

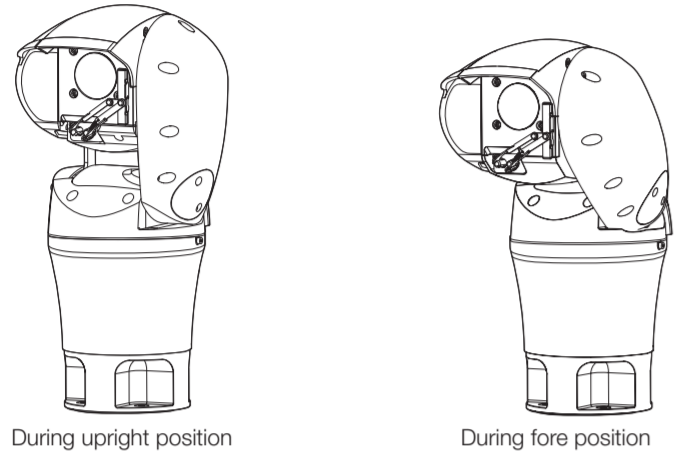
Installation Guide

Included Installation Instructions

Network Camera

Model No. **WV-SUD638**
(Natural silver)

WV-SUD638-H / WV-SUD638-T
(Gray) (Brown)



- This manual describes the installation procedures, network camera installation, cable connections, and adjustment.
- Before reading this manual, be sure to read the Important Information (included in the CD-ROM).

For U.S. and Canada:

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

For Europe and other countries:

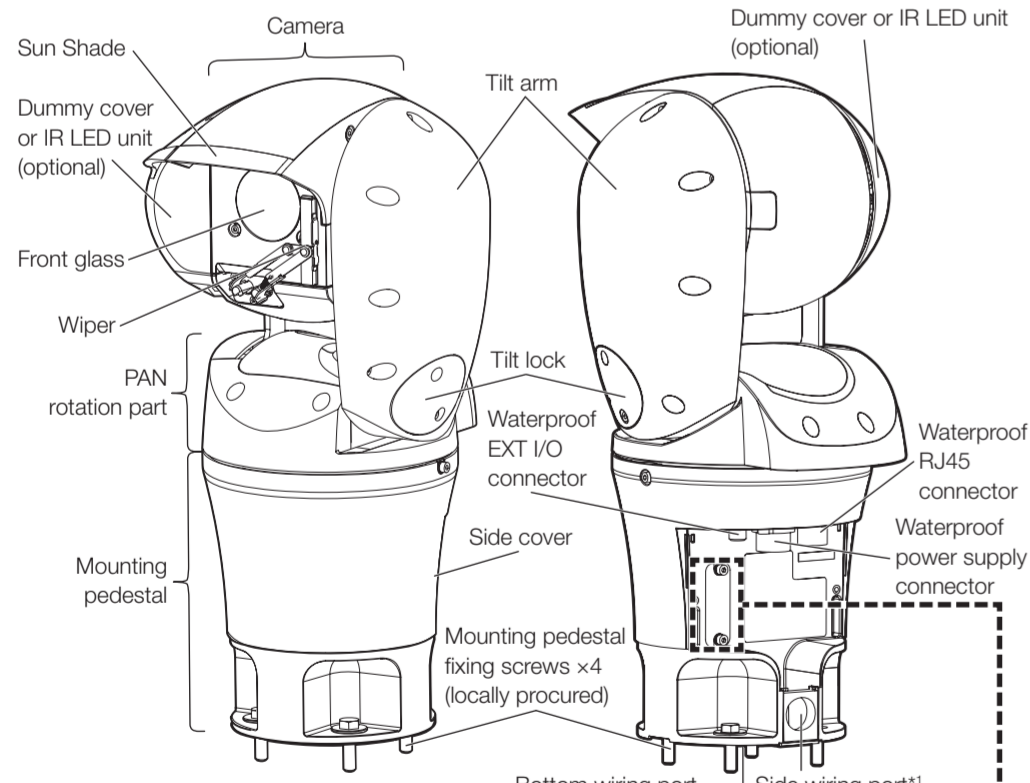
i-PRO Co., Ltd. Fukuoka, Japan
<https://www.i-pro.com/>

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

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



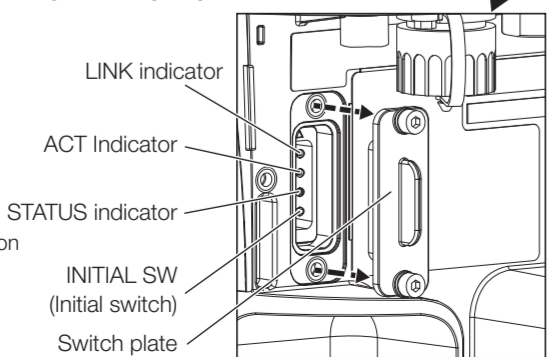
Parts and functions



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

STATUS indicator behaviors

- When the power is turned on
Lights orange → Lights off → Blinks orange → Lights orange (When the network connection is not established)
Lights orange → Lights off → Blinks orange → Blinks green → Lights green (When the network connection is established)
- During the standby or connection
Lights orange (When the cable is not connected)
Lights green (When the cable is connected)
- During the upgrade process
Blinks orange
- During the initialization
Lights orange → Lights off → Blinks orange → Lights orange
- Port forwarding error caused by the UPnP function
Blinks orange (in 2 seconds intervals (on for 1 second / off for 1 second))
- Trouble happening on the camera
Blinks red
- When the installation position is abnormal
Lights red



Standard accessories

Important safety instructions..... 1 pc. CD-ROM*1..... 1 pc.
Installation Guide (this document) 1 set 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.

- Waterproof power supply connector (plug side)..... 1 set
- Waterproof EXT I/O connector (plug side)..... 1 set
- Waterproof RJ45 connector (plug side)..... 1 set
- Washer nozzle mounting bracket A..... 1 pc.
- Washer nozzle mounting bracket B..... 1 pc.
- Fixing screws for the washer nozzle mounting bracket B..... 3 pcs. (of them, 1 for spare)
- Attachment plate..... 1 pc.
- Fixing screws for attachment plate..... 5 pc. (of them, 1 for spare)
- Fixing nuts for attachment plate..... 5 pc. (of them, 1 for spare)
- Spring washer..... 5 pc. (of them, 1 for spare)
- Flat washer..... 10 pc. (of them, 2 for spare)
- Safety wire..... 1 pc.
- Wire clammer..... 1 pc.
- Bit (Hex wrench, screw size 6.35 mm [1/4 inches] T20)..... 1 pc.

Installation procedure

Cable preparation

5 6 7 8 9

Attach the provided waterproof connector to the cable to be wired to the inside of the ceiling or floor or along various surfaces, and run the cable through the conduit. (Please choose a conduit of a suitable size to allow the connector to pass through.)

Installation

10 11 12 13 14

Remove the side cover of the camera so that the wire connection part is visible. (Step.4)
If necessary, install the extension unit (IR LED unit) (optional) if necessary. (Step.5)
If you want to shoot the foot area, bend the tilt arm of the camera forward. (Step.6)
Fix the camera onto the installation location. (Step.8)
* Install the washer nozzle mounting bracket pre-fitted with a (recommended) washer nozzle at the same time.

Connecting wires

15 16

Connect each waterproof connector to the camera, and fix the side cover back to its original position.

Download and start [IP Setting Software] <Control No.: C0123> or [i-PRO Configuration Tool (iCT)] <Control No.: C0133> on our technical information support site (https://i-pro.com/global/en/surveillance/training_support/support/technical_information), and connect to the network.

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Cable preparation

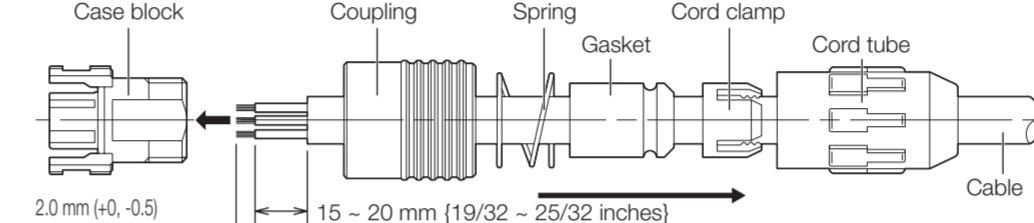
Attach the provided waterproof connector to the cable to be connected to the camera.
* When a conduit is used for wiring, always check its size before installing the waterproof connector. Otherwise, the cable may not be able to pass through the conduit depending on the number of cables used and the waterproof connector in use.
* Always make preparations before the procedure "[3] Attach the waterproof RJ45 connector (accessory) to the Ethernet cable."
* Prepare [1] and [2] when necessary.

[1] Attach the waterproof EXT I/O connector (accessory) to the cable

- * The parts to be used in ② and ③ are in the bag of the waterproof EXT I/O connector (plug side) set.
- <Locally procured items>
 - Multi-core cable $\phi 6.2 \sim 7$ mm [$\phi 1/4 \sim 9/32$ inches]
 - Size of the internal lead wire AWG26 – AWG30, coated external diameter of $\phi 1$ mm [$\phi 1/32$ inches] or below
 - Manual crimping tool HT-102/HR30-1, made by Hirose Electric Co., Ltd.
 - Extraction tool (if necessary) HR30-TP, made by Hirose Electric Co., Ltd.

① Thread each part of the waterproof EXT I/O connector (accessory) through the cable in sequence

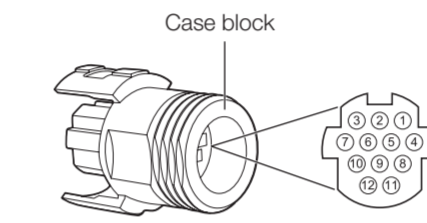
Pass the cord tube, cord clamp, gasket, spring and coupling in sequence through the plug beforehand. Prepare wire ends according to the dimensions shown in the illustration below.



② Crimp the contact (accessory) to the cable

③ Insert the contact into the terminal hole on the case block

- After inserting the contact, pull the lead wire lightly, and ensure that it is firmly fixed to the terminal hole of the waterproof EXT I/O connector.

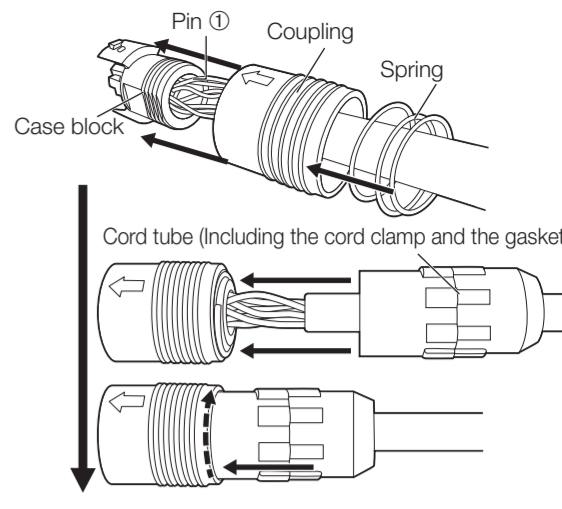


<Pin layout of the waterproof EXT I/O connector>			
Pin. 1	LINE IN	Pin. 7	Alarm IN1
Pin. 2	Audio/LINE_GND	Pin. 8	N.C.
Pin. 3	Audio OUT	Pin. 9	Relay-
Pin. 4	Alarm GND	Pin. 10	Relay-
Pin. 5	Alarm IN3/AUX	Pin. 11	Relay+
Pin. 6	Alarm IN2/Alarm OUT	Pin. 12	Relay+

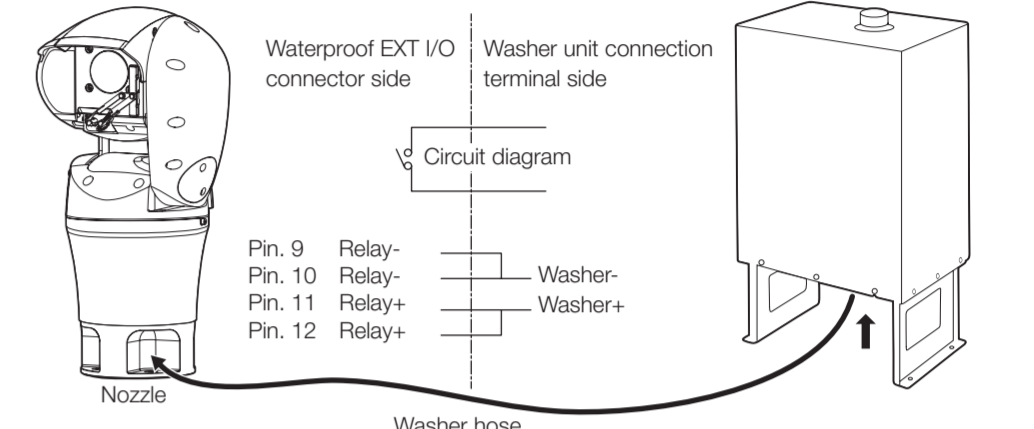
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④ Mount the coupling and the spring on the case block, and tighten the cord tube with the gasket and the cord clamp

- Align the mark "←" on the coupling with the side of pin ① of the case block, and install the coupling and the spring in sequence.



⑤ Connect the washer unit (locally procured)



* Please use the washer unit that has been insulated from the commercial AC power.

⑥ EXT I/O terminal ratings

- Alarm IN1, Alarm IN2, Alarm IN3
Input specification: No-voltage make contact input (4 V ~ 5 V DC, internally pulled up)
OFF: Open or 4 V ~ 5 V DC
ON: Make contact with GND (required drive current: 1 mA or more)
- Alarm OUT, AUX OUT
Output specification: Open collector output (maximum applied voltage: 20 V DC)
OPEN: 4 V ~ 5 V DC by internal pull-up
CLOSE: Output voltage 1 V DC or less (maximum drive current: 50 mA)
- Max. ratings of Relay+ and Relay-: DC 25 V, 4.0 A
* The default of EXT I/O terminals is "Off".

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• About the INITIAL SW (Initial switch)

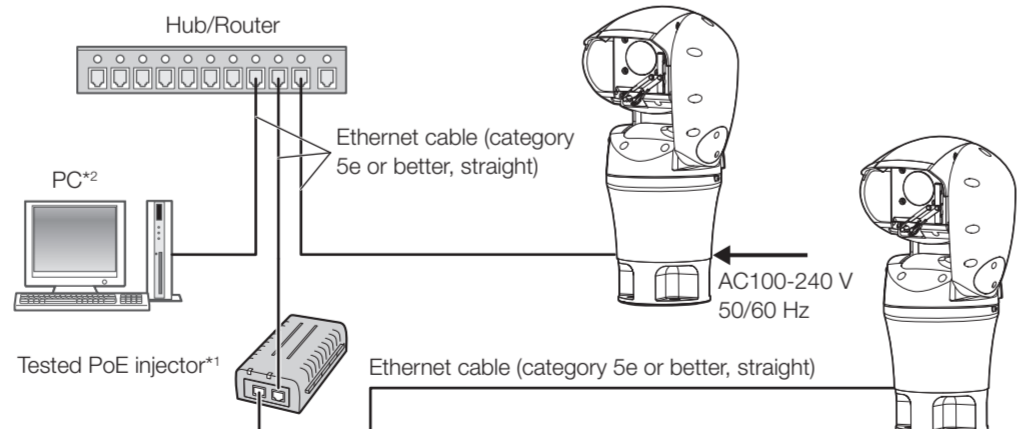
- Follow the steps below to initialize the network camera.
- Cut the power supply to the camera either by unplugging the AC power cord or by turning off the power supply of the tested PoE injector.
 - Turn on the power of the camera while holding down the INITIAL SW, and keep the INITIAL SW held down for 10-15 seconds. In about 2 minutes after releasing the INITIAL SW, 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 and the preset entry 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.

System connection diagram

The camera can be powered by the AC power supply or the tested PoE injector as shown in the following illustration.



*1 For the related information on applicable tested PoE injectors, refer to our website (https://i-pro.com/global/en/surveillance/training_support/support/technical_information).

*2 Use an Ethernet cable (category 5e or better, cross) when directly connecting the camera to a PC.

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[2] Attach the waterproof power supply connector (accessory) to the cable

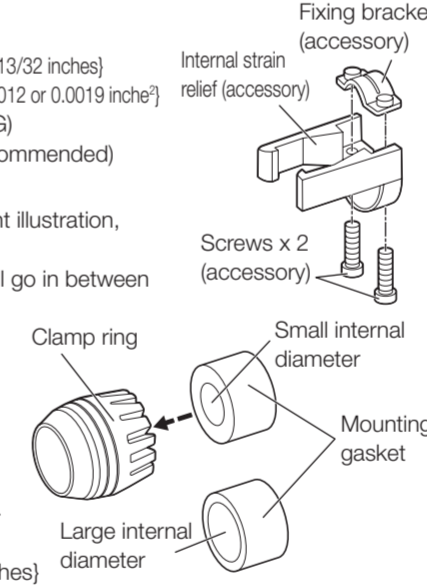
* The parts to be used in ① and ② are in the bag of the waterproof power supply connector (plug side) set.

<Locally procured items>

- Power cable
 - Cable diameter $\phi 6 \sim 10$ mm [$\phi 1/4 \sim 13/32$ inches]
 - Cross-sectional area of the wire conductor 0.75 or 1.25 mm² [0.0012 or 0.0019 in²]
 - Number of wires 3 (for L, N and FG)
 - Insulation material Polyethylene (recommended)

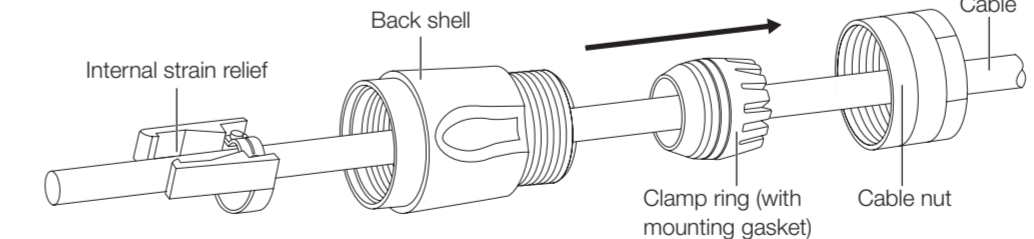
① Preparations

- Assemble the internal strain relief as shown in the right illustration, and install the fixing bracket. (Tighten the screws temporarily as the power cord will go in between the bracket and the formed part.)
- Install the mounting gasket on the clamp ring as shown in the right illustration. (Please use the applicable parts as described below for the mounting gasket according to the external diameter of the power cord.)
 - Small internal diameter...
 - Power cord size 6.0 ~ 9.0 mm [1/4 ~ 11/32 inches]
 - Large internal diameter...
 - Power cord size 9.0 ~ 10.0 mm [11/32 ~ 13/32 inches]



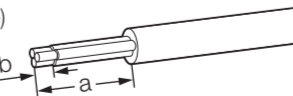
② Thread each part of the waterproof power supply connector through the power cable in the sequence as shown in the illustration below

- Cable nut → Clamp ring (with mounting gasket) → Back shell → Internal strain relief



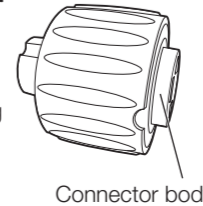
③ Prepare the cable end in the following dimensions, and twist the core.

- Process tolerance: +1 mm/-0 mm [+1/32 / -0 inches]
- | | Dimensions A (cable sheath) | Dimensions B (bare core wire) |
|---------------|-----------------------------|-------------------------------|
| Live, Neutral | 18 mm [23/32 inches] | 7 mm [9/32 inches] |
| GND | 20 mm [25/32 inches] | 9 mm [11/32 inches] |



④ While the core of the lead wire is inserted into the connecting hole at the back of the connector body, tighten the screw on the connector body, and connect and fix the lead wire to each terminal.

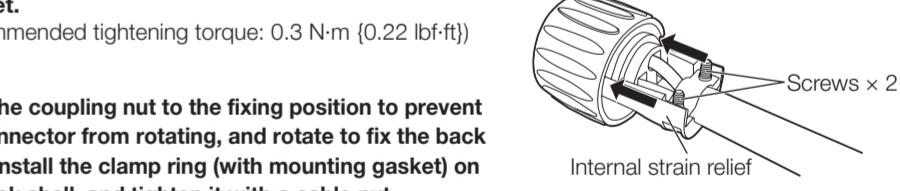
- For safety purpose, please read the following connection instructions carefully.
* There is a cutout on the connector coupling nut. Align the position of the screw to be tightened with the cutout on the coupling nut, and tighten the screw with a flathead screwdriver. (Refer to the upper right illustration.)
(Recommended tightening torque: 0.5 N-m [0.37 lbf-ft])



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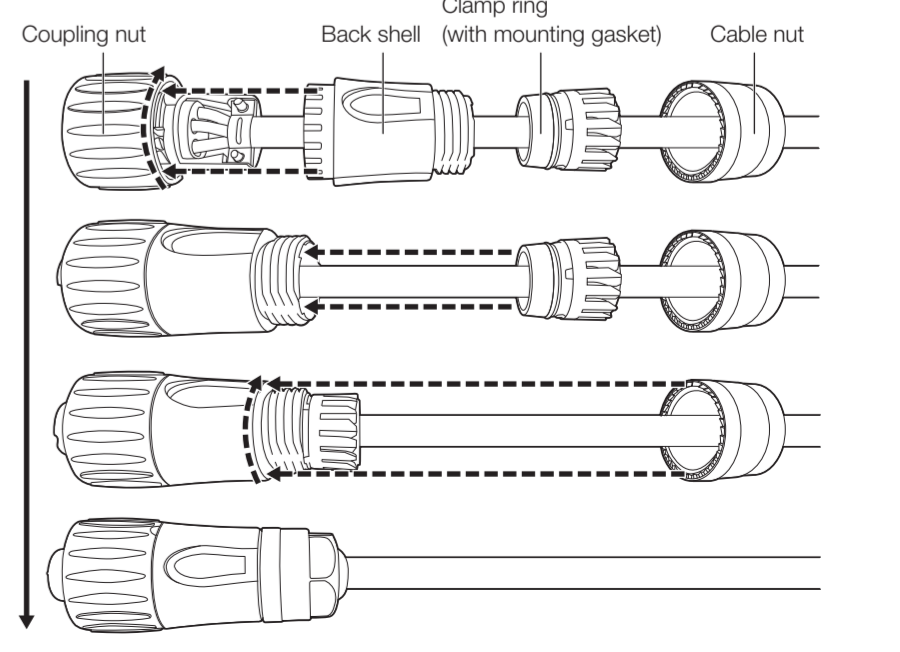
⑤ Insert and fix the internal strain relief on the connector as shown in the illustration. Next, rotate the screw of the internal strain relief, and fix the power cord firmly with the fixing bracket.

- (Recommended tightening torque: 0.3 N-m [0.22 lbf-ft])



⑥ Align the coupling nut to the fixing position to prevent the connector from rotating, and rotate to fix the back shell. Install the clamp ring (with mounting gasket) on the back shell, and tighten it with a cable nut.

- (Recommended tightening torque: 1.5 ~ 2.0 N-m [1.11 ~ 1.48 lbf-ft])



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