



# **Fixed Network Camera Hardware User Manual**

**FCS-5055, FCS-5065**

**Ver. 2014/03/6**

# Table of Contents

## **Precautions .....4**

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Safety Instructions .....6

## **Introduction.....7**

---

The List of Models .....7  
Package Contents.....7  
Physical Description .....9

## **Installation Procedures ..... 11**

---

Step 1: Prepare for Installation ..... 11  
Step 2: Attach the Sunshield ..... 12  
Step 3: Install the Camera..... 13  
Step 4: Waterproof and Connect the Network Cable ..... 13  
Step 5: Connect to Network ..... 14  
Step 6: Access Camera Live View ..... 14  
Step 7: Adjust the Viewing Angle ..... 15

## **Waterproof Solution Using the “Pigtail” ..... 17**

---

How to Use the Female Cable Gland ..... 18  
How to Use the Female Conduit Gland ..... 21

## **Waterproof Solution Using the Camera**

## **Connectors.....25**

---

How to Use the Male Cable Gland .....27

## Hardware Manual

How to Use the Male Conduit Gland.....	31
--	----

### **Other Connections .....35**

---

Connecting a Power Adapter (Optional).....	35
Connecting DI/DO and Audio Devices (Optional) .....	37
How to Connect DI/DO Devices.....	37
How to Connect Audio Devices.....	40

### **Other Adjustments and Accessories .....41**

---

How to Remove the “Pigtail” .....	41
How to Insert a Memory Card .....	44
How to Insert the Memory Card .....	44
How to Remove the Memory Card.....	44

### **Accessing the Camera .....45**

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Configure the IP Addresses .....	45
Access the Camera.....	49

# Precautions

### **Read these instructions**

You should read all the safety and operating instructions before using this product.

### **Heed all warnings**

You must adhere to all the warnings on the product and in the instruction manual. Failure to follow the safety instruction given may directly endanger people, cause damage to the system or to other equipment.

### **Servicing**

Do not attempt to service this video device yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

### **Trademarks**

All names used in this manual are probably registered trademarks of respective companies.

### **Liability**

Every reasonable care has been taken during the writing of this manual. Please inform your local office if you find any inaccuracies or omissions. We cannot be held responsible for any typographical or technical errors and reserve the right to make changes to the product and manuals without prior notice.

## Hardware Manual

### Federal Communications Commission Statement



This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Warning:** Changes or modifications to the equipment that are not expressly approved by the responsible party for compliance could void the user's authority to operate the equipment.

### European Community Compliance Statement



This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022 and EN 55024. In a domestic environment, this product may cause radio interference in which cause the user may be required to take adequate measures.

### Safety Instructions

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#### **Cleaning**

Disconnect this video product from the power supply before cleaning.

#### **Attachments**

Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

#### **Do not use accessories not recommended by the manufacturer**

Only install this device in a dry place protected from weather

#### **Servicing**

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

#### **Damage Requiring service**

Disconnect this video product from the power supply immediately and refer servicing to qualified service personnel under the following conditions.

- 1) When the power-supply cord or plug is damaged
- 2) If liquid has been spilled, or objects have fallen into the video product.
- 3) If the inner parts of video product have been directly exposed to rain or water.
- 4) If the video product does not operate normally by following the operating Instructions in this manual. Adjust only those controls that are covered by the instruction manual, as an improper adjustment of other controls may result in damage, and will often require extensive work by a qualified technician to restore the video product to its normal operation.



#### **Safety Check**

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

# Introduction

## The List of Models

This hardware manual contains the following models:

FCS-5065		Zoom Network Camera, 5-Megapixel, Outdoor, PoE 802.3af, Day & Night, IR LEDs, 12x, WDR
FCS-5055		Zoom Network Camera, 3-Megapixel, Outdoor, PoE 802.3af, Day & Night, IR LEDs, 12x, WDR

From the installation perspective these models are very similar; therefore you can use one manual for all of them.

## Package Contents

Camera	Sunshield	Sunshield Screws
		
Hexagon Screwdriver	Camera Base Wrench	Bracket Wrench
		

# Hardware Manual

Female Conduit Gland	Female Cable Gland	Washer
		
Male Conduit Gland	Male Cable Gland	Drill Template Sticker
		
Terminal Block (for Power)	Terminal Block (for Audio and DI/DO)	Quick Installation Guide
		



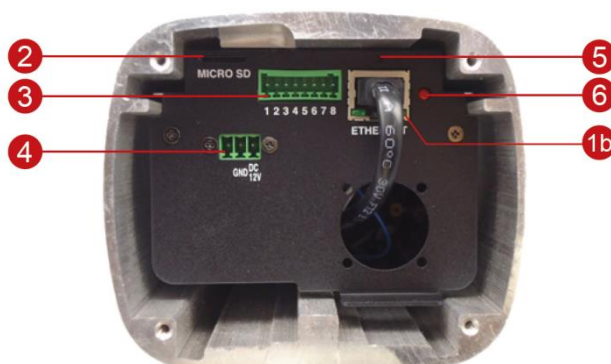
## Physical Description

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### Exterior View



### Connectors View



**NOTE:** The connectors are hidden under the housing cover.

#### 1) Ethernet Ports

The Ethernet port (1a) of the cable-out or “pigtail” connects to a network using an Ethernet cable.

The Ethernet port (1b) on the housing connects the cable-out or “pigtail” to the camera.

**NOTE:** It is possible to replace the “pigtail” with a standard Ethernet cable by disconnecting the pigtail and connecting the preferred cable to this port.

#### 2) Memory Card Slot

Insert a memory card into this slot for local recording purposes. See [How to Insert a Memory Card](#) on page 44 for more information.

**NOTE:** Supports microSDHC and microSDXC cards.

## Hardware Manual

### 3) Digital Input / Output (DI/DO) and Audio Input / Output

This connector connects to digital input or output devices, such as an alarm trigger, panic button, etc., as well as audio input and output devices, such as microphones and speakers. Digital Input (DI) and Digital Output (DO) devices are used in applications like motion detection, event triggering, alarm notifications, etc. See [Connecting DI/DO and Audio Devices \(Optional\)](#) on page 37 for information.

### 4) DC 12V Power Input

In case the camera is connected to a non-PoE (Power over Ethernet) switch, use this connector to connect the camera to an external power adapter (not included). See [Connecting a Power Adapter \(Optional\)](#) on page 35 for more information.

### 5) Reset Button

The purpose of reset button is to restore the factory default settings of the camera, including the administrator's password.

#### The reset button can be used for following purposes:

- The administrator's password has been forgotten and therefore the camera cannot be accessed.
- In case of IP address, mask, or allow/deny filter related issues, resulting with inability to modify these settings.
- In case of connectivity issues or abnormal video quality.

#### How to do the reset properly?

Press and hold the reset button for 5 seconds or until the power LED lights up.

### 6) Power LED

The Power LED lights red when the camera is powered on and goes off once the camera boot-up process is complete.

**NOTE:** For typical use, the power LED is hidden inside the housing and cannot be seen. However, knowing how the power LED works is essential when troubleshooting or doing a reset.

# Installation Procedures

This section describes the procedures in installing the camera on the wall using the integrated bracket.

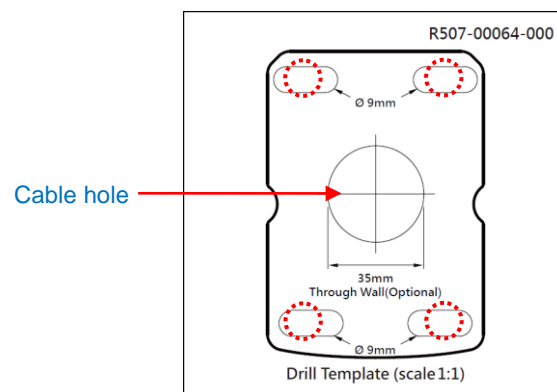
**IMPORTANT!** Before installation, make sure the wall can bear more than the weight of the camera and its bracket.

**NOTE:** The following procedures and pictures are based on the cable going along the wall; same procedures apply when the cable will pass through the wall, unless otherwise specified.

## Step 1: Prepare for Installation

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1. Depending on the wall material, purchase applicable screws and screws plugs (as needed) that can hold the camera and bracket weight on the wall.
2. Attach the supplied drill template sticker on the wall.
3. Determine how the cable will be routed: **pass through the wall** or **along the wall**.
  - **If the cable will pass through the wall**, drill the cable hole and the four (4) screw holes on the wall.

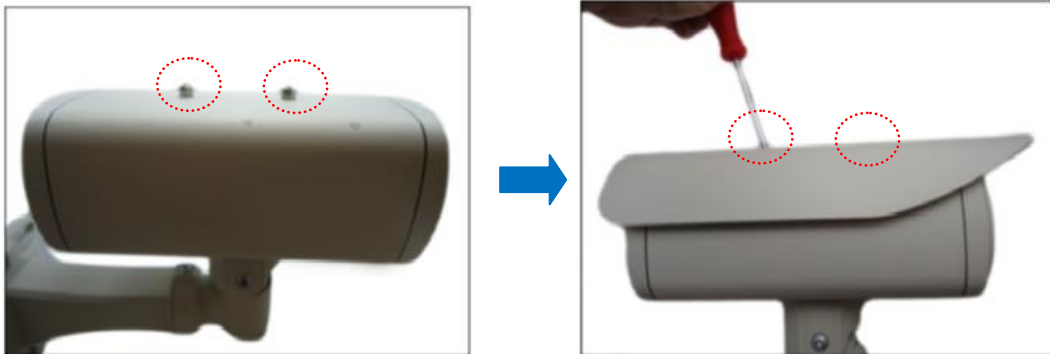


- **If the cable will be routed along the wall**, just drill the four (4) screw holes on the wall.
4. Detach the drill template sticker from the wall and insert the plastic plugs into the screw holes.

## Step 2: Attach the Sunshield

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1. Loosely secure the supplied screws to attach the sunshield.

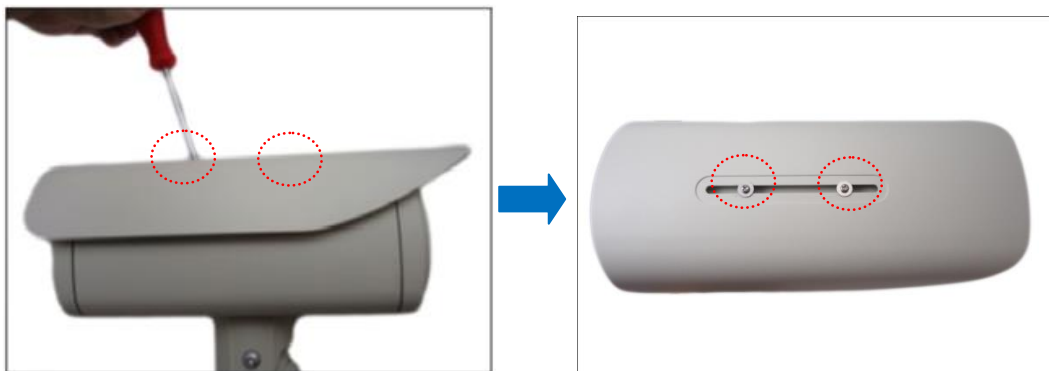


2. Slide to adjust the sunshield to cover the lens as far as possible.



**NOTE:** The sunshield may have to be adjusted later based on the camera live view.

3. Tighten the screws to secure the sunshield.



### Step 3: Install the Camera

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1. **If the “pigtail” will pass through the wall**, follow [Waterproof Solution Using the “Pigtail”](#) on page 17 first and then route the cable through the wall.

**If the “pigtail” will go along the wall**, route the cable through one of the cable gaps on the bracket.



2. Install the camera to the wall using four (4) screws applicable for the wall material (purchased separately).



**NOTE:** Make sure the wall can bear more than the weight of the camera with bracket.

### Step 4: Waterproof and Connect the Network Cable

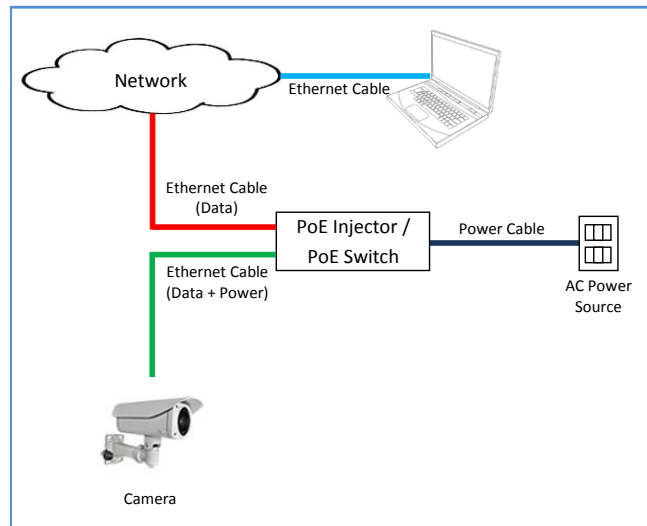
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See [Waterproof Solution Using the “Pigtail”](#) on page 17.

### Step 5: Connect to Network

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Connect the other end of the network cable to a switch or injector. Then, connect the switch or injector to a network or PC and a power source. See Power-over-Ethernet (PoE) example connection diagram below.



In case of using a non-PoE switch, power up the camera using a power adapter (not supplied). As needed, power up the other connected devices.

### Step 6: Access Camera Live View

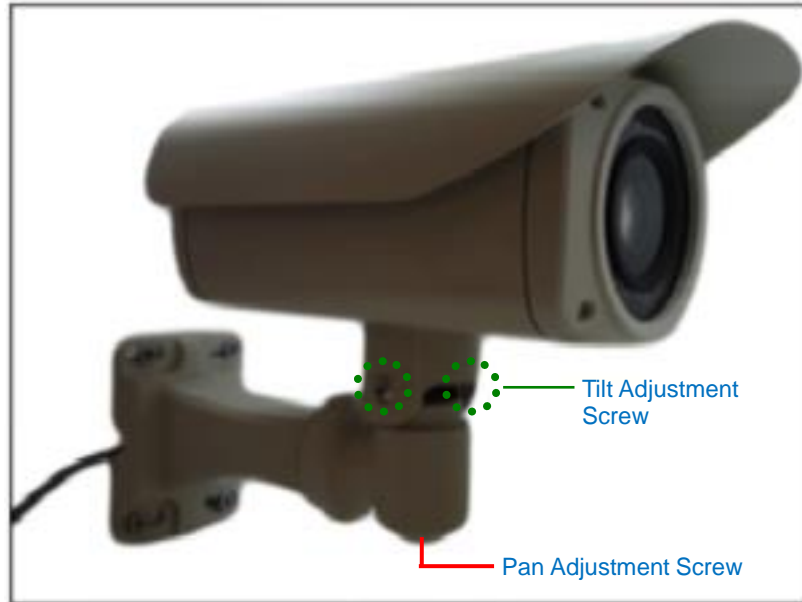
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See [Accessing the Camera](#) on page 45 for more information on how to access the camera live view.

### Step 7: Adjust the Viewing Angle

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Based on the camera live view, adjust the camera viewing angle. Do the following:



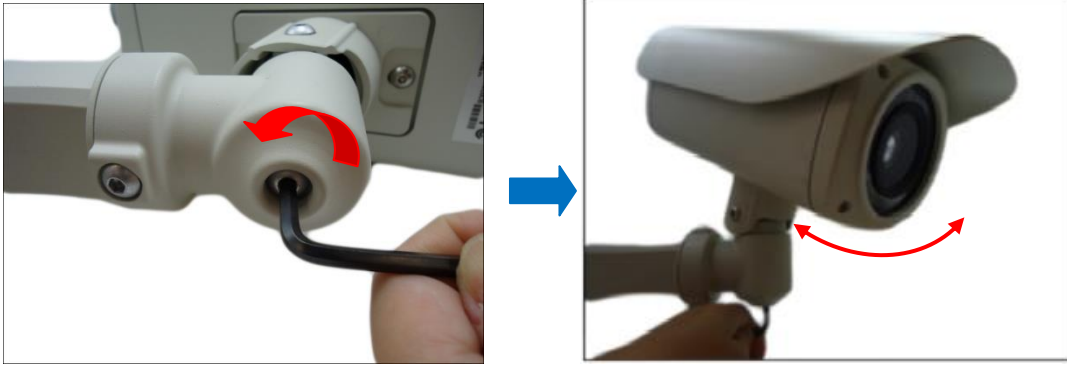
Using the bundled bracket wrench, do the following:

1. Loosen the tilt adjustment screws, adjust the camera tilt, and then tighten back the screws to fix the tilt position.



2. Loosen the pan adjustment screw, move the pan direction, and then tighten back the screw to fix the pan position.

## Hardware Manual







## Waterproof Solution Using the “Pigtail”

The camera and the pre-installed network cable, “pigtail”, are resistant to salt, water, weak acid, alcohol, oil, grease and other common solvents. However, users must ensure that the cable connection and the network side cable itself are also protected from different environmental factors.

When using a Power-over-Ethernet (PoE) switch or injector, connecting the network cable through the “pigtail” is recommended. In this case, there are two waterproofing methods.



Bundled Accessory	Description
<p data-bbox="236 757 488 786"><i>Female Cable Gland</i></p> 	<p data-bbox="651 757 1283 931">Use this solution when connecting an Exterior-grade Ethernet cable between the camera and a Power-over-Ethernet (PoE) switch or injector. See on page 17.</p>
<p data-bbox="236 1144 509 1173"><i>Female Conduit Gland</i></p> 	<p data-bbox="651 1144 1334 1413">Use this solution when connecting a standard indoor Ethernet cable between the camera and a Power-over-Ethernet (PoE) switch / injector. A flexible conduit (trade size 1/2”) is required to house the Ethernet cable. See <a href="#">How to Use the Female Conduit Gland</a> on page 21.</p> <p data-bbox="651 1447 1294 1525"><b>NOTE:</b> The flex conduit is not included in the package and must be purchased separately.</p>

If other devices, such as a power adapter, digital or audio input or output devices will be connected to the camera, or in some cases, users may require the use of specific cables with customized length, use the back connectors of the camera to connect the cables. See [Waterproof Solution Using the Camera Connectors](#) on page 25 for cabling information.

## How to Use the Female Cable Gland

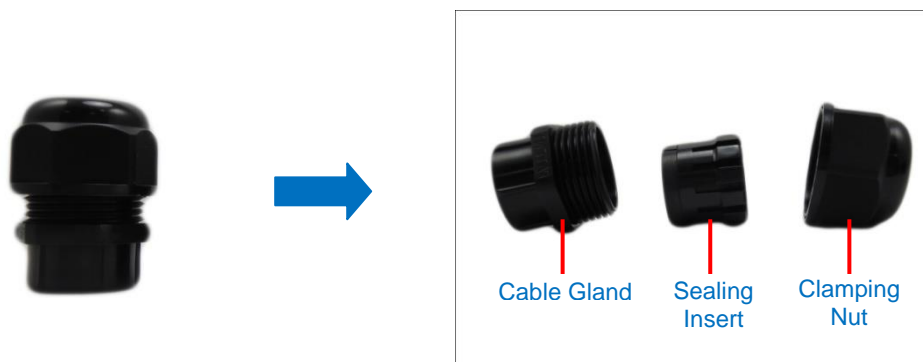
This section describes how to waterproof the cable-out or “pigtail” of the camera using the bundled **female** cable gland. An exterior-grade Ethernet cable is required. The camera may or may not have to be installed first before doing the cable connections (see related installation procedures for details).

Before connection, prepare the following materials:

<b>Female Cable Gland</b> (included in the camera package)	<b>Exterior-Grade Ethernet Cable</b> (not included in the package)
	 <p><b>NOTE:</b> Exterior-grade cables are already waterproof. <i>Not included in the package.</i></p>
<b>Washer</b> (included in the camera package)	
	

Perform the following to waterproof the “pigtail” using the **female** cable gland:

1. Disassemble the female cable gland as shown below:

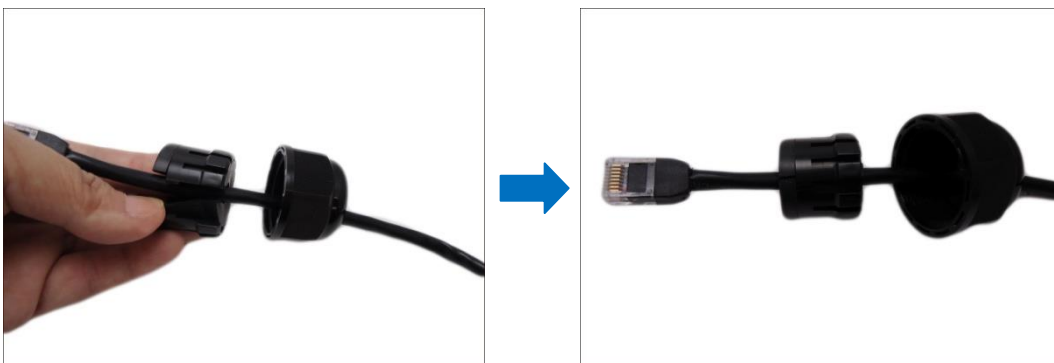


## Hardware Manual

2. Insert the clamping nut into the Ethernet cable.



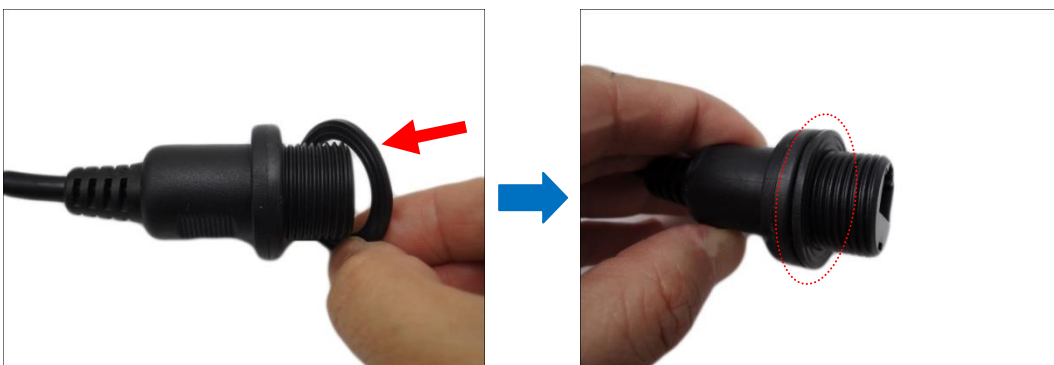
3. Insert the sealing insert with claw.



4. Insert the gland body into the Ethernet cable.



5. On the "pigtail" side, insert the washer into the "pigtail".

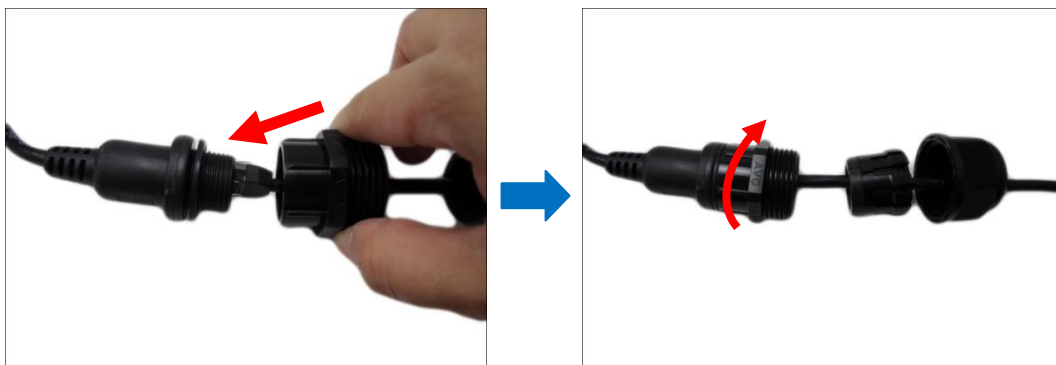


## Hardware Manual

6. Connect the Ethernet cable connector to the “pigtail” connector.

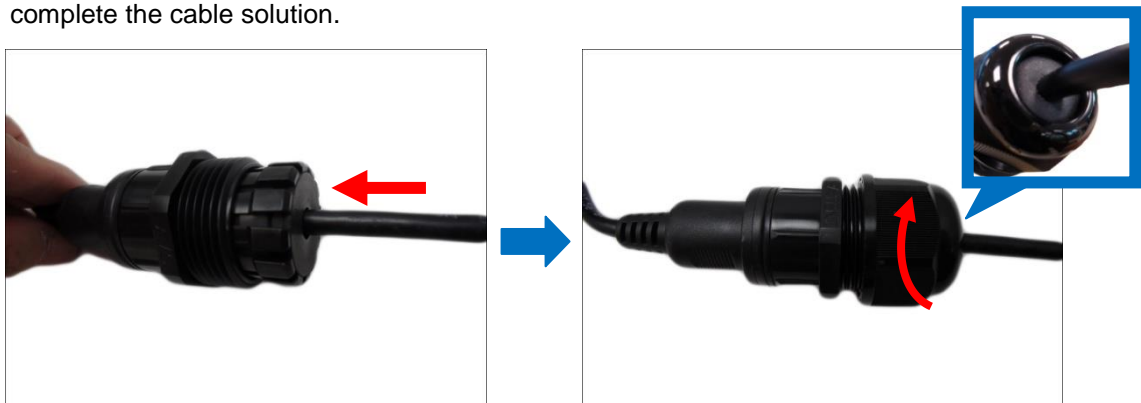


7. Attach the gland body to the “pigtail”.



**NOTE:** Make sure the gland body is tightly attached to the “pigtail” and the washer is secured between them.

8. Insert the sealing insert into the cable gland body and then attach the clamping nut to complete the cable solution.



**NOTE:** Make sure the clamping nut is tightly attached to the cable gland body and the sealing insert is squeezed tightly.

## How to Use the Female Conduit Gland

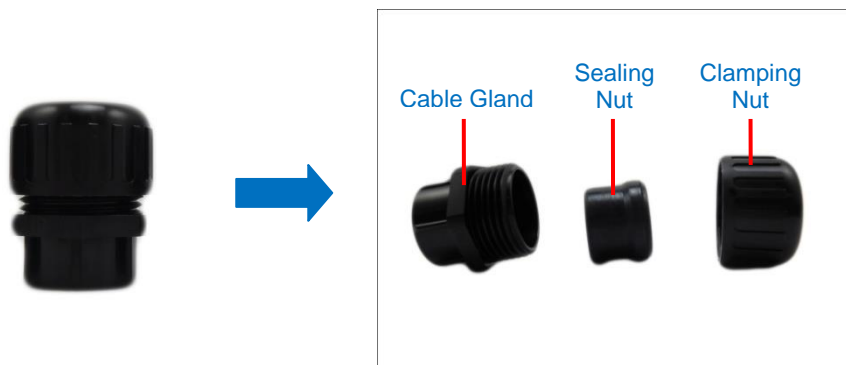
This section describes how to waterproof the cable-out or “pigtail” of the camera using the bundled **female** conduit gland and flexible conduit. This is the recommended solution if an exterior-grade Ethernet cable is not available. The camera may or may not have to be installed first before doing the cable connections (see related installation procedures for details).

Before connection, prepare the following materials:

<p><b>Female Conduit Gland</b> (included in the camera package)</p>	<p><b>Flexible Conduit</b> 1/2" Trade size (not included in the package)</p>
	 <p><b>NOTE:</b> Not included in the package.</p>
<p><b>Washer</b> (included in the camera package)</p>	<p><b>Ethernet Cable</b> CAT 5 or CAT 6 (not included in the package)</p>
	

Perform the following to waterproof the “pigtail” using the **female** conduit gland:

1. Disassemble the female conduit gland as shown below:

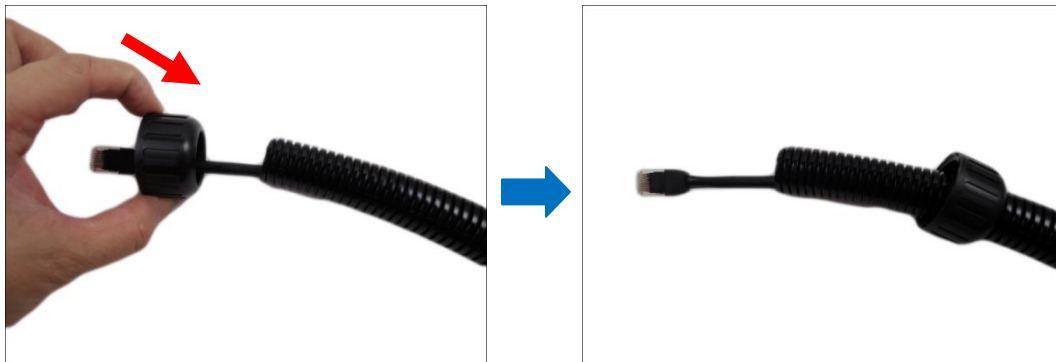


## Hardware Manual

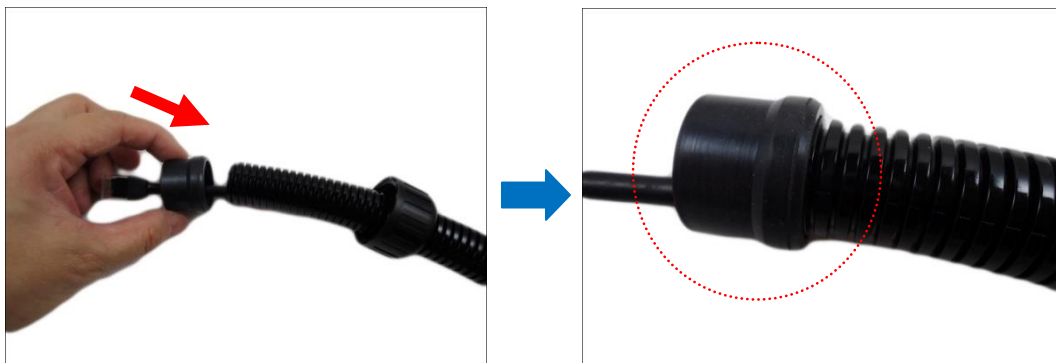
2. Pull the Ethernet cable through the flex conduit. Leave enough length of the cable outside the flex conduit.



3. Insert the clamping nut into through the flex conduit.



4. Insert the sealing nut and fix it at the end of the flex conduit.

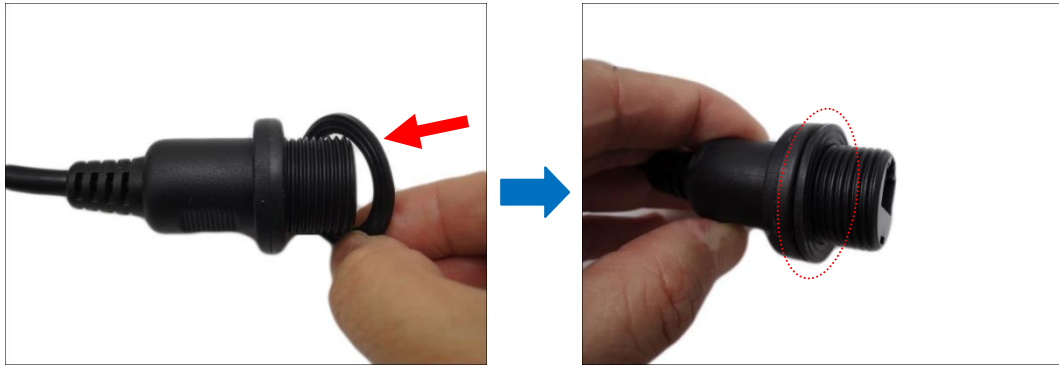


5. Insert the gland body into the Ethernet cable.



## Hardware Manual

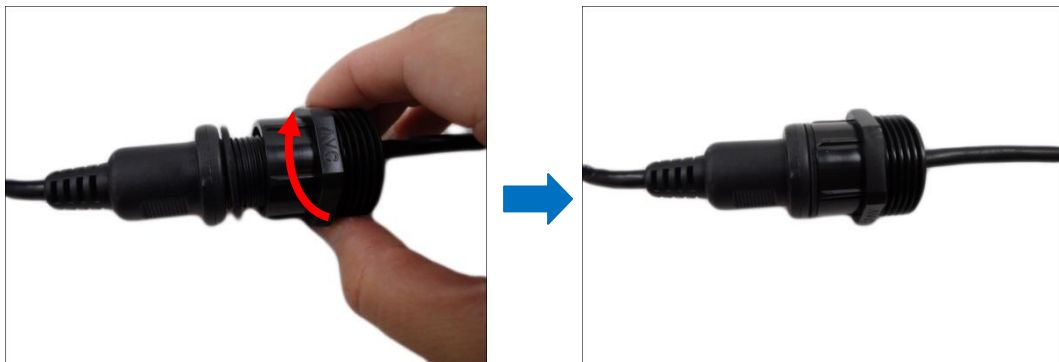
6. On the “pigtail” side, insert the washer into the “pigtail”.



7. Connect the Ethernet cable connector to the “pigtail” connector.



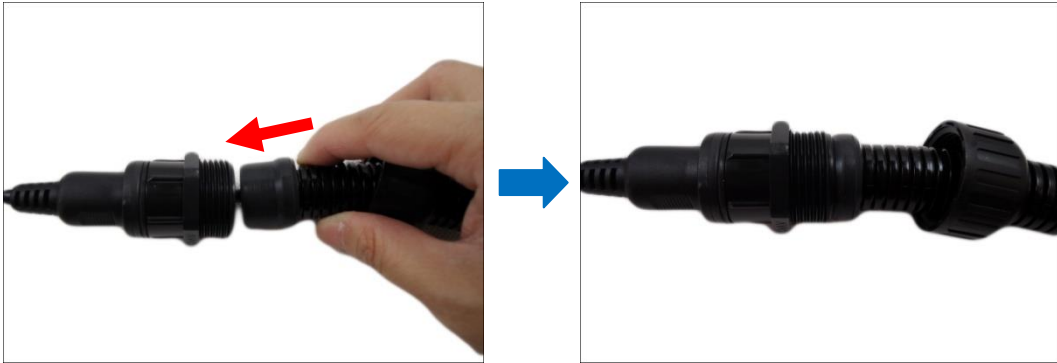
8. Attach the gland body to the “pigtail”.



**NOTE:** Make sure the gland body is tightly attached to the “pigtail” and the washer is secured between them.

## Hardware Manual

9. Push the flex conduit and insert the sealing nut into the gland body.



**NOTE:** Make sure the clamping nut is tightly attached to the cable gland body and the sealing insert is squeezed tightly.

10. Attach the clamping nut to complete the cable solution.







# Waterproof Solution Using the Camera Connectors

For more flexible applications, use the connectors at the back of the camera to connect a power adapter or other devices. Or in some cases, users may require the use of specific cables with customized length.

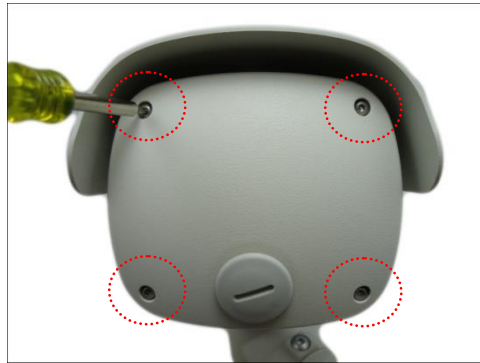
In such cases, use one of the following solutions:

Bundled Accessory	Description
<p data-bbox="236 712 456 741"><i>Male Cable Gland</i></p>  <p>The image shows a black, cylindrical male cable gland. On the left, a close-up view of the gland's front face is shown within a blue square frame, with a blue callout arrow pointing to the right. To the right of this frame is the full view of the gland, which has a threaded base and a hexagonal top section.</p>	<p data-bbox="627 712 1362 891">Use this solution if the “pigtail” must be replaced with a different cable. The replacement cable must also be Exterior-grade that will be connected to a PoE switch / injector. See <a href="#">How to Use the Male Cable Gland</a> on page 27.</p>
<p data-bbox="236 1144 477 1173"><i>Male Conduit Gland</i></p>  <p>The image shows a black, cylindrical male conduit gland. On the left, a close-up view of the gland's front face is shown within a blue square frame, with a blue callout arrow pointing to the right. To the right of this frame is the full view of the gland, which has a threaded base and a hexagonal top section.</p>	<p data-bbox="627 1144 1362 1368">Use this solution when connecting other devices, such as audio or digital input / output devices or a power adapter (when PoE is not available). A flexible conduit (trade size 1/2”) is required to house all the cables. See <a href="#">How to Use the Male Conduit Gland</a> on page 31.</p> <p data-bbox="627 1402 1362 1480"><b>NOTE:</b> The flex conduit is not included in the package and must be purchased separately.</p>

## Hardware Manual

Before connecting any devices to the camera connectors, remove the back cover first.

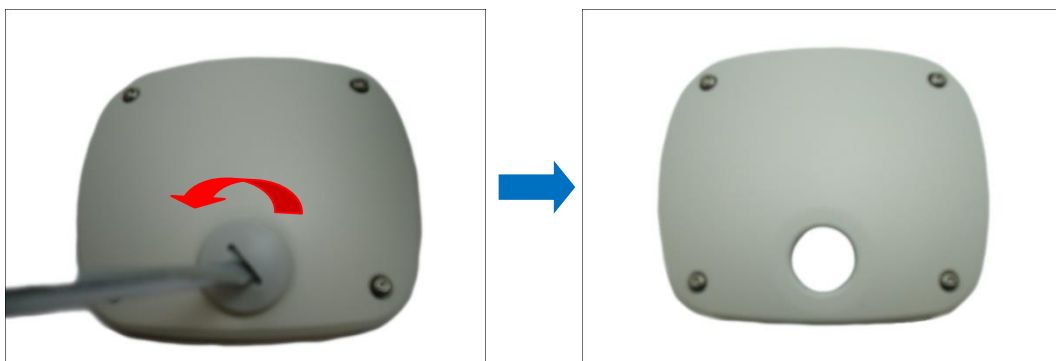
1. Using the bundled hex screwdriver, loosen the four (4) screws to remove the back cover.



**NOTE:** The network cable connected to the Ethernet port is the other end of the “pigtail”. If the “pigtail” will not be used to connect the camera to the network, disconnect this cable and remove the “pigtail” from the camera (see [How to Remove the “Pigtail”](#) on page 41 for detailed information).



2. Using a coin or screwdriver, remove the cap from the back cover. Then set the back cover aside for later use.



## How to Use the Male Cable Gland

This section describes how to waterproof the cable using the **male** cable gland. This solution is useful only when you need to replace the cable-out or “pigtail” of the camera (see [How to Remove the “Pigtail”](#) on page 41 for detailed information). For normal applications, the use of “pigtail” is sufficient and there is no need for replacement.

Before connection, prepare the following materials:

Male Cable Gland (included in the camera package)	Exterior-Grade Ethernet Cable (not included in the package)
 A black male cable gland with a threaded base and a clamping nut. A blue callout box highlights the top opening.	 <p><b>NOTE:</b> Exterior-grade cables are already waterproof. <i>Not included in the package.</i></p>

Perform the following to use the male cable gland solution:

1. Disassemble the male cable gland as shown below:

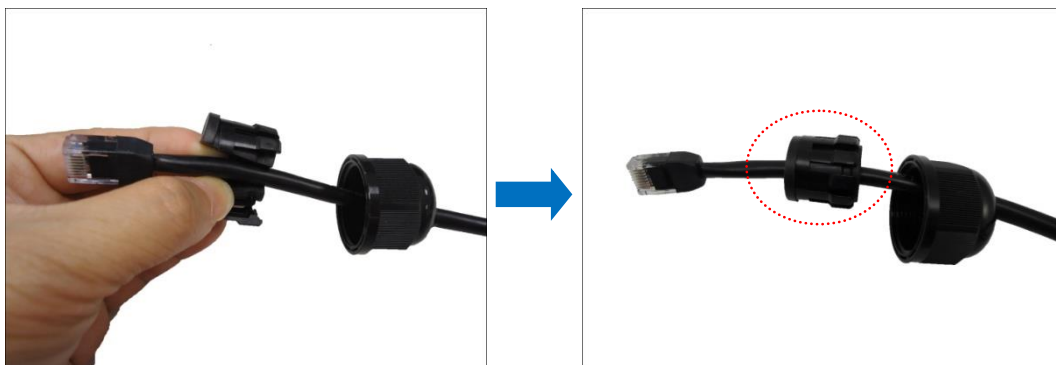


## Hardware Manual

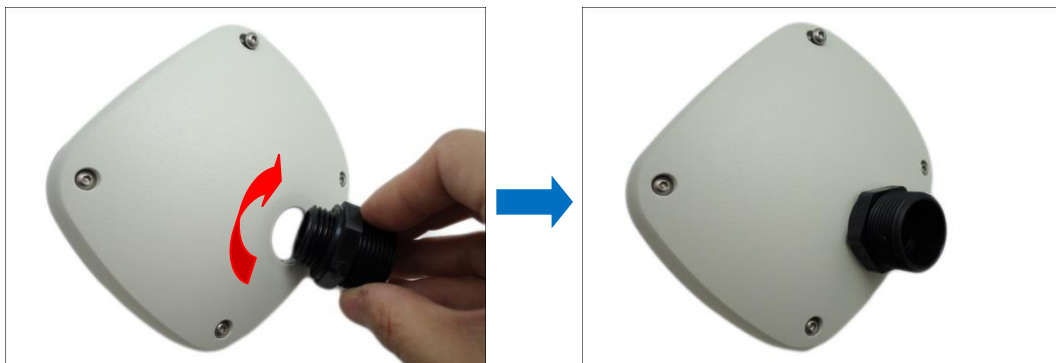
2. Insert the clamping nut into the Ethernet cable.



3. Insert the sealing insert with claw.

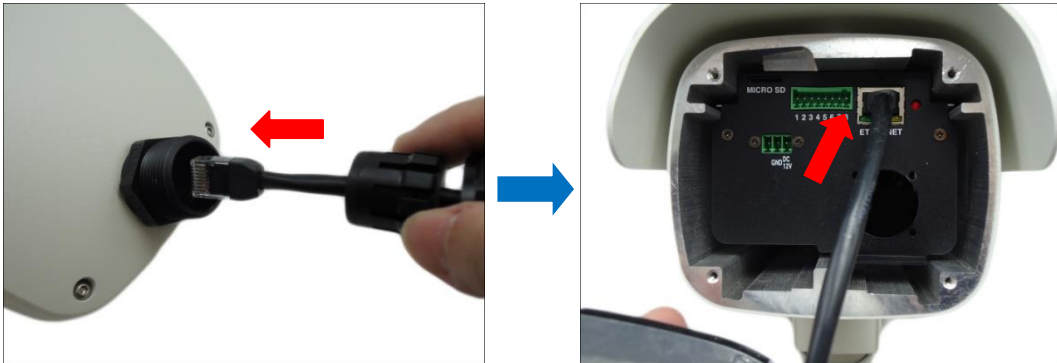


4. Attach the gland body to the hole of the cover.



## Hardware Manual

5. Insert the Ethernet cable through the cable gland, and connect it to the Ethernet port of the camera.



6. Tighten the four (4) screws to secure the camera cover using the hex screwdriver.

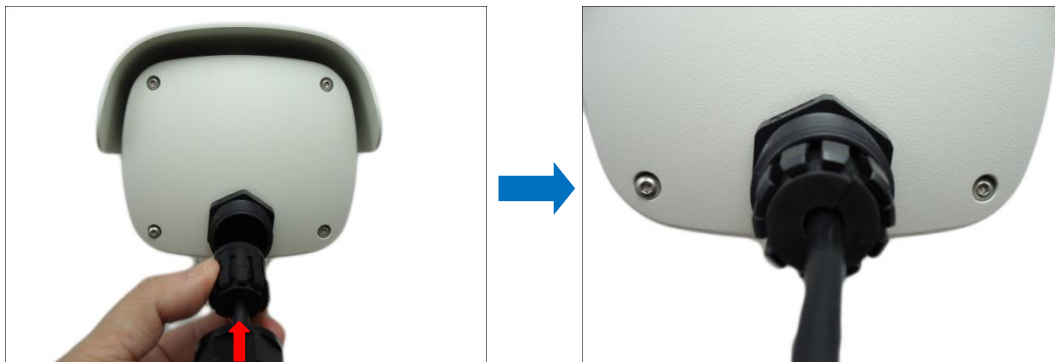


**NOTE:** Make sure the cover rubber (black) is intact and properly aligned to the cover.

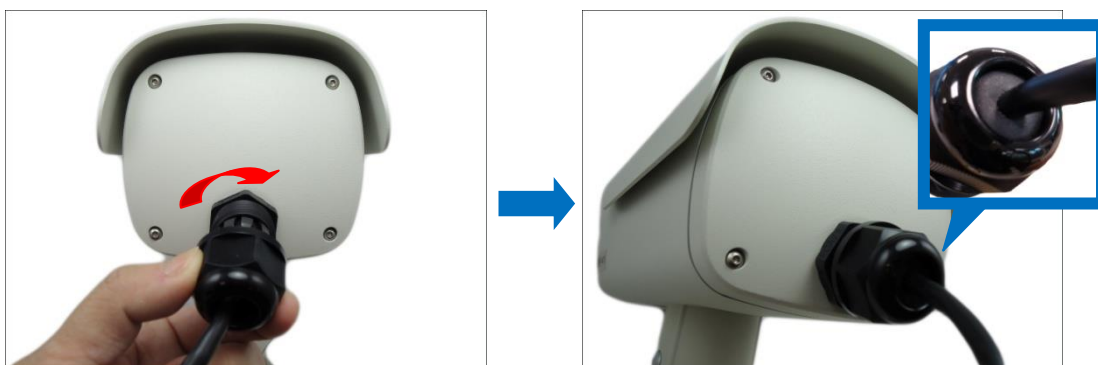


## Hardware Manual

7. Insert the sealing insert with claw into the gland body.



8. Attach the clamping nut to complete the cable solution.



**NOTE:** Make sure the clamping nut is tightly attached to the cable gland body and the sealing insert is squeezed tightly.

## How to Use the Male Conduit Gland

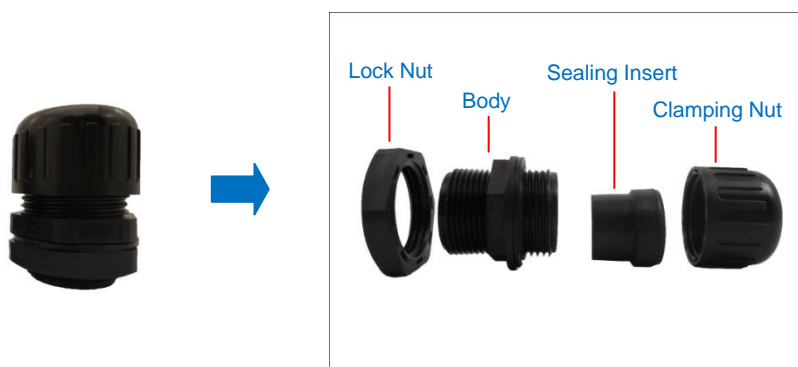
This section describes how to waterproof the cable(s) using the bundled **male** conduit gland and flexible conduit. This is the recommended solution if other devices, such as an audio or digital input/output device will be connected to the camera or when the use of a power adapter is necessary. All the device cables including the power adapter and Ethernet cable can be housed inside the flex conduit. The camera may or may not have to be installed first before doing the cable connections (see related installation procedures for details).

Before connection, prepare the following materials:

Male Conduit Gland (included in the camera package)	Flexible Conduit 1/2" Trade size (not included in the package)
 A black plastic male conduit gland with a flange on one side and a threaded section on the other. A blue callout box highlights the flange.	 A black flexible conduit with a corrugated texture. <b>NOTE:</b> Not included in the package.

Perform the following to use the male conduit gland solution:

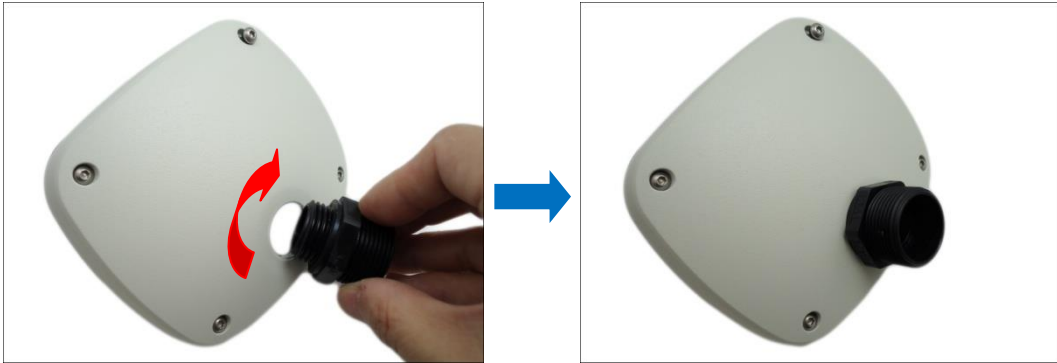
1. Disassemble the male conduit gland as shown below:



**NOTE:** In this installation, the conduit gland body can be securely attached to the mount kit; therefore the use of lock nut is not necessary. Please set the lock nut aside.

## Hardware Manual

2. Attach the gland body to the hole of the cover.



3. Pull enough length of the device cables without connectors through the flex conduit. The terminal blocks will be attached once the cable passes through the gland body and cover later.



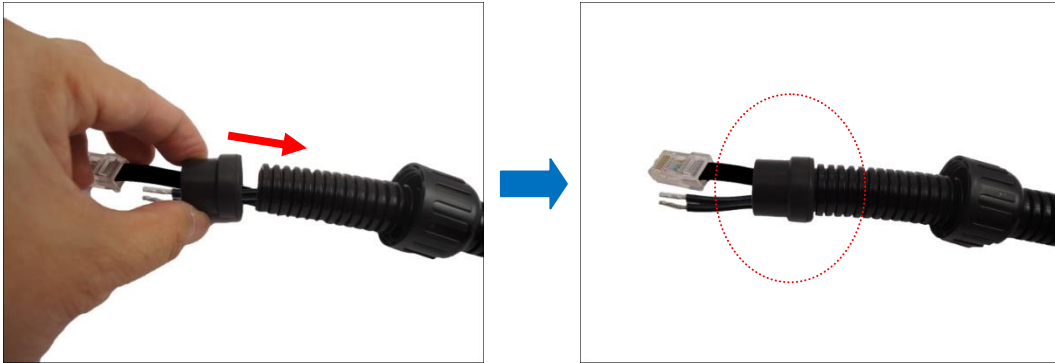
4. Insert the clamping nut through the flex conduit.





## Hardware Manual

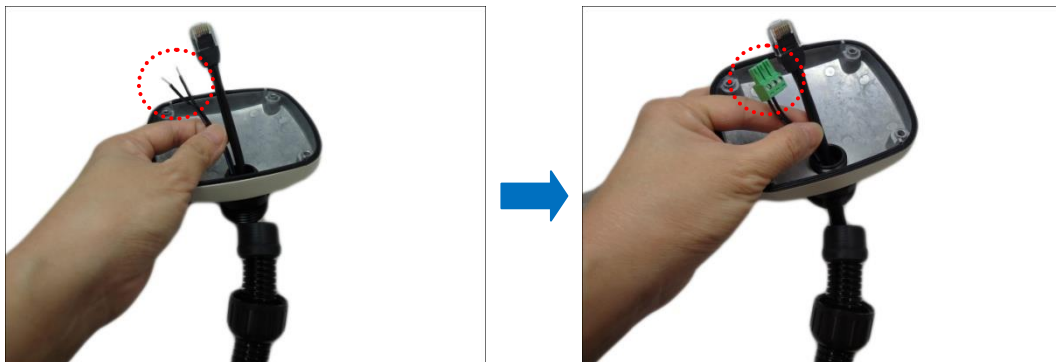
5. Insert the sealing insert and attach it at the end of the flex conduit.



6. Pull the device cables through the gland body.



7. Attach the terminal blocks, see [Other Connections](#) on page 35 for more information.



8. Connect the cables to the corresponding connectors on the camera.



## Hardware Manual

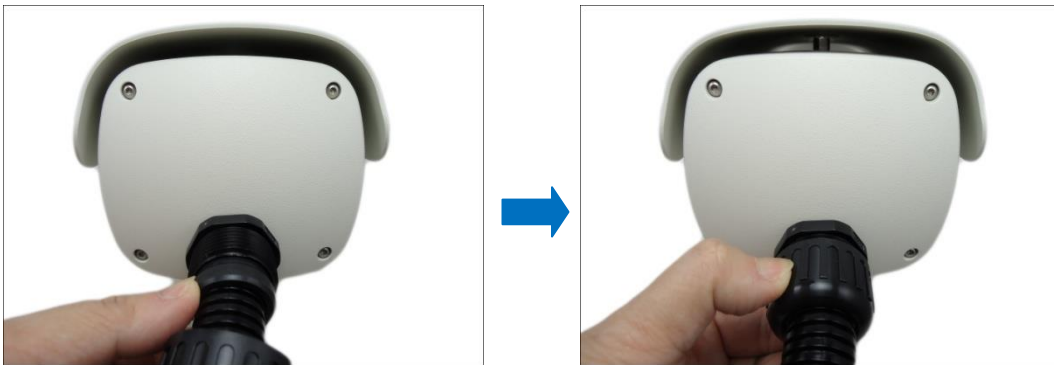
- Align the camera cover and tighten the four (4) screws to secure the camera cover using the hex screwdriver.



**NOTE:** Make sure the cover rubber (black) is intact and properly aligned to the cover.



- Insert the sealing insert with claw into the gland body and then attach the clamping nut to complete the cable solution.



**NOTE:** Make sure the clamping nut is tightly attached to the cable gland body and the sealing insert is squeezed tightly.

# Other Connections

This section describes the procedures in preparing the external devices that you can connect to the camera. The camera supports DC12V power input, Digital Input and Output (DI/DO) and Audio Input and Output devices using the bundled terminal blocks. The use of these devices, however, is optional.

## Connecting a Power Adapter (Optional)

---

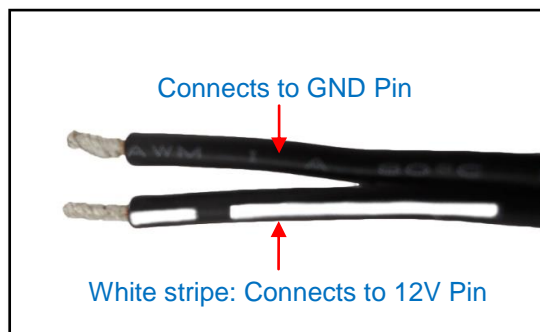
In case of using a non-PoE switch or your PoE switch has limited power supply, you can purchase a power adapter and directly connect the camera to a power outlet. The power adapter must be connected to the supplied terminal block before use.

To do this, follow the procedures below:

1. Loosen the screws of the **12V** and **GND** pins of the power terminal block.

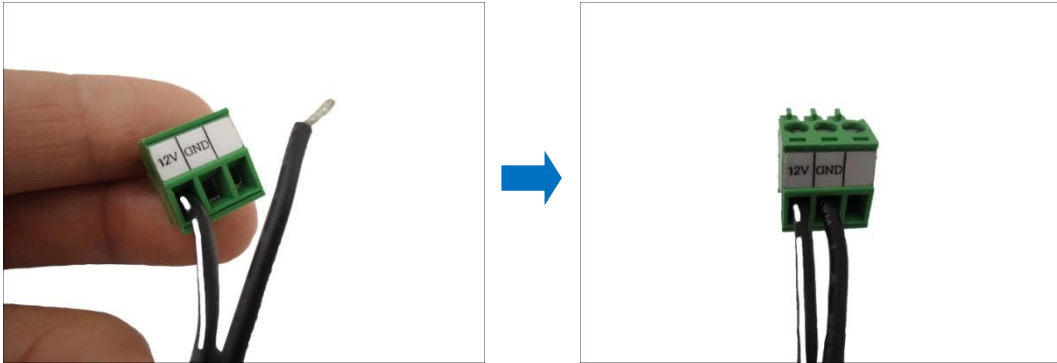


2. Take note that a standard power adapter cable has two (2) different wires:



## Hardware Manual

3. Connect the wire with the white stripe to the **12V** pin and the other to the **GND** pin.



4. Tighten the screws of the **12V** pin and the **GND** pins to secure the wire connection.



5. Set the prepared power adapter for connection later. Below is an example of a power adapter with an attached terminal block.



**NOTE:** The power adapter is not bundled in the package.

## Connecting DI/DO and Audio Devices (Optional)

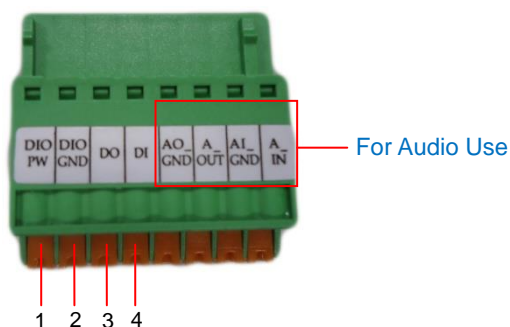
Depending on your surveillance needs, you may connect digital input / output or audio input / output devices to your camera. The camera comes with one (1) terminal block for both digital and audio input/output devices.

### How to Connect DI/DO Devices

Digital Input (DI) devices can be used to notify the camera about an activity in the camera site. DI can be triggers of events. For example, you can connect a “panic button” to the camera; as such when the panic button is pressed, the alarm signal will be sent through the camera. Other common DI device applications are emergency button, smoke detector, passive infrared sensor, etc.

Digital Output (DO) devices are external devices that are activated by the camera upon an event inside the camera. For example, you can connect an “alarm horn” to the camera; as such when an event occurs inside the camera (e.g. detected intruder), the alarm horn will sound. Other common DO device applications are motion-triggered lights, electric fence, magnetic door locks, etc.

Press and hold the orange tab as you insert the wire through the pin slot, then release the orange tab to secure the wire.



To connect digital input / output devices (DI/DO), map the pins to one of the pin combinations below:

Device	Pin	Mapping Instructions
Digital Output (DO)	1	DIO PW
	3	DO
Digital Input (DI)	2	DIO GND
	4	DI

## Hardware Manual

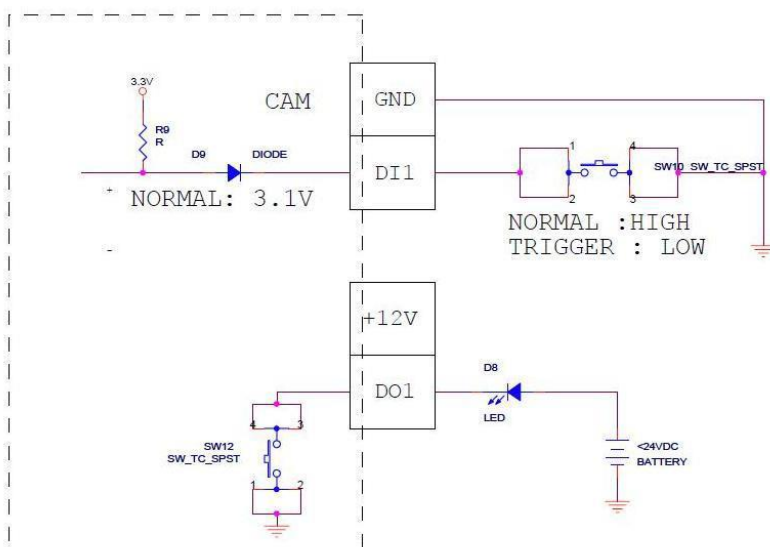
The table below shows the DI/DO connection specifications:

Device			
DI	Connection design		TTL - compatible logic levels
	Voltage	To trigger (low)	Logic level 0: 0V ~ 0.4V
		Normal (high)	Logic level 1: 3.1V ~ 30V
	Current		10mA ~ 100mA
DO	Connection design		Transistor (Open Collector)
	Voltage & Current		< 24V DC, < 50mA

### Typical Connection

Based on these specifications, if the DI device has a voltage of 0V ~ 30V or the DO device has a voltage of < 24V (< 50mA), then the camera can supply internal power to these devices and there is no need to connect the DI/DO device to an external power source.

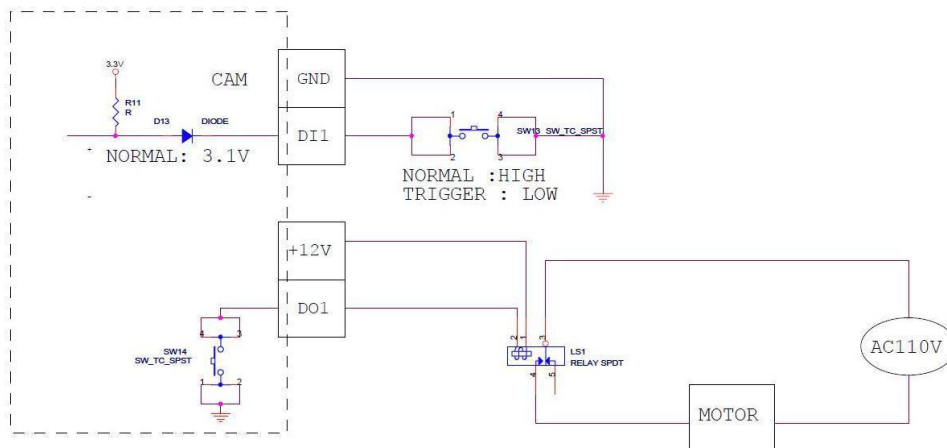
In this case, wire connection to Pins 1 to 4. Use the **DIO GND** and **DI** pins to connect a DI device and use the **DIO PW** and **DO** pins to connect a DO device. See wiring scheme below:



# Hardware Manual

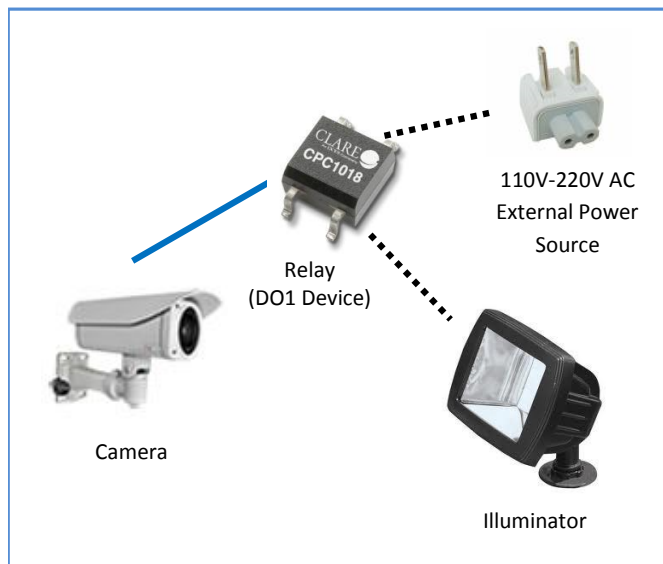
## High Voltage DO Device Connection

Even though the camera provides 12V power, this may not be enough for some high voltage DO devices, such as a ceiling light or a motor that opens or closes a gate. In this case, there is a need to connect an external relay. See wiring scheme below:



Note that when choosing an appropriate relay, please refer to its specifications and make sure they match the above design. The triggering circuit voltage has to be around 12V DC and the switch-controlled circuit voltage has to match the external power supply (e.g. 110V AC or 220V AC).

The illustration below is a graphic example of connecting a relay to a high voltage DO device.



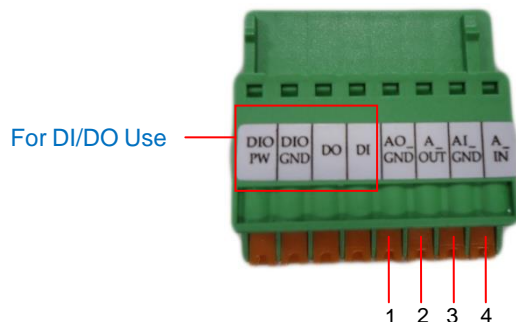
**NOTE:** For more information on DI/DO connections, please refer to the Knowledge Base article on our website.

# Hardware Manual

## How to Connect Audio Devices

Audio input / output devices, such as an active microphone or speaker can be connected to the camera using the supplied terminal block.

Press and hold the orange tab as you insert the wire through the pin slot, then release the orange tab to secure the wire.



To connect audio devices, map the pins to one of the pin combinations below:

Device	Pin		Mapping Instructions
Audio Output (AO)	1	AO_GND	Connect the wires of the audio output device to <b>AO_GND</b> (Pin 1) and <b>A_OUT</b> (Pin 2).
	2	A_OUT	
Audio Input (A1)	3	AI_GND	Connect the wires of the audio input device to <b>AI_GND</b> (Pin 3) and <b>A_IN</b> (Pin 4).
	4	A_IN	

**NOTE:** For more information about AUDIO in connections, please refer to the Knowledge Base article on our website.

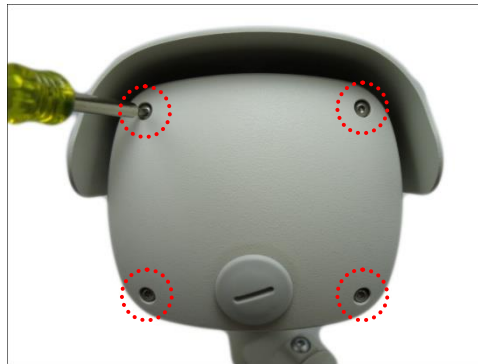


# Other Adjustments and Accessories

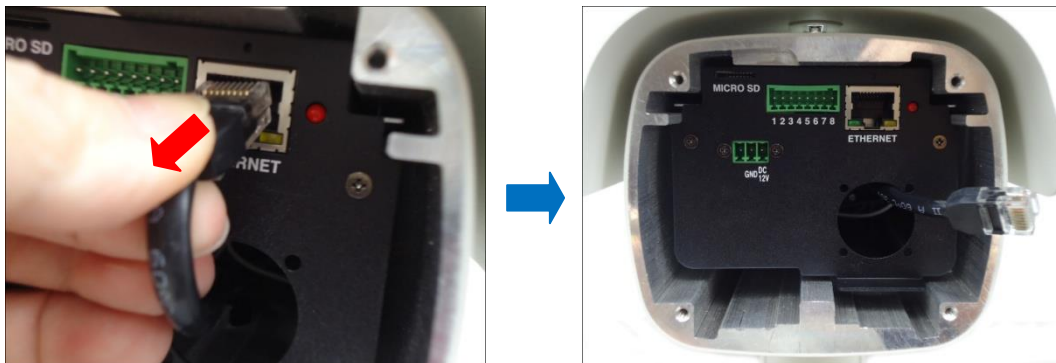
## How to Remove the “Pigtail”

For applications that may require the use of the Ethernet port at the back of the camera, remove the “pigtail” from the camera. Follow the procedures below:

1. Loosen the four (4) screws to remove the back cover of the camera.



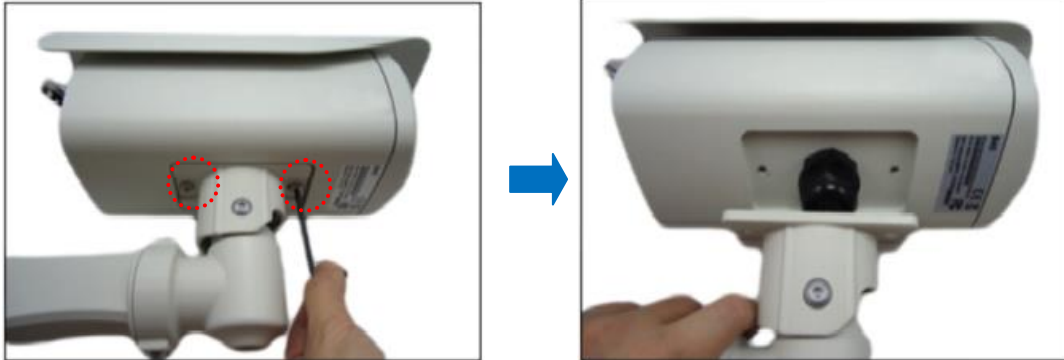
2. Disconnect the network cable from the Ethernet port and let it loose.



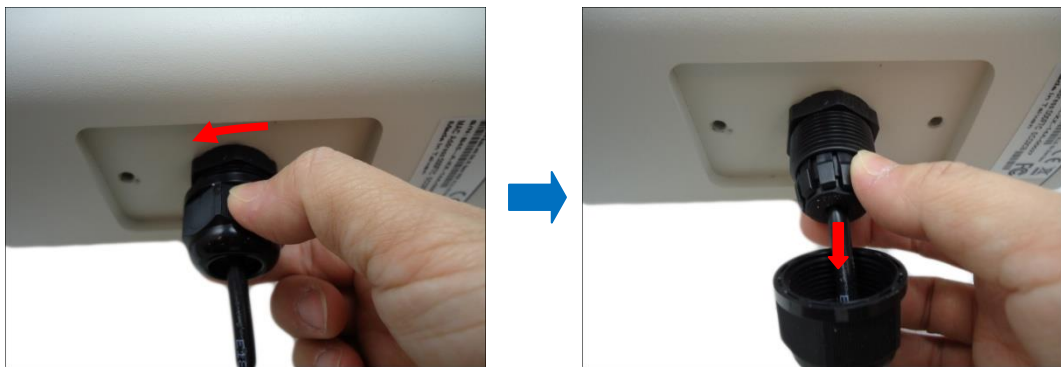
**NOTE:** This network cable is the other end of the “pigtail”.

## Hardware Manual

- Using the bundled camera base wrench, detach the two (2) screws to remove the bracket.



- Remove the clamping nut and sealing insert.



- Remove the rubber from the dome cover.

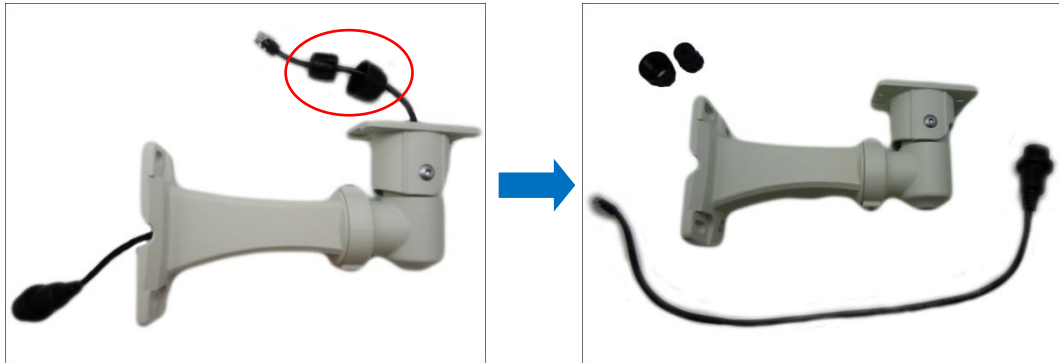


- Remove the gland body from the camera.

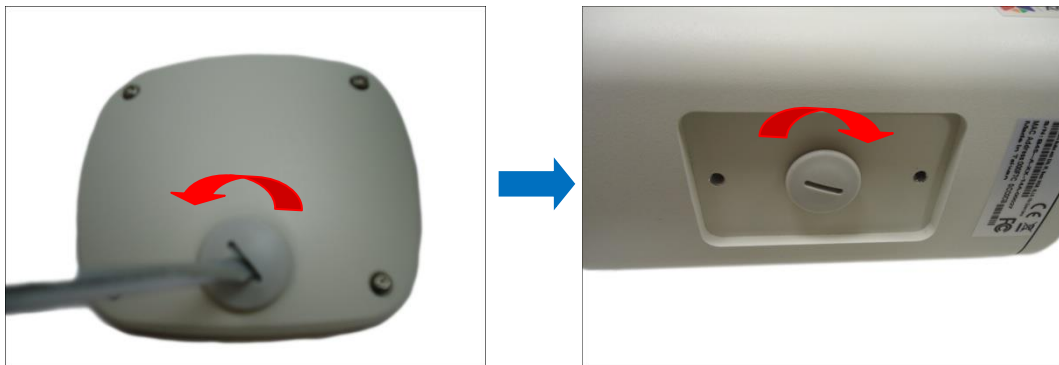


## Hardware Manual

7. Remove the sealing insert and clamping nut from the cable, and then pull out the “pigtail” from the bracket.



8. Using a coin or screwdriver, remove the cap from the back cover. Then attach the cap to close the cable hole.



9. Attach the bracket to the camera.



10. Attach the back cover of the camera (as needed).

### How to Insert a Memory Card

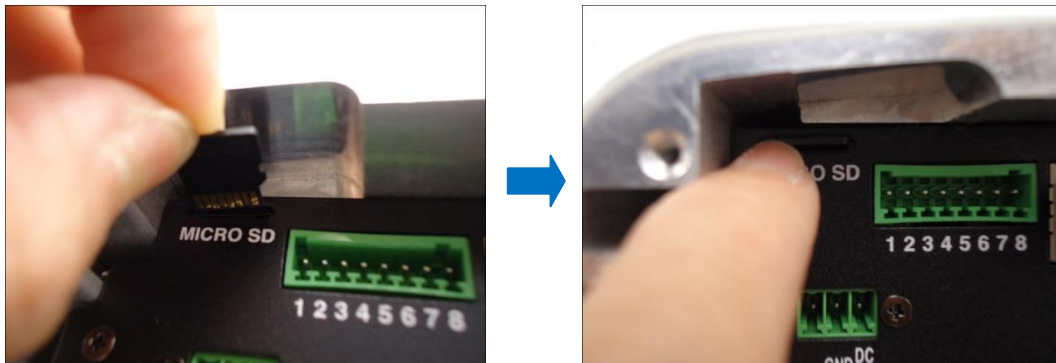
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The camera supports local video recording or saving of snapshots to a memory card.

**NOTE:** Supports microSDHC and microSDXC cards.

#### How to Insert the Memory Card

1. Open the back cover of the camera.
2. Insert a memory card into the card slot with the metallic contacts facing down. Push the card until it clicks into place.



#### How to Remove the Memory Card

In case there is a need to remove the card, make sure to access the camera Web Configurator to safely “unmount” the card first (see the camera Firmware manual for more information). Once unmounted from the firmware, push the card to eject it from the slot.

# Accessing the Camera

## Configure the IP Addresses

---

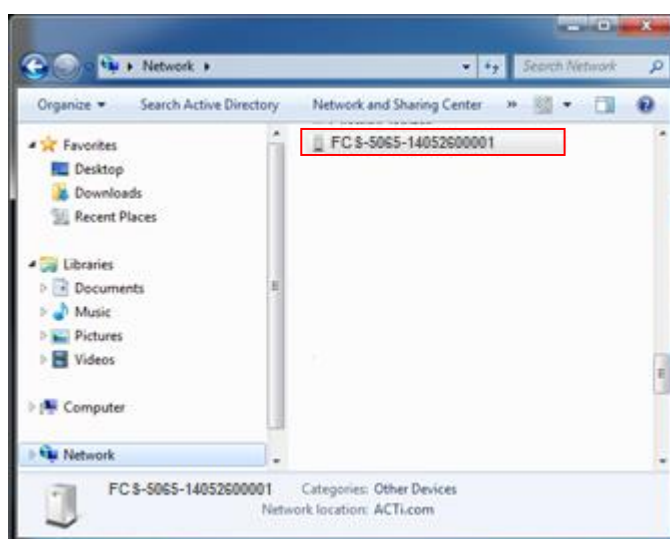
In order to be able to communicate with the camera from your PC, both the camera and the PC have to be within the same network segment. In most cases, it means that they both should have very similar IP addresses, where only the last number of the IP address is different from each other. There are 2 different approaches to IP Address management in Local Area Networks – by DHCP Server or Manually.

### Using DHCP server to assign IP addresses:

If you have connected the computer and the camera into the network that has a DHCP server running, then you do not need to configure the IP addresses at all – both the camera and the PC would request a unique IP address from DHCP server automatically. In such case, the camera will immediately be ready for the access from the PC. The user, however, might not know the IP address of the camera yet. It is necessary to know the IP address of the camera in order to be able to access it by using a Web browser.

**The quickest way to discover the cameras in the network** is to use the simplest network search, built in the Windows system – just by pressing the “Network” icon, all the cameras of the local area network will be discovered by Windows thanks to the UPnP function support of our cameras.

In the example below, we successfully found the camera model that had just connected to the network.



## Hardware Manual

Double-click on the camera model name, the default browser of the PC is automatically launched and the IP address of the target camera is already filled in the address bar of the browser.

If you work with our cameras regularly, then **there is even a better way to discover the cameras in the network** – by using **IP Utility**. The IP Utility is a light software tool that can not only discover the cameras, but also list lots of valuable information, such as IP and MAC addresses, serial numbers, firmware versions, etc, and allows quick configuration of multiple devices at the same time.

The IP Utility can be downloaded for free from our website.

With just one click, you can launch the IP Utility and there will be an instant report as follows:

	IP Address	Serial No.	Camera Name	MAC Address	FW Version	Model	Multicast IP	Status
<input type="checkbox"/>	192.168.0.101	FCS-5055-14052200001	Camera-1	00:11:6B:D0:65:93	CFA-V6.06.14-L1	3MP 12x Zoom Bullet IP	228.5.6.1	
<input type="checkbox"/>	192.168.0.102	FCS-5055-14052200003	Camera-1	00:11:6B:D0:65:95	CFA-V6.06.14-L1	3MP 12x Zoom Bullet IP	228.5.6.1	
<input type="checkbox"/>	192.168.0.103	FCS-5055-14052200005	Camera-1	00:11:6B:D0:65:96	CFA-V6.06.14-L1	3MP 12x Zoom Bullet IP	228.5.6.1	

You can quickly notice the camera model in the list. Click on the IP address to automatically launch the default browser of the PC with the IP address of the target camera filled in the address bar of the browser already.

# Hardware Manual

## Use the default IP address of a camera:

If there is no DHCP server in the given network, the user may have to assign the IP addresses to both PC and camera manually to make sure they are in the same network segment.

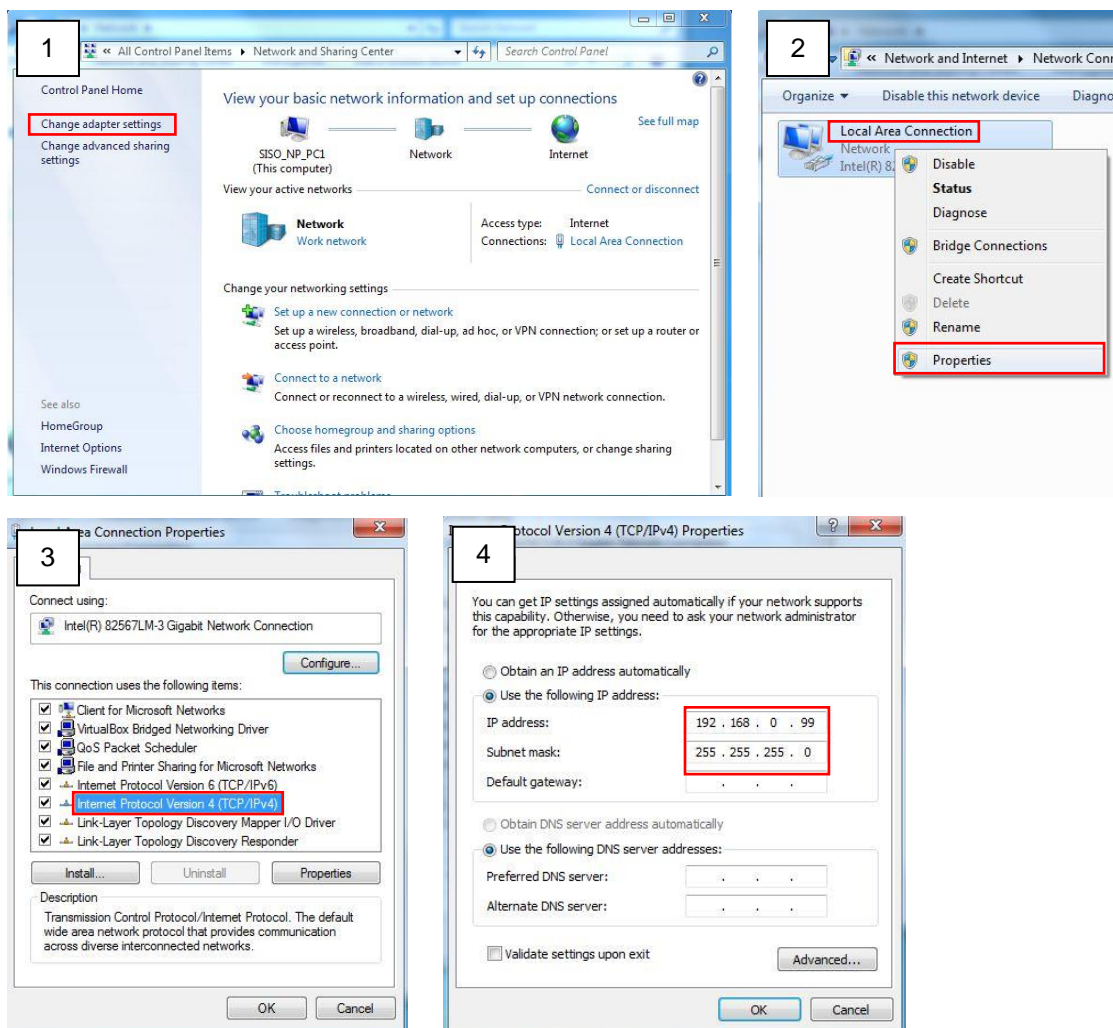
When the camera is plugged into network and it does not detect any DHCP services, it will automatically assign itself a default IP:

**192.168.0.100**

Whereas the default port number would be **80**. In order to access that camera, the IP address of the PC has to be configured to match the network segment of the camera.

## Manually adjust the IP address of the PC:

In the following example, based on Windows 7, we will configure the IP address to **192.168.0.99** and set Subnet Mask to **255.255.255.0** by using the steps below:

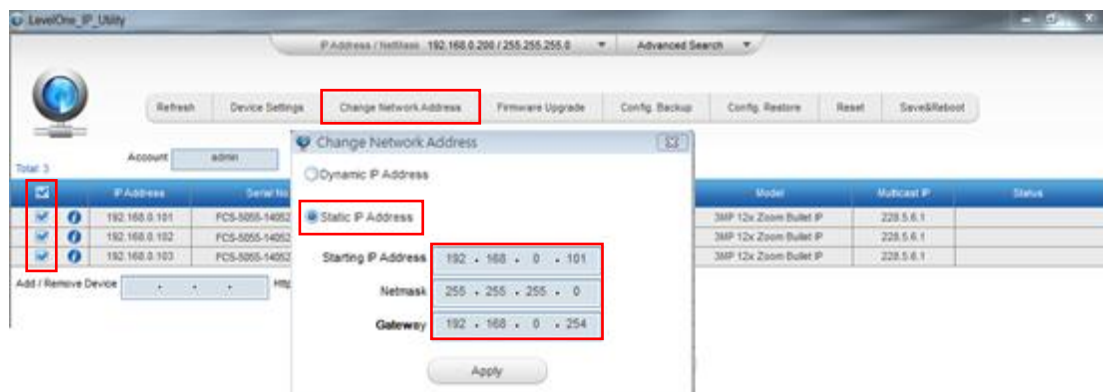




## Hardware Manual

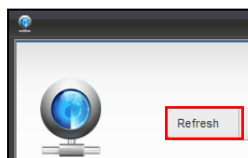
### Manually adjust the IP addresses of multiple cameras:

If there are more than 1 camera to be used in the same local area network and there is no DHCP server to assign unique IP addresses to each of them, all of the cameras would then have the initial IP address of **192.168.0.100**, which is not a proper situation for network devices – all the IP addresses have to be different from each other. The easiest way to assign cameras the IP addresses is by using **IP Utility**:



With the procedure shown above, all the cameras will have unique IP addresses, starting from 192.168.0.101. In case there are 20 cameras selected, the last one of the cameras would have the IP 192.168.0.120.

Later, by pressing the “Refresh” button of the IP Utility, you will be able to see the list of cameras with their new IP addresses.



Please note that it is also possible to change the IP addresses manually by using the Web browser. In such case, please plug in only one camera at a time, and change its IP address by using the Web browser before plugging in the next one. This way, the Web browser will not be confused about two devices having the same IP address at the same time.



### Access the Camera

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Now that the camera and the PC are both having their unique IP addresses and are under the same network segment, it is possible to use the Web browser of the PC to access the camera.

You can use **any of the browsers** to access the camera, however, the full functionality is provided only for **Microsoft Internet Explorer**.

The browser functionality comparison:

Functionality	Internet Explorer	Other browsers
Live Video	Yes	Yes*
Live Video Area Resizable	Yes	No
PTZ Control	Yes	Yes
Capture the snapshot	Yes	Yes
Video overlay based configuration (Motion Detection regions, Privacy Mask regions)	Yes	No
All the other configurations	Yes	Yes

\* **QuickTime** (<http://www.apple.com/quicktime/download/>) has to be installed in PC first before using any non-Internet Explorer browsers to be able to get live video feed from the camera with those browsers. It is a free and open source cross-platform multimedia player.

***Disclaimer Notice:** The camera manufacturer does not guarantee the compatibility of its cameras with QuickTime – since it is a third party software, the third party has the right to modify their utility any time which might affect the compatibility. In such cases, please use Internet Explorer browser instead.*

When using Internet Explorer browser, the ActiveX control for video stream management will be downloaded from the camera directly – the user just has to accept the use of such control when prompted so. No other third party utilities are required to be installed in such case.

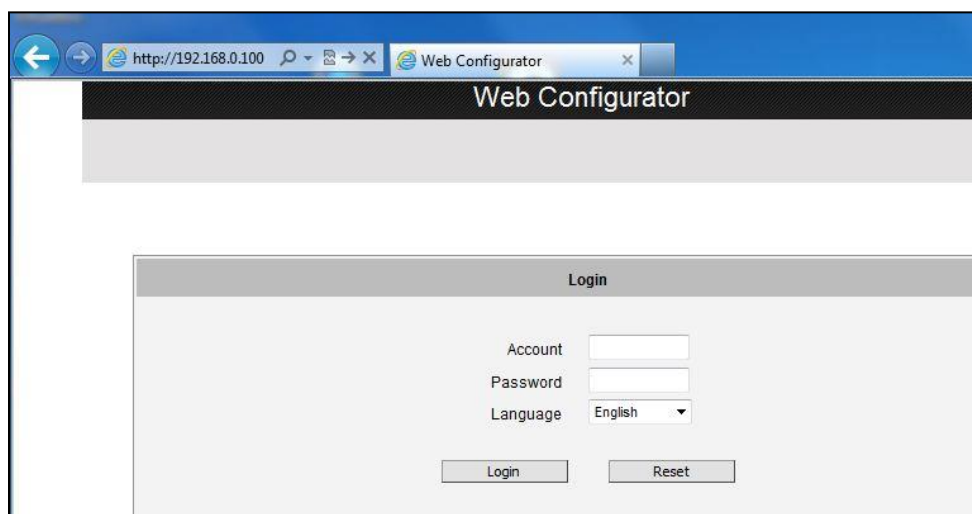
**The examples in this manual are based on Internet Explorer browser in order to cover all functions of the camera.**

## Hardware Manual

Assuming that the camera's IP address is **192.168.0.100**, you can access it by opening the Web browser and typing the following address into Web browser's address bar:

**http://192.168.0.100**

Upon successful connection to the camera, the user interface called **Web Configurator** would appear together with the login page. The HTTP port number was not added behind the IP address since the default HTTP port of the camera is 80, which can be omitted from the address for convenience.



Before logging in, you need to know the factory default Account and Password of the camera.

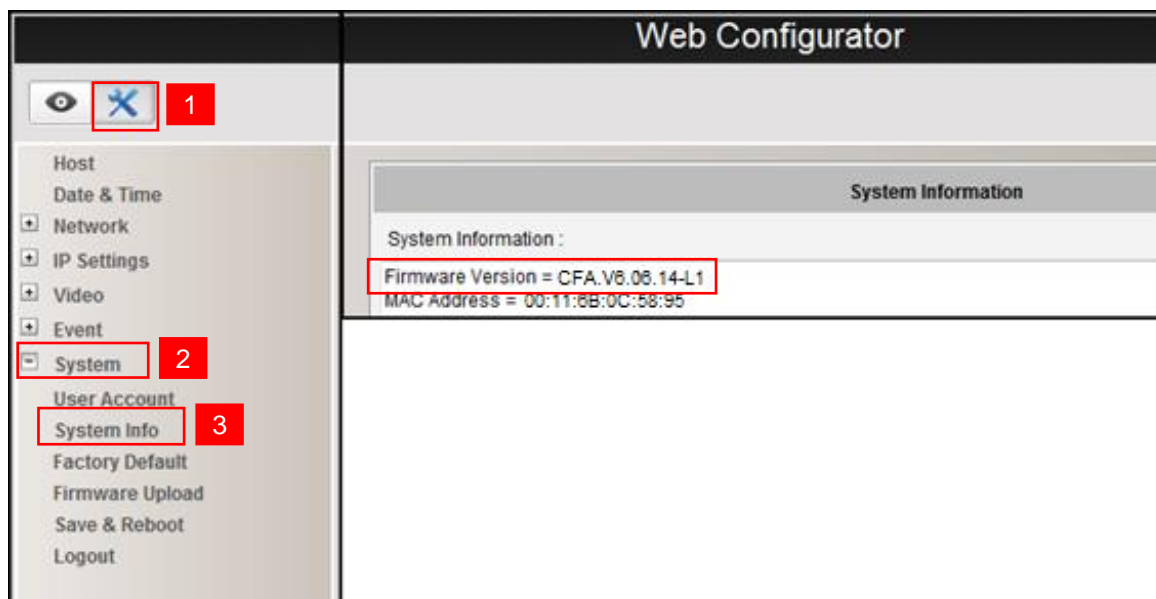
Account: **Admin**

Password: **123456**

For further operations, please refer to the **Firmware User Manual**.

## Hardware Manual

To check the firmware version through the Web Configurator, access the **Setup** page and click **System > System Info**.



For further operations, please refer to the **Firmware User Manual**.