

# Network Camera

## Installation Manual

Before operating the unit, please read this manual thoroughly and retain it for future reference.

**SNC-VB770**

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# About the Manuals

## **Safety Regulations (supplied)**

The Safety Regulations describes the secure usage of camera. Be sure to read it.

## **Installation Manual (this document)**

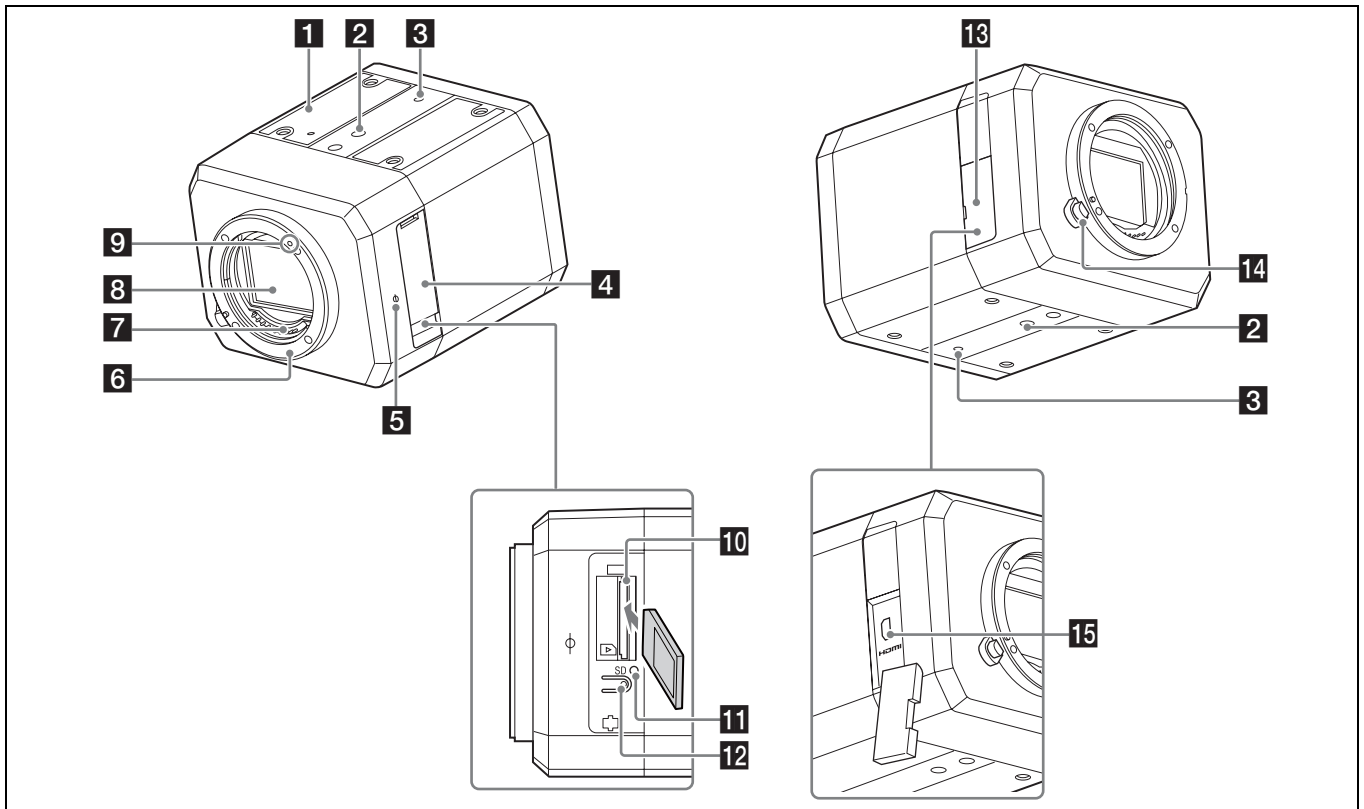
This Installation Manual describes the names and functions of parts and controls of the Network Camera, gives connection examples and explains how to set up the camera. Be sure to read the Installation Manual before operating.

## **User's Guide/Application Guide/SNC toolbox mobile Application Guide (Web)**

- How to control the camera via a web browser
- How to setup the camera
- How to adjust the view angle of the camera using a smartphone or tablet

Operate the camera referring to the guide above after having installed and connected the camera properly based on the Installation manual.

# Location and Functions of Part

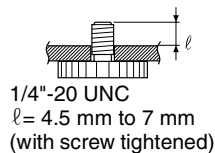


## 1 Rating label

This label shows the name of the device and its electric rating.

## 2 Tripod mounting screw holes

Use this to fix the camera on the camera tripod.



### Note

Using screws other than 4.5 mm - 7 mm may cause a malfunction due to faulty mounting or internal damage of the camera.

## 3 Screw hole to attach anti-drop wire rope

Attach supplied wire rope with supplied screws.

## 4 SD memory card cover

When using the SD memory card slot, insert an SD memory card by opening the card slot.

## 5 Image sensor position mark

The  $\ominus$  mark describes the position on the image sensor. Use the position of this line to measure the distance from the camera to objects correctly.

## 6 Mount

Mount the E-mount lens.

## 7 Lens contacts

### Note

Do not touch directly with your hands.

## 8 Image sensor

### Note

Do not touch directly with your hands.

## 9 Mount index

## 10 SD memory card slot

SD memory card (sold separately) can be attached. You can record the images stored on the camera to the SD memory card by attaching the SD memory card. Insert it with the terminal facing the rear side as indicated in the illustration. Then press it down softly until it clicks to attach firmly.

The camera only supports memory cards with SDXC standards and SDHC standards.

### Note

Please contact the Sony inquiry counter for verified SD memory cards.

### **11 SD MOUNT (SD mount) indicator**

Lights on while an SD memory card is mounted.

### **12 SD OFF switch**

You can remove the SD memory card safely by pressing the switch.

Remove the card after the SD MOUNT indicator goes off.

#### **Notes**

- The card may be damaged if you remove it while the indicator is on.
- If you press the SD OFF switch while writing to the SD memory card, the data written just before could be lost.

### **13 HDMI cover**

When using a commercially available HDMI cable, connect the cable to the HDMI connector by opening.

### **14 Lens release button**

To remove the lens, rotate the lens by pressing the button. When you mount the lens, do not press the button.

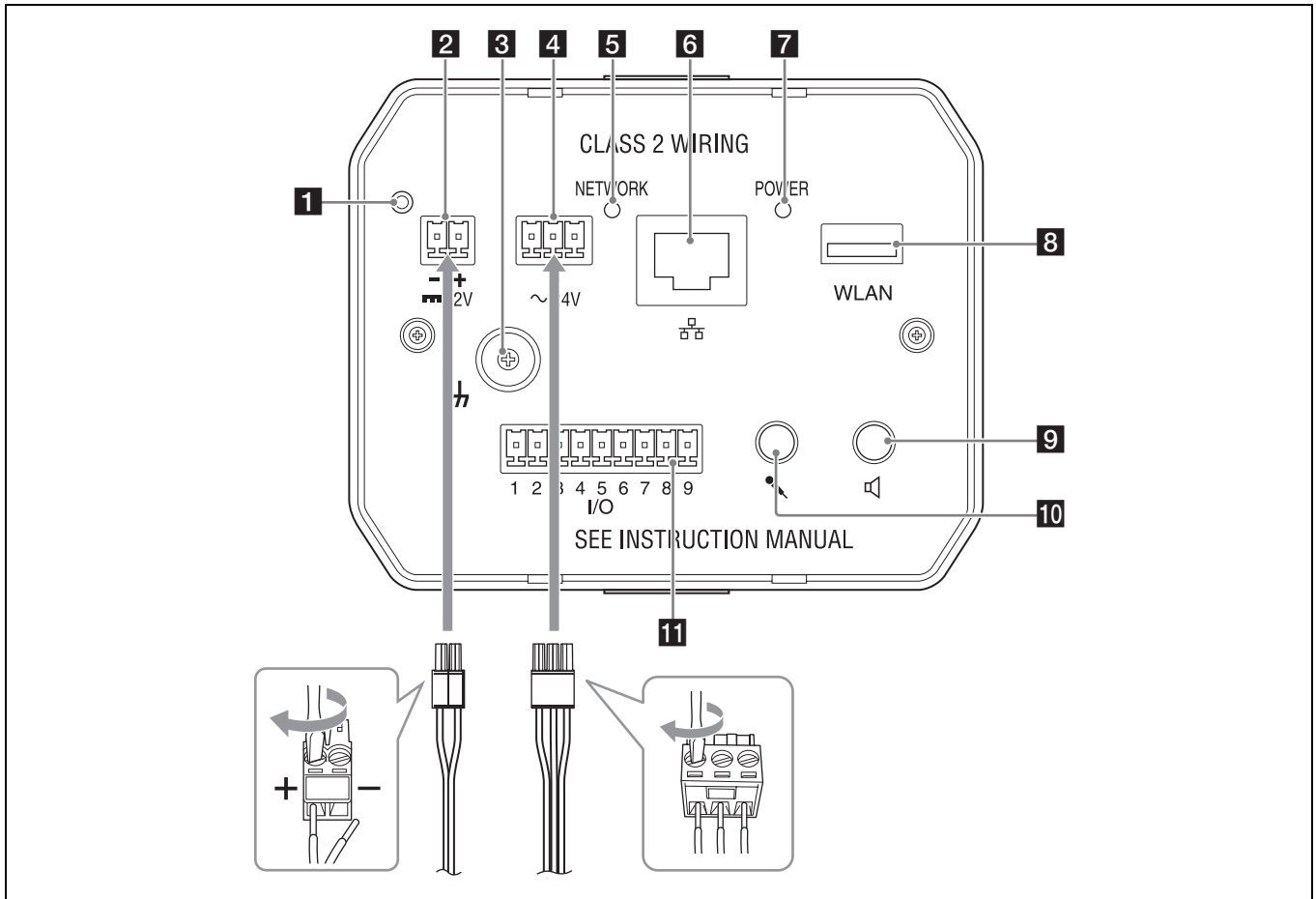
### **15 HDMI connector (Type D)**

Connect a commercial HDMI cable.

#### **Notes**

- It is recommended to secure the HDMI cable to prevent it from disconnecting from the camera due to its weight or from external force.
- Do not wire the HDMI cable with the cable routed outdoors. Also, in case you wire indoors, do not make the cable longer than 30 m.

## Rear side



### 1 Reset switch

When you supply power while pressing this switch with pointed things, it is reset to the factory setting.

### 2 12 V (DC power input) terminal


Connects to a DC 12 V power supply.

### 3 Screws for ground wire

If you supply the power via DC 12 V or PoE, make sure to connect the ground wire to the screw for the ground wire.

### 4 24 V (AC power input) terminal

Connects to the AC 24 V power supply.

Make sure to connect the ground earth to the center () of the 3-pin terminal.

### 5 NETWORK (network) indicator

Lights or blinks when it is connected to the network. It is off when it is not connected to the network.

### 6 LAN (network) port (RJ-45)

Perform PoE\* power supply or network communication using commercial network cables (UTP, category 5). For details on the connection, please refer to the operating instructions on the power supply equipment. (\*PoE: abbreviation of Power over Ethernet. PoE is compliant with IEEE802.3af)

### 7 POWER (power) indicator (green)

When the power is supplied to the camera, system check is performed within the camera. Lights up in green, when the camera is operating normally.

### 8 WLAN (wireless LAN terminal)

Attach Sony USB wireless LAN module IFU-WLM3 (WLAN module, sold separately). Use this to adjust the view angle on installation.

### Notes

- Wired LAN doesn't work when a WLAN module is attached.
- If the output mode is set to **4K Multi streaming**, **4K 25fps**, or **4K 30fps**, it will be automatically switched to Full HD when the WLAN module is attached. Make sure to reset the output mode to the original setting after the WLAN module is removed. For details on settings, please refer to the User Guide.
- Using devices other than those specified may lead to faults or malfunctions.
- Use WLAN in an environment with outside temperature between 0 °C (32 °F) and 40 °C (104 °F).
- If the WLAN module is covered by metal such as housing while WLAN is being used, the radio wave reception becomes poor and may not work.

### 9 (line output) terminal (mini-jack, monaural)

This is not used in this version.

If the speaker is connected, noise may sometimes occur.

This is not a fault, but it is due to the electromagnetic block.

### 10 (microphone/line input) terminal (mini-jack, monaural)

Switch between (microphone/line) terminal (mini jack, monaural) microphone input and line input in the Video/Audio menu.

For details on settings, please refer to the User Guide.

- Microphone input terminal

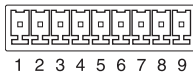
Connect the commercial microphone.

This terminal supports plug-in power system (basic voltage: 2.5 VDC).

### 11 I/O (input/output) port

Equipped with 2-system sensor inputs, 2-system alarm outputs.

Each pin supports the signals below.



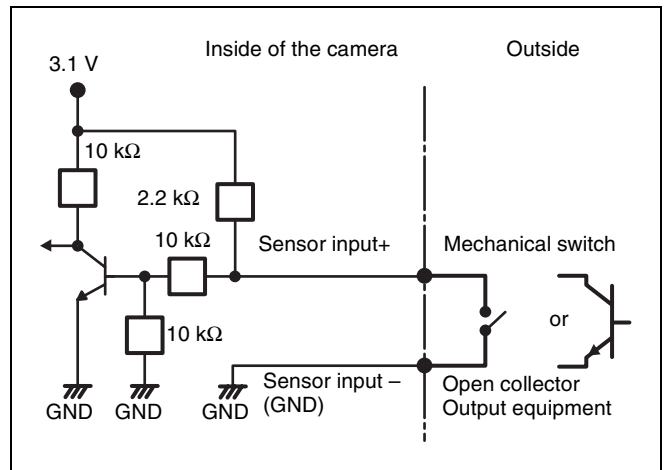
| Pin No. | Name              |
|---------|-------------------|
| 1       | Alarm input 1     |
| 2       | Alarm input 2     |
| 3       | GND               |
| 4       | Alarm output 1+   |
| 5       | Alarm output 1-   |
| 6       | Alarm output 2+   |
| 7       | Alarm output 2-   |
| 8       | Extended terminal |
| 9       | Extended terminal |

◆ Refer to the User's Guide for details on each function and setting.

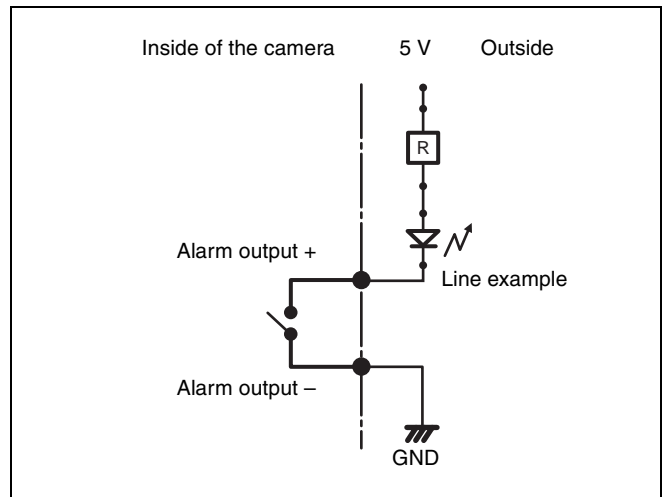
Wire as shown below for each wire of the I/O cable.

### Connection to I/O cable

#### Mechanical switch/open collector output equipment



#### Connection diagram



#### Note

Cables should be connected without routing to the outside when **2**, **10**, or **11** is connected.

When you wire the cable with the cable routed indoors, **2**, **10**, or **11** should be wired under 30 m.

# Installation

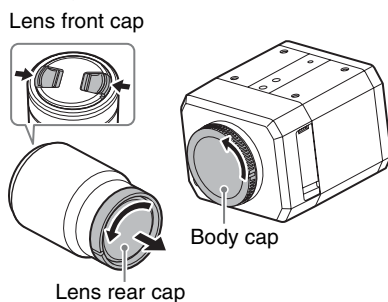
## Warning

- Do not leave the lens facing the sun. The sunlight will focus inside the camera and might cause a fire.
- When installing the camera, make sure there is space between the camera and the surface, such as the ceiling, etc., where the camera is installed. If there is no space between the camera and the surface, the temperature inside gets high and may lead to failure or accident.
- Make sure to attach the supplied wire rope to prevent accidents due to falling.
- Attach the lens in the exact way described in this document. Loose attachment may lead to injury due to the lens falling off.
- Check that the attachment is not loose at least once a year. Perform more frequent checks depending on the usage.
- Full performance may not be achieved depending on the installed circumstance or lens. Please contact Sony for details.

## Mounting the lens

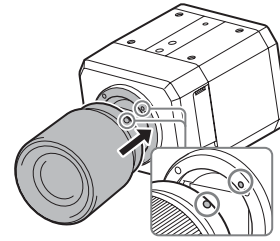
Mounting/removing of the lens should be performed after turning the camera "OFF".

- 1 Remove the body cap from the camera and the lens rear cap from the lens.
  - Perform this operation in a non-dusty place in a quick manner to prevent dust from getting into the camera.
  - Remove the lens front cap on the front side of the lens when you shoot.



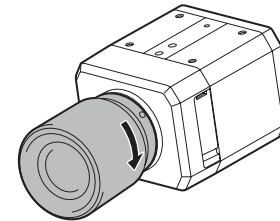
- 2 Align the white dots on the lens and camera, then attach.

- Face the mount downward, to prevent dust from getting in.



- 3 Push the lens against the camera lightly then rotate it in the direction of the arrow until it clicks.

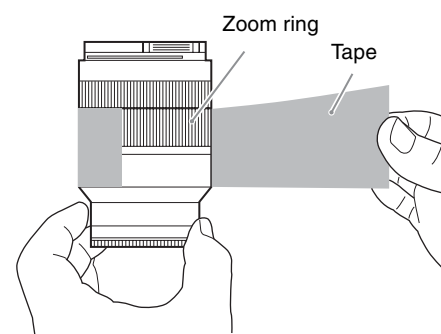
- Do not insert the lens at a tilted angle.



## Notes

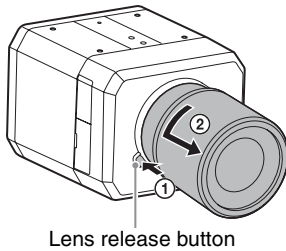
- When you mount the lens, do not press the Lens release button.
- Do not apply excessive force on the lens.
- Securely hold both the camera and lens when you carry the camera with lens mounted.
- Do not hold the camera by holding the lens part when it is protruding when zooming or focusing.
- Zoom lens use  
Zoom position may be changed depending on the installation circumstances.  
Make sure to fix it by applying tape on the zoom ring.  
Recommended tape: 3M Scotch<sup>®</sup> plastic film tape  
Model No. 471 BLA 50 equivalents

Apply tape on the zoom ring full circle to fix.

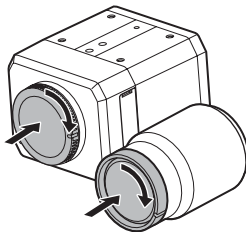


## To remove the lens

- 1 Rotate the lens in the direction of the arrow until it stops while pressing the Lens release button, then remove.



- 2 Mount the body cap on the camera, and the cap on the front and back of the lens.
  - Mount the cap after removing dust.



## Notes on lens exchange

If dust get into the camera and is stuck to the surface of the image sensor (a part to convert the light to electrical signals) upon the lens exchange, the dust may appear in the image.

Mount/remove the lens at a location with little or no dust in a quick manner.

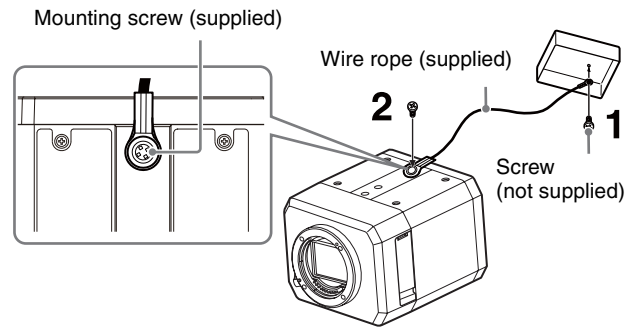
## Mounting the wire rope

Make sure to attach the supplied wire rope to prevent falling accidents when you install the camera on the ceiling or at substantial heights.

Attach the wire rope with supplied mounting screws (illustrated in below) to the wire rope mounting screw holes on the rear side of the camera.

### Note

When you mount the wire rope, be careful when wiring to prevent wire rope from short circuiting with a power source terminal or cable.



- 1 Mount the wire rope to the junction box on the ceiling.  
Use screws which fit the screw holes on the junction box (not supplied).
- 2 Mount the wire rope with the supplied wire rope mounting screws to the wire rope mounting screw holes on the camera.

### Warning

Use the supplied screws for mounting. Otherwise, the wire rope may not function effectively.

## Adjustment of shooting area and focus

Determine the shooting area by adjusting the view angle and focus while reviewing the image.

Adjust the view angle following the operating instructions of the mounted lens.

Adjust the focus with SNC toolbox or SNC toolbox mobile.

## Adjustment by using SNC toolbox mobile

You can adjust the view angle easily by installing SNC toolbox mobile on your smartphone or tablet.

If you insert IFU-WLM3 (sold separately), select the SSID shown below under Wi-Fi settings on your smartphone.

### SNC-[Mac address of IFU-WLM3]

#### Example:

Display with SSID with IFU-WLM3, when the Mac address is 00-11-22-33-44-55:  
SNC-001122334455

The default value of the password is shown below.  
Password: T8qUDTUuFyb8a

Please refer to the SNC toolbox mobile application guide on the Web site.



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# Connection

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## Connection to the network

Connect the LAN port on the camera to the router or hub of the network, using a commercial network cable.

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## Connection to the power supply

The camera can connect the power supply in 3 ways as shown below.

- DC 12 V
  - AC 24 V
  - PoE\* (Compliant with IEEE802.3af)
- (\*PoE: an abbreviation of Power over Ethernet)

### Notes

- Supply either DC 12 V, AC 24 V, or PoE.
- Do not connect AC 24 V to the DC power input terminal. Otherwise it will lead to failure.

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## Connection to DC 12 V or AC 24 V

Connect the camera's power input cable to the DC 12 V or AC 24 V power supply equipment.

- Use the power insulated from the AC 100V for DC 12 V or AC 24 V. The power usage range for each power supply is shown below. (warranty scope of the power received on the camera, voltage at receiving end)  
DC 12 V: 9 V to 15 V  
AC 24 V: 19.2 V to 28.8 V
- Use UL cable (VW-1 style 10368) for wiring for DC 12 V or AC 24 V.

- **Recommended power cable**

Voltage at receiving end on the camera is DC 12 V

| Cable (AWG)                  | #20 | #18 | #16 |
|------------------------------|-----|-----|-----|
| The maximum cable length (m) | 10  | 20  | 30  |

Voltage at receiving end on the camera is AC 24 V

| Cable (AWG)                  | #20 | #18 | #16 |
|------------------------------|-----|-----|-----|
| The maximum cable length (m) | 60  | 110 | 180 |

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## Connection to PoE power supply equipment

PoE (Compliant with IEEE802.3af) power supply equipment supplies power via commercial network cables. Please refer to the operating instructions on the power supply equipment.

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# Assigning the IP address

- 1 Download the installer of "SNC toolbox" to a folder from the following URL:

[www.sony.net/CameraSystem](http://www.sony.net/CameraSystem)

- 2 Install the SNC toolbox.

Unzip the ZIP file of the downloaded installer. Double-click "SncToolbox\_Setup.exe." For details on installing and use refer to the Application Guide.

- 3 Assign an IP address to the camera.

Assign an IP address to the camera using the installed SNC toolbox.

For details, see "Using SNC toolbox" - "Assign an IP address" in the Application Guide.

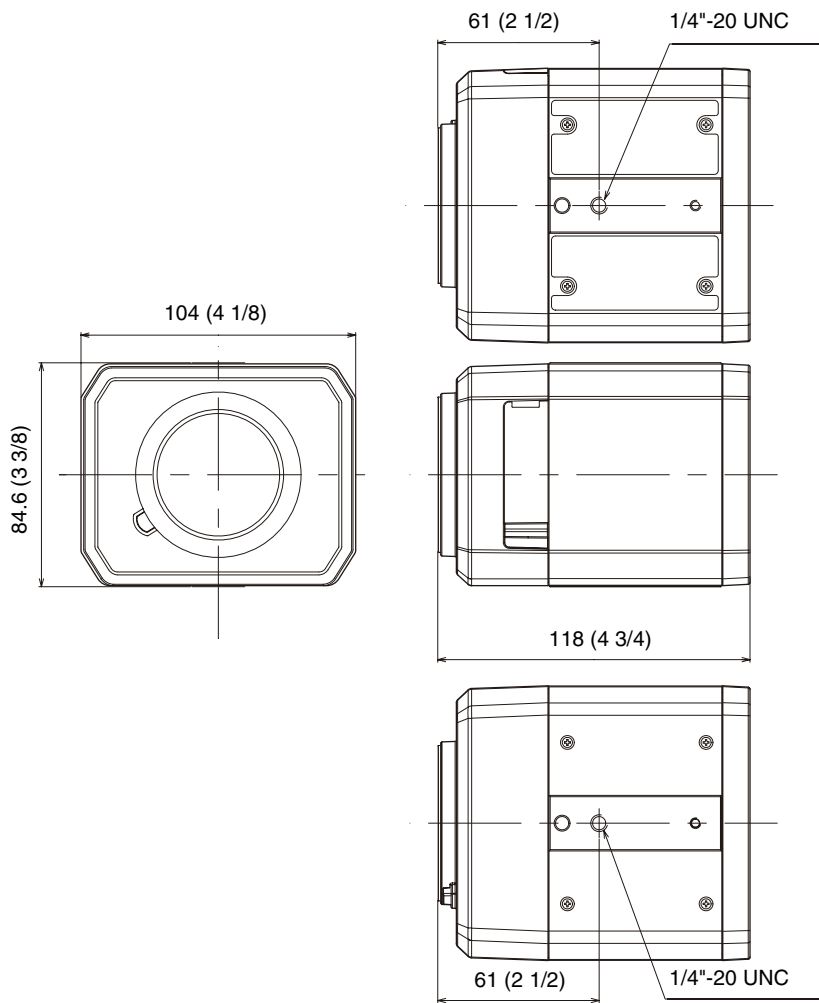
### Tip

SNC toolbox stands for Sony Network Camera toolbox.

# Specifications

| Camera                               |   |
|--------------------------------------|---|
| <b>Image sensor</b>                  | 35 mm full frame Exmor <sup>®</sup> CMOS sensor   |
| <b>Number of Effective Pixels</b>    | Approx. 12.2 Megapixels   |
| <b>Lens type</b>                     | E-mount lens (option)   |
| <b>Sync System</b>                   | Internal synchronization  |
| <b>Minimum Illumination (30 IRE)</b> | 0.004 lx (1/30s, F1.4)  |
| Video                                |   |
| <b>Image Compression Format</b>      | H.264 (High/Main Profile), JPEG<br>H.264 (B-picture) supports the resolution below.<br>3,840 × 2,160<br>2,880 × 2,160   |
| <b>Maximum Frame Rate</b>            | H264: 30 fps (3,840 × 2,160)/30 fps (1,920 × 1,080)<br>JPEG: 2.5 fps (4,240 × 2,832)  |
| Audio                                |   |
| <b>Compression Format</b>            | G.711 (bit rate: 64 kbps, sampling frequency: 8 kHz)<br>G.726 (bit rate: 40, 32, 24, 16 kbps, sampling frequency: 8 kHz)<br>AAC-LC (bit rate: 64 kbps, sampling frequency: 16 kHz)<br>AAC-LC (bit rate: 128 kbps, sampling frequency: 48 kHz) |
| Interface                            |   |
| <b>Digital Video Output</b>          | HDMI (type D) × 1   |
| <b>Microphone Input</b>              | Mini jack (monaural, 2.2 kΩ, plug-in-power)   |
| <b>Line Input</b>                    | Mini jack (monaural)  |
| <b>Network port</b>                  | 10BASE-T/100BASE-TX (RJ-45)   |
| <b>Alarm input (sensor input)</b>    | 2 ports (MAKE contact, BREAK contact)   |
| <b>Alarm output</b>                  | 2 ports (solid-state relay Max. AC 12 V/DC 24 V, 0.4 A) (electrically isolated from the camera)   |
| <b>Wireless LAN terminal</b>         | Supports the accessory IFU-WLM3 (sold separately)   |
| <b>Memory card slot</b>              | SD memory card slot (supports SDHC/SDXC memory cards) × 1   |
| General                              |   |
| <b>Power Requirements</b>            | PoE (Compliant with IEEE802.3af)<br>DC 12 V ± 25 %, AC 24 V ± 20 %, 50/60 Hz  |
| <b>Power Consumption</b>             | Max. approx. 16W (including lens)   |
| <b>Operating temperature</b>         |   |
| <b>When power is turned on</b>       | 0°C to 50°C   |
| <b>While on</b>                      | -5°C to +50°C   |
| <b>Storage Temperature</b>           | -20°C to +60°C  |
| <b>Operating Humidity</b>            | 20 % to 80 % (no condensation)  |
| <b>Storage Humidity</b>              | 20 % to 80 % (no condensation)  |

**Outer dimensions (W × H × D) 104 mm × 84.6 mm × 118 mm (without projection)**  
**[The values for dimensions are approximate.]**



Unit: mm (inches)

|                             |  |
|-----------------------------|--|
| <b>Mass</b>                 | Approx. 720 g (Camera itself only)   |
| <b>Supplied Accessories</b> | Wire rope (1), Screws (M4×8) (1), 9-pin connector for I/O terminal (1), 2-pin connector for DC power supply (1), 3-pin connector for AC power supply (1), Safety Regulations (1) |
| <b>Optional Accessories</b> | IFU-WLM3 (USB wireless LAN module)   |

Design and specifications are subject to change without notice.

**Recommendation of Periodic Inspections**

If you are using this device for over an extended period of time, please have it inspected periodically for safe use. It may appear flawless, but the components may have deteriorated over time, which may cause a malfunction or accident.

For details, please consult the store of purchase or an authorized Sony dealer.

**Note**

The Network Camera is to be connected only to PoE networks without routing to the outside plant.