SONY 4-473-809-**11**(1)

Network Camera

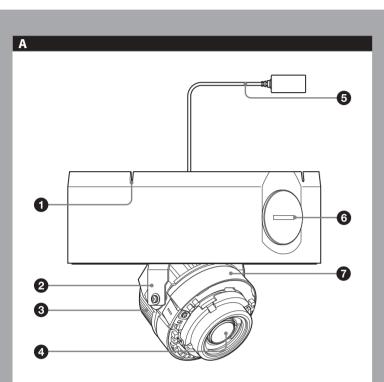
Installation Manual

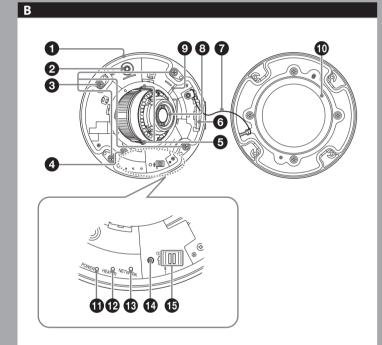
Before operating the unit, please read this manual thoroughly and retain it for future reference.

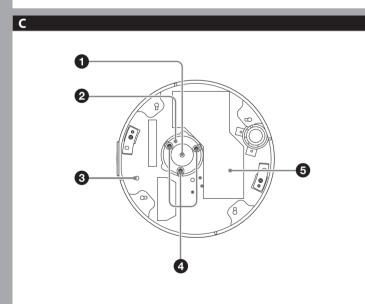
SNC-EM602R/EM632R

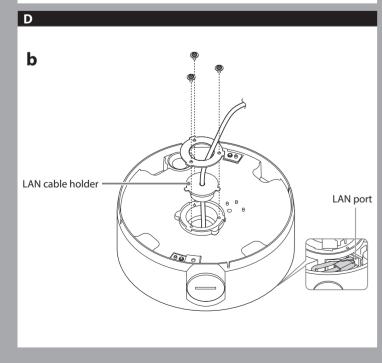


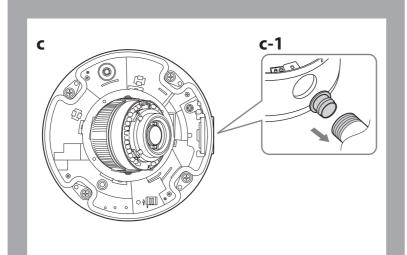


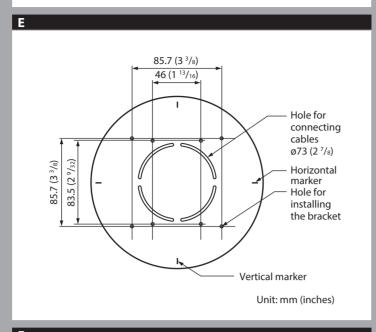


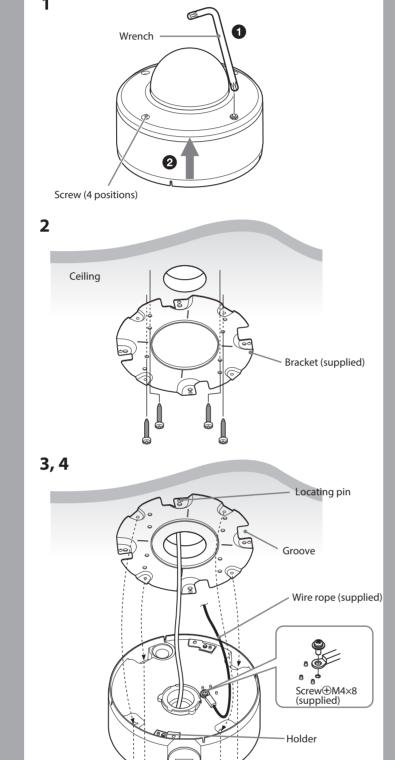












About the Manuals

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.

Camera unit mounting screw (supplied) (4)

SNC easy IP setup Guide (stored in the CD-ROM)

User's Guide/Application Guide (Web) The User's Guide describes how to set up the camera and how to control the

camera via a Web browser. After installing and connecting the camera correctly, operate referring to this

Using the Software

The supplied CD-ROM includes the setup program for assigning an IP address. The information for how to set up an IP address is also included in the disc in PDF

User's Guide and Application Guide can be downloaded from the disc, or the

following URL: http://www.sony.net/ipela/snc

Using the CD-ROM manual

The manual can be read on a computer with Adobe Reader installed. You can download Adobe Reader free from the Adobe website.

1 Open the index.html file in the CD-ROM.

2 Select and click on the manual that you want to read.

If you have lost or damaged the CD-ROM, you can purchase a new one from your

Adobe and Acrobat Reader are trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Assigning the IP address

Sony dealer or Sony service counter.

Assign the IP address using the setup program in the supplied CD-ROM. For details on how to set up the IP address, see SNC easy IP Setup Guide.

Location and Function of Part

The figure shows the camera without the dome casing.

1 Wiring slit

Side

Feed the wire rope through this.

For details, see "Installing the Camera."

2 Base (PAN)

3 Camera block

4 Lens

5 LAN cable (RJ-45) (supplied and connected to the camera at the

Connect this cable to a hub or computer on the 10BASE-T or 100BASE-TX network using a commercially available network cable (UTP, category 5).

6 Side conduit hole (3/4 inches NPT or M27 (2.0 mm (3/32 inches)-

Connect a pipe to this hole. There is a conduit hole on the side of the camera unit. The conduit hole cover is installed in the side conduit hole at the factory. Remove the cover as needed and connect the pipe to the hole.

Take care not to trap the cables between the camera and the ceiling or the wall. If the cable is trapped, it may cause a fire or electric shock due to breaking.

7 Camera head

Inside

1 Camera unit

2 ZOOM/FOCUS switch

Use this switch to adjust lens' zoom and focus. Slide the switch lever to select the desired function.

[W] WIDE: Zoom out

[T] TELE: Zoom in

[N] NEAR: Focus on a nearby subject

[F] FAR: Focus on a distant subject Hold down the center of the ZOOM/FOCUS switch for a moment to focus

3 Camera unit mounting screws (four positions) Make sure to tighten the screws securely when installing the camera.

4 MONITOR output jack

Connect this jack to a video input connector of a video monitor. You can adjust the camera or lens while looking at the image on the video monitor. After adjusting the camera or lens, disconnect the cable.

6 Camera block fixing screws (tilt) (two positions) Firstly, loosen the screws and point the camera block in the desired direction,

then tighten the screws to secure in place. 6 Nut (¾ inches NPT or M27 (2.0 mm (³/32 inches)-pitched))

Safety cord

This cord prevents the dome casing from falling off the unit.

3 △ TOP mark

Indicates the image direction.

LAN network port (RJ-45)

Connect a commercially available network cable (UTP, category 5) to communicate with a network or PoE/PoE+* system.

For details on connection, see the Instruction Manual of the power supply equipment.

(*PoE/PoE+ stands for Power over Ethernet. It is pursuant to IEEE802.3at.)

The dome cover is made of polycarbonate. A waterproof rubber gasket is provided on the joint surface to the unit.

 POWER indicator (Green) When the power is supplied to the camera, the camera starts checking the

system. If the system is normal, this indicator lights up.

(P) HEATER indicator (Green) The indicator lights up in green when the built-in heater is working normally.

® NETWORK indicator (Green/Orange)

The indicator lights up or flashes when the camera is connected to the network. The indicator is off when the camera is not connected to the network.

Reset switch

To reset the camera to the factory default settings, hold down this switch with a point and supply the power to the camera.

Mode setting DIP switches DIP switch function/settings

PIN No.	Switch	Location	
		Up(ON)	Down(OFF)
1	VIDEO	PAL	NTSC
2	HEATER	EN	EN

1 VIDEO (NTSC/PAL) switch (Initial setting: NTSC) Switches the video output.

After setting the switch, reboot the camera unit.

2 HEATER (Heater EN/EN) switch (Initial setting: EN) Enable (EN)/Disable (EN) the built-in heater.

When power is supplied by IEEE802.3af (PoE) equipment, set the HEATER (Heater EN/EN) switch to EN to disable the heater on the camera; otherwise, the camera will not work properly.

Bottom

1 LAN cable holder (supplied and connected to the camera at the

Packing for waterproofing the cables.

2 Holder plate

Fixes the cable holder.

3 GND Ground the camera when you install it.

Use the supplied Screws \oplus (M4 × 8) 4 Holder plate fixing screws (three positions)

Fixes the holder plate. 6 Rating label

Shows the name of this camera and its electric rating.

Preparations

Change connections and cable wiring

All the supplied cables are connected to the camera at the factory. To change connections and cable wiring to suit your requirements, perform the

When you route the cables from the side of the camera unit, see "Connecting to the side conduit hole".

a) If you use the camera with its factory setting

The preparation is completed.

b) If you use your own LAN cable 1 Loosen the four screws of the dome casing using the supplied wrench and

- remove the dome casing. **2** Loosen the three holder plate fixing screws on the bottom to remove the
- holder plate and LAN cable holder.
- **3** Disconnect the LAN cable (connected at the factory) from the LAN port and remove it from the LAN cable holder
- 4 Insert your LAN cable through the hole of the LAN cable holder.
- 5 Insert the LAN cable through the bottom hole and adjust the length of the LAN cable from the hole to the LAN port.
- **6** Connect the LAN cable to the LAN port.
- 7 Attach the removed holder plate to the bottom hole with the three holder
- plate fixing screws.

Notes

• For case b), keep your LAN cable diameter ø5.0 mm (7/32 inches) - ø6.0 mm

• Do not pull on any cables forcefully, as a connection may become loose.

(1/4 inches). Otherwise, waterproof the bottom hole. • If you need to waterproof the camera, see "Important precautions" overleaf.

c) Connecting to the side conduit hole The LAN cable is connected to the camera through the bottom hole at the

factory. If you want to use the side conduit hole, perform the following steps: 1 Remove the conduit hole cover. **2** Loosen the three holder plate fixing screws on the bottom to remove the

holder plate and LAN cable holder. 3 Disconnect the LAN cable from the LAN port, and pull it out through the

holder (for conduit), and finally through the side conduit hole. (D-c-1)

- bottom hole. 4 Insert the LAN cable through the pipe, then through the supplied cable
- **5** Connect the LAN cable to the LAN port. **6** Screw the removed conduit hole cover into the bottom hole.

Α

В

- If the bottom hole is dirty, the conduit hole cover cannot be fixed firmly. In this case, moisture may leak into the casing and this may cause a malfunction.
- Wipe off the dust with a soft cloth, and fix the conduit hole cover firmly. • Cover the joint part of the pipe/cover with silicon sealant, etc. to prevent
 - moisture from getting inside the casing. • The holder plate and the cable holder are not necessary when you attach the
- removing the camera. • For details on using the supplied cable holder (for conduit), see "Important

• Be careful not to drop the conduit hole cover and nut (**B**-6) when installing or

precautions" overleaf.

Installation

conduit hole cover to the bottom hole.

WARNING

- If you attach the camera in the height such as the wall or the ceiling, etc.,
- entrust the installation to an experienced contractor or installer. • If you install the camera at a height, ensure that the installation location and its material are strong enough to withstand a weight of 15 kg (33 lb 11 oz) or more, and then install the camera securely. If the ceiling is not strong enough,
- the camera may fall and cause serious injury. • To prevent the camera from falling, make sure to attach the supplied wire rope. • If you attach the camera to the ceiling, check periodically, at least once a year, to ensure that the connection has not loosened. If conditions warrant, make this periodic check more frequently.

Deciding the Installation Location of the Camera

After deciding the direction in which the camera will shoot, make the required hole (Ø73 mm (2 ⁷/₈ inches)) for the connecting cables using the supplied template. Then decide the four mounting hole positions to install the bracket.

The supplied bracket is provided with eight Ø4.5 mm (3/16 inches) mounting holes. Install the bracket on a ceiling or wall with screws through four mounting holes: two 83.5 mm (3 9/32 inches)-pitched holes or four 85.7 mm (3 3/8 inches)pitched holes. The required mounting screws differ depending on the installation location and its material. (Mounting screws are not supplied.)

Wooden wall or ceiling: Use M4 tapping screws. The panel thickness must be 15 mm (5/8 inches) or more.

Steel wall or ceiling: Use M4 bolts and nuts.

Concrete wall: Use anchors, bolts and plugs suitable for concrete walls. **Junction box:** Use screws to match the holes on the junction box.

its material. If you do not secure the camera with the appropriate mounting screws, the camera may fall off.

The required mounting screws differ depending on the installation location and

Installing the Camera

1 Remove the dome casing.

- 1) Loosen the screws with the wrench (supplied).
- 2 Pull up and remove the dome casing. When the screw catches on the screw hole, pull up the screw.

2 Install the supplied bracket on the ceiling or wall.

Refer to "Mounting screws" for screws to be used.

- 3 Fix the supplied wire rope to the camera unit and the ceiling or wall. ① Fix the wire rope with the supplied Screw \oplus M4 \times 8 to the hole for the wire rope on the bottom of the camera unit.
- ② Fix the wire rope to the ceiling or wall. When you install the camera on a wall, feed the cables through one of the wiring slits. (A-1)
- 4 Attach the camera unit to the bracket with the supplied four camera unit The screws have a fall-prevention mechanism. The screws inserted into the

screw holes of the camera unit do not fall even if you turn the camera unit upside down Insert the two holders to any two of the four grooves on the bracket. Turn the camera clockwise until the locating pins snap to the holes on the holders. Then the four camera installation holes will align the projections on

the bracket accordingly. There are four projections with an angle of 90 degrees, so you can select one of four directions. Then tighten the four camera unit mounting screws to attach the camera unit

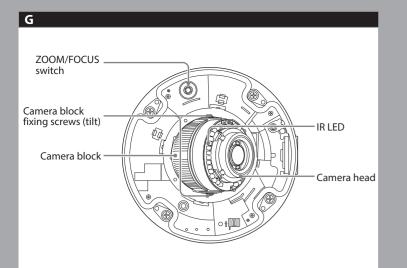
to the bracket through the camera installation holes.

D

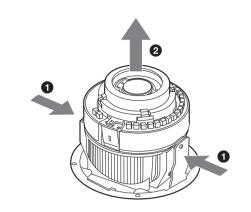
If you cannot use screws on a ceiling or wall, or if you want to make the camera less conspicuous, use the YT-ICB45 in-ceiling bracket (optional) with which you

can mount the camera on the ceiling. For this model, install the camera to the **D** position on the side brackets of

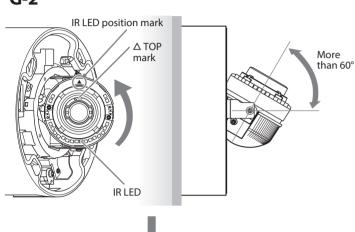
YT-ICB45. Refer to the Installation Instructions of YT-ICB45 for detail information. (continued overleaf)

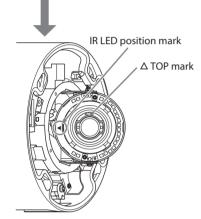




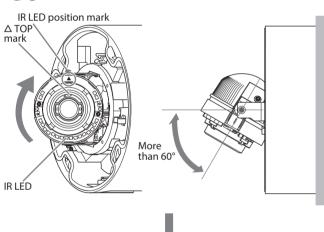


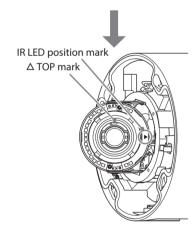
G-2



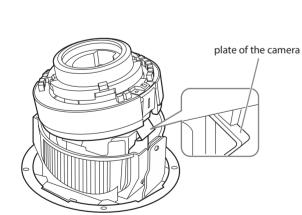


G-3

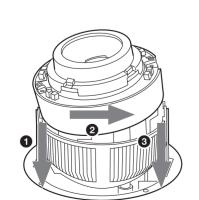




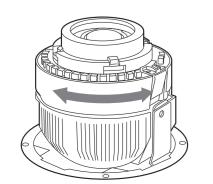
G-4

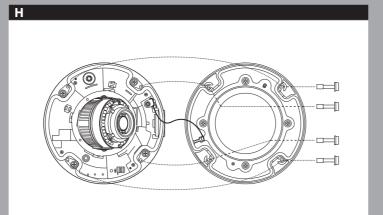


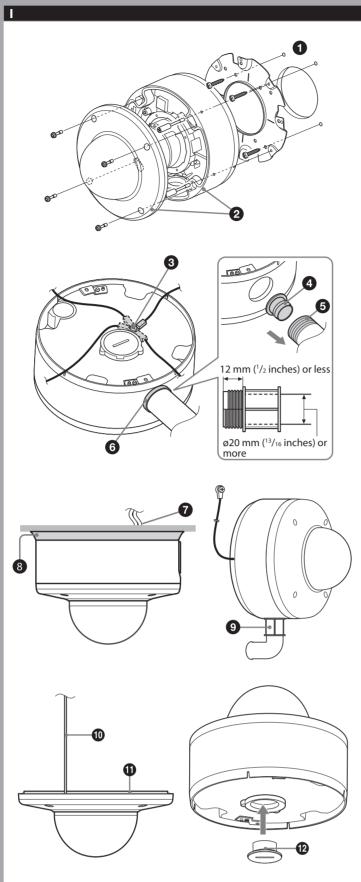
G-5

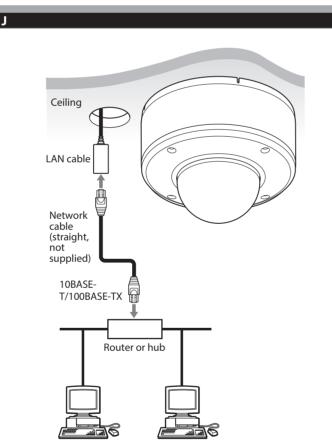


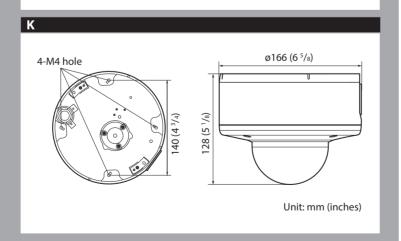
G-6











Adjusting the position of IR LED

You can adjust all tilt and rotation positions. There is no screw for rotation and Base(PAN) position.

Turn the camera head to rotate the camera.

You can invert the image by using the setting menu.

1 Loosen the camera block fixing screws. Loosen the two camera block fixing screws (tilt)

2 Adjust the camera to turn the lens in the desired direction.

3 If the camera is installed on the wall and the tilt angle is more than 60°, adjust the position of the IR LED depending on the following installation conditions (2)-(1), (2)-(2)). If the IR LED is blocked when the lens is pointed downwards, rotate the camera head 180°, then select the invert the image function from the setting menu to adjust the top and bottom position of the image. For other cases, use the camera in the factory

default setting 1) Holding both sides of Base(PAN) (arrow (1)), hold the black metal part on the camera head and pull up (arrow ②) to remove the camera head. (G-1)

Note

If the harness is removed from the connector, connect it to the connector, again. 2 Turn the camera head clockwise or counterclockwise (90°) to adjust the position of the IR LED. The adjustment position will depend on the following installation conditions.

(1) When the camera is pointing to your left (when you are facing in front of the camera) (G-2) Turn the camera head counterclockwise (90°) to move the \boldsymbol{I} mark to "2" on the plate of the camera.

(2) When the camera is pointing to your right (when you are facing in front of the camera) (G-3) Turn the camera head clockwise (90°) to move the I mark to "3" on the plate of the camera.

③ Holding Base(PAN), insert the camera head to the camera block. Before inserting the camera head, check if the clutches (two positions) on the

camera head are outside of the plates of the camera. (G-4) (1) Slide one side of the camera head downwards (arrow (1)). (G-5) (2) Pushing the camera head to the opposite direction (arrow (2)), slide it

downwards (arrow ③) and insert into the camera block. (G-5) (3) Tighten the two camera block fixing screws to fix the camera. Check if the camera head and camera block can be rotated smoothly clockwise and counterclockwise. (G-6)

The I mark is positioned to "1" on the plate of the camera at the factory. 4 Slide the ZOOM/FOCUS switch to W/T to adjust the angle of view.

5 Hold down ZOOM/FOCUS switch for a moment to adjust the focus

6 Repeat step 1 to 5 until the coverage and the focus are determined.

• If you do not follow the steps above to adjust the direction of the IR LED, IR LED working distance or the image quality may be affected due to the IR LED being blocked.

 When you insert the camera head to the camera block, be careful not to shut the harness between the clutch on the camera head and the plate on the camera After you insert the camera head into the camera block, check if the clutches

on the camera head (two positions) are inserted properly in the concave portion of the camera block.

 When you adjust the camera head angle without loosening camera block fixing screw, an internal part may be damaged.

• If you cannot achieve satisfactory focus by holding down the ZOOM/FOCUS switch due to the shooting environment, slide the ZOOM/FOCUS switch level to N/F to focus manually.

• Do not turn off this unit as soon as the focus is adjusted. Turn off after five minutes have passed since the focus was adjusted • Poor focus may also be caused by the dome case assembly. Readjust the focus

using the system menu. For details, refer to the User's Guide of the equipment. • When the dome casing is attached it may be visible in the monitor depending

on zoom and rotation. Also, distortion might be observed in images shot

outside the specified optical area. • Do not turn the camera block fixing screws (tilt) more than 0.5 to 1 turn, as they may become loose and fall out.

Attaching the Dome Casing

Fix the dome casing and the camera unit.

Align four screw holes on the dome casing with those on the camera unit, and tighten four screws with the supplied wrench to secure the dome casing.

Note

Make sure the safety cord does not get caught between the dome casing and camera unit. Rotate the cord and adjust the position of the cord.

Important precautions

Despite the fact that this unit is rated IP66, this section includes important precautions to prevent any malfunction caused by condensation and/or water ingress. Read the precautions below thoroughly before installing the unit.

 Make sure that the cables and/or connectors of the unit that join to the ones of the installation surface are waterproofed, before you install the unit. Otherwise, there may be a risk of water entering the unit through these cables. • Install the bracket and the camera on an even ceiling or wall, etc. (11-1)

• Install the camera properly, using the supplied screws, while referring to the Installation Manual. (11-2)

• When feeding the wire rope through one of the wiring slits, fix the wire rope with the supplied screw to the hole on the bottom of the unit according to which wiring slit is used. (11-3)

• Use the supplied cable holder (for conduit) or seal the inside of the pipe to prevent moisture (condensation) entering the pipe. (11-4)

 Use a pipe/joint of ¾ inches-14 NPT or M27 (2.0 mm (³/₃₂ inches)-pitched) with a thread length of 12 mm or less, and an internal diameter is at least ø20 mm. Any threaded parts should be waterproofed with a sealant material.

• When connecting flanged pipe to the side conduit hole, seal all around the flange to prevent water entering. Otherwise water enters the unit through the gap between the flange and unit. (11-6)

 The bottom of this unit is designed to be waterproof. However, in case b) in "Preparations" (on the front page), when you use a LAN cable of nonrecommended size to connect to this unit, install this unit in a waterproof enclosure or on a waterproof ceiling, to prevent water ingress. Alternatively, seal the bottom hole. (11-7) Cover the joint between the ceiling and the unit with a sealant material to prevent water ingress. (11-8)

Install the camera on a wall lengthwise.

• Position the side conduit hole downward to prevent water ingress from cables.

• In an environment of high temperature and exposed to direct sunlight, install a SNCA-WP602 Weather protector (not supplied). The Weather protector can also protect against rain and snow.

Notes on assembly

• Make sure the safety cord does not get caught between the dome casing and

• Before attaching the dome casing to the camera unit, make sure the waterproof rubber gasket is clean and fits in the groove of the joint surface

• Before attaching the conduit hole cover to the bottom hole, make sure the waterproof rubber gasket is clean and fits in the groove properly. (11-12)

Connection

Connecting to the Network

Connect the LAN port of the camera to a router or hub in the network using a commercially available network cable (not supplied).

Connecting the Power Source

Power supply equipment pursuant to IEEE802.3af/at (PoE/PoE+* system) *PoE means Power over Ethernet.

Notes

• Do not turn off the camera immediately after turning it on. Wait for at least five minutes before turning off the camera.

• When power is supplied by IEEE802.3af (PoE) equipment, do not set the HEATER (EN/EN) switch to EN.

Connecting to the power supply equipment pursuant to IEEE802.3af/at

The power supply equipment pursuant to IEEE802.3af/at supplies the power through a commercially available network cable. For details, refer to the Instruction Manual of the equipment.

If you connect the camera to power supply equipment pursuant to IEEE802.3at, the equipment may limit the power supply and the camera may stop operating.

For details, refer to the instruction manual of the power supply equipment.

Specifications

Compression

Video compression format JPEG/H.264 Audio compression format G.711/G.726/AAC Maximum frame rate 30 fps

Camera IR LED

Video S/N

20 pcs IR working distance 30 m (50 IRE) Signal system NTSC color system/PAL color system

(switchable) SNC-EM602R Image device 1/3type CMOS (Exmor)

Effective picture elements: Approx. 1,370,000 SNC-EM632R 1/2.9type CMOS (Exmor) Effective picture elements: Approx. 2,140,000

Synchronization Internal synchronization Horizontal resolution SNC-EM602R: 600 TV lines (analog video) SNC-EM632R: 700 TV lines (monitor display ratio

> More than 50 dB (Auto gain control maximum rate 0 dB)

Minimum illumination F1.2/View-DR Off/VE* Off/Auto gain control

maximum rate MAX/50 IRE (IP)/30 fps SNC-EM602R Color: 0.05 lx Black & White: 0 lx (IR ON) SNC-EM632R Color: 0.10 lx

Black & White: 0 lx (IR ON) * VE stands for Visibility Enhancer.

Lens

LAN port (PoE/PoE+)

Operating temperature

Storage temperature

Supplied accessories

Mass

H

View angle

Focal length 3.0 mm to 9.0 mm Maximum relative aperture F1.2 ~ F2.1

> Vertical: 73.1° to 25.5° Horizontal: 92.9° to 31.8°

SNC-EM632R: 1920 × 1080 (aspect ratio 16:9) Vertical: 56.9° to 20.1°

10BASE-T/100BASE-TX, auto negotiation (RJ-45)

SNC-EM602R: 1280 × 1024 (aspect ratio 5:4)

Horizontal: 105.3° to 35.6° 300 mm

Minimum object distance Interface

Others Power supply IEEE802.3at compliant (PoE/PoE+ system)

Max. 17W (IEEE802.3at (PoE+), heater enable) Power consumption Max. 11W (IEEE802.3af/at (PoE/PoE+), heater

disabled) Start temperature:

-30°C to +50°C (-22°F to +122°F) (heater enable)

0°C to 50°C (32°F to 122°F) (heater disable) Working temperature:

-40°C to +50°C (-40°F to +122°F) (heater enable)

-10°C to +50°C (14°F to 122°F) (heater disable)

 -20° C to $+60^{\circ}$ C (-4° F to $+140^{\circ}$ F) 20% to 90%

Operating humidity 20% to 95% Storage humidity

Dimensions (diameter/height) K 166 mm × 128 mm (6 $^{5}/_{8}$ inches × 5 $^{1}/_{8}$ inches),

not including the projecting parts Approx. 1,580 g (3 lb 7.7 oz), not including the

CD-ROM (supplied programs) (1), Bracket (1), Template (1), Wire rope (1), Camera unit mounting screws (4), Screw

M4 × 8 (2),

Wrench (1), Installation Manual (this document)

(1 set), Safety Regulations (1 set), Cable holder (for conduit) (1)

Optional accessory
In-ceiling bracket YT-ICB45*
* Use the fixture position on the bracket.
Weather protector SNCA-WP602

Design and specifications are subject to change without notice.

Recommendation of Periodic Inspections

In case using this device 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.