

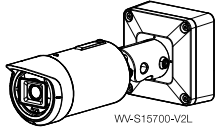


Installation Guide

Included Installation Instructions

Network Camera [For professional use only] [Outdoor use]

- Model No. **WV-S15700-V2L**
- WV-S15600-V2L**
- WV-S15500-V3L**
- WV-S15500-F6L**
- WV-S15500-F3L**



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 (Refer to the link on the following support website):** Provides information about "Precautions for use", "Parts and functions" and "Detail Specifications".
- Operating Instructions (Refer to the link on the following support website):** Explains how to perform the settings and how to operate this camera.

- **Before attempting to connect or operate this product,** please read these instructions carefully and save this manual for future use.
- **microSDXC/microSDHC/microSD memory card** is described as microSD 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.



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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.
- 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-S15700-V2L / WV-S15600-V2L / WV-S15500-V3L / WV-S15500-F6L / WV-S15500-F3L
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 enter 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 × 16 mm (5/8 pouces)	724 N (163 lbf) / 4 dL

* La longueur de la vis est un exemple lors de l'installation de la caméra au plafond ou sur un mur robuste d'une épaisseur de 20 mm (25/32 pouces) ou plus.

WARNING:

- Operation of this product in a residential environment could cause radio interference.

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), limited power source (IEC/EN/UL/CSA 60505-1, IEC/EN/UL/CSA 62368-1 Annex Q) or IEC/EN/UL/CSA 62368-1 PSE.
- Before attempting to connect or operate this product, please read these instructions carefully.

Note:

- 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(except for WV-S15700-V2LK, WV-S15500-V3LK) 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 microSD 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.
- **The measures of protection against snowfall shall be taken.**
Weight of snow may cause a fall of the product resulting in injury or accidents. Protect the product against snowfall by installing it under eaves.
- **Install the product securely on an installation surface 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.
- **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 listed for specified models. The functions without the notations are supported by all models.

[167V2L] The functions with this notation are available when using the model WV-S15700-V2L(4K model) series.

[167V2L] The functions with this notation are available when using the model WV-S15600-V2L(8M model) series.

[165V3L] The functions with this notation are available when using the model WV-S15500-V3L(8M model) series.

[165F6L] The functions with this notation are available when using the model WV-S15500-F6L(Focal length 6, 1mm) series.

[165F3L] The functions with this notation are available when using the model WV-S15500-F3L(Focal length 3,2mm) series.

[W] The functions with this notation are available when using the model with the i-PRO white body.

[B] The functions with this notation are available when using the model with the black body.

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.

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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 an installation surface according to Installation Guide.**
- **Installation area for this product**
Select an appropriate place for the installation area (such as a strong installation surface) 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.
- i-WV-S15700-V2LK, WV-S15500-V3LK only- Please pay attention to the installation location such as in places where seawater does not splash directly. Especially when installing this product in coastal areas and area that are sprayed with atomizing agent that are not exposed to rainwater, periodically clean by rinsing to remove adhered salt. Prepare the foundation of the installation site, installation support, and any other installation setting with heavy salt damage resistance treatment.

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- **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/exposed to WV-S15700-V2LK, WV-S15500-V3LK, 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.
- **Installing in low temperature environments**
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 approximately -15°C (5°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 front panel 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 white.
- Refer to our technical information 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 front panel.
- **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 (3,28 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**
Remove the front part of the unit and refer to the indication label on the bottom side of this unit for the equipment classification, power source, and other information.
- **About static electricity**
Before installing or removing this product, be sure to touch metal objects to discharge static electricity from your body.

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)	[167V2L] [166V2L] [165V3L] DC 12 V: 1.0 A / Approx. 12.0 W PoE DC 48 V: 240 mA / Approx. 11.5 W (Class 0 device) DC 12 V: 880 mA / Approx. 10.6 W PoE DC 48 V: 220 mA / Approx. 10.6 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):	VBIS: 1.0 V [pp]/75 Ω, composite, Pin jack An NTSC or PAL signal can be outputted from camera (either press the INITIAL SET button quickly within 1 second) or use software to select NTSC or PAL signal).
EXT I/O terminals:	ALARM IN 1 (Alarm input 1/ Black & white input/ Auto time adjustment input (x1)) ALARM IN 2 (Alarm input 2/ ALARM OUT) (x1) ALARM IN 3 (Alarm input 3/ AUX OUT) (x1)
Audio input:	83.5 mm stereo mini jack Recommended applicable microphone: Plug-in power type (Sensitivity of microphone: -51 dB to -38 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
Audio output *:2)	83.5 mm stereo mini jack (Audio output is monoaural) Output impedance: Approx. 600 Ω (unbalanced) Output level: -20 dBV
Waterproof *:4)	IP66 (IEC 60529), Type 4X (UL50E)
Shock resistance:	NEMA 4X compliant IK10 (IEC 62262)
Wind resistance:	Up to 40 m/s (approx. 89 mph)
Dimensions:	133 mm (W) × 133 mm (H) × 383 mm (L) [5-1/4 inches (W) × 5-1/4 inches (H) × 15-3/32 inches (L)]
Mass:	Approx. 2.4 kg (5.3 lbs)
Finish:	Main body: Aluminum die cast and resin** W [B] Outer fixing screws: Stainless steel (Corrosion-resistant treatment) Front panel: PC resin, Clear • WV-S15700-V2LN, WV-S15700-V2LK, WV-S15600-V2LN, WV-S15500-V3LN, WV-S15500-V3LK, WV-S15500-V3LNK *with ClearSight coating
Others:	• Heavy salt damage resistance specifications (ISO14993 compliant) • WV-S15700-V2LK, WV-S15500-V3LK

- *1 Refer to our technical information website -<Control No.: C0106> for further information about Power source and Power consumption information.
- *2 When using with the F1LED light constantly lit, the upper limit of the operating temperature range is +50 °C [+122 °F].
[167V2L] **[166V2L]**
This camera is not equipped with the function to change the audio output to the monitor output.

- [165V3L]** **[166F3L]** **[165F6L]**
The audio output can be switched to the monitor output. Refer to the "Operating Instructions" on our support website for descriptions of how to switch the output.
- *3 Only when installation work is properly performed according to the Installation Guide and appropriate waterproof treatment is performed.
- *4 The heavy salt damage resistance coating is only provided for WV-S15700-V2LK / WV-S15500-V3LK.

Optional accessories

<Brackets>	<Cables>
Corner mount bracket: WV-QCN500-W	RJ45 Ethernet cable: WV-QCA500A
Pole mount bracket: WV-QPL500-W, WV-QPL500-B	I/O cable: WV-QCA501A

The latest information → Technical information website "Accessory Selector" -<Control No.: C0501>
**When using the bracket in heavy salt damage region, use the salt damage-resistant bracket listed on our technical information website -<Control No.: C0501>.

Standard accessories

Installation Guide (English / Japanese) 1 pc.(each)
Installation procedure leaflet (English / Japanese) 1 pc.(each)
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 operations.

Adapter box	1 pc.	Grommet cover	1 pc.
Adapter box mounting pin	1 pc.	Grommet	2 pcs.
Mounting screw	(of them, 1 for spare)		
(M4 × 8 mm [5/16 inches])	2 pcs.	RJ45 cap	1 pc.
		(of them, 1 for spare)	
		Plain wash coating label (with ClearSight coating model only)	1 pc.

Other items that are needed (not included)

- Fixing screw

Installation method	Recommended screw*	Minimum pull-out strength**
Directly mount :		
Directly mount the camera onto the installation surface,	M4 × 16 mm (5/8 inches) × 4 pcs.*3	724 N (163 lbf)
Gangbox/ Junction box :		
Mount the camera to a gangbox/ junction box,		
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 This value indicates the minimum pull-out strength required value per screw. For information about the minimum pull-out strength, refer to our technical information website -<Control No.: C0120>.
- *3 The screw length is an example when installing the camera on a robust installation surface with a thickness of 20 mm [25/32 inches] or more.
- *4 Please consider using anti-corrosive mounting screws or caulking.
- Ethernet cable with RJ45 plug (category 5e or better, straight), all 4 pairs (8 pins)
- As necessary, audio input cable, audio output cable, alarm I/O cable, power supply cable
- 5 mm (3/16 inches) hexagon wrench and other required tools.

Installation

For information about the installation procedure, refer to the provided installation procedure leaflet.