Network Camera

Installation Manual

DC-I6212WRX

Powered by **Direct IP** ®

Before reading this manual

This is a basic installation manual for use of an IDIS network camera. Users who are using this product for the first time, as well as users with experience using comparable products, must read this operation manual carefully before use and heed to the warnings and precautions contained herein while using the product. Safety warnings and precautions contained in this operation manual are intended to promote proper use of the product and thereby prevent accidents and property damage and must be followed at all times. Once you have read this operation manual, keep it at an easily accessible location for future reference.

- The manufacturer will not be held responsible for any product damage resulting from the use of unauthorized parts and accessories or from the user's failure to comply with the instructions contained in this manual.
- The information in this document is believed to be accurate as of the date of publication even though explanation about some functions may not be incorporated. The manufacturer is not responsible for any problems resulting from the use thereof. The information contained herein is subject to change without notice. Revisions or new editions to this publication may be issued to incorporate such changes.
- It is recommended that first-time users of this network camera and individuals who are not familiar with its use seek technical assistance from their retailer regarding product installation and use.
- If you need to disassemble the product for functionality expansion or repair purposes, you must contact your retailer and seek professional assistance.
- Both retailers and users should be aware that this product has been certified as being electromagnetically compatible for commercial use. If you have sold or purchased this product unintentionally, please replace with a consumer version.

Safety Symbols

Symbol	Publication	Description
⎓	IEC60417, No.5031	Direct current

In-Text

Symbol	Type	Description
⚠	Caution	Important information concerning a specific function.
✓	Note	Useful information concerning a specific function.

Safety Precautions

<div>

WARNING

RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

</div>

Important Safeguards

1. Read Instructions

All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions

The safety and operating instructions should be retained for future reference.

3. Cleaning

Unplug this equipment from the wall outlet before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.

4. Attachments

Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

5. Water and/or Moisture

Do not use this equipment near water or in contact with water.

6. Placing and Accessories

Do not place this equipment on an wall or ceiling that is not strong enough to sustain the camera. The equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.

This equipment and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.

Do not place this equipment in an enclosed space. Sufficient ventilation is required to prevent an increase in ambient temperature which can cause malfunction or the risk of fire.

7. Power Sources

This equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your equipment dealer or local power company. You may want to install a UPS (Uninterruptible Power Supply) system for safe operation in order to prevent damage caused by an unexpected power stoppage. Any questions concerning UPS, consult your UPS retailer.

This equipment should be remain readily operable.

8. Power Cord

Operator or installer must remove power and TNT connections before handling the equipment.

9. Lightning

For added protection for this equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the equipment due to lightning and power-line surges. If thunder or lightning is common where the equipment is installed, use a surge protection device.

10. Overloading

Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

11. Objects and Liquids

Never push objects of any kind through openings of this equipment as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the equipment.

12. Servicing

Do not attempt to service this equipment yourself. Refer all servicing to qualified service personnel.

13. Damage requiring Service

Unplug this equipment from the wall outlet and refer servicing to qualified service personnel under the following conditions:

A. When the power-supply cord or the plug has been damaged.

B. If liquid is spilled, or objects have hit the equipment.

C. If the equipment has been exposed to rain or water.

D. If the equipment does not operate normally by following the operating instructions, adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the equipment to its normal operation.

E. If the equipment has been dropped, or the cabinet damaged.

F. When the equipment exhibits a distinct change in performance — this indicates a need for service.

14. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

15. Safety Check

Upon completion of any service or repairs to this equipment, ask the service technician to perform safety checks to determine that the equipment is in proper operating condition.

16. Field Installation

This installation should be made by a qualified service person and should conform to all local codes.

17. Correct Batteries

Warning: Risk of explosion if battery is replaced by an incorrect type.

Replace only with the same or equivalent type.

Dispose of used batteries according to the instructions.

The battery shall not be exposed to excessive heat such as sunshine, fire or the like.

18. Tmra

A manufacturer's maximum recommended ambient temperature (Tmra) for the equipment must be specified so that the customer and installer may determine a suitable maximum operating environment for the equipment.

Warning: This product emits infrared light. Do not look into the IR LED.

FCC Compliance Statement

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 USERS WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT THEIR OWN EXPENSE.
WARNING: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT. THIS CLASS OF DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE CAUSING EQUIPMENT REGULATIONS.

WEEE (Waste Electrical & Electronic Equipment)

Correct Disposal of This Product
(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

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The software included in this product contains some Open Sources. You may obtain the corresponding source code which we have to distribute according to the license policy. For more information, refer to **System > General** page. This product includes software developed by the University of California, Berkeley and its contributors, and software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.oepnssl.org/). Also, this product includes cryptographic software written by Eric Young (eay@cryptsoft.com).

Table of Contents

Part 1 – Introduction

Accessories

Upon purchasing the product, check inside the box to make sure all the following accessories are included.

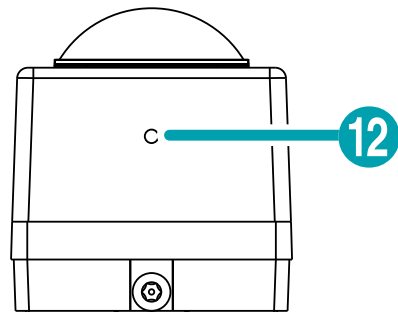|		
Intercom	Wall Installation Plate	Guide Pattern
Desiccant (2ea.), double-sided tape (1ea.)		Allen Wrench
Quick Guide		Screws(5ea.) and Anchors(4ea.)
Terminal Blocks (2 ea.)		Waterproof Bushing (2ea.)
Protect Connector		7pin cable (Alarm cable), 2pin cable (Power cable)

Overview
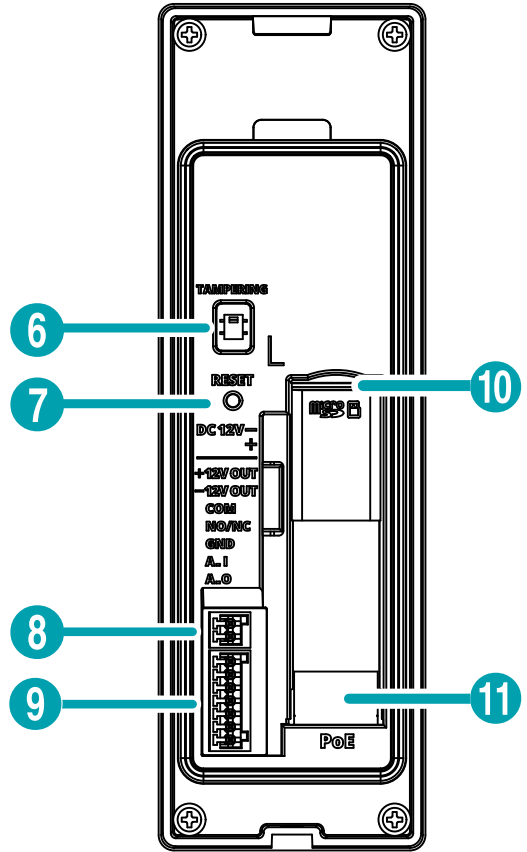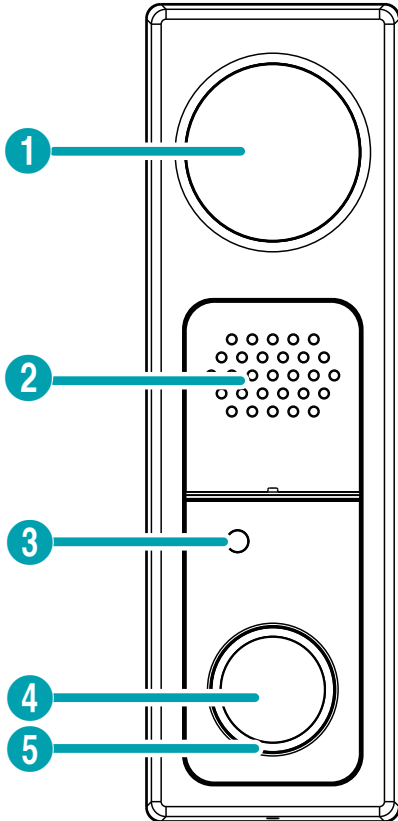
Front

Back

Bottom

❶	Lens
❷	Speaker
❸	IR LED, Sensor
❹	Call Button
❺	LED Status Indicator
❻	Tampering Switch
❼	Factory Reset Switch
❽	Power
❾	Alarm I/O
❿	SD Memory Card Slot
⓫	Network Port
⓬	Built-in Microphone

- **Lens**

  A motorized focus and zoom lens is installed.

- **Speaker**

  Outputs audio transmitted from the connected device.

- **IR LED, Sensor**

  A sensor monitors lighting levels and activates the IR LED during low-lighting conditions.

- **Call Button**

  The call button for calling.

- **LED Status Indicator**

  LED indicator shows operational status. For more information, refer to the **LED Status Indications.**

- **Tampering Switch**

  Using the tampering switch, you can detect when the product is somehow separated.

- **Factory Reset Switch**

  Restores the camera's default factory settings. For more information, refer to the **Factory Reset**.

- **Power (DC12V)**

  Connect this to the power adapter.

  > ✓ DC 12V adapter power must be connected if using electric door strike.

- **Alarm**
  - **O (Out)**: It is the BJT (Bipolar Junction Transistor) - open collector output. If the voltage and current exceed the specification limit (Max. Load: 30mA, Max. Voltage: 5VDC), the product could be damaged. When connecting the device which exceeds the specification limit, refer to the picture (circuit) below.

    > ✓ If used with an external inductive load(e.g. relay), a diode must be connected in parallel with the load for protection. Otherwise, the product could be damaged.
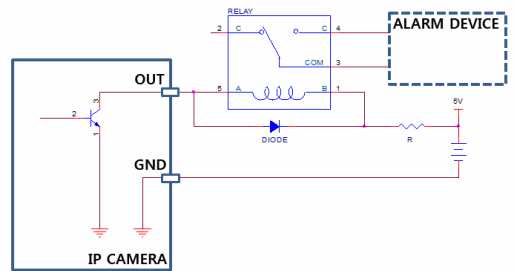
  - **I (In)**: Connect an alarm-in device to this port. (Mechanism: Choose between an NC (Normally Closed) type or an NO (Normally Open) type) → Connect a mechanical or electrical switch to the alarm in port and the GND (ground) connector. Alarm in range is 0V to 5V. In order to detect alarm input from an electrical switch, the signal must be higher than 4.3V from an NC switch or less than 0.3V from an NO switch and must last for longer than 0.5 seconds.

  > ⚠ • Check your local laws and regulations on making video or audio recordings. The user will be held liable for any violation of the law.
  > • When switching over from 12 VDC to PoE as the power source, the system will be rebooted once the power adapter is disconnected.
  > • Organize the power cable so that it will not cause people to trip over or become damaged from chairs, cabinets, desks, and other objects in the vicinity. Do not run the power cable underneath carpet or a rug or plug the cable into a power outlet shared by a number of other devices.

- **SD Memory Card Slot**

  Used to insert a micro SD memory card into the camera. (An SLC (Single Level Cell) or MLC (Multi Level Cell) card by San Disk or Transcend is recommended)

✓ • Do not remove the SD memory card while the system is in operation. Removing the card while the system is in operation can cause the system to malfunction and/or corrupt data stored on the SD memory card.
  • An SD memory card is a consumable product with a finite service life. Prolonged use will damage the card's memory sectors and result in data loss or memory card failure. Test the SD memory card regularly and replace it whenever necessary.

- **Network Port**

  Connect a network cable with an RJ-45 connector to this port. If using a PoE switch, you can supply power to the camera using an Ethernet cable. For more information on PoE switch use, refer to the switch manufacturer's operation manual. You can configure, manage, and upgrade this camera and monitor its images from a remote computer over the network. For more information on network connection setup, refer to the **IDIS Discovery operation manual**.

✓ The table below shows the network cable specifications.

<The network cable specifications>

Item	Content	Note
Connector	RJ-45	
Ethernet	10/100 Base	10/100 Mbps
Cable	UTP Category 5e or higher	
Maximum length	100m	
PoE	IEEE 802.3af, Class 3	

✓ The recommended wire thickness for the DC power/input/output connector is Φ1mm or less. If the wire is thick more than that, power/network problems may occur due to interference between wires. (It is recommended to use the provided accessories when the wire is thick.)

- **Built-in Microphone**

  Receives audio.

I/O Connector
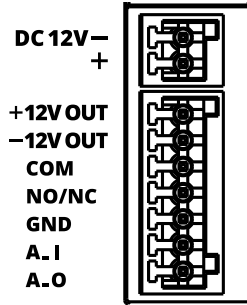
DC12V-,+	DC12V Power In
+12V OUT, -12V OUT	12V Out only when DC 12V power In
COM, NO/NC	RELAY I/O
GND	I/O Grounding
A.I	Alarm In
A.O	Alarm Out (Active Low - Open Collector Output)

LED Status Indications

Call Status	LED Type
Waiting	On
Call request	Fast blink
Calling	Slow blink

Factory Reset

Only use the factory reset switch to restore the camera to its factory default settings.

> A factory reset will clear all camera settings configured by the user.

1 Shut off the power supply, insert a straight pin into the switch hole, and press down on the reset switch.

2 Hold the switch down and reconnect the power adapter.

3 Once the device turns back on and its LEDs start blinking, wait 5 seconds and then remove the pin.

4 The device will go through the resetting process and reboot. All device settings will be restored to their factory defaults after the reboot.

It's also possible to do a factory reset by pressing and releasing the reset button while the camera is turned on or using the IDIS Discovery program from a remote location. A factory reset will reboot the system. For more information on factory reset, refer to the **IDIS Discovery operation manual**.

Installation

Installation of this product does not require the use of special tools.
For more information on other devices comprising the overall system, refer to their respective **installation manuals**.

> Product color and design may vary depending on the model.

Inserting a SD Memory Card

Insert a SD memory card into the SD memory card slot with the 'micro SD' print facing upward.
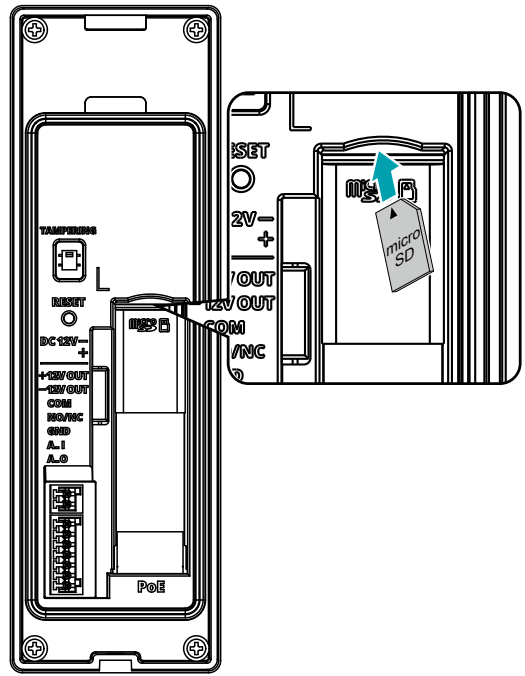
> Push the SD memory card until it disengages from the slot, and then pull it out.

Installation

⚠ • Check the wall to see if it needs to be reinforced. The camera may fall off if the wall is not strong enough to support its weight.
• Install the camera in a shaded area. If the camera is installed in direct sunlight, it may be affected adversely.
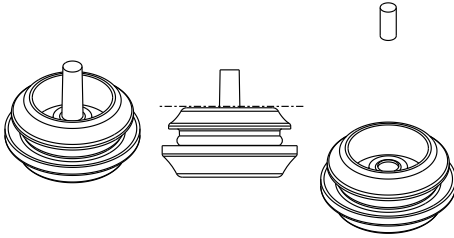
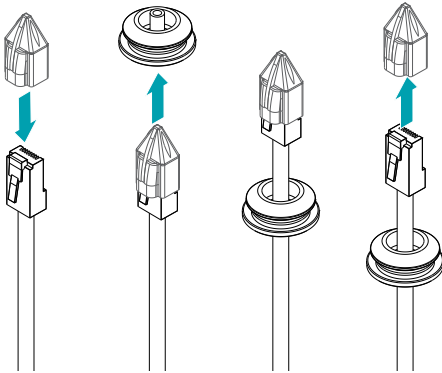✓ The recommended height for product installation is 140.5cm(55.31 in). (Based on lens height)
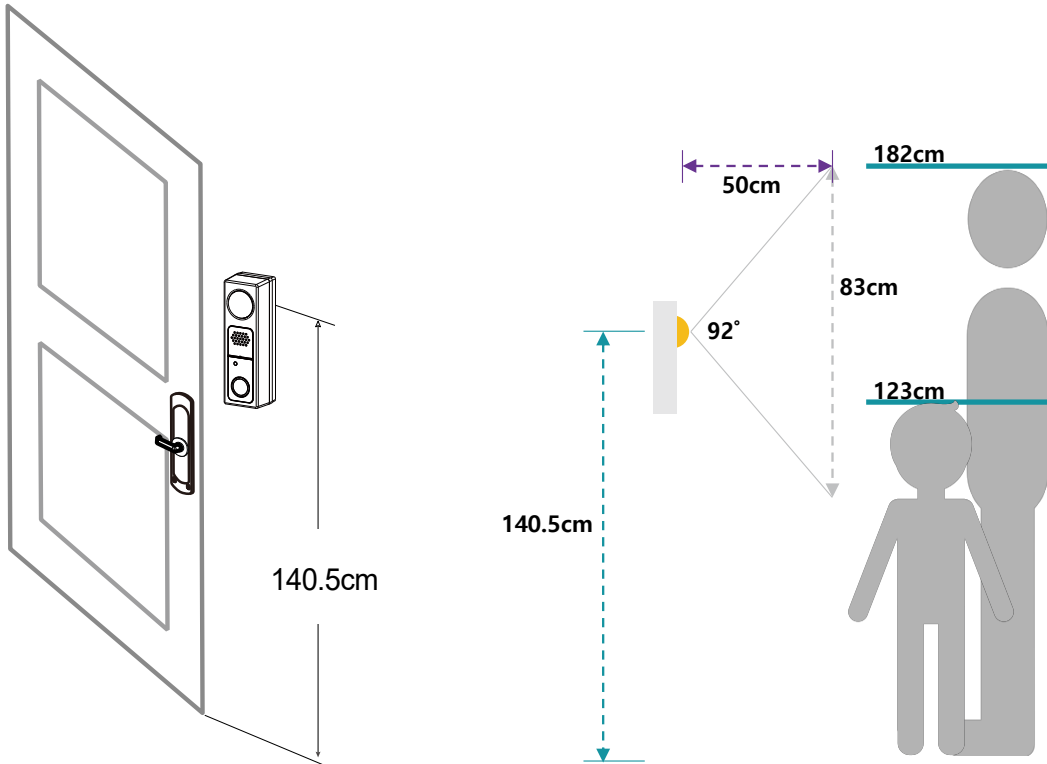
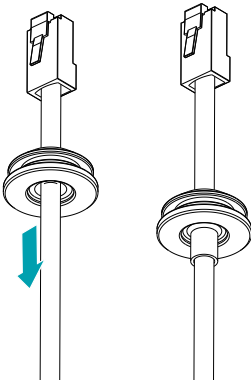*1* Detach the protrusion part from the cable rubber along the dotted line.

2 Make the LAN cable go through the cable rubber using the protect connector.

✓ It is recommended to use lubricant to move the LAN cable smoothly.

3 Pull the cable slightly and arrange the rubber as shown below.

✓ The recommended distance between the LAN connector and the bushing is 5~6cm.

✓ The recommended distance between the power, the audio connector and the bushing is 4~4.5cm.

✓ To pass through a thin cable or more than two cables like the power and the audio connector provided with the product, it is advised to finish it using silicon to make sure waterproofed perfectly. (Silicon finishing part — refer to the bottom image.)
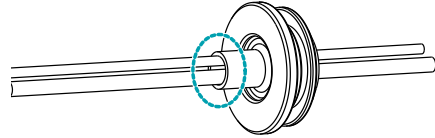
4 Insert the bushing of the alarm cable in the bottom hole of the mount plate, and the bushing of the network cable in the top hole.
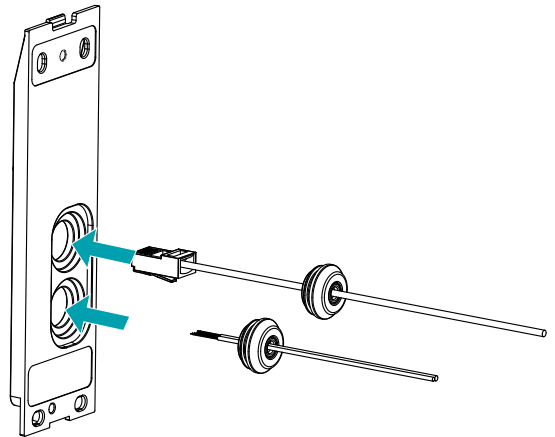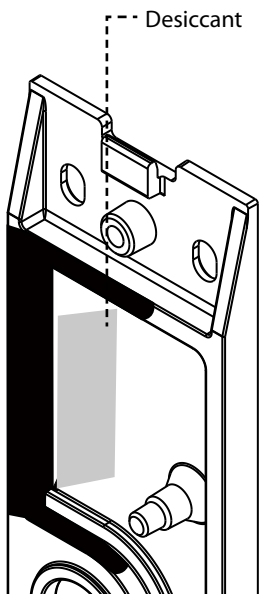

*5* Connect the alarm terminal block to the alarm cable, and power terminal block to the power cable.
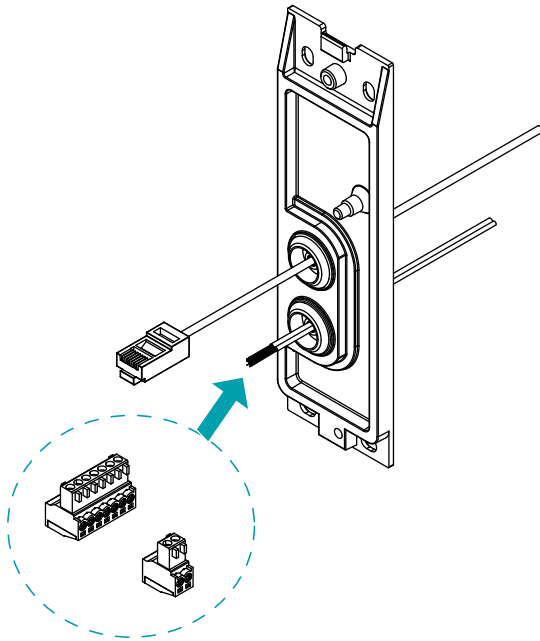
6 Attach the enclosed desiccant to prevent moisture.

For perfect waterproofing, be careful not to let the desiccant come over the wall (black part in the picture below).

Desiccant

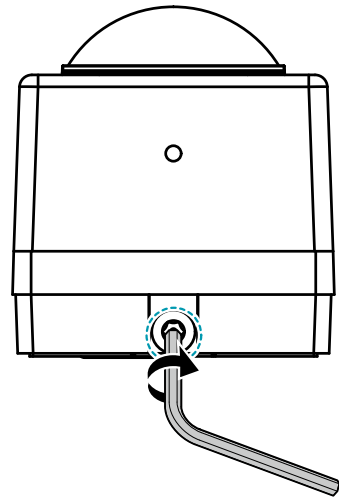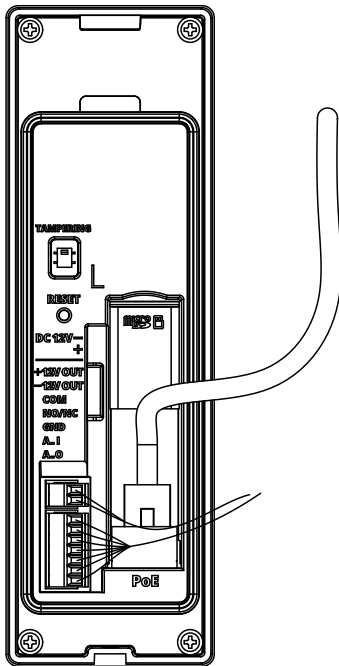Attach the double-sided tape horizontally and attach the desiccant side by side. (refer to the bottom image)
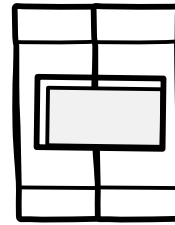
7 Use the screws, anchor provided with the product to secure the install body on a wall.
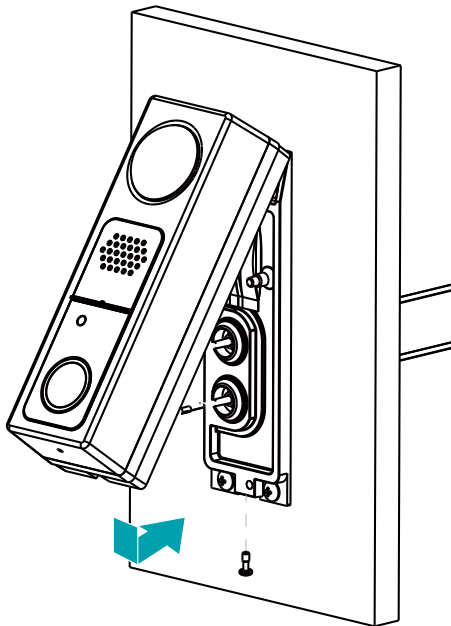
Use the provided guide pattern to check the distance between the screws.
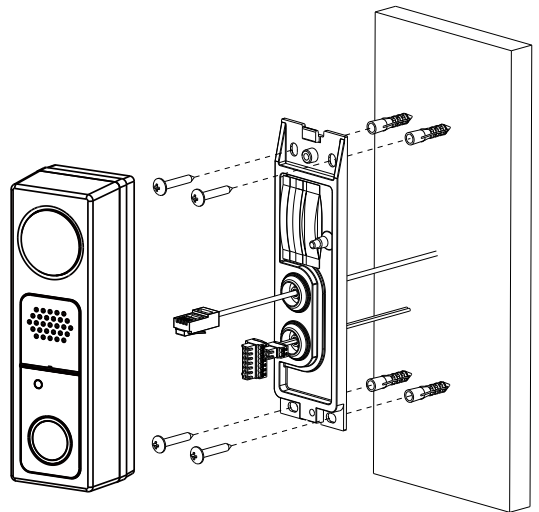
8 Connect external devices, the network cable, and the power adapter.
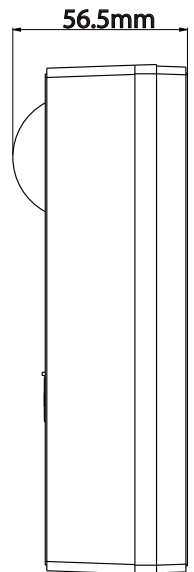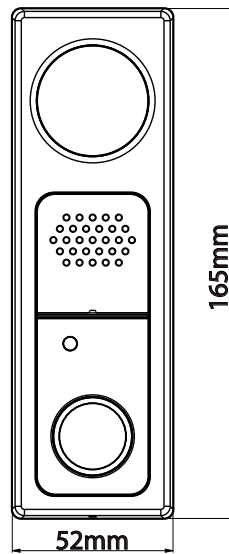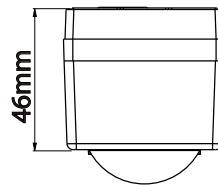
13

9 Join the camera body to the mount plate.

10 Tighten the screw while pushing the bottom part of the camera body.

## Dimension

46mm

56.5mm

165mm

52mm

Connection

Connecting electric door strike

⚠ · To operate the electric door strike with intercom, connect DC 12V / 2A or higher power.

· The maximum power that can be supplied by Alarm out No.2 (NO/NC port) is DC 12V / 1A. To operate the electric door strike with a higher power specification, supply power to the electric door strike separately.

· Refer to the specifications recommended by the electric door strike manufacturer for the length and thickness of the cable connecting electric door strike and intercom.

· If only PoE is connected to the intercom, only the intercom works and the electric door strike and 12V output do not.

· If PoE and DC12V power adapter are connected to the intercom: the intercom and the electric door strike are powered by the DC12V power adapter.
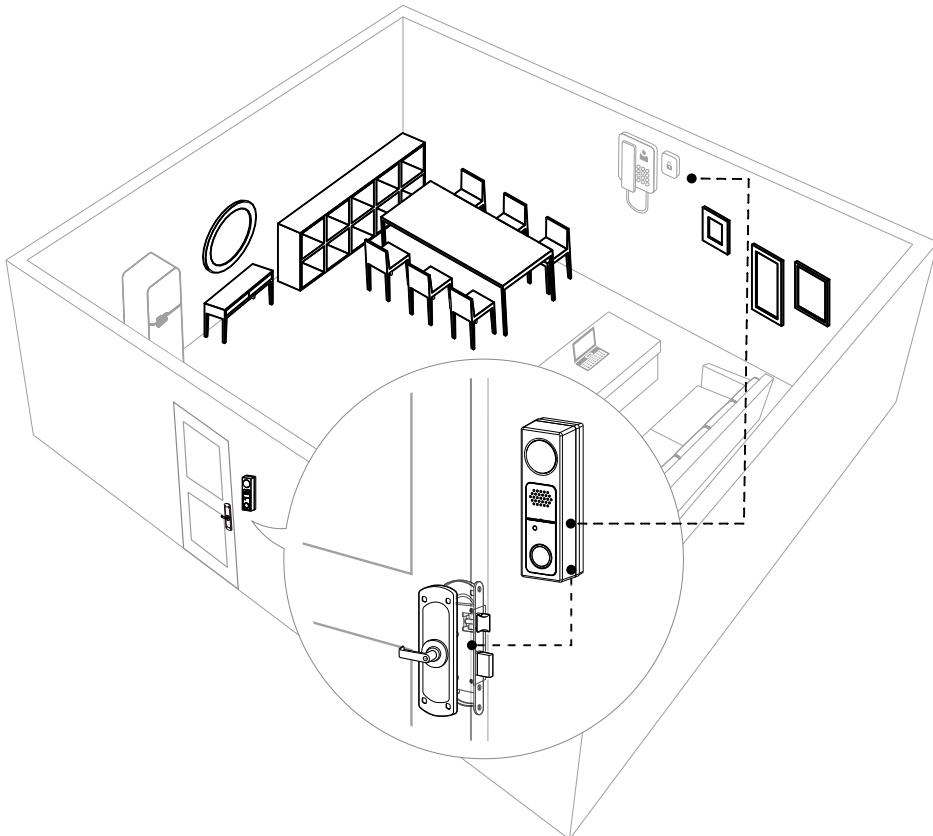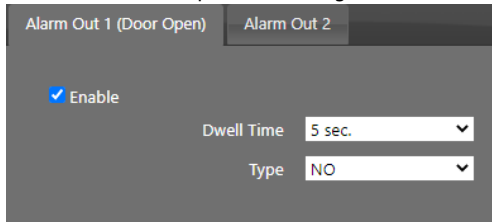
• Select N.C. (Normal Close) when using the Fail-Safe type door strike.

Alarm Out 1 (Door Open)	Alarm Out 2
☑ Enable	
Dwell Time	5 sec.
Type	NC
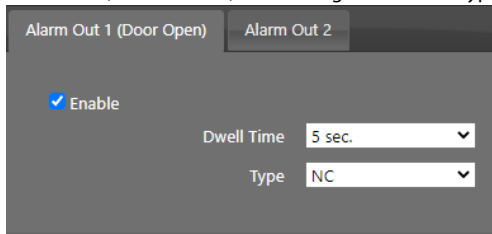
• Select N.O. (Normal Open) when using the Fail-Secure type door strike.

Alarm Out 1 (Door Open)	Alarm Out 2
☑ Enable	
Dwell Time	5 sec.
Type	NO

Electric door strike wiring diagram

Using product internal power

DC12V-
DC12V+

External DC12V adapter

+12VOUT
-12VOUT
COM
NO/NC
GND
Alarm IN
Alarm OUT

INTERCOM TERMINAL BLOCK

Using electric door strike external sole power

Power supply
Exclusive door lock power

DC12V-
DC12V+

+12VOUT
-12VOUT
COM
NO/NC
GND
Alarm IN
Alarm OUT

INTERCOM TERMINAL BLOCK
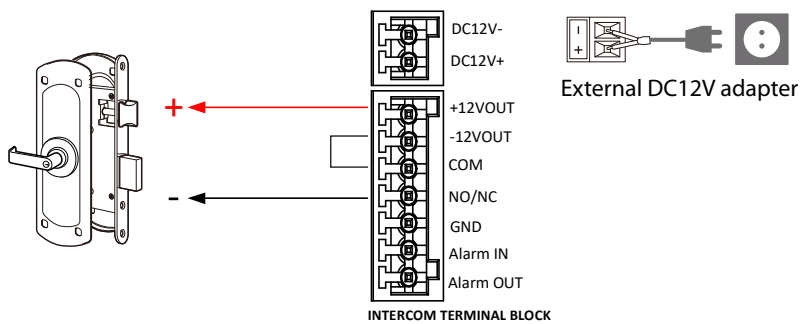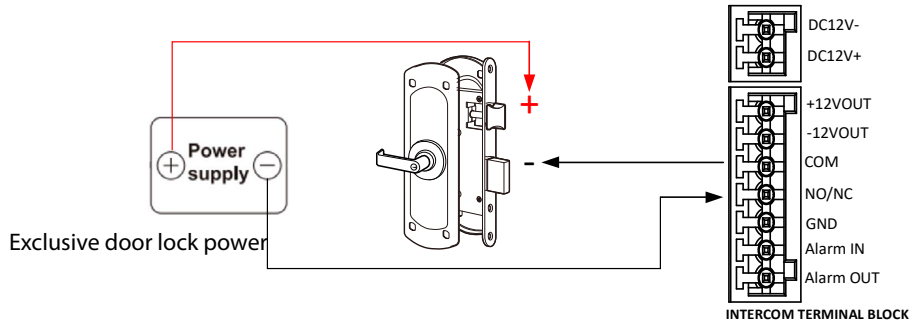
Using product internal power + **DOOR EXIT** Button

DC12V-
DC12V+

External DC12V adapter

+12VOUT
-12VOUT
COM
NO/NC
GND
Alarm IN
Alarm OUT

DOOR EXIT

INTERCOM TERMINAL BLOCK
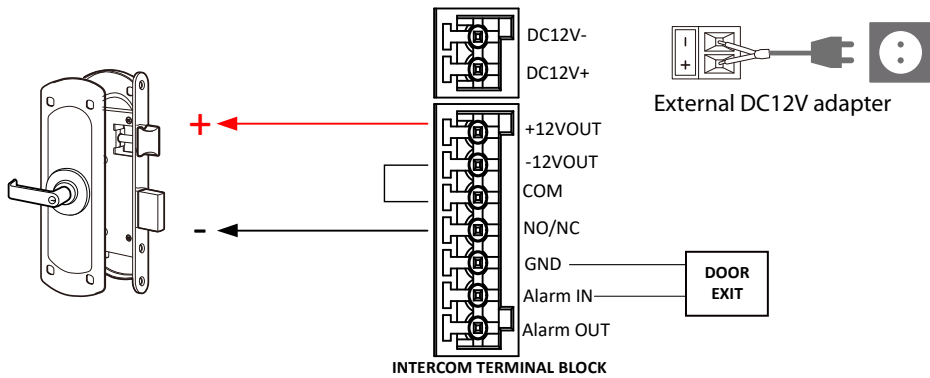
Using electric door strike external sole power + **DOOR EXIT** Button

DC12V-
DC12V+

Power supply
Exclusive door lock power

+12VOUT
-12VOUT
COM
NO/NC
GND
Alarm IN
Alarm OUT

DOOR EXIT

INTERCOM TERMINAL BLOCK
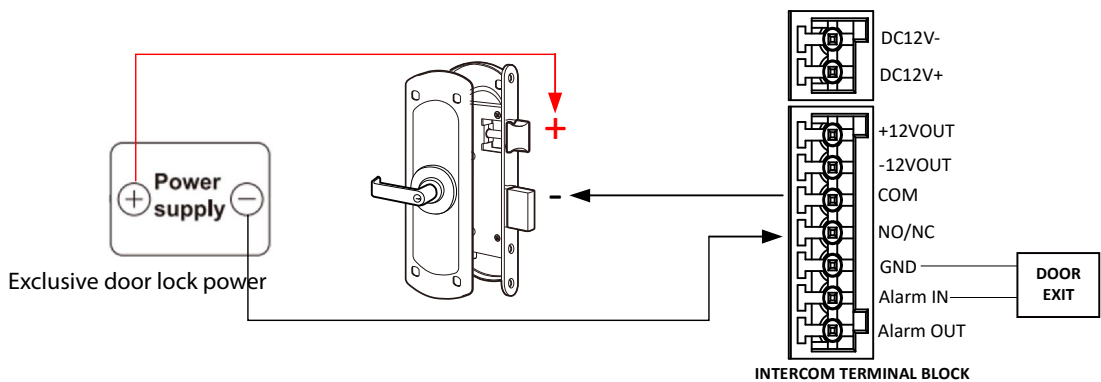
When configuring DOOR EXIT, select the **Alarm Out 1** checkbox in **Event > Alarm In.**

Part 2 - Appendix

Troubleshooting

Problem	Check
The main unit won't turn on.	• Check the power cable connection. If using a PoE switch to supply power to the camera using an Ethernet cable, check the Ethernet cable connection. • Check the power outlet. If using a PoE switch to supply power to the camera using an Ethernet cable, check the PSE device's power supply.
PoE switch isn't being recognized.	Check the grounding status of the I/O device connected to the camera and the PoE switch. If they are not grounded, ground them and try again.
I can't see Live videos.	• Check the camera's power status. • Ensure that cables are properly connected to the camera and the lens. • Check the network connection status of the computer and the network camera.
Images are blurry.	• Make sure the lens is clean. If not, clean it using a soft piece of cloth or a brush. • Make sure the lens is in focus. Adjust the focus during daytime. • If there is too much light coming into the camera or the camera is picking up an overly bright light source, adjust the camera's position/angle accordingly.
Video color appears incorrect.	Check the white balance settings. If using the **Auto** option, it may take some time for the white balance to be adjusted.
Images are blinking.	If the camera is pointed at the sun or a fluorescent lamp, adjust the camera's angle away.
Lost the admin ID and password and unable to connect to a network camera.	You must perform a factory reset. A factory reset will revert all settings, including network settings, to their factory defaults. After performing a factory reset, make a memo of the admin ID and password as a safety precaution.
Unable to launch IDIS Web.	If the IDIS Web login screen is not loading, check which version of Microsoft Internet Explorer you are using. IDIS Web may not launch properly on versions 10 or below.

Specifications

☑ • These product specifications may change without prior notice.
   • This product is for outdoor use.

Video

Image Sensor	1/2.8" CMOS
Max. Resolution	1920 x 1080
Scanning Mode	Progressive Scan
Lens type	Fixed-focal
Focal Length	f=1.85mm
Aperture	F=2.3
Iris Control	Fixed Iris
Angular Field of View	180°(H), 92°(V)
Min. Illumination	COLOR : 0.1 lux F2.3 B/W : 0 lux (IR LED ON)
Dynamic Range	120dB, True WDR
Electronic Shutter Speed	Auto / Manual (1/30 ~ 1/10,000), Anti-Flicker, Slow Shutter (1/7.5, 1/15)
Day & Night	IR cut filter with auto switch
IR Distance (LEDs)	5m (1ea)

Network

Video Compression	H.265, H.264(MP), M-JPEG
Bit rate Control	CBR / VBR
Max. Frame Rate	30ips : 1920 x 1080 (WDR)
Audio Compression	G.726, G.711 u-Law, G.711 a-Law, G.722
Supported Resolution	1920x1080, 1280x720, 640x360, 352x240
Multi-Video Streaming	Quadruple
Ethernet	RJ45(10/100BASE-T)
Edge Storage* (Optional)	micro SD (Micro SD/SDHC/SDXC memory card (class 6 or higher, max. 512GB))

* An SLC (Single Level Cell) or MLC (Multi Level Cell) card by SanDisk or Transcend is recommended to ensure stable recording performance.

* An SD memory card is a consumable product with a finite service life. Prolonged use will damage the card's memory sectors and result in data loss or memory card failure. Test the SD memory card regularly and replace it whenever necessary.

* microSD Logo is a trademark of SD-3C, LLC.

I/O

Audio In/Out	Internal Mic 1ea / Internal Speaker 1ea
Alarm In	1 TTL, NC/NO Programmable, 4.3V(NC) or 0.3V(NO) threshold, 5V DC
Alarm Out	1 TTL open collector, 30mA @ 5 VDC 1 RELAY OUT, 12 VDC Max. 1A with 2A or higher DC 12V Power adapter

General

Operating Temperature	-30℃ ~ +55℃ (-22°F ~ +131°F)
Boot Up Temperature	0℃ ~ +55˚C (32°F ~ +131˚F)
Operating Humidity	0% ~ 90%
Power Source	12V⎓, PoE(IEEE 802.3af, Class 3)
Power Consumption	12V⎓, 1.87A, 22.4W (DC OUTPUT: 12V⎓, 1A MAX) PoE, IEEE 802.3af (Class 3), 9.5W
Approval	FCC, CE, IP66, IK10
External Dimensions (W x D x H)	52mm x 165mm x 46mm (2.04" x 6.49" x 1.81")
External Dimensions with dome cover (W x D x H)	52mm x 165mm x 56.5mm (2.04" x 6.49"x 2.22")
Weight (Main Unit)	0.52kg (1.14lb)

IDIS