154 mm × 103 mm (H) {ø6-1/16 inches × 4-1/16 inches (H)} Dome radius 42 mm {1-21/32 inches}
Mass:	**When using base bracket:** Approx. 1.6 kg {3.53 lbs} **When using attachment plate only:** Approx. 1.2 kg {2.65 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

*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 This camera is not equipped with the function to change the audio output to the monitor 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

Dome cover (Smoke type):	WV-CW7S	Ceiling mount bracket:	WV-Q105A*2
Dome cover (Smoke type with ClearSight coating):	WV-CW7SN	Sun shade (Light gray):	WV-Q7118
		Sun shade (i-PRO white):	WV-QSR500-W

	<i-PRO white*3>	<Fine silver*3>	<Light gray*3>
Ceiling mount bracket:	WV-QEM500-W	WV-Q169A	–
Ceiling mount bracket:	WV-QCL501-W	WV-Q121B	WV-Q178
Wall mount bracket:	WV-QWL501-W	WV-Q122A	WV-Q185
Attachment pipe bracket:	WV-QAT500-W	WV-Q123A	WV-Q179
Mount bracket:	WV-QSR501-W	WV-Q124	WV-Q186
Pole mount bracket:	WV-QPL500-W	WV-Q188	WV-Q182
Corner mount bracket:	WV-QCN500-W	WV-Q189	WV-Q183
Wall mount bracket:	WV-QWL500-W	–	WV-QWL500-G

*1 Refer to our support website <Control No.: C0501> for further information about optional accessories.
*2 This product can only be installed indoors when WV-Q105A is used to install it on the ceiling.
*3 Refer to our support website <Control No.: C0112> for further information about combinations of each bracket.

Standard accessories

Installation Guide (this document) ..... 1 pc.
IMPORTANT SAFETY INSTRUCTIONS ..... 1 pc.
Code label*1 ..... 1 pc.

*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 ..... 1 pc.
Attachment plate ..... 1 pc.
Fixing screw for attachment plate (M4 × 8 mm {5/16 inches}) ..... 5 pcs. (of them, 1 for spare)
RJ45 waterproof connector cover ..... 1 pc.
RJ45 waterproof connector cap ..... 1 pc.
Bit (Hex wrench, screw size 6.35 mm {1/4 inches} T20) ..... 1 pc.
Template A (for the attachment plate) ..... 1 sheet
Template B (for the base bracket) ..... 1 sheet
Waterproof tape ..... 1 pc.
4P alarm cable ..... 1 pc.
2P power cable ..... 1 pc.
MONITOR OUT conversion plug ..... 1 pc.
Rain wash coating label ..... 1 pc.

Other items that are needed (not included)

- Fixing screw

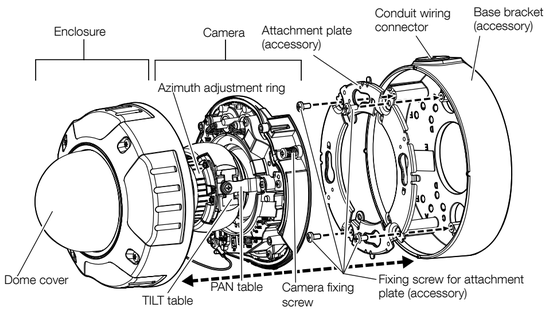
Installation method	Recommended screw*1	Minimum pull-out strength*2
Junction box : Mount the camera on the two-gang junction box using the attachment plate	M4/ 4 pcs.	196 N {44 lbf}
Directly mount : Directly mount the camera onto the ceiling or wall using the attachment plate		
Base bracket : Mount the camera onto the ceiling or wall using the base bracket		
Mount the camera using the exclusively designed mount bracket.	Refer to the operating instructions of 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>.

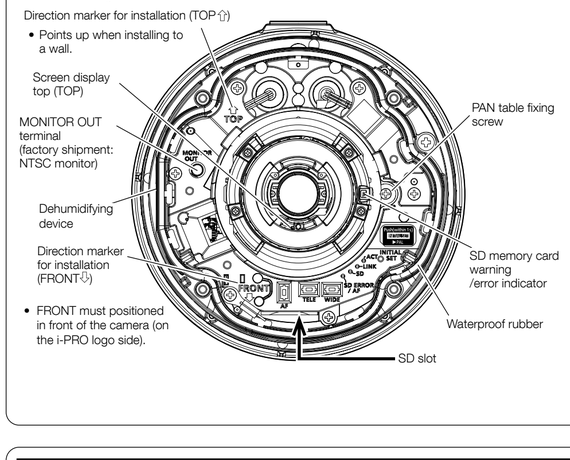
- RJ45plug, Ethernet cable (category 5e or better, straight, all 4 pairs (8 pins))
- As necessary, audio input cable, audio output cable, alarm I/O cables, power supply cable
- Tools

Parts and functions

<Whole unit>



<Camera body>



■ 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 → Blinks 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		
When AF (Auto 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 memory card after the camera has started		Lights red → Stays red
SD memory card warning/error indicator (off in the initial state)		
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)		Lights 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 / NTSC ⇔ PAL switch button)**
  Follow the steps below to initialize the network camera. Retry if the camera does not start up normally.
  When the INITIAL SET button is pressed (less than 1 second), the MONITOR OUT terminal can be switched for the NTSC monitor ⇔ PAL monitor. The monitor out is set to NTSC in the default settings of the camera.

Turn off the power of the camera ⇨ Turn on the power of the camera while pressing the INITIAL SET button* ⇨ 15 seconds ⇨ Make sure to release the button ⇨ around 2 minutes ⇨ 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. Otherwise, it may fail to initialize and may cause malfunction.

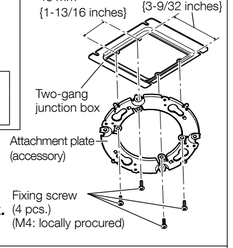
- **SD ON/OFF button**
  - When the SD ON/OFF button is pressed (less than 1 second), the SD (MOUNT) indicator lights up in green and data can be saved to the SD memory card.
  - When the SD ON/OFF button is held down (about 2 seconds), the SD (MOUNT) indicator lights off and the SD memory card can be removed.
- **AF button** Press the AF button to automatically adjust the focus.
- **TELE button** Press the TELE button to adjust the zoom ratio to the “Tele” side.
- **WIDE button** Press the WIDE button to adjust the zoom ratio to the “Wide” side.

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

Common

- Attach the attachment plate (accessory) so that the marking (part number) faces toward the ceiling or wall to be installed.
- If open wiring is conducted, be sure to use conduits and run the cables inside the tubes to protect the cables from direct sunlight.

IMPORTANT:
- Installation work shall be such that there is no exposure to water into the architecture through the conduits having been joined.



Junction box

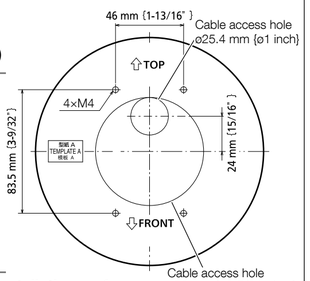
[1] Install the junction box on the installation surface.

[2] Mount the attachment plate to the junction box.

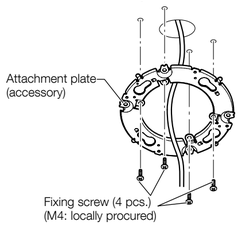
Directly mount

[1] Drill a hole in the installation surface using template A (accessory). (4 screw holes / 1 cable access hole)

Note:
- When installing on a wall, make a hole so as to face the ⇧TOP mark of the template to the upper side.
- When installing on a ceiling, make a hole so as to face the ⇩FRONT mark of the template to the front side of the camera (in the direction of i-PRO logo).
- If you want to be able to change the direction of the camera after installation, drill through a 73 mm {2-7/8 inches} diameter hole in the center. By doing so you can adjust the mounting direction of the camera in 90° increments.



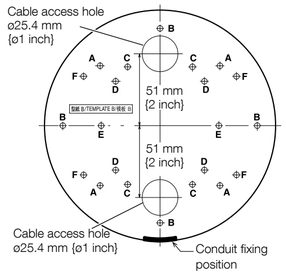
[2] Install the attachment plate on the installation surface.



Base bracket

[1] Make a hole on the installation surface using template B (accessory). (Screw holes (M4:4 places) / Cable access hole (1 place))

No cable access hole is needed when using conduit



- Depending on the condition of the ceiling or the wall surface, six patterns of screw positions are available for fixation. Select a pattern from the following table and make holes.

	Vertical	Horizontal
A	85 mm {3-11/32 inches} {85.7 mm {3-3/8 inches}}	85 mm {3-11/32 inches} {85.7 mm {3-3/8 inches}}
B	138 mm {5-7/16 inches}	138 mm {5-7/16 inches}
C	83.5 mm {3-9/32 inches}	46 mm {1-13/16 inches}
D	63 mm {2-15/32 inches}	63 mm {2-15/32 inches}
E*	–	83.5 mm {3-9/32 inches}
F	70 mm {2-3/4 inches}	108.5 mm {4-9/32 inches}

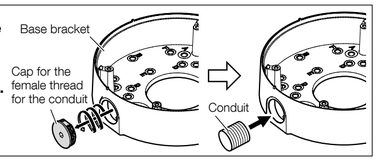
* When mounting to a single-gang junction box, fix it with screws (2 pcs.) (M4: locally procured).

- Select either of the two cable access holes of template B to proceed with the installation work.
- After mounting the attachment plate, the mounting direction of the camera can be adjusted in 90° increments.

When using a conduit

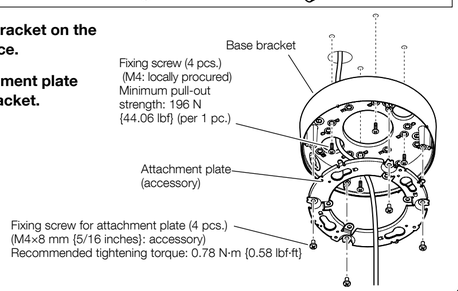
Remove the cap for the female thread for the conduit using a 5 mm {3/16 inches} hexagon wrench and attach the conduit.

The female thread for conduit is compliant with ANSI NPSM (parallel pipe threads) 3/4 or ISO 228-1 (parallel pipe threads) G3/4.



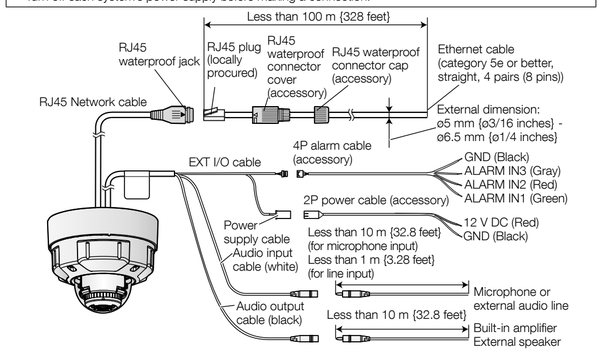
[2] Install the base bracket on the installation surface.

[3] Mount the attachment plate onto the base bracket.

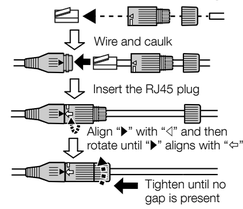


Step2 Making connections

IMPORTANT:
- Devices to which power can be supplied to this product are PoE hub, PoE power supplying equipment, and external 12 V DC power supply.
- Turn off each system’s power supply before making a connection.



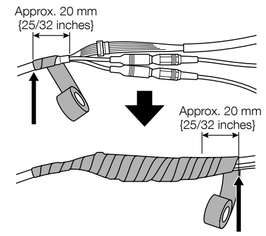
■ How to connect a RJ45 waterproof connector



IMPORTANT:
- When removing the RJ45 waterproof connector, be sure to remove it with the reverse procedure of connection.
- When connecting both the 12 V DC power supply and the PoE device for power supply, 12 V DC will be used for power supply.
- 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.

■ Waterproof treatment for external I/O cables, power supply cables, audio input cables, and audio output cables

IMPORTANT:
- Stretch the waterproof tape (accessory) by approx. twice its length and wind it tightly around the cable.
- At the start and end winding points, make the tape overlaps the external covering parts by approx. 20 mm {25/32 inches}.
- For the above 4 types of cables, even if they are not used, waterproofing treatment must be performed on the connector parts.



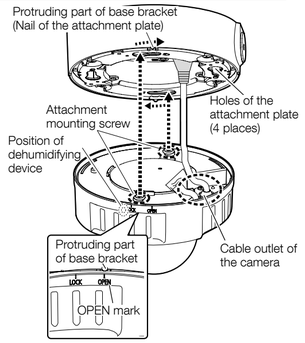
- **Install the connector and cable connection parts in locations where they aren’t regularly exposed to rain or water.**

Step3 Mount the camera

[1] Align the OPEN mark of the side of the camera with the protruding part of the base bracket, insert the attachment mounting screws (2 places) into the attachment plate, rotate the camera by approx. 15° and temporarily fix it.

- When directly attaching the attachment plate to a ceiling or wall, align the OPEN mark to the nail of the attachment plate.

IMPORTANT:
- When mounting to a wall, mount so that cable outlet of the camera faces up.
- For installation on the wall, install the camera with the dehumidifying device in a sideways or downward position. In a face-up position, the dehumidifying device doesn’t work well as water accumulates on the surface.



[2] Loosen enclosure fixing screws (4 places) using the bit (accessory), and remove the enclosure from the camera.

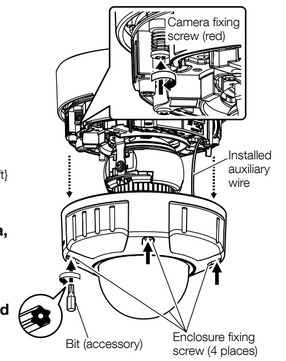
IMPORTANT:
- Enclosure is fixed to the camera body by the installed auxiliary wire, so please do not remove it.

[3] Secure the camera by tightening the camera fixing screw (red).

Recommended tightening torque: 0.78 N·m {0.58 lbf·ft}

[4] Connect the MONITOR OUT conversion plug (accessory) to the MONITOR OUT terminal of the camera, and then connect the monitor for adjustment with a pin cable (locally procured).

[5] If necessary, insert an SD memory card by referring to “Insert / remove an SD memory card”.



Step4 Adjustment

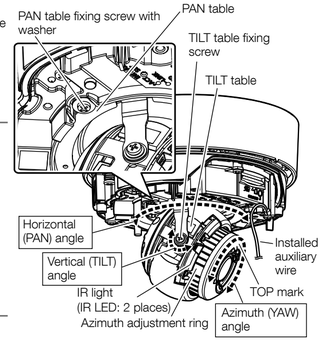
[1] Turn on the power for the camera and remove the protection film from the lens.

[2] Adjust the camera direction.

① Loosen the PAN table fixing screw with washer and the cross-head side of TILT table fixing screw (on one side).
② Adjust the angle of the camera while watching the adjustment monitor.
Horizontal (PAN) angle: ±180°
Vertical (TILT) angle: -30° to +85°
Azimuth(YAW) angle: ±100°

Note:
- When mounting the camera on a wall, adjust after rotating the PAN table by 180° to the left.
- When using the camera at a vertical position where the camera lens is nearly horizontal, part of the image may appear to be overlapped, part of the camera may be visible, and reflection from IR rays may appear on the screen when viewing images at night. To prevent this, decrease the vertical position angle or adjust the zoom ratio.

③ Fix the camera unit by tightening the cross-head side of TILT table fixing screw (on one side) and the PAN table fixing screw with washer.
Recommended tightening torque: 0.59 N·m {0.44 lbf·ft}



[3] Adjust the zoom and focus.

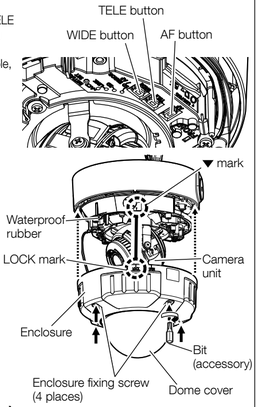
- While watching the screen, adjust the zoom ratio using the TELE button and the WIDE button and adjust the focus by pressing the AF (auto focus) button.
- Readjust the angle of the camera with the PAN table, TILT table, and azimuth adjustment ring if necessary.

Note:
- When the resolution is set to higher than 1280×720, image quality may deteriorate depending on the zoom ratio. Refer to our support website <Control No.: C0124> for further information.

[4] Disconnect the MONITOR OUT conversion plug (accessory). Attach the enclosure and secure it by using a bit (accessory) to tighten the enclosure fixing screws (4 places).

Attach the enclosure by aligning the LOCK mark to the ▼ mark on the camera body.
Recommended tightening torque: 0.78 N·m {0.58 lbf·ft}

IMPORTANT:
- Make sure that the waterproof rubber is not detached from the groove.



[5] After complete installation, remove the protection film from the dome cover and attach the rain wash coating label (accessory) to the external part, etc. of the camera.

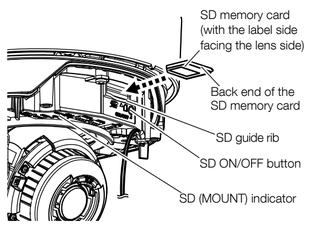
[6] Connect to the network by following information described on our support website <Control No.: 0123>.

[7] Refer to the Operating Instructions and perform the auto focus function from the setup menu.

Insert / remove an SD memory card

■ Insert an SD memory card

① Remove the enclosure from the camera.
② Insert the SD memory card into the end of the SD slot and confirm that a clicking sound is made.
③ Take your finger off the SD memory card and check that the back end of SD memory card does not protrude over the upper part of the SD guide rib.
④ After the SD memory card has been inserted, press the SD ON/OFF button, and make sure the SD (MOUNT) indicator is continually lit. (If you do not press the SD ON/OFF button after inserting the SD memory card, the SD (MOUNT) indicator is automatically lit approximately 5 minutes later.)
⑤ Attach the enclosure to its original position.



■ Remove an SD memory card

When removing an SD memory card, reverse the procedure for inserting an SD memory card.
Press and hold the SD ON/OFF button for approx. 2 seconds, and then remove the SD memory card after checking that the SD (MOUNT) indicator has changed from blinking to off.

IMPORTANT:
- Before turning off the camera power switch, make sure that the SD (MOUNT) indicator is turned off.

Note:
- When using an SD memory card, format it using this product. Refer to the Operating Instructions for how to format an SD memory card.
- Use compatible SD memory cards. Refer to our support website <Control No.: C0107> for latest information about the compatible SD memory cards.