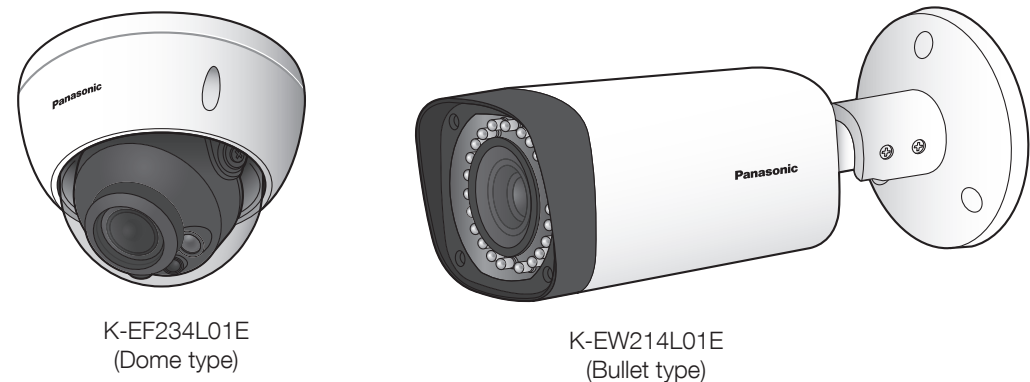




# Installation Guide

## Network Camera

Model No. K-EF234L01E/K-EW214L01E



- For information about how to perform the settings and how to operate the camera, refer to the operation manual on the provided CD-ROM.
- Before attempting to connect or operate this product, please read these instructions carefully and save this manual for future use.

**Panasonic Corporation**  
http://www.panasonic.com

Panasonic System Networks Co., Ltd.  
Fukuoka, Japan

Authorised Representative in EU:

Panasonic Testing Centre  
Panasonic Marketing Europe GmbH  
Winsbergring 15, 22525 Hamburg, Germany

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FDu0616-0 **PGQX2061ZA**  
Printed in China

**WARNING:**

- To prevent injury, this apparatus must be securely attached to the wall/ceiling in accordance with the installation instructions.
- To prevent fire or electric shock hazard, do not expose this apparatus to rain or moisture. (Dome type only)
- The apparatus should not be exposed to dripping or splashing. (Dome type only)
- All work related to the installation of this product should be made by qualified service personnel or system installers.
- The installation shall be carried out in accordance with all applicable installation rules.
- The connections should comply with local electrical code.
- Batteries (battery pack or batteries installed) shall not be exposed to excessive heat such as sunlight, fire or the like.

**CAUTION:**

- The network camera is only intended for a connection to an ethernet or PoE network without routing to the outside plant.

**Disposal of Old Equipment and Batteries**  
**Only for European Union and countries with recycling systems**

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries must not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points in accordance with your national legislation. By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment. For more information about collection and recycling, please contact your local municipality. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

**Note for the battery symbol (bottom symbol)**  
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

**Important safety instructions**

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water. (Dome type only)
- Clean only with dry cloth. (Dome type only)
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**Main functions**

- 2.4Megapixel Full-HD vari-focal network camera**
- H.264 and MJPEG encoding**  
H.264 outputs and MJPEG output can be provided.
- Wide-angle lens with day/night functionality and built-in IR-LED**

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- ANY CLAIM OR ACTION FOR DAMAGES, BROUGHT BY ANY PERSON OR ORGANIZATION BEING A PHOTOGENIC SUBJECT, DUE TO VIOLATION OF PRIVACY WITH THE RESULT OF THAT SURVEILLANCE-CAMERA'S PICTURE, INCLUDING SAVED DATA, FOR SOME REASON, BECOMES PUBLIC OR IS USED FOR ANY PURPOSE;
- LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE.

**Open Source Software**

- This product contains open source software licensed under GPL (GNU General Public License), LGPL (GNU Lesser General Public License), etc.
- Customers can duplicate, distribute and modify the source code of the software under license of GPL and/or LGPL.
- Refer to the "readme.txt" file on the provided CD-ROM for further information about open source software licenses and the source code.
- Please note that Panasonic shall not respond to any inquiries regarding the contents of the source code.

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**Network security**

As you will use this unit connected to a network, your attention is called to the following security risks.

- Leakage or theft of information through this unit
- Use of this unit for illegal operations by persons with malicious intent
- Interference with or stoppage of this unit by persons with malicious intent

It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.

- Use this unit in a network secured by a firewall, etc.
- If this unit is connected to a network that includes PCs, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated anti-virus program, anti-spyware program, etc.).
- Protect your network against unauthorized access by restricting users to those who log in with an authorized user name and password.
- Apply measures such as user authentication to protect your network against leakage or theft of information, including image data, authentication information (user names and passwords), alarm E-mail information, FTP server information and DDNS server information.
- After the unit is accessed by the administrator, make sure to close the browser.
- Change the administrator password periodically.
- Do not install the camera in locations where the camera or the cables can be destroyed or damaged by persons with malicious intent.

**Precautions**

**WARNING**

- Refer installation work to the dealer.**  
Installation work requires technique and experiences. Failure to observe this may cause fire, electric shock, injury, or damage to the product.
  - Be sure to consult the dealer.
- Turn the power off when do wiring of this product.**  
Failure to observe this may cause electric shock. In addition, short circuit or wrong wiring may cause fire.
- Correctly perform all wiring.**  
Short circuits in the wiring or incorrect wiring may cause fire or electrical shock.
- Stop the operation immediately when something is wrong with this product.**  
When smoke goes up from the product, the smell of smoke comes from the product, or the exterior of the product has deteriorated, continued use will cause a fire or fall of the product resulting in injury, or damage to the product.
  - In this case, turn the power off immediately and contact qualified service personnel for service.
- Select an installation area that can support the total weight.**  
Selecting an inappropriate installation surface may cause this product to fall down or topple over, resulting in injury or accidents.
  - Installation work shall be started after sufficient reinforcement.
- Periodic inspections shall be conducted.**  
Rust on the metal parts or screws may cause a fall of the product resulting in injury or accidents.
  - Consult the dealer for the inspections.
- Do not install this product in locations subject to vibration.**  
Loosening of mounting screws or bolts may cause a fall of the product resulting in injury or accidents.
- Install this product in a location high enough to avoid people and objects from bumping the product.**  
Failure to observe this may cause injury.
- Do not attempt to disassemble or modify this product.**  
Failure to observe this may cause fire or electric shock. Consult the dealer for the repair or inspections.
- The screws and bolts must be tightened to the specified torque.**  
Failure to observe this may cause a drop resulting in injury or accidents.
- Do not insert any foreign objects.**  
Fire or electrical shock may be caused if water or any foreign objects, such as metal objects, enter inside the unit. Turn the power off immediately and contact qualified service personnel for service.
- Do not use this product in an inflammable atmosphere.**  
Failure to observe this may cause an explosion resulting in injury.
- Avoid installing this product in the locations where salt damage occurs or corrosive gas is produced.**  
Otherwise, the mounting portions will deteriorate and accidents such as a fall of the product may occur.
- Do not strike or give a strong shock to this product.**  
Failure to observe this may cause fire or injury.
- Do not install or clean the camera, or touch this product, the power cable or the connected cables during thunder storms.**  
Failure to observe this may cause electric shock.
- Keep SDXC/SDHC/SD memory cards away from infants and children.**  
Otherwise, they may swallow the cards by mistake. In this case, consult a doctor immediately.

**CAUTION**

- Turn the power off when cleaning this product.**  
Failure to observe this may cause injury.

**Precautions for use**

**This product has no power switch.**  
When turning off the power, disconnect the power supply from the12 V DC power supply or the PoE device.

**To keep on using with stable performance**  
Do not use this camera in hot and humid conditions for a long time. Failure to observe this causes component degradation resulting in life shortening of this product. Do not expose this camera to direct heat sources such as a heater.

**Do not touch the lens with your bare hands.**  
A dirty lens causes deterioration of picture quality.

**Handle this camera with care.**  
Do not drop this camera, nor apply shock or vibration to this camera. Failure to observe this may cause trouble. If a strong shock or vibration is applied to the enclosure, it may cause damage or allow water to enter this product.

**About the battery**  
A battery is installed inside the camera. Do not leave the battery exposed in environments of excessive heat as a result of sunlight or fire.

**Product disposal/transfer**  
Data saved on this product or a storage device used with this product may lead to personal information leakage. When it is necessary to dispose or give this product to someone, even when for repair, make sure that there is no data on this product. When abandoning the memory media, it is recommended to destroy it physically after deleting data by PC.

**Cleaning this product body**  
Be sure to turn off the power before cleaning. Failure to observe this may cause injury. Do not use benzine, thinner, alcohol, or any other types of solvents or detergents. Otherwise, it may cause discoloration. When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.

**About the CMOS image sensor**

- When continuously shooting a bright light source such as a spotlight, the color filter of the CMOS image sensor may have deteriorated and it may cause discoloration. Even when changing the fixed shooting direction after continuously shooting a spotlight for a certain period, the discoloration may remain.
- When shooting fast-moving subjects or performing panning/tilting operations, objects crossing the shooting area may look to be bending askew.

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ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C.  
SEE HTTP://WWW.MPEGLA.COM

**Equipment classification and power source indication label**  
Refer to the indication label on the bottom side of this unit for the equipment classification, power source, and other information.

: Direct current symbol

**Specifications**

● Basic	K-EF234L01E	K-EW214L01E
Power source:*	12 V DC, PoE (IEEE802.3af compliant)	
Power consumption:*	12 V DC: 710 mA/Approx. 8.5 W PoE 48 V DC: 180 mA/Approx. 8.6 W (Class 0 device)	
Operating environment Ambient operating temperature: Ambient operating humidity:	-30 °C to +60 °C {-22 °F to 140 °F}, 10 % to 90 % (no condensation)	
Storage environment Storage temperature: Storage humidity:	-30 °C to +60 °C {-22 °F to 140 °F} 10 % to 95 % (no condensation)	
Waterproof:	Main body: IP66	
Shock resistance:	Compliant with IK10 (IEC62262)	Not supported
Dimensions:	ø122 mm × 89 mm (H) {ø4-13/16 inches × 3-1/2 inches (H)}	80 mm (W) × 213 mm (D) × 72 mm (H) {3-5/32 inches (W) × 8-3/8 inches (D) × 2-27/32 inches (H)}
Mass:	Approx. 500 g {1.1 lbs}	Approx. 650 g {1.43 lbs}

\* Refer to our website (http://security.panasonic.com/support/info\_d/index.html) for further information about Power source and Power consumption.

**● Camera**

Image sensor:	Approx. 1/2.8" type CMOS image sensor
Effective pixels:	Approx. 2 mega pixels
Scanning system:	Progressive
Minimum illumination:	0.2 lx / F1.4 (Color)*, 0 lx / F1.4 (IR on) * [Image Adjust] Shutter: (0-)80 ms, Gain: (0-)100"
Gain:	Auto/ Manual
Back light compensation:	OFF/ BLC/ HLC/ WDR
Shutter speed:	Auto/ Manual, 1/3 sec~1/100000 sec
Day/Night:	Auto([CR]/ Color/ Black & White
IR LED Light:	Irradiation distance: 30 m
White balance:	Auto/ Sunny/ Night/ Outdoor/ Manual
Digital noise reduction:	3DNR ON/ OFF
Privacy masking:	Up to 4 areas
Video Motion Detection (VMD):	On/ Off

**● Lens**

Zoom ratio:	4.4x Optical (Motorized zoom/ Motorized focus)
Focal length:	2.7~12 mm
Aperture:	1 : 1.4
Angular field of view:	H : 93 ° (WIDE)~34 ° (TELE) V : 50 ° (WIDE)~18 ° (TELE)

**● Network**

Network:	10BASE-T/ 100BASE-TX, RJ45 connector
Resolution:	1080P (1920x1080)/ 1.3 M (1280x960)/ 720P (1280x720)/ D1 (704x576/704x480)/ CIF (352x288/352x240)
Image compression method:	H.264/ H.264H/ H.264B/ MJPEG
Frame Rate:	1 ~ 25/30 fps
Protocol:	IPv4/ IPv6, HTTP, HTTPS, SSL, TCP/ IP, UDP, UPnP, ICMP, IGMP, SNMP, RTSP, RTP, SMTP, NTP, DHCP, DNS, PPPoE, DDNS, FTP, QoS, Bonjour, 802.1x
Maximum concurrent access number:	20 users (Number of sessions that can connect to cameras at the same time)
OS:	Microsoft® Windows® 10 Microsoft® Windows® 8.1 Microsoft® Windows® 8 Microsoft® Windows® 7
Browser:	Windows® Internet Explorer® 11
Compatible micro SDXC/ SDHC memory card:*	1 *2 4 ~ 64 GB

\*1 When repeatedly recording images on a micro SD memory card using the auto overwrite function, make sure to use a micro SD memory card with high reliability and durability.  
\*2 Use the micro SD memory card that complies with UHS-1 (Ultra High Speed-1) in the case of SD Speed Class 10.

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## Standard accessories

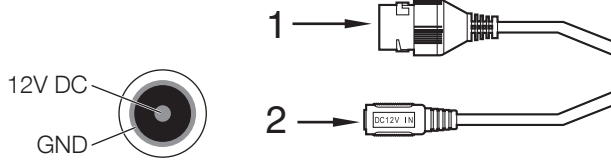
Confirm the following items are included in the camera's packaging.

Installation Guide (this document) .....	1 pc.	Template .....	1 pc.
RJ45 waterproof connector .....	1 bag.	CD-ROM .....	1 pc.

## Connection

### ◆ Device external cable

You can refer to the following figure for cable information.



1. LAN (Network port) .....RJ45 waterproof jack. Connect to standard Ethernet cable.

#### NOTE:

Some devices do not support PoE power supply.

2. 12V DC (Power input port).....Power port. Input 12V DC.  
When a PoE power supply is used to power the camera, the power input port is not used. Process the jack as indicated below.

#### <Dome type>

Protect the jack with tape or the like to prevent dust and moisture from collecting inside.

#### <Bullet type>

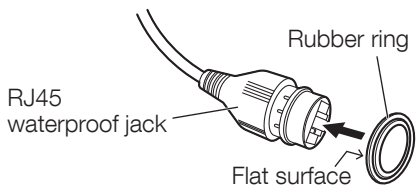
Appropriate waterproof treatment is performed.

### ◆ Assembling RJ45 waterproof connector

#### IMPORTANT:

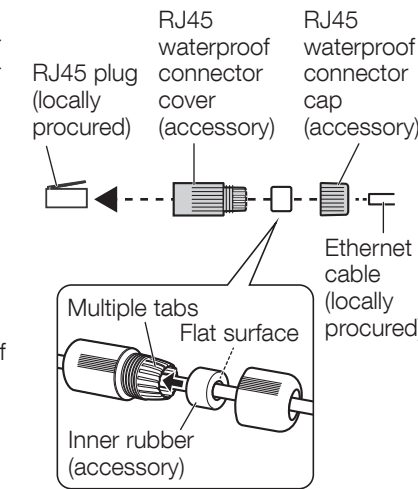
- The maximum cable length is 100 m.
- Make sure that the PoE device in use is compliant with IEEE802.3af standard.
- Use all 4 pairs (8 pins) of the Ethernet cable.
- The external dimensions of the Ethernet cable are ø5 mm to ø6.5 mm.
- If the procedure for the RJ45 waterproof connector (accessory) part is not correctly followed, the waterproofing may be compromised. Do not install the camera where the RJ45 waterproof connector is exposed to constant rain or moisture.

- ① Attach the rubber ring (accessory) to the RJ45 waterproof jack connected to the camera as shown.
  - Attach with the flat surface of the rubber ring facing the RJ45 waterproof jack.



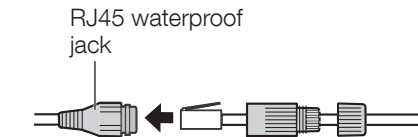
- ② First pass the Ethernet cable through the RJ45 waterproof connector cap (accessory), the inner rubber (accessory) and then RJ45 waterproof connector cover (accessory).  
Next, use a specialized tool (locally procured) to crimp the RJ45 plug (locally procured) to the end of the Ethernet cable.

- Pass the inner rubber over the cable so that the grooved surface faces the RJ45 plug and the flat surface faces the Ethernet cable.

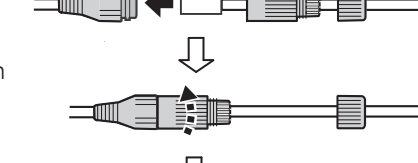


The following steps illustrate how to attach the connector to a camera as it is being installed.

- ④ Connect the RJ45 plug to the RJ45 waterproof jack and then rotate and tighten firmly the RJ45 waterproof connector cover.



- ⑤ Connect the RJ45 waterproof connector cap to the RJ45 waterproof connector cover and rotate the RJ45 waterproof connector cap until there is no gap between it and the RJ45 waterproof connector cover.



### ◆ Connect 12 V DC AC adaptor to the power port (if necessary)

When the camera will run on an external power supply, use an AC adaptor that can provide a 12 V DC 0.5 A or higher power supply.

#### IMPORTANT:

When cables are used outdoors, there is a chance that they may be affected by lightning. In this case, install a lightning arrester just before where the cables connect to the camera.

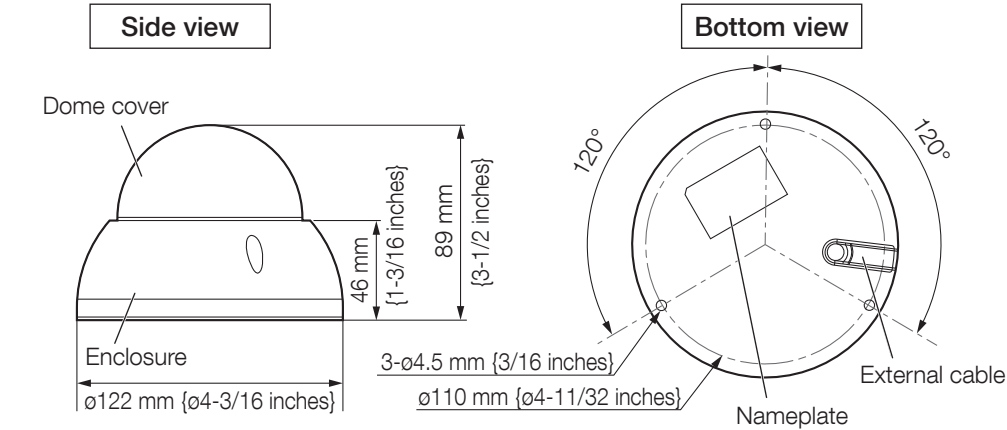
#### CAUTION:

- A READILY ACCESSIBLE DISCONNECT DEVICE SHALL BE INCORPORATED TO THE EQUIPMENT POWERED BY 12 V DC POWER SUPPLY.
- ONLY CONNECT 12 V DC CLASS 2 POWER SUPPLY (UL1310/CSA 223) or LIMITED POWER SOURCE (IEC/EN/UL/CSA 60950-1).

## K-EF234L01E

### ◆ Framework and dimension

Please refer to the following figure for dimension information.



### ◆ Device Installation

Secure the camera with 3 screws (M4) (locally procured).

#### IMPORTANT:

- Before starting the connection, turn off the power of the devices to be connected.
- Procure 3 screws (M4) to secure the camera to a ceiling or a wall, according to the material of the installation area. In this case, wood screws and nails should not be used.
- Required pull-out capacity of a single screw or anker is 196 N {20 kgf} or more.

#### Step 1 Open a hole for installing and cabling the camera on the ceiling or wall.

Remove the template from the carton box and use it to open holes in the positions for installation screws and the wiring opening to pass cabling through.

#### NOTE:

- The position of the Panasonic logo when the enclosure is attached is roughly halfway between the mounting holes. Orient the template to match the desired logo position.
- Determine the screw hole diameter based on screw specifications.
- To run cabling or make connections behind a ceiling or wall, drill a hole in the wiring opening position indicated on the template. If it is necessary to run the cabling to the side, it can be arranged in the side wiring direction shown on the template. Orient the template to match the desired wiring direction.

#### Step 2 Remove the enclosure from the camera.

Use the hexagonal wrench (accessory) to loosen the three enclosure fixing screws. Then remove the enclosure from the camera.

#### Step 3 If necessary, install a Micro SD memory card in the camera.

- ① Confirm the position of the Micro SD memory card socket.
- ② Tilt the camera slightly on the tilt axis as shown in the figure to create an opening to access the Micro SD memory card socket.
- ③ Slide the cover of the Micro SD memory card socket and raise it as shown in the figure.
- ④ Place the Micro SD memory card in the slot, close the cover, and slide it back to its original position to secure the Micro SD memory card.

#### NOTE:

- Be careful not to touch the wiring portion of the circuit board when you raise the cover of the Micro SD memory card socket.
- Make sure the Micro SD memory card is mounted with its label side visible.

#### Step 4 Connect the camera.

Connect the RJ45 waterproof connector to the camera's RJ45 waterproof jack. (Refer to steps ④ and ⑤ in "Assembling RJ45 waterproof connector".)

If necessary, also connect the plug of an AC adaptor for 12 V DC power to the power port.

#### Step 5 Attach the camera to the ceiling or wall.

Attach the camera using the three screws (locally procured) on the ceiling or wall.

#### NOTE:

- Required pull-out capacity of a single screw or anker is 196 N {20 kgf} or more.
- After connection, push extra cabling through the hole in the ceiling or wall to adjust the length.

#### Step 6 Turn the power on and check the screen on the computer.

Turn on power from the 12 V DC power supply or PoE device and operate the camera. Check video from the camera on the computer screen and refer to "Network Configuration" on the right side of this document.

#### Step 7 Adjust the camera angle.

Adjust the camera angle by moving it on the pan, tilt, and yaw axes as you check the video on the computer screen.

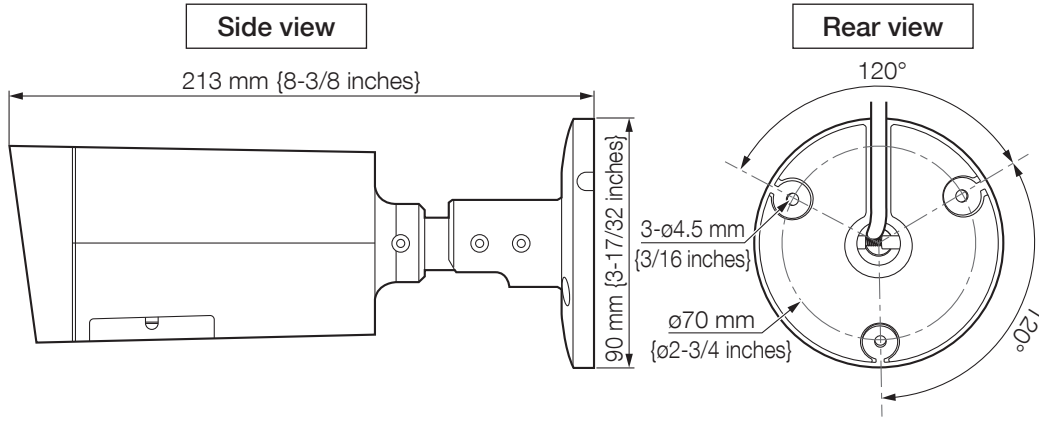
#### Step 8 Attach the enclosure.

Use the hexagonal wrench (accessory) to tighten the three enclosure fixing screws to secure the enclosure on the camera. Finally, remove the protective sheet. (Recommended tightening torque: 0.8 N·m {8.0 kgf·cm})

## K-EW214L01E

### ◆ Framework and dimension

Please refer to the following figure for dimension information.

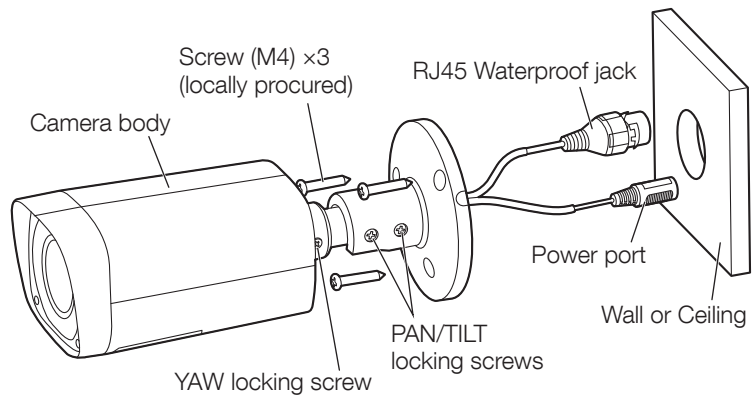


### ◆ Device Installation

Secure the camera with 3 screws (M4) (locally procured).

#### IMPORTANT:

- Before starting the connection, turn off the power of the devices to be connected.
- Procure 3 screws (M4) to secure the camera to a ceiling or a wall, according to the material of the installation area. In this case, wood screws and nails should not be used.
- Required pull-out capacity of a single screw is 196 N {20 kgf} or more.



#### Step 1 Open a hole for installing the camera and cabling in the ceiling or wall.

Remove the template from the carton box and use it to open holes in the positions for installation screws and the wiring opening to pass cabling through.

#### NOTE:

- To mount the camera on a wall, orient the template such that the camera can be secured in place using two of the three securing screws on the top. (See figure at right.)
- Determine the screw hole diameter based on screw specifications.
- To run cabling or make connections behind a ceiling or wall, drill a hole in the center position indicated on the template. If it is necessary to run the cabling to the side, it can be fed through the base in a direction. Orient the wiring connection direction to match the camera base.

#### Step 2 If necessary, install a Micro SD memory card in the camera.

- ① Use a Phillips screwdriver to loosen two screws on the bottom of the camera. Then remove the lower cover.
- ② Insert the Micro SD memory card into the Micro SD memory card socket.
- ③ Replace the lower cover removed in step ① above, and secure it in place.

#### NOTE:

- Be careful not to touch the wiring portion of the circuit board when you install the Micro SD memory card.
- Make sure the Micro SD memory card is mounted with its label side visible.

#### Step 3 Connect the camera.

Connect the RJ45 waterproof connector to the camera's RJ45 waterproof jack. (Refer to steps ④ and ⑤ in "Assembling RJ45 waterproof connector".)

If necessary, also connect the plug of an AC adaptor for 12 V DC power to the power port.

#### Step 4 Installing the camera.

Use the hexagonal wrench (accessory) to loosen the PAN/TILT locking screws (one each). Then secure the camera to the ceiling or wall with three screws (M4) while panning and tilting the camera as shown in the figure at right.

#### NOTE:

After connection, push extra cabling through the hole in the ceiling or wall to adjust the length.

#### Step 5 Turn the power on and check the screen on the computer.

Turn on power from the 12 V DC power supply or PoE device and operate the camera. Check video from the camera on the computer screen and refer to "Network Configuration" on the right side of this document.

#### Step 6 Adjust the camera angle.

Adjust the camera angle as you check video on the computer screen. Turn the base of the camera to pan, or move the camera itself to adjust tilt or yaw, as shown at upper right.

Adjust TILT, PAN and YAW angle of the camera so that the camera sensor section faces the bottom of the monitoring screen. Finally, tighten the PAN/TILT locking screws and YAW locking screw to secure the camera's position. (Recommended tightening torque: 0.78 N·m {8 kgf·cm})

## Network Configuration

The IP address of all the cameras is the same when shipping factory (default IP192.168.0.10), in order to make the camera get access to the network smoothly, please plan the useable IP segment reasonably according to the actual network environment.

### ◆ Modify IP Address

IP address can be acquired and modified through the "Config Tool" for the cameras which are accessed via wired network. In this manual, it will introduce the approach of modifying IP address via the "Config Tool"; also you can modify the IP address in the network parameters of the web interface.

#### Step 1

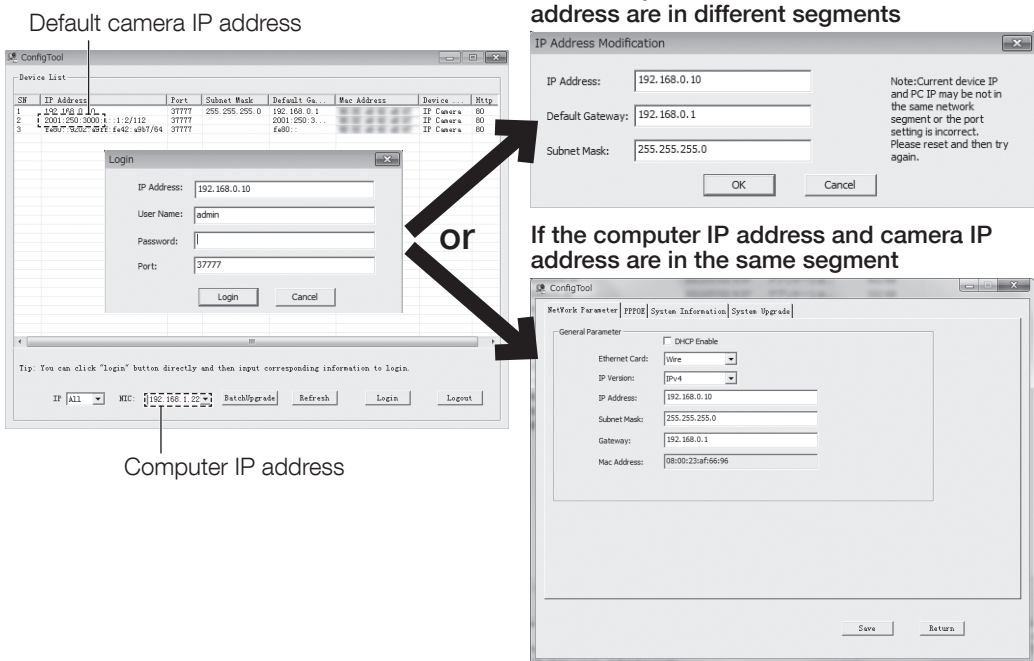
Double click the "ConfigTool.exe" in the CD-ROM and open the "Config Tool".

#### Step 2

Double click the device to be configured, the system will pop out the "Login" dialog box. Log in using the default user name and password. Enter the new IP address, Default Gateway and Subnet Mask into the "IP Address Modification" dialog box, then click "OK", or enter them into the Network Parameter tab of "Config Tool", then click "Save".

#### NOTE:

The default user name and password are "admin" and "12345".



### ◆ Login WEB Interface

#### NOTE:

Different devices may have different web interfaces, the figures below are just for reference, please refer to the document <<WEB Operation Manual>> in the CD-ROM and the actual interface for more details.

#### Step 1

Open IE and input the camera IP address in the address bar.

Alternatively, in "Config Tool", right-click the IP address in the "Device List" and click "Open Device Web" to open the webpage.

#### Step 2

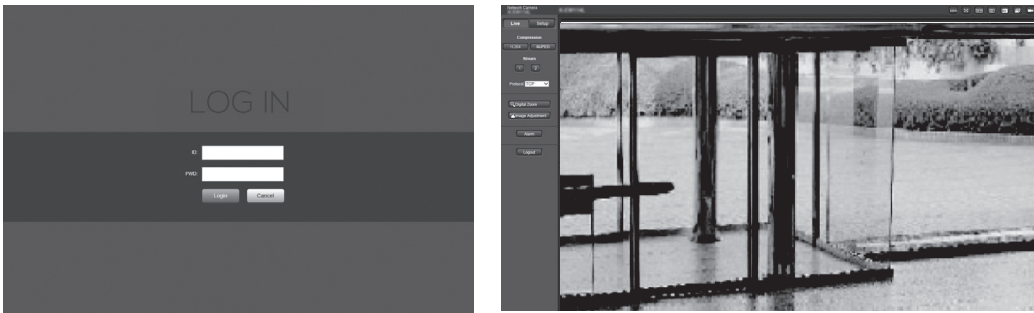
The login interface is shown below, please input default user name and password (Default user name is "admin" and password is "12345" respectively), click "login". When you log in for the first time, a window prompting you to update the password will pop up. Please enter your own new password.

#### IMPORTANT:

- Use a combination of characters and numbers that is difficult to guess. Avoid using a string of the same characters, such as "11111", birth dates, or telephone numbers.
- Change passwords periodically.
- Be sure to manage the configured user names and passwords carefully.

#### Step 3

Install controls according to the system prompt. The "Live" page will be displayed.



See support web page below for further details.  
<http://security.panasonic.com/pss/security/library/e-series.html>