

# **N10-W02**

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Industrial Camera

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# 1

# Introduction

## Introduction

This industrial camera, which is for indoor use, features PoE (Power over Ethernet) functionality. The camera is controlled by an external device over a network. This manual explains how to configure the camera for a network. For details on how to operate the camera, refer to the instruction manual of the system used to control the camera.

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## Disclaimers

- About network security: The data sent and received by the camera is not encrypted and using an unprotected network can expose your data to monitoring by third parties. It is your responsibility to take appropriate network security measures. Canon shall not be liable for any damage caused directly or indirectly by network security issues such as unauthorized access by a third party.
- Canon is not responsible for damage to the camera due to how the connection cable is connected.
- Do not use the camera with medical systems and life-saving systems. Because video may be delayed or experience dropped frames depending on the computer and network system being used, highly accurate video transmission cannot be guaranteed. Canon shall not be liable for any damage or accidents caused from used the camera in such case.

## About the Software Used with the Camera

The camera uses a software module that is distributed as freeware and whose copyrights are held by a third party. For information on the software module incorporated in the camera and the license agreement, access the camera using a web browser, open the [Maintenance] menu and select [View License] (📖 12).

## Conventions Used in this Manual

-  **IMPORTANT:** Precautions related to the camera's operation.
-  **NOTES:** Additional topics that complement the basic operating procedures.
-  Reference page number.
- Brackets [ ] are used to refer to menu options as they are displayed on screen.
- Some screenshots have been altered to make them easier to read.

## Trademark Acknowledgements

- Microsoft, Windows, Internet Explorer and Microsoft Edge are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.
- Other names and products not mentioned above may be trademarks or registered trademarks of their respective companies.

## Safety Instructions

Be sure to read these instructions in order to operate the product safely. Follow these instructions to prevent injury or harm to the operator of the product or others.

### WARNING

Denotes the risk of serious injury or death.

- Use only power sources specified in this instruction manual for use with the product.
- Do not disassemble or modify the product.
- 4 • Do not expose the product to strong shocks or vibration.
- Do not touch any exposed internal parts.
- Stop using the product in any case of unusual circumstances such as the presence of smoke or a strange smell.
- Do not use organic solvents such as alcohol, benzine or paint thinner to clean the product.
- Do not get the product wet. Do not insert foreign objects or liquids into the product.
- Do not use the product where flammable gases may be present.  
This may cause electric shock, explosion or fire.
- Do not shoot the sun directly or point a camera/camcorder at the sun.  
Even when the sun does not appear on the screen or is behind the subject, the lens may concentrate the sunlight and cause a malfunction or fire.
- During lightning storms, do not touch the connected device's power cord or the connection cable.  
This may cause electric shock.
- Do not place heavy objects on the connection cable. Do not damage, break or modify the connection cable.  
This may cause fire or electric shock.
- Do not allow the product to maintain contact with the same area of skin for extended periods of time during use.  
This may result in low-temperature contact burns, including skin redness and blistering, even if the product does not feel hot.
- Before installing, be sure the surface is capable of supporting the total weight of the camera and connected devices, and sufficiently reinforce the surface if necessary.
- Keep the product out of the reach of young children.

### CAUTION

Denotes the risk of injury.

- Do not leave the product in places exposed to extremely high or low temperatures.  
The product may become extremely hot/cold and cause burns or injury when touched.

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## Handling Precautions

### Connection/Installation

- For details on connecting and disconnecting the connection cable, be sure to refer to the instruction manual of the device supplying power to the camera using PoE.
- Strong shocks may cause damage to the camera's connection terminal. Keep the connection cable bundled as close as possible to the camera and do not subject the connection terminal to shocks.

### Before Use

When the camera's internal temperature rises, the focus may shift slightly. After the camera starts, wait a while and then begin use.

### About the CMOS Sensor

The CMOS sensor is produced using high-precision manufacturing techniques. However, if a pixel does not operate to specification, the effect might appear as a white or black dot on a monitor. This is the nature of CMOS sensors and does not represent a malfunction.

### Condensation

If the camera is brought into a warm room while it is cold or if the room is heated quickly, condensation may form on the camera's external or internal surfaces. Using the camera in such case may damage it.

### Cleaning

- Before cleaning the camera, be sure to disconnect the connection cable from the camera.
- Use a soft, dry cloth to clean the camera's body. Never use chemically treated cloths or volatile solvents such as paint thinner.
- Be sure to keep the lens clean at all times. Remove dust or dirt particles using a blower and then wipe the lens.

### Disposal

- Do not dispose with normal waste. Do not include the camera in waste that will be taken to a landfill.
- Observe the rules and regulations of your local authorities when disposing.

## System Requirements

OS	Windows 7 Ultimate/Windows 7 Enterprise/Windows 7 Professional/Home Premium, SP1, 32-/64-bit Windows 8.1 Enterprise/Windows 8.1 Pro/Windows 8.1, 32-/64-bit Windows 10 Enterprise/Windows 10 Education/Windows 10 Pro/Windows 10 Home, 32-/64-bit
Web browser	Internet Explorer 11, Microsoft Edge (JavaScript must be enabled)

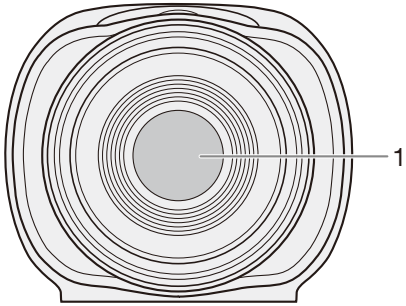
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 **IMPORTANT**

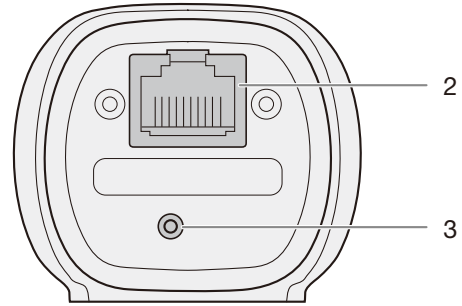
- Proper operation is not guaranteed on all computers that meet the system requirements.

## Names of Parts

Front view



Back view



- 1 Lens
- 2 LAN terminal (📖 8)
- 3 RESET button (📖 13)

# 2

## Starting and Configuring the Camera

### Starting the Camera

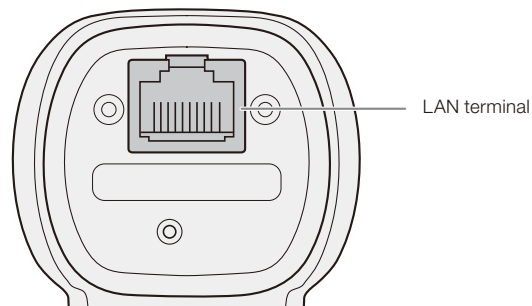
The camera features PoE (Power over Ethernet) functionality. The camera must be powered by a device that can supply power using PoE and is compliant with IEEE802.3af specifications. After connecting the camera to the device using a LAN cable, power will be supplied to the camera and it will start. Refer also to the instruction manual of the device to be connected.

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#### ! IMPORTANT

- Connecting the camera using default settings to a network with multiple devices connected can cause problems with the network.

Back view



### Accessing the Camera Using a Web Browser

From the web browser of a computer, you can access the camera to check or change the settings. The default settings are as follows.

IP address: 192.168.0.90

Administrator name: admin

Administrator password: password

- 1 Set an appropriate IP address in the network settings of the computer being connected to.
- 2 Start the web browser.
- 3 In the address bar, type the IP address and then press the Enter key.
  - The user authentication screen will appear.
- 4 Enter the administrator name and password, and then click [OK]
  - The settings screen, from which you can configure the camera's various settings, will appear.
  - You can change the administrator name and password settings in the [User Management] menu (📖 11).

#### ! IMPORTANT

- Make sure to change the administrator password from the default setting. Furthermore, make sure to change the password periodically.
- If multiple cameras with the same IP address are connected to the same network, you will not be able to access the camera. Change the camera's IP address (📖 10), as necessary.

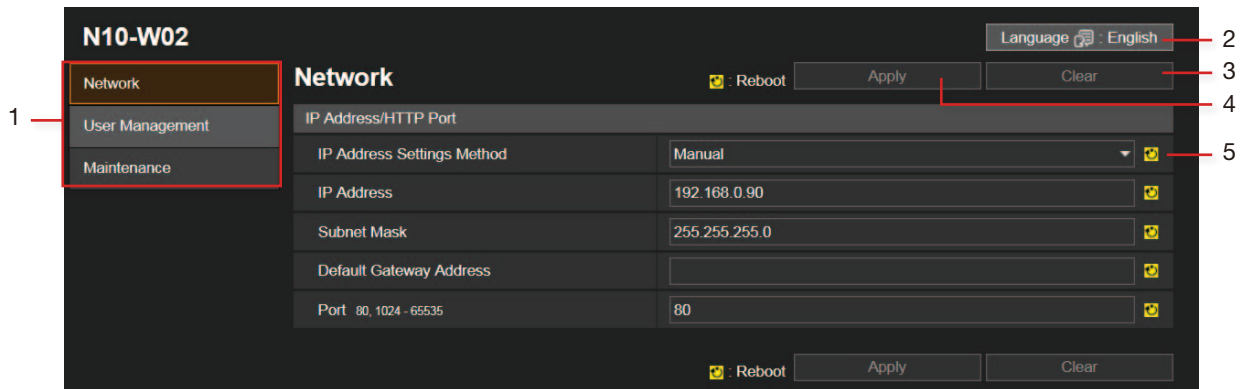


## Configuring the Camera

You can configure the camera using the settings screen, which contains the following menus.

- [Network] menu (📖 10): Settings related to the network the camera is connected to.
- [User Management] menu (📖 11): Administrator name and password settings.
- [Maintenance] menu (📖 12): Device information, license agreement, and functions such as rebooting the camera, initializing settings and updating the firmware.

### Using the Settings Screen



#### 1 Menu selection

- Select the desired tab to switch menus. The current menu tab is highlighted.

#### 2 Language selection

- Changes the language of the settings screen. Available languages are German, English, simplified Chinese, Korean and Japanese. (The default setting is English.)

#### 3 [Clear] button

- The button can be clicked after you change a menu option. Click the button to return a menu option to its previous setting after changing it.

#### 4 [Apply]/[Apply and reboot] button

- The button can be clicked after you change a menu option. Select [Apply] to apply the changes. If you change a menu option with the 🔄 (reboot) icon, select [Apply and reboot] to apply the changes and reboot the camera.

#### 5 🔄 (reboot) icon

- Indicates that the camera must be rebooted to apply a change to the menu option.

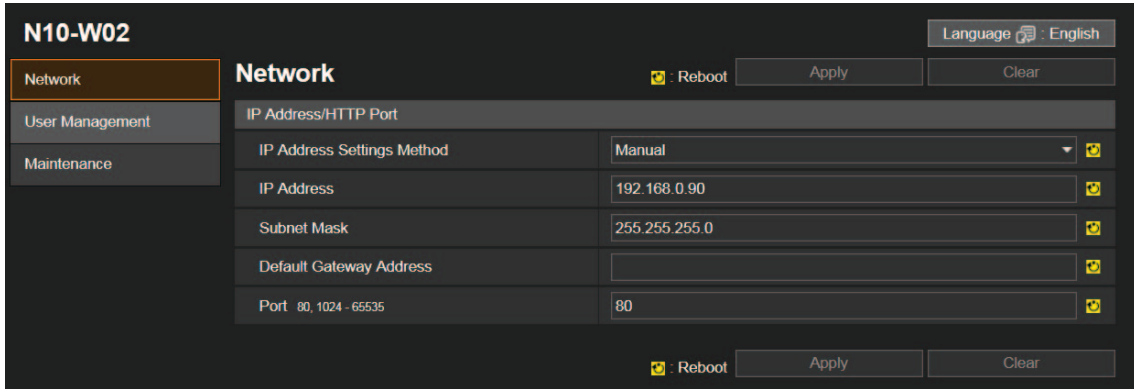


#### IMPORTANT

- If you switch to a different menu without first selecting [Apply] or [Apply and reboot], changes you made will be lost. To apply changes, be sure to select the appropriate button.
- For security purposes, after you finish configuring settings, close the web browser.

## Setting Options

Setting options in boldface indicate default values.



### [Network] Menu

Menu item	Setting options / Description
[IP Address/HTTP Port]	
[IP Address Settings Method]	<b>[Manual]</b> , [Auto (DHCP)] Selects the method for configuring the IPv4 settings.
[IP Address]	Default: <b>[192.168.0.90]</b> Assigns the IP address. When [Auto (DHCP)] is selected for [IP Address Settings Method], the IP address is obtained from the DHCP server and displayed. When [Manual] is selected, enter a static IP address manually.
[Subnet Mask]	Default: <b>[255.255.255.0]</b> Assigns the subnet mask. When [Auto (DHCP)] is selected for [IP Address Settings Method], the subnet mask is obtained from the DHCP server and displayed. When [Manual] is selected, enter a subnet mask manually, as necessary.
[Default Gateway Address]	– Assigns the default gateway address. When [Auto (DHCP)] is selected for [IP Address Settings Method], the default gateway address is obtained from the DHCP server and displayed. When [Manual] is selected, enter a default gateway address manually.
[Port]	Default: <b>[80]</b> Assigns the port number.

### ! IMPORTANT

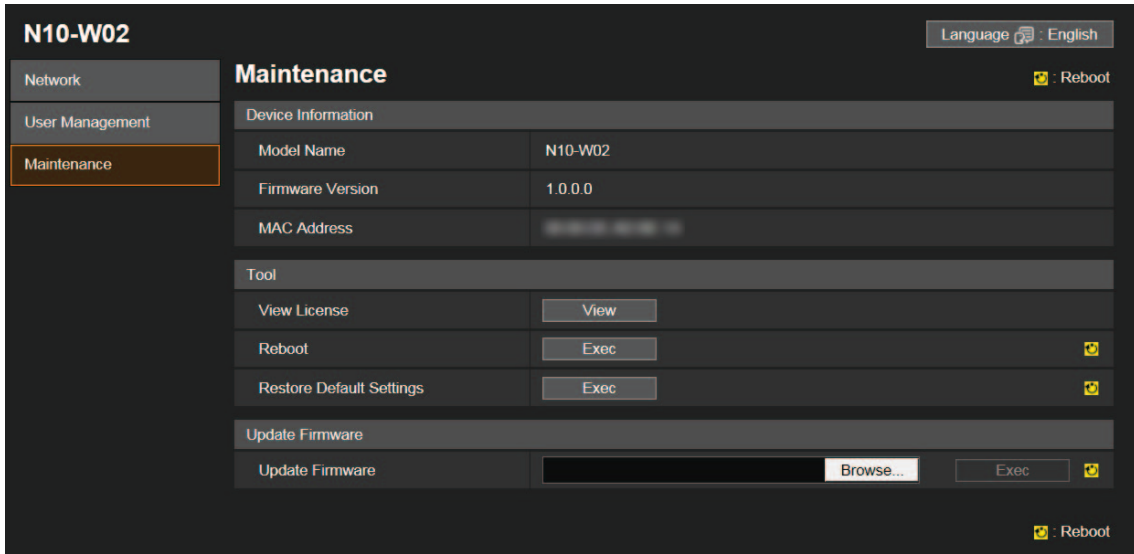
- If you change network connection settings, the currently open web browser may not be able to connect to the camera. In such case, after you select [Apply] or [Apply and reboot], a confirmation dialog box will appear. To apply the changes, select [OK].
- If the web browser cannot connect to the camera after settings have been changed and the camera was rebooted, a message will appear along with a URI for reestablishing the connection, if such a URI is available. If the camera cannot connect using the URI, contact the system administrator.
- IP addresses that begin with [127.] (such as [127.0.0.1]) are not considered valid.
- When setting the IP address manually, ask the system administrator for the correct [IP Address], [Subnet Mask] and [Default Gateway Address] settings.
- If the [IP Address], [Subnet Mask] or [Default Gateway Address] setting is not correct, you may not be able to access the camera over the network. In such case, press the RESET button to reset the settings (13) and then configure the settings again.

## [User Management] Menu

Menu item	Setting options / Description
[Administrator Account]	
[Administrator Name]	Default: <b>[admin]</b> Changes the administrator name. You can enter a name between 5 and 15 single-byte alphanumeric characters, including - (hyphen) and _ (underscore).
[Password]	Default: <b>[password]</b> Changes the administrator password. You can enter a password between 8 and 31 single-byte alphanumeric characters.
[Confirm Password]	– Enter the password again for confirmation.

### IMPORTANT

- Make sure to change the administrator password periodically. After changing the password, be careful not to forget it.
- If you forget the administrator password, reset the settings (📖 13). Note that doing so will also reset all of the camera's settings including [User Management] and [Network] settings.



**[Maintenance] Menu**

Menu item	Description
[Device Information]	
[Model Name], [Firmware Version], [MAC Address]	Displays the respective information.
[Tool]	
[View License]	Displays third-party software license information.
[Reboot]	Reboots the camera.
[Restore Default Settings]	Returns the camera's settings to default values (📖 13).
[Update Firmware]	
[Update Firmware]	Updates the camera's firmware.

***i* NOTES**

- You can use the RESET button (📖 13) to return the camera's settings to default values.

## Resetting the Camera

There are two ways to return the camera's settings to default values.

### Using the Web Browser

- 1 In the [Maintenance] menu, select [Restore Default Settings] and then select [Exec].
- 2 When the confirmation message appears, select [OK].
  - After the settings are reset, the camera will reboot.
  - Because network settings will also return to default values, you will not be able to access the camera using the web browser. Configure the network settings again.

### Using the RESET Button

While the camera is being powered by the connected device via PoE, press the RESET button on the back of the camera using a pointed item.

- After the settings are reset, the camera will reboot.

#### IMPORTANT

- While resetting the camera, be sure to not turn off the device connected to the camera. If the device's power goes off, the camera may not be able to start properly.

## Updating the Firmware

- 1 In the [Maintenance] menu, select [Update Firmware] and then select [Browse].
- 2 Select the firmware update file and then select [Exec].
- 3 When the confirmation message appears, select [OK].
  - The camera will start updating the firmware.
  - After the updating is completed, the camera will reboot.

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### IMPORTANT

- While updating the camera's firmware, be sure to not turn off the device connected to the camera. If the device's power goes off, the camera may not be able to start properly.

# 3

## Additional Information

### Specifications

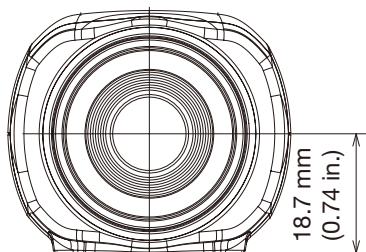
#### N10-W02

- **Image Sensor**  
1/2.3-type CMOS, color  
Total pixels (approximate): 12,800,000  
Effective pixels (approximate): 2,070,000 (1920x1080)
- **Lens**  
f=4.3 mm (35 mm equivalent: approx. 55 mm), F/3.0  
Angle of view (horizontal, vertical): 38.2°, 22.0°
- **Filter Diameter:** 27 mm, P0.5
- **Minimum Illumination:** 50 lx
- **Focus:** One-shot AF, manual
- **Shooting Distance:** 4 cm to ∞ (from the front of the lens)
- **Exposure**  
Shutter speed/Gain: Automatic, manual
- **White Balance:** One shot
- **Light Metering:** Automatic (center-weighted average)
- **Shutter System:** Rolling shutter
- **Photos**  
Format: JPEG (JFIF standard)  
Size: 1920x1080
- **Protocol:** Canon proprietary
- **Ethernet Protocol:** 1000BASE-T/100BASE-TX
- **LAN Terminal:** RJ-45
- **Compatible LAN Cable**  
Category 5e, shielded twisted pair (STP) cables
- **Environmental Specifications**  
Operating temperature and relative humidity: 0 – 40 °C (32 – 104 °F), 85% maximum (non-condensing)  
Storage temperature and relative humidity: -30 – 60 °C (-22 – 140 °F), 90% maximum (non-condensing)
- **Power Supply**  
Power supplied via the LAN terminal using PoE (compliant with IEEE802.3af specifications)
- **Power Consumption (approximate):** 3.1 W (3.6 W maximum, while focusing)
- **Dimensions (W x H x D):** 45 x 38 x 91 mm (1.8 x 1.5 x 3.6 in.)
- **Weight (camera body only):** 145 g (5.1 oz.)

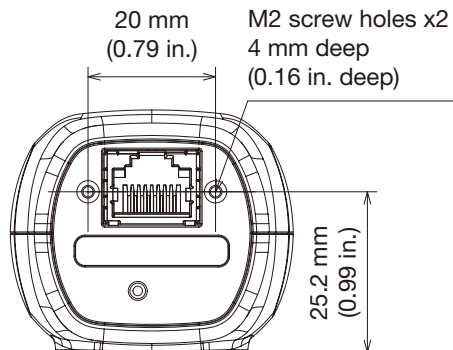
Weight and dimensions are approximate. Errors and omissions excepted.

## Appendix: Physical Measurements

Front view

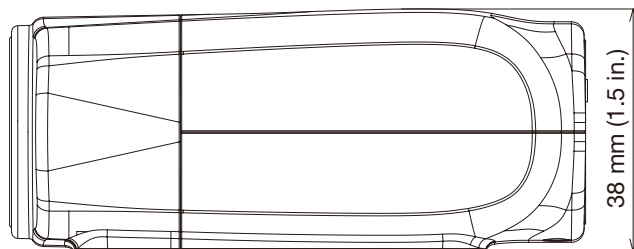


Back view

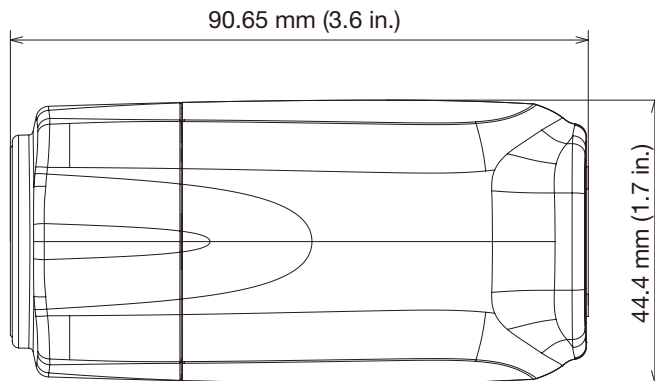


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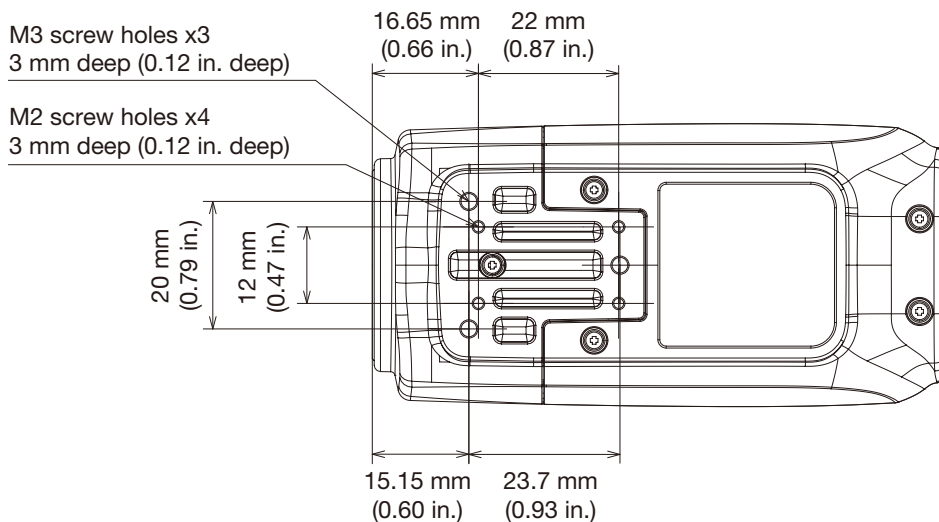
Left view



Top view



Bottom view





## Troubleshooting

### Error Messages

Refer to this section if a warning display or message appears.

#### **An illegal value is specified.**

- The IP address, subnet mask or default gateway address that was entered is not in the correct format. Enter the correct value.

#### **The value is duplicated.**

- The IP address and default gateway address are the same value. Change one of them.
- The password entered is the same as the current password. Enter a password (8 to 31 characters) that is different from the current one.

#### **The IP address's network address is not the same as the default gateway's network address.**

- The network specified in the subnet mask is different from the one specified in the IP address and default gateway address. Change the value so that the network specified is the same.

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The information in this manual is verified as of July 2018. Subject to change without notice.