SONY

4-292-739-**12** (1)

Network Camera

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

SNC-EP580/ER580/EP550/ER550
SNC-EP520/ER520/EP521/ER521
SNC-ZP550/ZR550

IPELA IPELA HYBRID sloc™ HD

http://www.sony.net/

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4292739120

Owner's Record

The model and serial numbers are located on the bottom. Record these numbers in the spaces provided below.
Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

Overview

This Installation Manual gives instructions for multiple types of Network Cameras: SNC-EP520/EP521/ER520/ER521 are SD models, SNC-EP550/ER550 are HD models, SNC-EP580/ER580 are Full HD models, and SNC-ZP550/ZR550 are HD model IPELA HYBRID-compatible cameras.

WARNING

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

CAUTION
This installation should be made by a qualified service person and should conform to all local codes.

WARNING
A readily accessible disconnect device shall be incorporated in the building installation wiring.

WARNING (for Installers only)
Instructions for installing the equipment on the ceiling:
After the installation, ensure the connection is capable of supporting five times the weight of the equipment downwards.

CAUTION
The rating label is located on the bottom.

CAUTION for LAN port
For safety reason, do not connect the LAN port to any network devices that might have excessive voltage.
The LAN port of this unit is to be connected only to the devices whose power feeding meets the requirements for SELV (Safety Extra Low Voltage) and complies with Limited Power Source according to IEC 60950-1.

Power Supply
The SNC-EP580/EP550/EP521/EP520/ER580/ER550/ER521/ER520 operates on 24 V AC.

Caution for U.S.A. and Canada
Use a Class 2 power supply which is UL Listed (in the U.S.A.) or CSA-certified (in Canada).

Caution for other countries
Use a power supply rated 24 V AC which meets the requirements for SELV (Safety Extra Low Voltage) and complies with Limited Power Source according to IEC 60950-1.
Use IEEE802.3at standard compliant devices.

For the customers in the U.S.A.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

For the customers in Canada
This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

For the customers in Europe
The manufacturer of this product is Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, Japan.
The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany.

For the customers in Europe, Australia and New Zealand

WARNING
This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.
In the case that interference should occur, consult your nearest authorized Sony service facility.
This apparatus shall not be used in the residential area.

ATTENTION
The electromagnetic fields at the specific frequencies may influence the picture of this unit.

Notes on Use

Before Use
If you find condensation when you open the package, turn on the power after the condensation disappears.

Data and security
- Since the service is Internet-based, there is a risk that the image or audio you are monitoring can be viewed or used by a third-party via the network. You should keep in mind that the images or audio you are monitoring may be protected by privacy and other legal rights, and the responsibility for making sure you are complying with applicable laws is yours alone.
- Access to the images and audio is protected only by a user name and the password you set up. No further authentication is provided nor should you presume that any other protective filtering is done by the service.
- SONY IS NOT RESPONSIBLE, AND ASSUMES ABSOLUTELY NO LIABILITY TO YOU OR ANYONE ELSE, FOR SERVICE INTERRUPTIONS OR DISCONTINUATIONS OR EVEN SERVICE CANCELLATION. THE SERVICE IS PROVIDED AS-IS, AND SONY DISCLAIMS AND EXCLUDES ALL WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE SERVICE INCLUDING, BUT NOT LIMITED TO, ANY OR ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR THAT IT WILL OPERATE ERROR-FREE OR CONTINUOUSLY.
- Always make a test recording, and verify that it was recorded successfully. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF FAILURE OF THIS UNIT OR ITS RECORDING MEDIA, EXTERNAL STORAGE SYSTEMS OR ANY OTHER MEDIA OR STORAGE SYSTEMS TO RECORD CONTENT OF ANY TYPE.
- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.
- If you lose data by using this unit, SONY accepts no responsibility for restoration of the data.

Personal information
The images taken by the system using this device can identify individuals and thus they fall under "personal information" stipulated in the "Act on the Protection of Personal Information". Please handle the video data appropriately according to law.
- Information recorded using this product may also be "personal information". Upon disposal, transfer, repair, or any other occasion where this product or storage media is passed on to a third party, practice due care in its handling.

Operating or storage location
Avoid operating or storing the camera in the following locations.
- Extremely hot or cold places
- Exposed to direct sunlight for a long time, or close to heating equipment (e.g., near heaters)
- Close to sources of strong magnetism
- Close to sources of powerful electromagnetic radiation, such as radios or TV transmitters
- Locations subject to vibration or shock
- Humid or dusty locations
- Locations exposed to rain

Ventilation
To prevent heat buildup, do not block air circulation around the camera.

Power supply
- The power is supplied via a network cable, when the camera operates using HPoE (High-Power-over-Ethernet).
- Use STP/UTP Category 5 network cable.
- Using a damaged network cable may cause a risk of fire or electric shock.

Transportation
- Always turn off the power when carrying.
- When transporting the camera, repack it as originally packed at the factory or in materials of equal quality.

Cleaning
- Use a blower to remove dust from the lens.
- Use a soft, dry cloth to clean the external surfaces of the camera. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry.
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface finishes.

Please consult the store of purchase or authorized Sony dealer if there were troubles and anomalies.

Note on laser beams
Laser beams may damage image sensors. You are cautioned that the surface of image sensors should not be exposed to laser beam radiation in an environment where a laser beam device is used.

About the SD Memory Card
Data on the SD Memory Card may be damaged or deleted in the following cases. Sony is not responsible for compensation for damage or lost earnings due to damage or loss of data.
- If you remove the SD Memory Card from this device or turn off the power while the SD Memory Card is being accessed.
- If the SD Memory Card is subject to shock.
- When the lifetime of the SD Memory Card expires. (Lifetime may shorten significantly, depending on its use.)
- If the SD Memory Card is not set or inserted properly.

Camera settings
DynaView(WDR) is not available when the slow shutter is used.
The exposure compensation function is not available when DynaView(WDR) is used.

Phenomena Specific to Image Sensors

The following phenomena that may occur in images are specific to image sensors. They do not indicate a malfunction.

White flecks
Although the image sensors are produced with high-precision technologies, fine white flecks may be generated on the screen in rare cases, caused by cosmic rays, etc. This is related to the principle of image sensors and is not a malfunction.
The white flecks especially tend to be seen in the following cases:
- when operating at a high environmental temperature
- when you have raised the gain (sensitivity)
- when using the slow shutter

Vertical smear (SNC-EP521/EP520/ER521/ER520)
When an extremely bright object, such as a strong spotlight or flashlight, is being shot, vertical tails may be produced on the screen, or the image may be distorted.

Aliasing
When fine patterns, stripes, or lines are shot, they may appear jagged or flicker.

About the Supplied 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.

User's Guide (stored in the CD-ROM)
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 User's Guide.

Using the CD-ROM Manual
The User's Guide can be read on a computer with Adobe Reader installed.
You can download Adobe Reader free from the Adobe website.

1 **Open the index.htm file in the CD-ROM.**
2 **Select and click on the User's Guide that you want to read.**

Note
If you have lost or damaged the CD-ROM, you can purchase a new one from your Sony dealer or Sony service counter.

Smartphone viewer
This product is equipped with a Smartphone viewer.
With Smartphone viewer, you can display an image from a network camera, pan, tilt and zoom that camera, on your smartphone.
For more details, see "Smartphone viewer User's Manual" at the following URL:
http://www.sony.net/ipela/snc

Location and Function of Part A

❶ Lens

❷ Camera head

❸ LAN (network) port (RJ-45)
Connect to a 10BASE-T or 100BASE-TX network using a network cable (UTP, category 5).
When using an HPoE system to operate the camera, connect a power feeding device to this port. The PoE power supply feature is not available on SNC-ZP550/ZR550 when the network connection change switch is set to SLOC. For details, refer to the instructions manual of the power feeding device.
* HPoE: High-Power-over-Ethernet, IEEE802.3at compliant.

❹ Product specifications label
Model names and rated specifications are labeled.

❺ SD memory card slot
This slot is used for an optional SD memory card.
Images captured by the camera can be stored into an inserted memory card. Be sure that the printed side of a memory card and the product specifications label face in the same direction, and then insert the card firmly into the slot. (B)
This unit only supports memory card formats compatible with the SD/SDHC standards.

Note
For information about Sony-approved SD memory cards, contact your authorized Sony dealer.

❻ (microphone input) terminal (minijack, monaural)
Connect a commercially available microphone.

❼ (line output) terminal (minijack, monaural)
Connect to a commercially available speaker with a built-in amplifier.

❽ Built-in wire rope
The wire rope is used for fall-prevention of the camera.

❾ Network connection change switch (SNC-ZP550/ZR550)
Use this switch to change between a network connection to a LAN (network) port (RJ-45) and a network connection using a coaxial cable.

❿ SLOC (IP coaxial transfer/video output) port (SNC-ZP550/ZR550)
Use this port when connecting the unit to a network using a coaxial cable. Also use this port to output composite video signals from this unit. When outputting a composite signal, set the network connection change switch to LAN.
A connection to compatible equipment is necessary when connecting to a network using a coaxial cable.
For connection details, refer to the instruction manuals of the equipment on the receiving end.

Note
The output analog image may not display correctly, depending on the video format and image size settings.
- The image may not display properly in the horizontal and/or vertical plane.
- The image may be reduced.

⓫ AC 24 V (power input) terminal
Use the supplied AC connector to connect to the 24 V AC power supply system.

⓬ 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.
When 100BASE-TX is connected, the indicator turns green. When 10BASE-T is connected, the indicator turns orange.
The indicator also turns green when SLOC (IP coaxial transfer) is selected. (SNC-ZP550/ZR550)

⓭ POWER indicator (green)
When the camera receives power, a system check is run internally in the camera. The indicator lights up when the camera is operating normally.

⓮ I/O (Input/Output) port
Provides two sensor inputs and one alarm outputs.

Pin No.	Pin name
1	Alarm In 2
2	GND
3	Alarm In 1
4	GND
5	Alarm Out+
6	Alarm Out–

Note
For details about functions and settings, see the user's guide in the supplied CD-ROM.

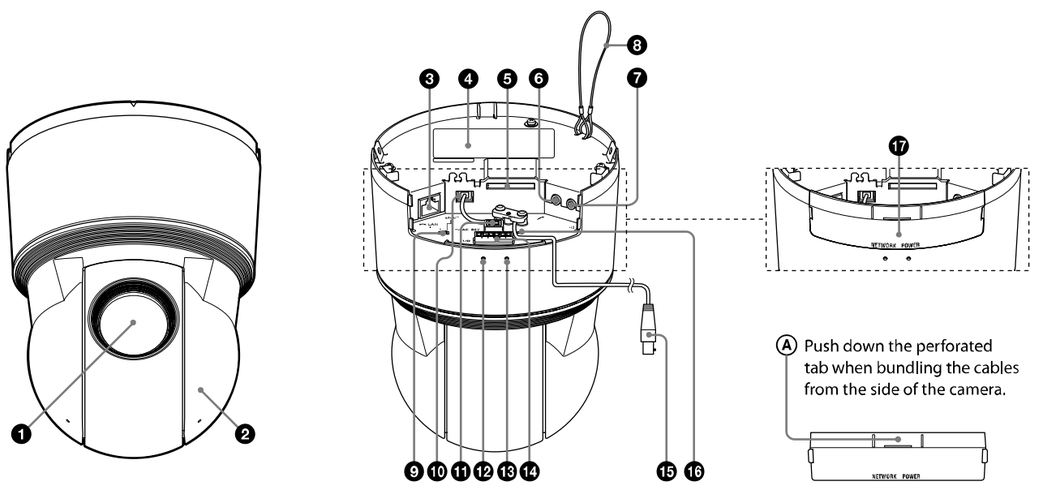
⓯ BNC cable (attached, factory-connected) (SNC-ZP550/ZR550)
Outputs SLOC (IP coaxial transfer) signals and video signals.

⓰ Reset switch
The camera can also be reset to the factory setting by turning on the power while pressing the reset switch with a needle/paper clip.

⓱ Cable cover
Push down the perforated tab Ⓐ to bundle the cables from the side of the camera.

(continued on the reverse side)

A



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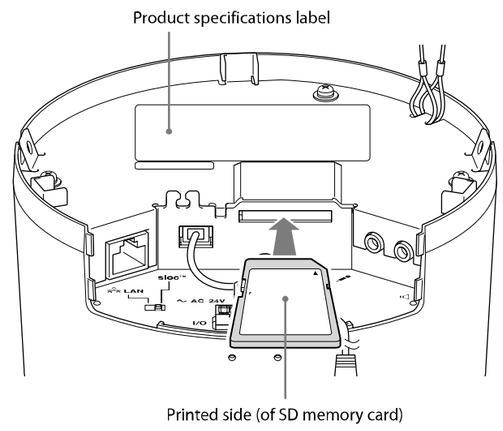
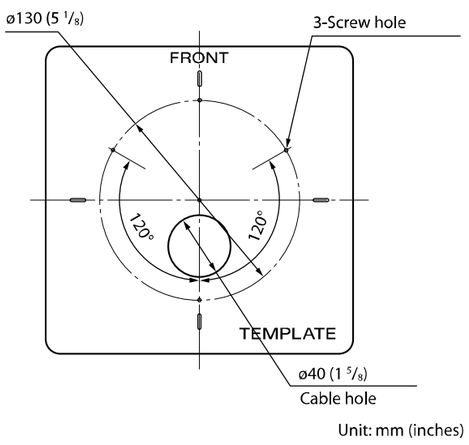


use-IP
www.use-ip.co.uk
01304 827609

C

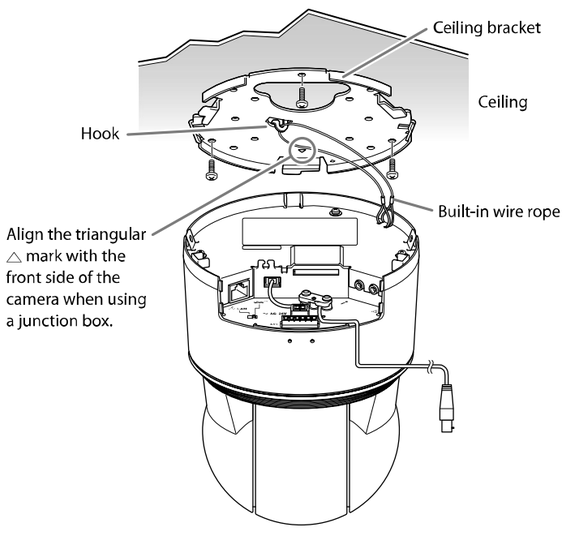


Unit: mm (inches)

D

How to install

1



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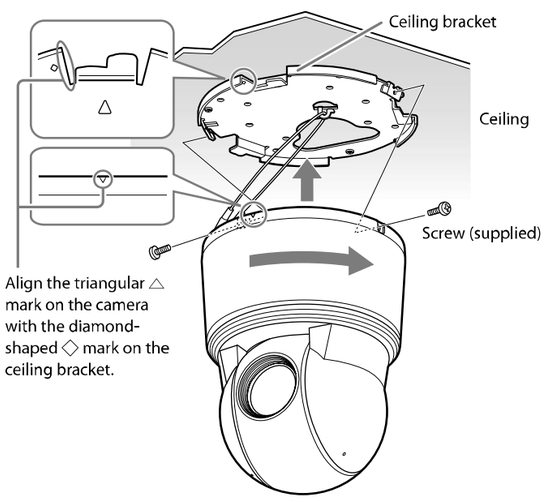

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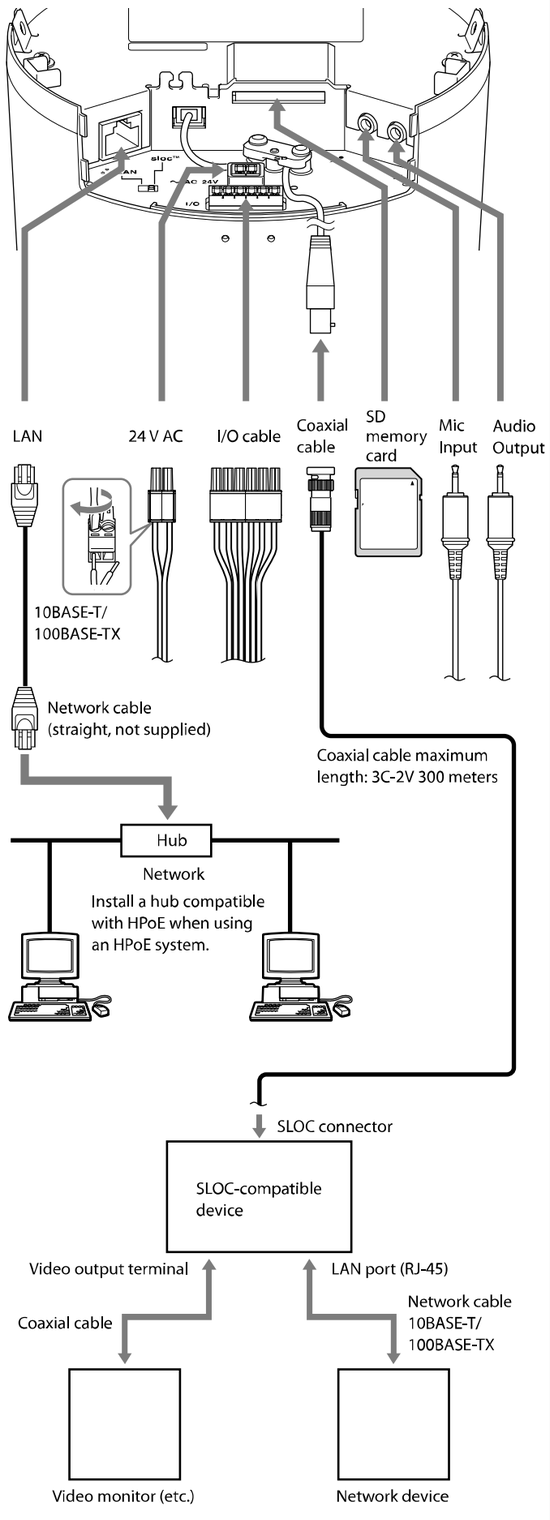
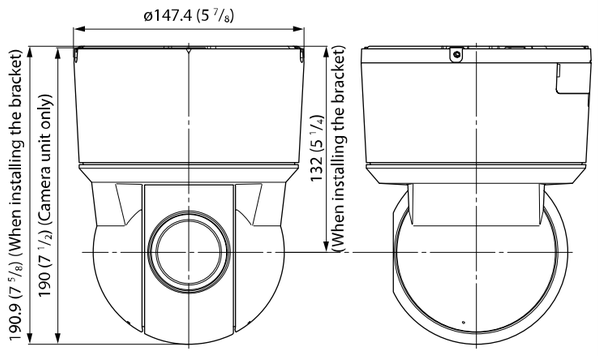


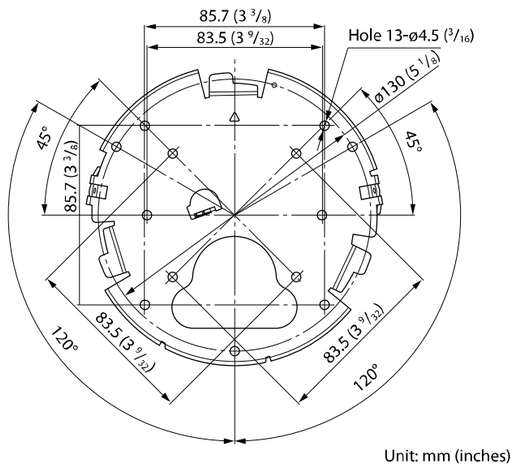
F

Camera (When installing the ceiling bracket)



Unit: mm (inches)

Celing bracket



Unit: mm (inches)

Installation

Notes

- Do not grasp the camera head when carrying the camera.
- Do not turn the camera head manually. Doing so will likely result in the camera malfunctioning.
- Turn off the power of the camera before installing it.

Install the camera to a horizontal place. If you have to install the camera to an incline, make sure the incline is within ±15° to the horizontal level to ensure the turning performance of the camera.

Installing the Camera on a Ceiling D

Use the supplied ceiling bracket to install the camera.
The ceiling bracket is attached to the camera unit. Remove it before installing.

WARNING

- If you attach the camera in a high location such as wall or ceiling, etc., entrust the installation to an experienced contractor or installer.
- If you install the camera in a high location, ensure that the ceiling is strong enough to withstand the weight of the camera plus mounting brackets and screws, 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 built-in 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.

Before installation

- Decide the direction in which the camera will shoot, before making holes for wiring and screw holes.
- Push down the perforated tab to bundle the cables from the side of the camera. (For details, see "⑭ Cable cover" in "Location and Function of Part.")

Installing directly on a ceiling

Using the supplied template, make a hole for the wiring (ø40 mm (1 5/8 inches)). Determine the location of the three screw holes for attaching the ceiling bracket. (C)

Using the existing junction box

Attach the ceiling bracket to the junction box. Screws for this operation are not supplied.
Attach the ceiling bracket in a manner that the triangular △ mark faces the front side of the camera.

Fixing screws

Required screws (not supplied) vary in accordance with the location or material of the installation.
For steel: Fix with M4 screws and nuts.
For wood: Fix with tapping screws (nominal diameter 4). A material thickness of 15 mm (19/32 inches) or more is necessary.
For a concrete wall: Fix with dry bit or plug bolts.
For a junction box: Fix with screws that accommodate the screw holes in the junction box.

WARNING

Use the appropriate screws in accordance with the condition and material of the location site. Otherwise, the ceiling unit may fall and cause serious injury.

How to install

1 **Put the built-in wire rope on the hook in the ceiling bracket. (D-1)**
2 **Connect the cables.**

Note

Although you can connect the cables while the camera unit is hanging from the ceiling bracket with the help of the rope, be sure not to put additional pressure on the unit.

3 **Align the triangular △ mark on the camera with the diamond-shaped ◇ mark on the ceiling bracket, and then attach the camera unit into the bracket. (D-2)**
4 **Rotate the camera unit in a clockwise direction.**
5 **Attach the camera unit to the ceiling bracket by fixing two screws at both sides of the unit.**
6 **Attach the cable cover.**

Note

Use the supplied screws to install the unit. Using other screws may cause damage inside the unit.

How to remove the camera

1 **Loosen and remove the two screws on both sides of the camera unit.**
2 **Rotate the camera unit in a counterclockwise direction, and remove it from the ceiling bracket.**
3 **Disconnect the cables.**

Note

Although you can disconnect the cables while the camera unit is hanging from the ceiling bracket with the help of the rope, be sure not to put additional pressure on the unit.

4 **Unhook the built-in wire rope from the ceiling bracket, and dismount the camera unit.**

Note

Always hold the camera when you dismount the camera unit. This will prevent any risk of the camera falling.

Install the camera with its head facing upward

Follow the same steps as in "Installing the Camera on a Ceiling" when installing or removing the camera.
Be sure to place the camera securely to prevent it from falling.

Note

By default, the images from the camera are displayed normally when the camera is installed on the ceiling. To display the images from the camera in correct way when you place the camera on the desk top, use the E.flip function.

◆ For the setting of the E.flip function, see the User's Guide stored in the supplied CD-ROM.

Connection

Connecting to the Network E

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

To connect to a computer

Connect the LAN port of the camera unit to the network connector of a computer using the network cable (cross, not supplied).

To connect to a network using a coaxial cable (SNC-ZP550/ZR550) E

When the network connection change switch is set to SLOC, connect to a network via a coaxial cable.
The maximum coaxial cable length is 3C-2V 300 m.

Note

The high-frequency characteristics of coaxial cables may differ, even if the cables are of the same classification. Use a high-quality, high-frequency coaxial cable with this unit.

◆ For details, refer to the instruction manual of the connecting SLOC device. For further details, please consult an authorized Sony dealer.

Connecting the Power Source E

The following two methods are available for connecting to a power source.

- 24 V AC
- HPoE

Note

If you use this camera by feeding power to the LAN port, use the HPoE power feeding device.

Connecting to a 24 V AC power source supply

Connect the 24 V AC power supply system to the power input terminal of the camera. The AC power cable is not supplied.

- Use a 24 V AC power source isolated commercial power supply.
- The usable voltage range is as follows:
  24 V AC: 21.6 to 26.4 V
- Use a UL cable (VW-1 style 10368) for 24 V AC connection.

Recommended power cable

24 V AC

Cable(AWG)	#24	#22	#20
Maximum cable length (m (feet))	11 (36.1)	19 (62.3)	28 (91.9)

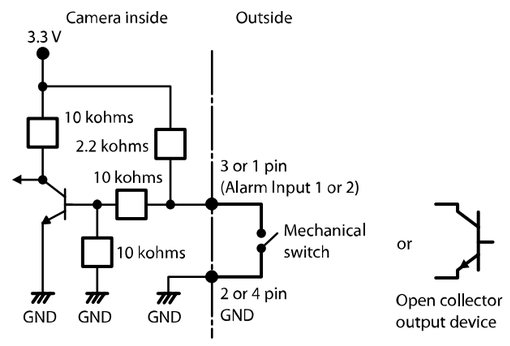
Connecting to the power supply equipment pursuant to IEEE802.3at

The power supply equipment pursuant to IEEE802.3at supplies the power through the LAN cable. For details, refer to the Instruction Manual of the equipment.

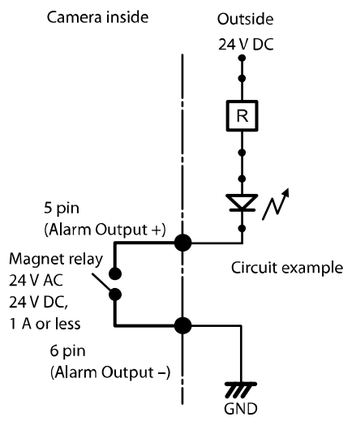
Connecting the I/O Cable

Wiring diagram for sensor input

Mechanical switch/open collector output device



Wiring diagram for alarm output



Specifications

Compression

Video compression format	JPEG/MPEG4/H.264
Audio compression format	G.711/G.726 (40,32,24,16 kbps)
Maximum frame rate	30 fps

Camera

Image device	SNC-EP580/ER580: 1/2.8 type Exmor CMOS SNC-EP550/ER550/ZP550/ZR550: 1/4 type Exmor CMOS SNC-EP521/EP520/ER521/ER520: 1/4 type interline transfer CCD
Synchronising	Internal
Minimum illumination	SNC-EP580/ER580: 1.7 lx (Shutter speed: 1/30 sec, Exposure: Full auto, 50IRE [IP]) SNC-EP550/ER550/ZP550/ZR550: 1.0 lx (Shutter speed: 1/60 sec, Exposure: Full auto, 50IRE [IP]) SNC-EP521/ER521: 1.4 lx (Shutter speed: 1/50 sec, Exposure: Full auto, 50IRE [IP]) SNC-EP520/ER520: 1.4 lx (Shutter speed: 1/60 sec, Exposure: Full auto, 50IRE [IP])
Video S/N	50 dB (Gain 0 dB)

Lens

Focus length	SNC-EP580/ER580: f=4.7 to 94.0 mm SNC-EP550/ER550/ZP550/ZR550: f=3.5 to 98.0 mm SNC-EP521/EP520/ER521/ER520: f=3.4 to 122.4 mm
Maximum relative aperture	SNC-EP580/ER580: F1.6 to F3.5 SNC-EP550/ER550/ZP550/ZR550: F1.35 to F3.7 SNC-EP521/EP520/ER521/ER520: F1.6 to F4.5
Minimum object distance	320 mm

Mechanism

Pan	SNC-EP580/EP550/EP521/EP520/ZP550: 340° SNC-ER580/ER550/ER521/ER520/ZR550: 360°, endless rotation Maximum speed: 300°/s
Tilt	SNC-EP580/EP550/EP521/EP520/ZP550: 105° SNC-ER580/ER550/ER521/ER520/ZR550: 210° (with auto invert function) Maximum speed: 300°/s

Interface

Network port	10BASE-T/100BASE-TX, auto negotiation (RJ-45)
I/O port	Sensor input: × 2, make contact Alarm output: × 1, 24 V AC/DC, 1 A (mechanical relay outputs electrically isolated from the camera)
SD memory card slot	
Microphone input	Minijack (monaural) Plug-in-power supported (rated voltage: 2.5 V DC) Recommended load impedance 2.2 kohms
Line output	Minijack (monaural), Maximum output level: 1 Vrms
SLOC port/Monitor output (SNC-ZP550/ZR550)	1.0 Vp-p, 75 ohms, unbalanced, sync negative (during video output)

Others

Power supply	24 V AC ± 10%, 50 Hz/60 Hz IEEE802.3at compliant (HPoE system)
Power consumption	Max. 25 W
Operating temperature	–5°C to +50°C (23°F to 122°F) (activation temperature range: 0°C to 50°C (32°F to 122°F))
Storage temperature	–20°C to +60°C (–4°F to +140°F)
Operating humidity	20% to 80%
Storage humidity	20% to 95%
Dimensions (Diameter/Height) F	ø147.4 mm × 190.9 mm (ø5 7/8 inches × 7 5/8 inches) (When installing the ceiling bracket, not including the projecting parts)
Mass	Approx. 1.7 kg (3 lb 12 oz) (including ceiling bracket)
Supplied accessories	Ceiling bracket (1) Screws (2) Installation manual (1 set) CD-ROM (User's Guide, supplied programs) (1) Template (1) 24 V AC connector (1) I/O connector (1)

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.

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