Mini Bullet Camera

Hardware Manual

E38

2015/09/14

ACTi
Connecting Vision

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Precautions

Read these instructions

Read all the safety and operating instructions before using this product.

Heed all warnings

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

Servicing

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

Trademarks

ACTi and ACTi logo are registered trademarks of ACTi Corporation. All other names and products used in this manual are registered trademarks of their 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. ACTi will not be held responsible for any typographical or technical errors and reserves the right to make changes to the product and manuals without prior notice.

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

Cleaning

Disconnect this product from the power supply before cleaning.

Accessories and Repair Parts

Use only the accessories and repair parts recommended by the manufacturer. Using other attachments not recommended by the manufacturer may cause hazards.

Water and Moisture

Install other devices (such as PoE injector, alarm, etc.) that will be used with the camera in a dry place protected from weather.

Servicing

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

Damage Requiring service

Disconnect this 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 product.
3) If the inner parts of product have been directly exposed to rain or water.
4) If the product does not operate normally even by following the operating instructions in this manual. Adjust only those controls that are covered by the instruction manual, as improper adjustment of other controls may result in damage, and will often require extensive work by a qualified technician to restore the product to its normal operation.

Safety Check

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

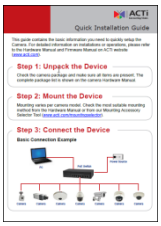
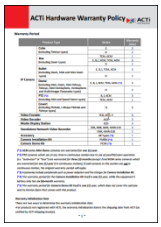
Introduction

List of Models

This hardware manual contains the following models:

E38		2MP Mini Bullet with D/N, Adaptive IR, Extreme WDR, SLLS, Fixed lens

Package Contents

Camera	Mounting Screw Kit	Drill Template
Cable Gland	**Washer**	**Quick Installation Guide**
		
Warranty Card		
		

Physical Description

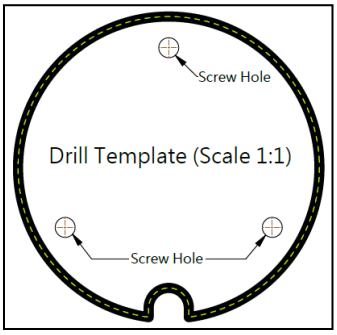
Item		Description
1	Memory Card Slot	Insert a memory card into this slot for local recording purposes. See ***How to Install / Remove the Memory Card (Optional)*** on page 16 for more information. **NOTE:** Supports microSDHC only.
2	Ethernet Port	Connects to a network using a standard Ethernet cable.
3	Reset Button	Restores the factory default settings of the camera. Resetting the camera must be done while the power is on. See ***How to Reset the Camera*** on page 19 for more information.

Installation Procedures

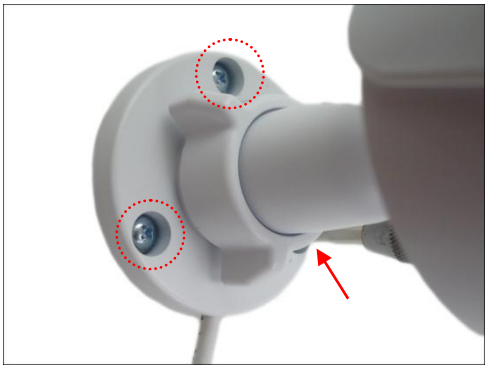
If there is a need to install a memory card for local storage recording, insert the memory card to the camera first before mounting the camera. See ***How to Install / Remove the Memory Card (Optional)*** on page 16 for detailed instructions.

Step 1: Install the Camera

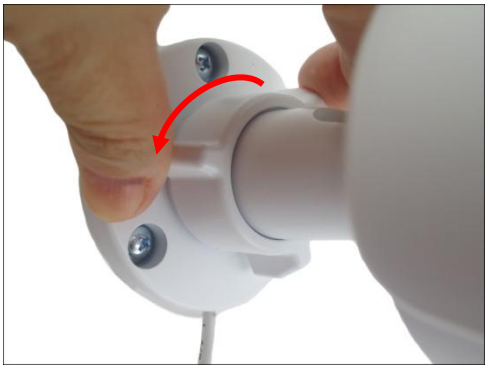
1. Mark the screw holes or attach the bundled drill template on the target surface.
   NOTE: Depending on the surface where you will install the camera, it may be necessary to drill three (3) holes and use the supplied screw tox.



2. ***If the cable will pass through the surface***, drill a Ø 22mm cable hole within the radius of the camera bracket. ***If the cable will be routed along the surface,*** route the cable through the gap on the bracket.
3. Mount the camera to the surface using the three (3) screws.



4. Loosen the knob to adjust the camera tilt and orientation.



5. Adjust the camera angle and orientation.

Sample of Wall Installation

Sample of Ceiling Installation

6. Tighten the knob to fix the tilt angle position.

Step 2: Connect and Manage the Cable

The camera and the pre-installed network cable, “pigtail”, are resistant to salt, water, weak acid, alcohol, oil, grease and other common solvents. If the camera will be installed indoors, simply connect the network side cable to the camera Ethernet port.

However, if the camera will be installed outdoors, ensure that the cable connection and the network side cable itself are also protected from different environmental factors. Use the bundled cable gland or simply use a waterproof tape to protect the cable connectioin.

How to Use the Cable Gland

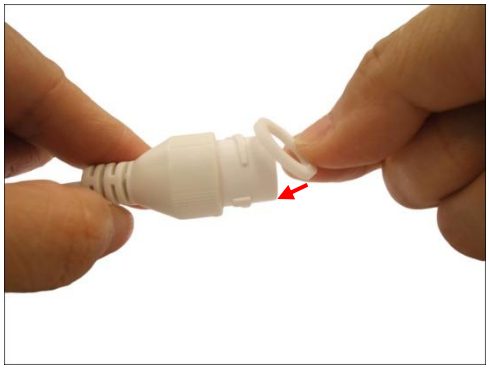
This section describes how to waterproof the cable-out or “pigtail” of the camera using the bundled cable gland.

Before connection, prepare the following materials:

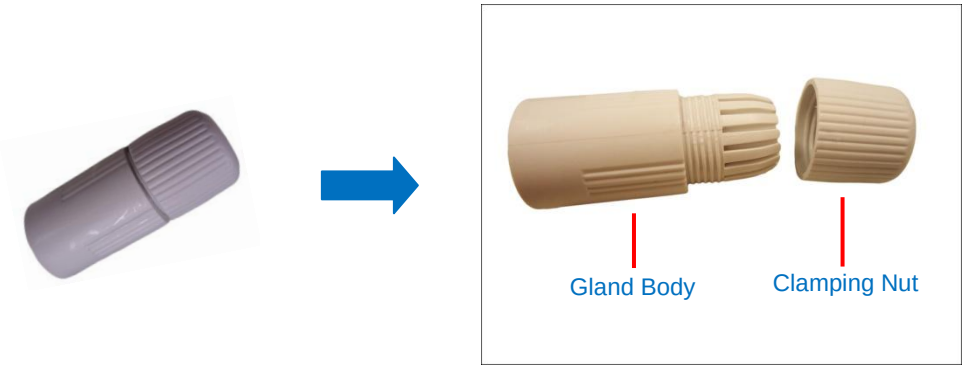
- An exterior-grade Ethernet cable without the RJ-45 connector
- RJ-45 connector
- Crimping Tool
- Scissors

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

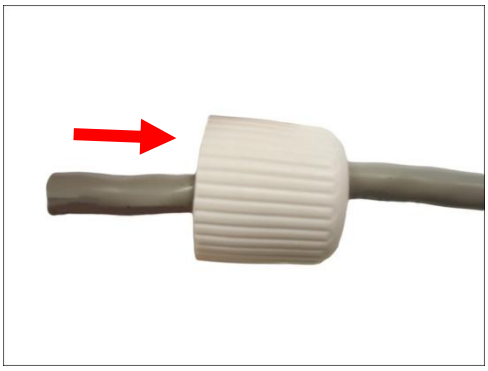
1. Attach the washer to the Ethernet connector of the camera.



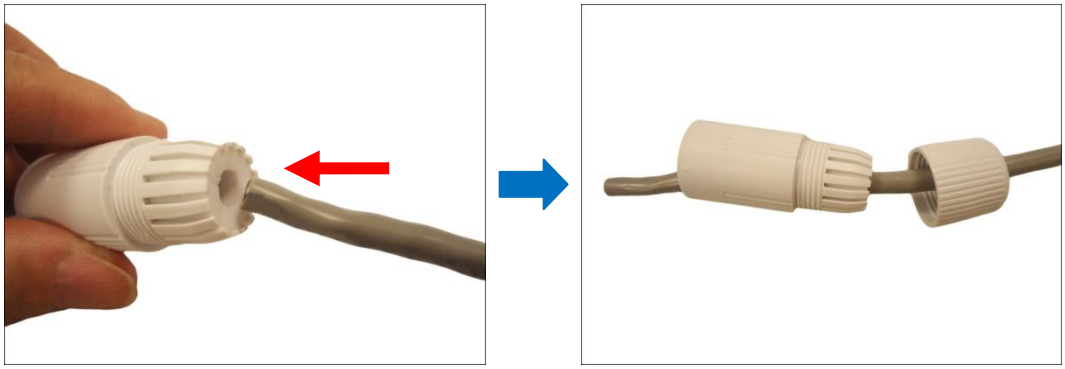
2. Detach the clamping nut from the cable gland:



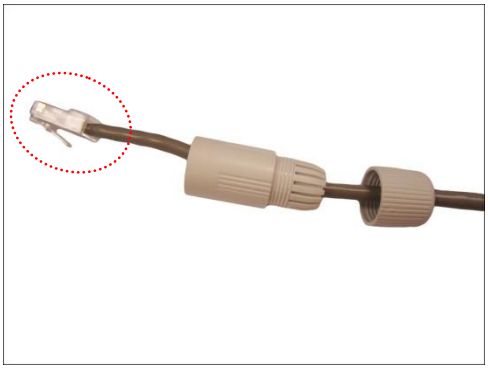
3. Insert the clamping nut into the Ethernet cable (without connector).



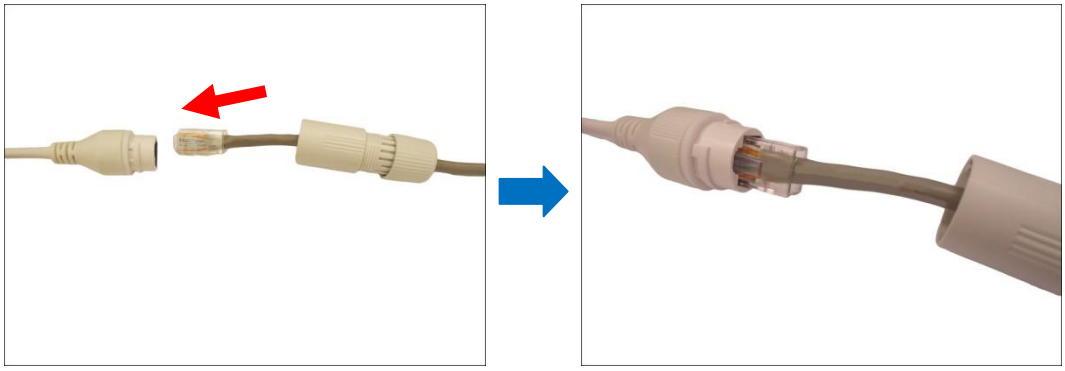
4. Insert the cable through the gland body.



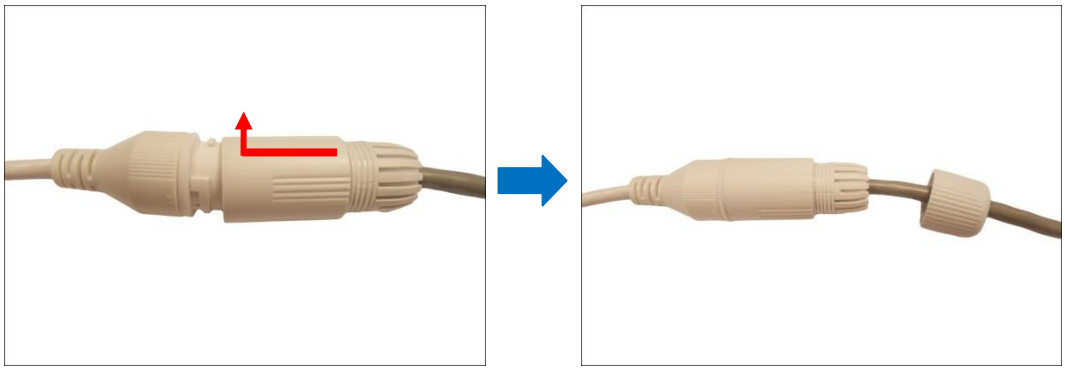
5. Attach the RJ-45 connector to the cable. For pin mapping and detailed instructions, see - ***How to Attach the RJ-45 Connector*** on page 22 for detailed information.



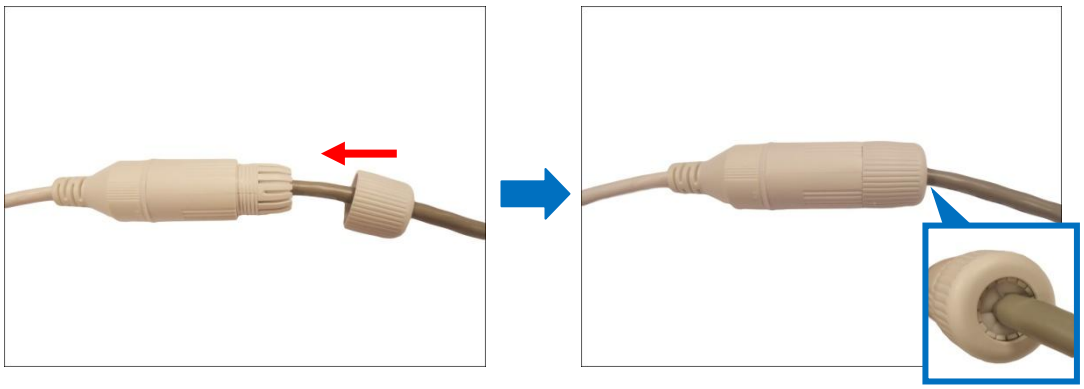
6. Connect the RJ-45 connector to the camera connector.



7. Attach the gland body to the camera connector.



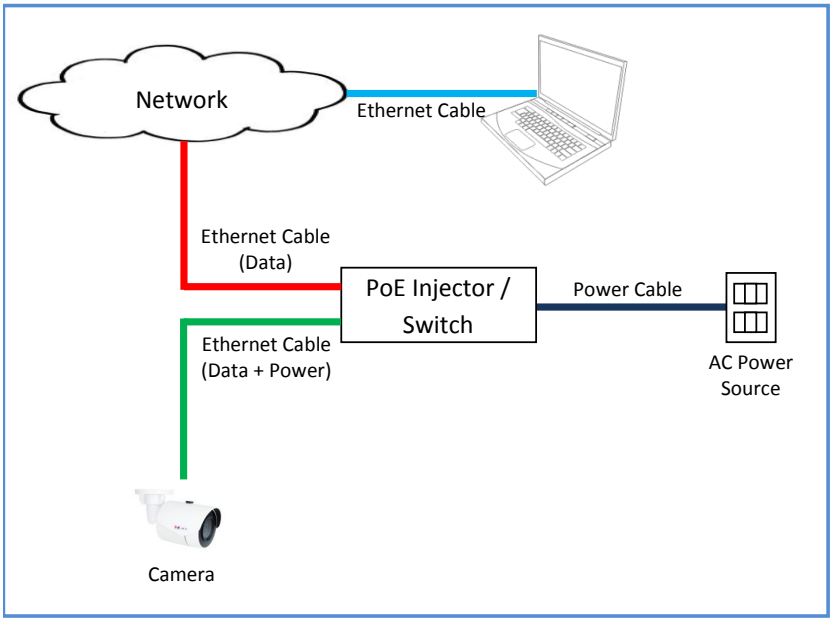
8. Attach the clamping nut to the gland body to complete the cable solution.



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

Step 3: Connect to Network

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



Step 4: Access the Camera Live View

After making the connections, access the camera live view to adjust the viewing angle of the camera and configure the settings according to your preference. See ***Accessing the Camera*** on page 24 for more information.

Other Adjustments and Accessories

This section describes the procedures in preparing the camera for corridor viewing angle, installing a memory card, resetting the camera, and attaching Ethernet cable connectors.

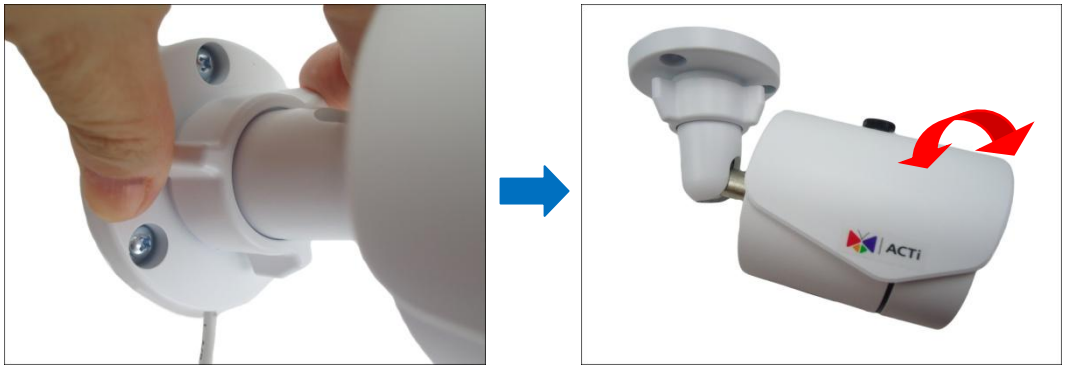
How to Position Camera for Corridor View Format

The camera supports the following viewing format:

- Horizontal: The camera has a wider viewing angle horizontally.
- Corridor: The camera has wider viewing angle vertically.

The camera is set to horizontal viewing angle, by default. To change between Horizontal and Corridor format:

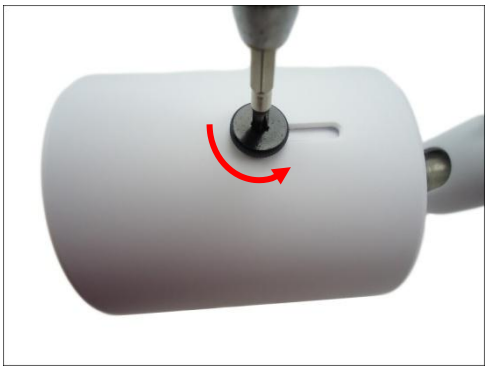
1. Access the **Web Configurator** (see ***Accessing the Camera*** on page 24 on how to access the camera), then rotate the camera view to 90° or 270° to achieve corridor format. See the camera Firmware Manual for more information.
2. Loosen the knob to adjust the camera orientation and attach the sunshield to its correct position based on the camera orientation.



NOTE: There are three (3) holes in which to attach the set screw, use any one of them depending on the preferred viewing angle. The middle hole is used for horizontal view format and the two (2) others are for corridor format.

How to Install / Remove the Memory Card (Optional)

1. Remove the screw holding the sunshield.



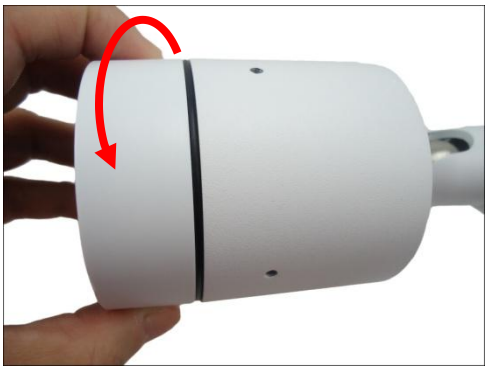
2. Remove the sunshield.

3. Twist to open the front cover.

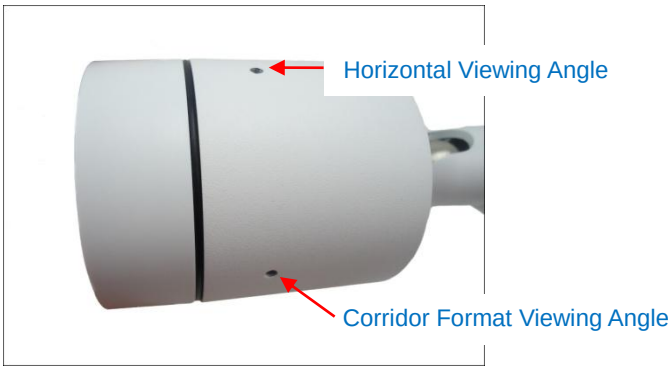
4. Insert the memory card with the metal contacts facing down the lens.

NOTE: It is recommended to retain the silicon bag inside the cover to keep the interior parts dry.

5. Tightly close the camera front cover.

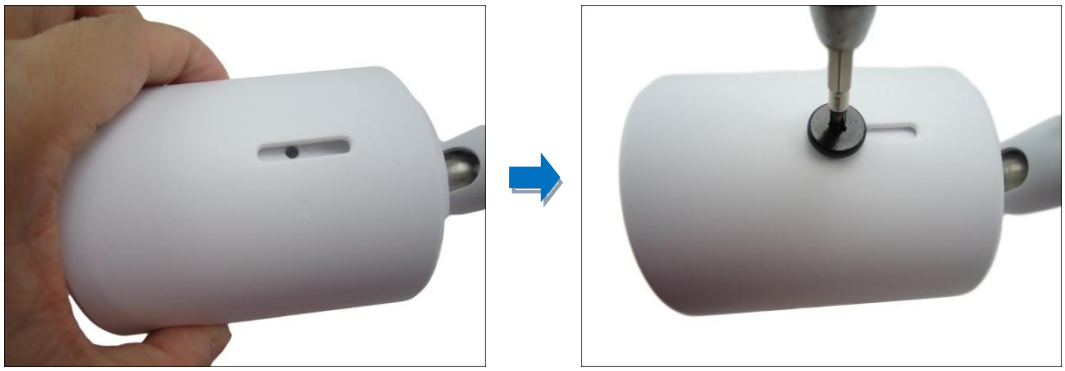


6. Attach the sunshield.



NOTE: There are three (3) holes in which to attach the set screw, use any one of them depending on the preferred viewing angle. The middle hole is used for horizontal view format and the two (2) others are for corridor format.

7. Attach the set screw to secure the sunshield.



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, simply pull the card from the slot.

How to Reset the Camera

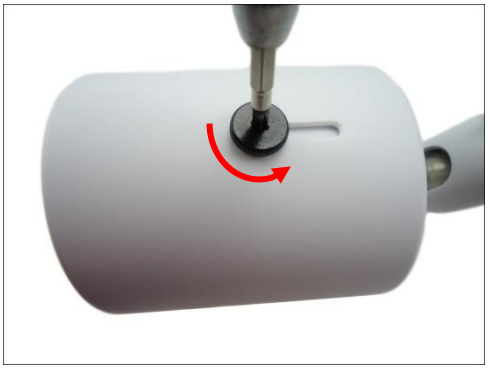
The camera has a **Reset** button that can be used to restore the camera to its factory default settings when the need arises.

The **Reset** button is used for the following purposes:

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

Do the following procedures while the camera is powered on.

1. Remove the screw holding the sunshield.



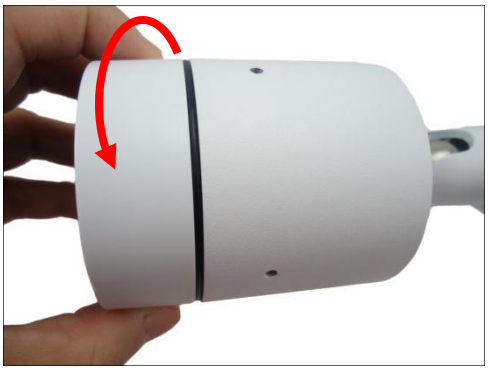
2. Remove the sunshield.

3. Twist to open the front cover.

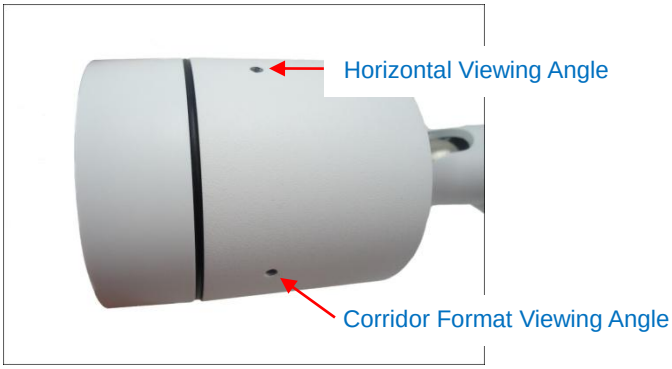
4. Using a pointed object, press and hold the **Reset** button for at least five (5) seconds or until the Power LED lights up.

NOTE: It is recommended to retain the silicon bag inside the cover.

5. Tightly close the camera front cover.

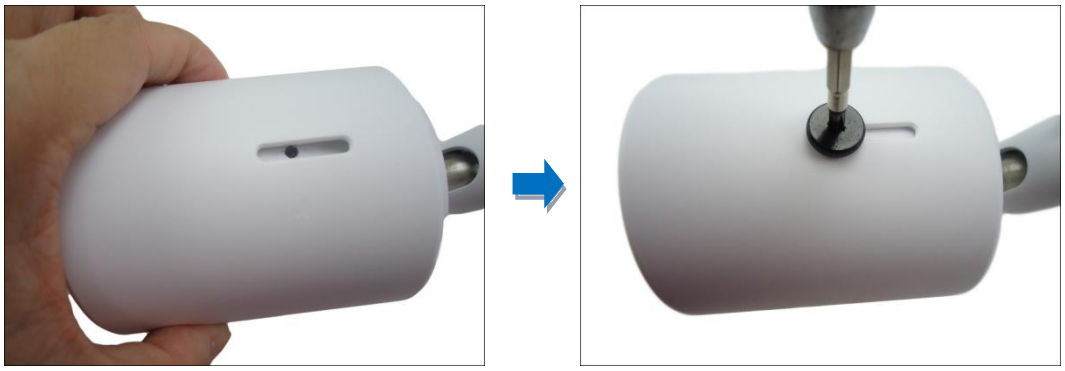


6. Attach the sunshield.



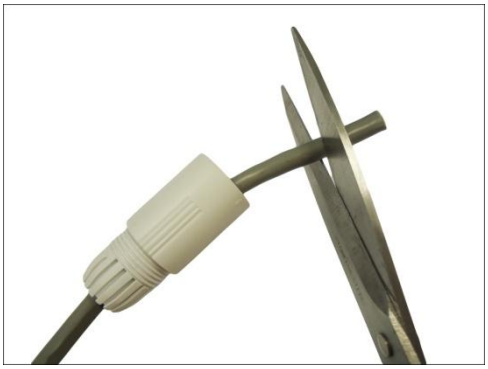
NOTE: There are three (3) holes in which to attach the set screw, use any one of them depending on the preferred viewing angle. The middle hole is used for horizontal view format and the two (2) others are for corridor format.

7. Attach the set screw to secure the sunshield.

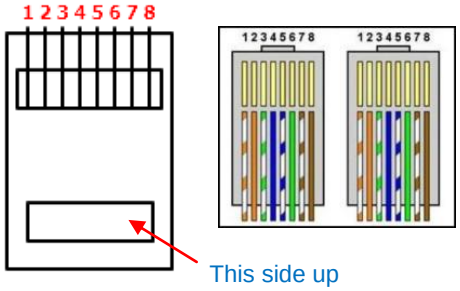


How to Attach the RJ-45 Connector

1. Prepare the following tools:
   a. RJ-45 connector
   b. Crimping tool
   c. Scissors
2. Cut about one (1) inch into the plastic sheath from the end of the cable.

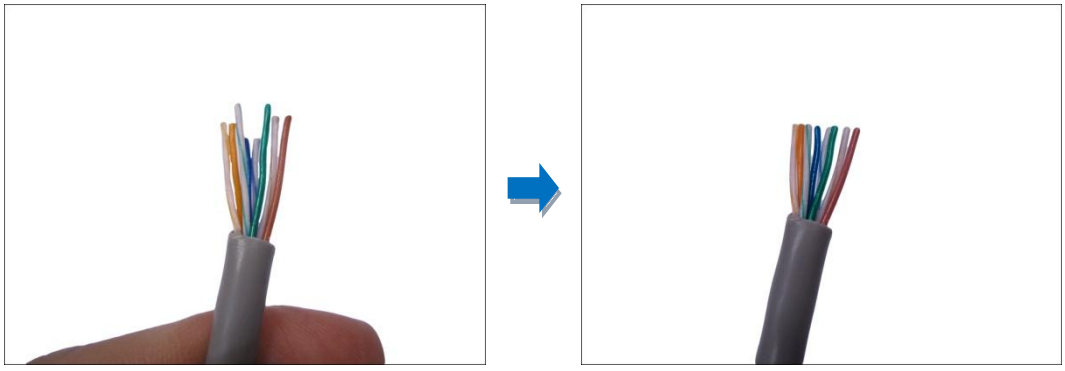


3. Unwind the wires and arrange them according to the color sequence below.

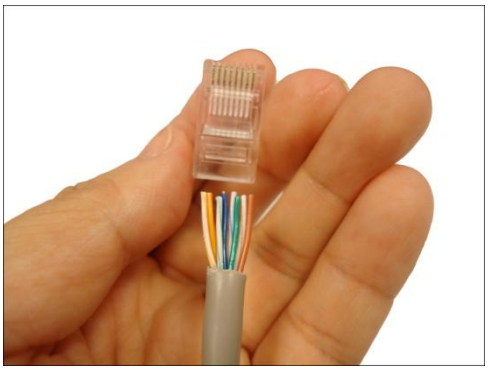


1	Stripe Orange
2	Orange
3	Stripe Green
4	Blue
5	Stripe Blue
6	Green
7	Stripe Brown
8	Brown

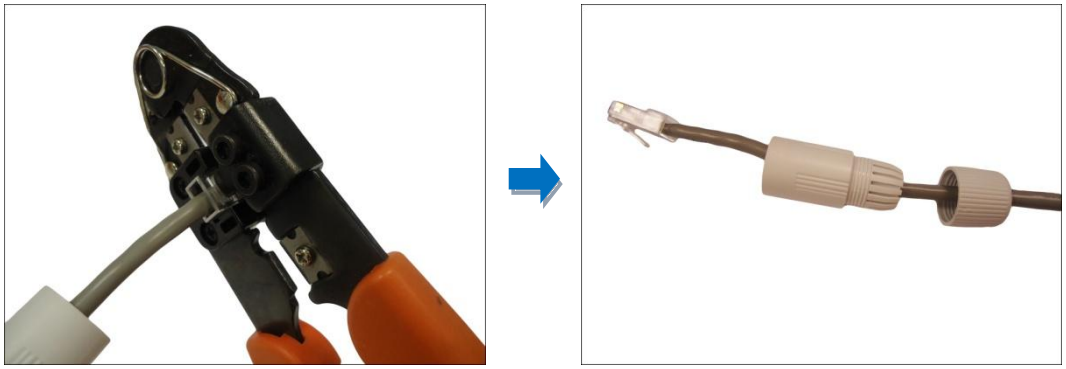
4. Straighten out the wires and use the scissors to make a straight cut ½ inch from the cut end.



5. With the RJ-45 connector tab facing down, push down the wires into the connector all the way to the end.



6. Place the connector into the crimping tool, and cinch down to secure the RJ-45 connector to the Ethernet cable.



Accessing the Camera

Configure the IP Addresses

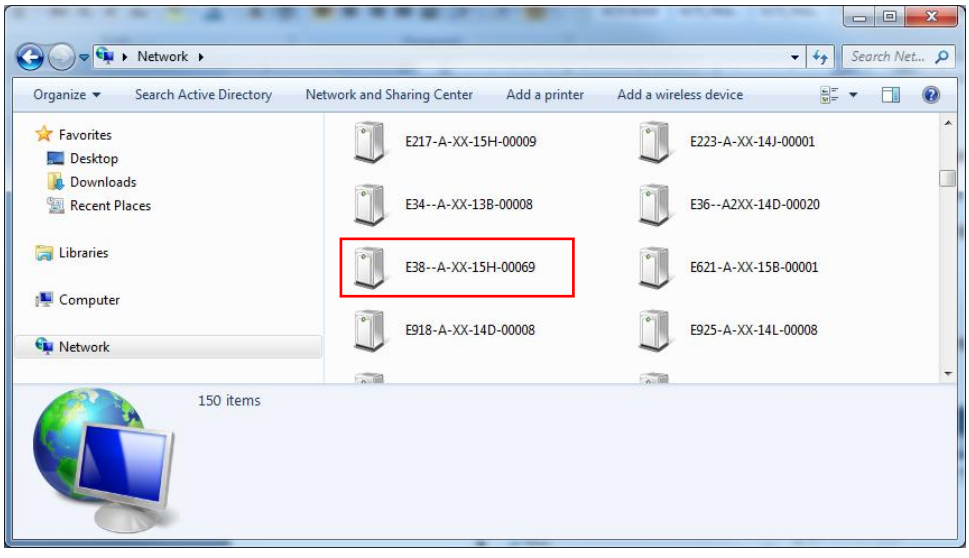
In order to be able to communicate with the camera from your PC, both the camera and the PC have to be within the same network segment. In most cases, it means that they both should have very similar IP addresses, where only the last number of the IP address is different from each other. There are 2 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 other 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.

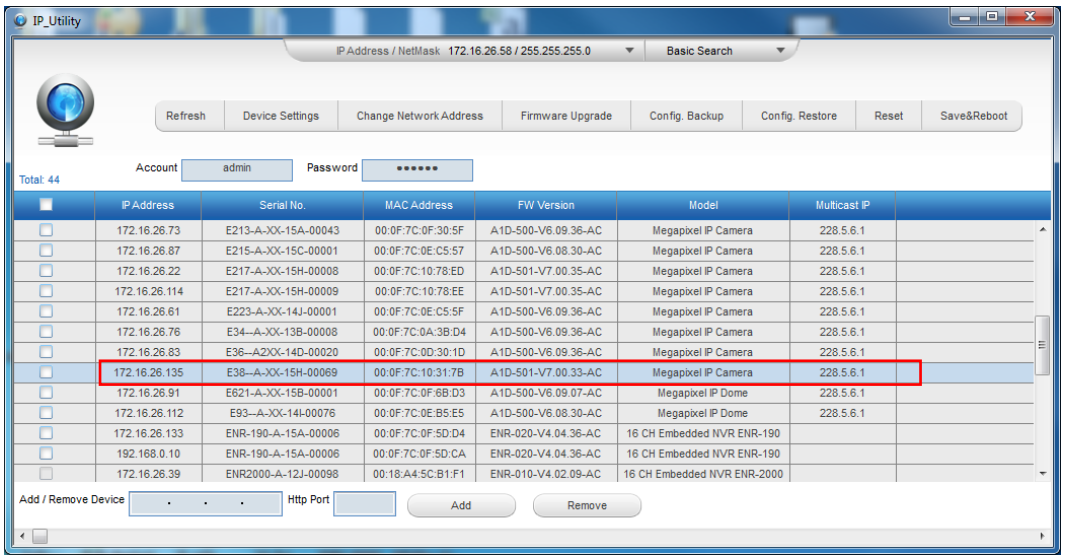
In the example below, we successfully found the camera model that we had just connected to the network.



By double-clicking with the left mouse on the camera model, it is possible 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.

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 **http://www.acti.com/IP_Utility**
With just one click, you can launch the IP Utility and there will be an instant report as follows:



You can quickly see 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.

Using the Default Camera IP Address

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.

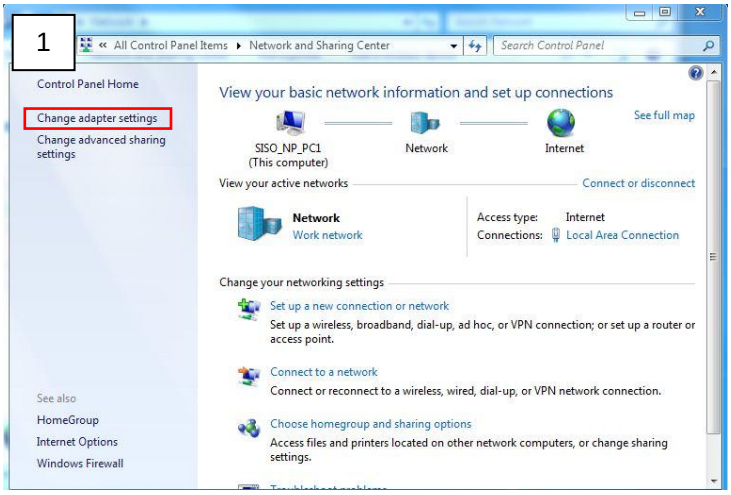
When the camera is plugged into network and it does not detect any DHCP services, it will automatically assign itself a default IP:

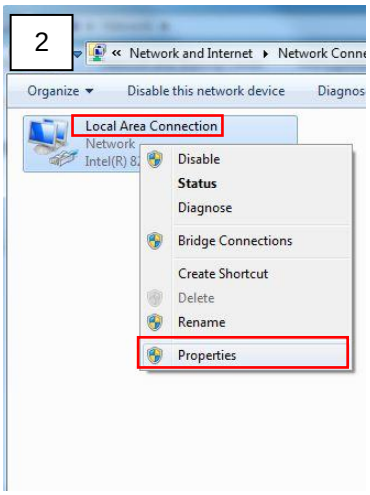
192.168.0.100

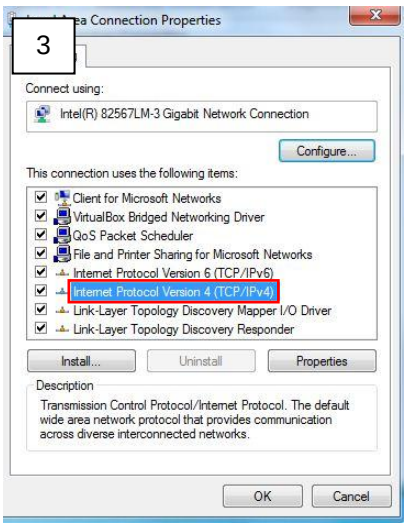
Whereas the default port number would be **80**. In order to access that camera, the IP address of the PC has to be configured to match the network segment of the camera.

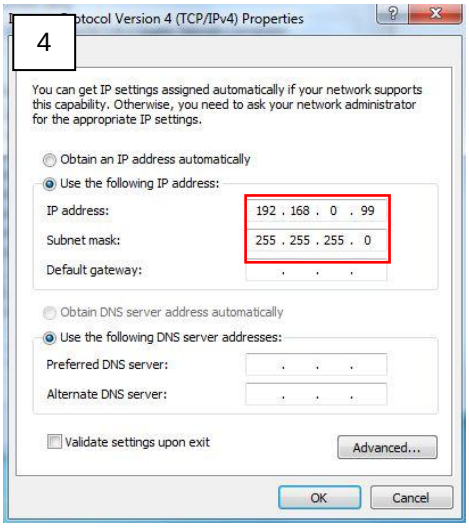
Manually adjust the IP address of the PC:

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:



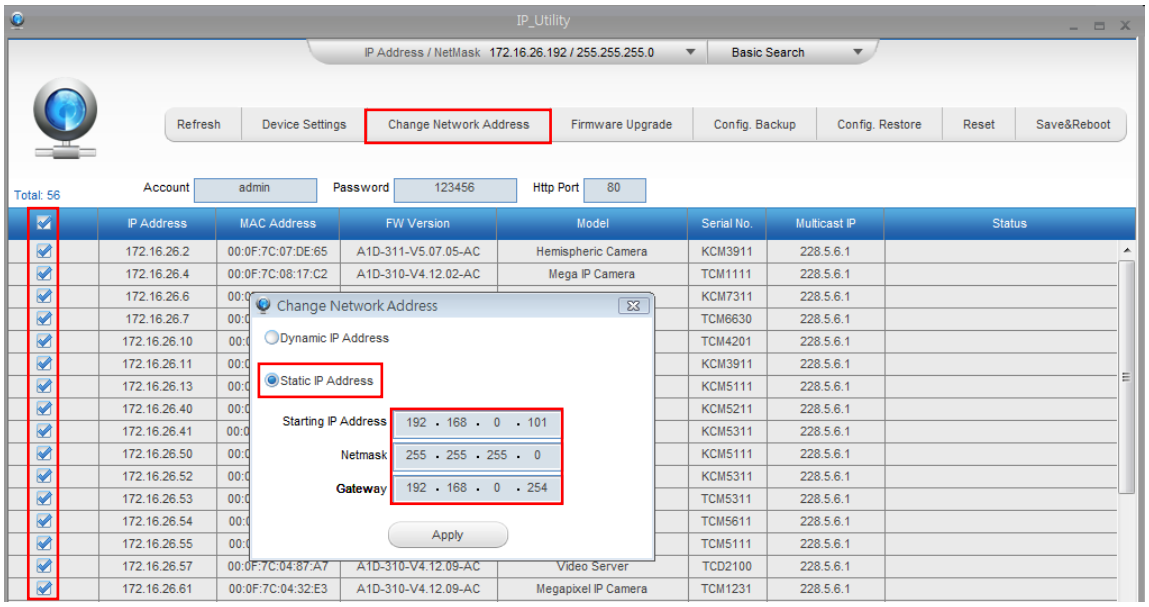






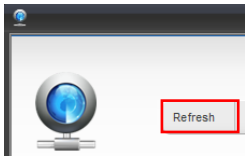
Manually adjust the IP addresses of multiple cameras:

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

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

* When using non-Internet Explorer browsers, free third-party software plug-ins must be installed to the PC first to be able to get the live video feed from the camera:

Browser	Required Plug-In
Safari	QuickTime (http://www.apple.com/quicktime/download/)
Other non-Internet Explorer browsers	Basic VLC Media Player (http://www.videolan.org)

Disclaimer Notice: The camera manufacturer does not guarantee the compatibility of its cameras with QuickTime or VLC Player – since these are third party softwares. The third parties have the right to modify their utility any time which might affect the compatibility. In such cases, please use Internet Explorer browser instead.

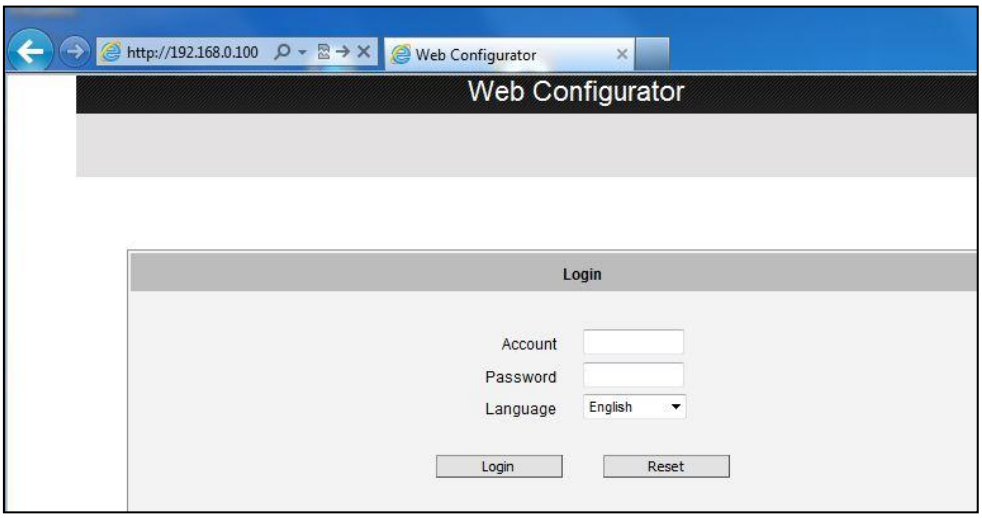
When using Internet Explorer browser, the ActiveX control for video stream management will be downloaded from the camera directly – the user just has to accept the use of such control when prompted so. No other third party utilities are required to be installed in such case.

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

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**

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