SONY®

Network Camera

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

SNC-VM600/VM600B/VM630
SNC-VM601/VM601B/VM631
SNC-EM600/EM630/EM601/EM631

IPELA

4441094120

A

SNC-VM600/VM600B/VM630/VM601/VM601B/VM631
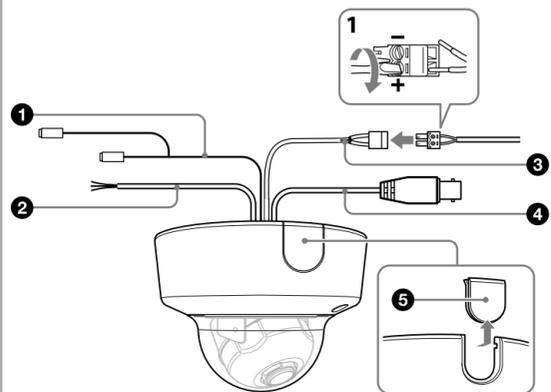
SNC-EM600/EM630/EM601/EM631

B

SNC-VM600/VM600B/VM630/VM601/VM601B/VM631

SNC-EM600/EM630/EM601/EM631

C

AUDIO

VIDEO OUT

EXT CTRL

D

85.7 (3 ³/₈)

85.7 (3 ³/₈)
83.5 (3 ⁹/₃₂)

Hole for connecting cables ø50 (2)

Horizontal mark

Hole for installing the bracket

Vertical mark

Unit: mm (inches)
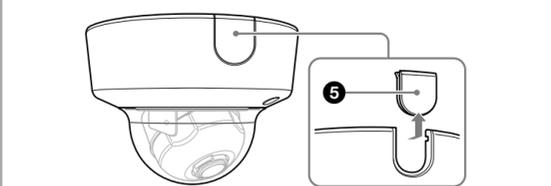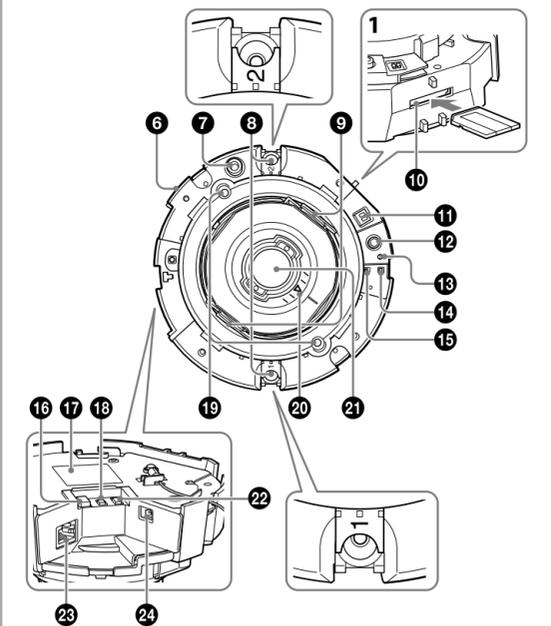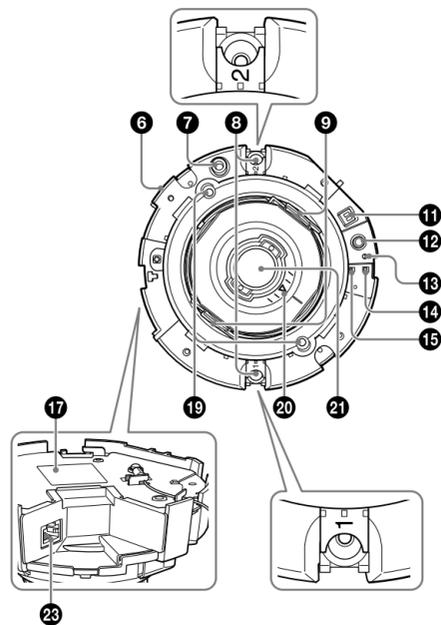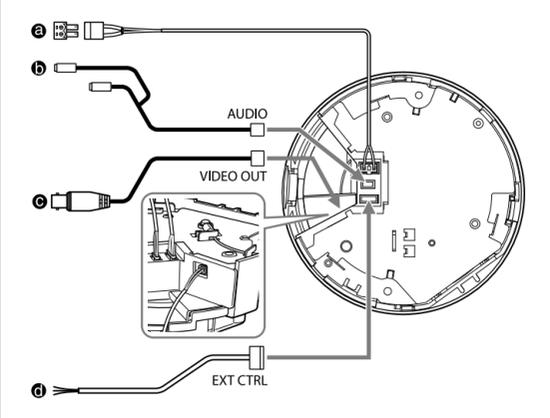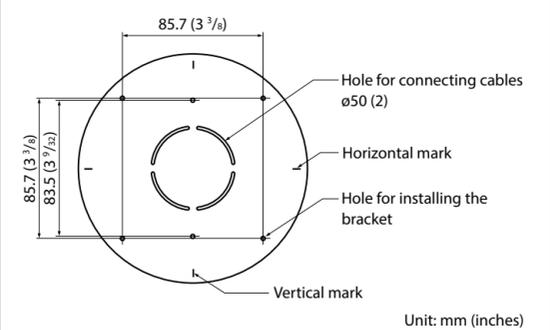
About the Manuals

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.
The illustrations in this Installation Manual show the SNC-VM600 as an example. The Audio cable, I/O cable, Power input cable and BNC cable are not supported for SNC-EM600/EM630/EM601/EM631.

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 User's Guide.

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 format.
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.

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

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

SNC-EM600/EM630/EM601/EM631

Assigning the IP address

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

Side   **A**

Cables ❶, ❷, ❸ and ❹ are not connected when the unit comes from the factory.

❶ Audio cable (supplied)
The connector with the longer cable (SP) is used for the line output connector, and the shorter cable (MIC) is used for the microphone/line input connector.
• **SP terminal (minijack, monaural)**
   Connect a commercially available speaker system with a built-in amplifier.
• **MIC terminal (minijack, monaural)**
   Connect a commercially available microphone. This jack supports plugin-power microphones (rated voltage: 2.5 V DC).

❷ I/O (Input/Output) cable (supplied)
This cable is provided with two sensor inputs and two alarm outputs.
The wires of the cable control the following signals.

Color of wire	Name
Red	Sensor In 1+
White	Sensor In 2+
Black	Sensor In − (GND)
Yellow	Alarm Out 1+
Brown	Alarm Out 1−
Green	Alarm Out 2+
Blue	Alarm Out 2−

For details on each function and required settings, see the User's Guide.
For the wiring, see "Connecting the I/O cable."

❸ Power input cable (supplied)
Connect this cable to a 24 V AC or 12 V DC power supply system.
You can screw an extension cable in the connector tip attached at the end of the cable. (**A**-1)

❹ BNC cable (supplied)
Outputs a composite video signal.

❺ Wiring cover
When you wire indoors, remove this cover and feed the cables through it.

Caution
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.

Inside   **B**

Items ❿, ⓳, ㉑, ㉓ and ㉔ are not supported for SNC-EM600/EM630/EM601/EM631.

❻ Camera unit

❼ 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.

❽ Camera unit mounting screws (2 positions)
Make sure to tighten the screws securely when installing the camera.

❾ Camera head fixing screw (tilt)
Firstly, loosen the screw and point the camera head in the desired direction, then tighten the screw to secure in place.

❿ SD card slot
This slot is used for optional SD memory cards.
Image data in the camera can be recorded to a memory card by inserting it into the slot.
When inserting, point the contact area at the rating label side (referring to the illustration), and be sure to insert it completely. (**B**-1)
This unit is only compatible with SD and SDHC memory cards.

Note
For inquiries regarding verified SD memory cards, contact your authorized Sony dealer.

⓫ NTSC/PAL switch
Switching the video output.
After setting the switch, reboot the camera unit.

⓬ 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 automatically.

⓭ 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.

⓮ 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.

⓯ 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.

⓰ AC / DC IN (power input) connector
Connect the supplied power input cable to this connector.

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

⓲ AUDIO connector
Connect the supplied audio cable to this connector.

⓳ Camera head fixing screw (pan)
Firstly, loosen the screw and point the camera head in the desired direction, then tighten the screw to secure in place.

⓴ △ mark
Indicates the image direction.

㉑ Lens

㉒ EXT CTRL (external control input/output) connector
Connect the supplied I/O cable to this connector.

㉓ LAN network port (RJ-45)
Connect a network cable (UTP, category 5) to this port to communicate with a network or PoE* system.
For details on connection, see the Instruction Manual of the power supply equipment.
(*PoE stands for Power over Ethernet. It is pursuant to IEEE802.3af.)

㉔ VIDEO OUT (video output) connector
Connect the supplied BNC cable to this connector.

Preparations

Connecting the Supplied Cables to the Camera   **C**

Compatible models: SNC-VM600/VM600B/VM630/VM601/VM601B/VM631
Before installation, connect the supplied cables to the camera as required for your usage and wire them.
Connect the cables to the connectors on the camera unit.
ⓐ Power input cable: to AC/DC IN connector
ⓑ Audio cable
ⓒ BNC cable
ⓓ I/O cable

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

Installation

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 on the ceiling, ensure that the ceiling is strong enough to withstand the weight of the camera plus the bracket 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   **D**

After deciding the direction in which the camera will shoot, make the required hole (ø 50 mm (2 inches)) for the connecting cables using the supplied template. Then decide the two or four mounting hole positions to install the bracket.

Mounting screws
The supplied bracket is provided with ø 4.5 mm (³/₁₆ inch) mounting holes. Install the bracket on a ceiling or wall with screws through two or 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.)
Steel wall or ceiling: Use M4 bolts and nuts. (Hexagon head bolt should not be used.)
Wooden wall or ceiling: Use M4 tapping screws. The panel thickness must be 15 mm (⁵/₈ inch) or more.
Concrete wall: Use anchors, bolts and plugs suitable for concrete walls. (Head shape of M4 bolt: Pan head screw or hexagon head bolt should not be used.)
Junction box: Use screws to match the holes on the junction box. (Head shape of screw: ø 7 mm (⁹/₃₂ inch) Height 4 mm (³/₁₆ inch) or less)

WARNING

The required mounting screws differ depending on the installation location and its material. If you do not secure the camera with the appropriate mounting screws, the camera may fall off.
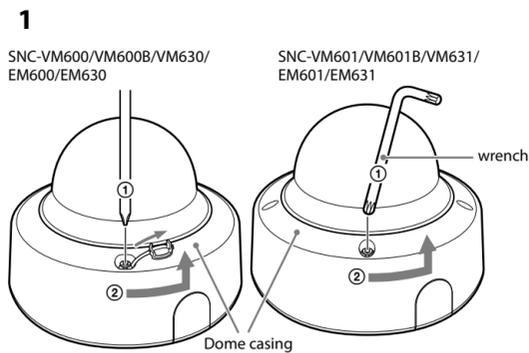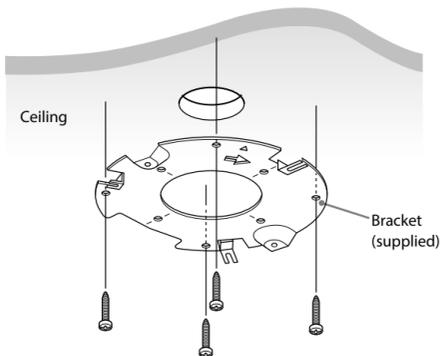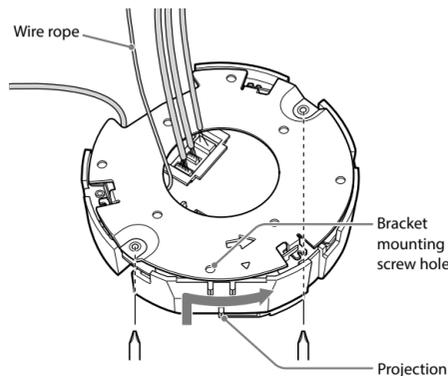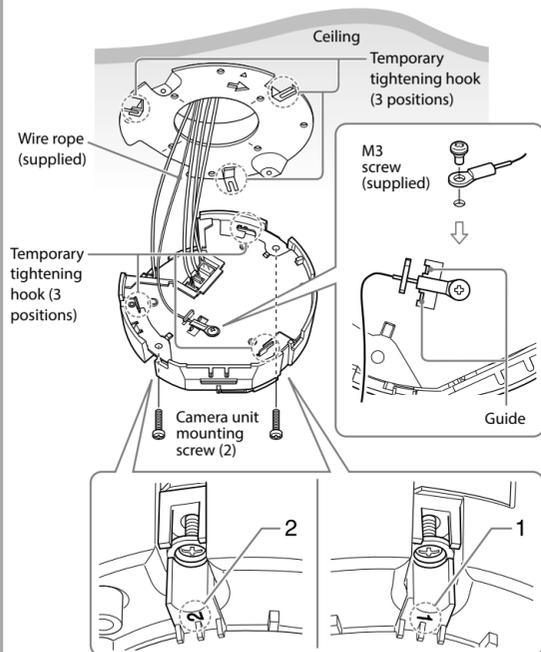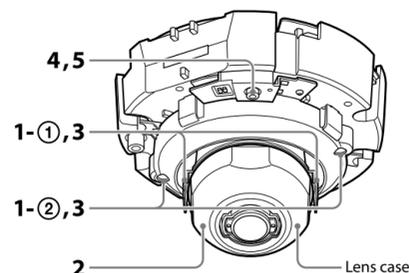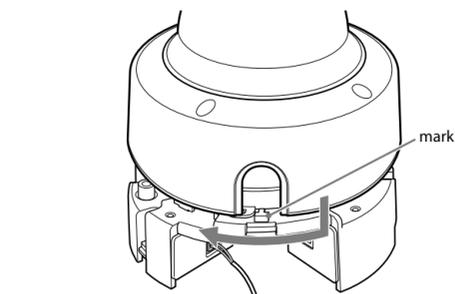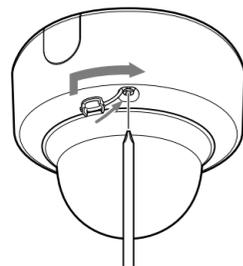
1

SNC-VM600/VM600B/VM630/EM600/EM630

SNC-VM601/VM601B/VM631/EM601/EM631

wrench

Dome casing

2

Ceiling

Bracket (supplied)

3, 4

Ceiling

Temporary tightening hook (3 positions)

Wire rope (supplied)

M3 screw (supplied)

Temporary tightening hook (3 positions)

Camera unit mounting screw (2)

Guide

2

1

Wire rope

Bracket mounting screw hole

Projection

4, 5

1-①, 3

1-②, 3

2

Lens case

mark

SNC-VM600/VM600B/VM630/EM600/EM630

SNC-VM601/VM601B/VM631/EM601/EM631

SNC-VM600/VM600B/VM630/EM600/EM630

Ø148 (5 ⁷⁄₈)

108 (4 ³⁄₈)

SNC-VM601/VM601B/VM631/EM601/EM631

Ø148 (5 ⁷⁄₈)

108 (4 ³⁄₈)

Unit: mm (inches)
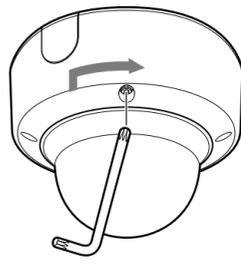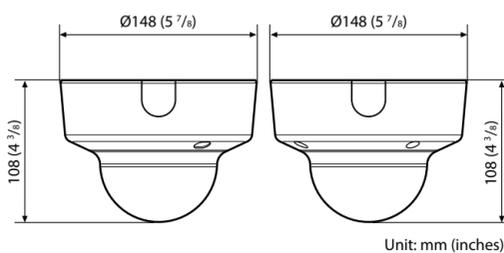
Installing the Camera **E**

1 Remove the dome casing.

SNC-VM600/VM600B/VM630/EM600/EM630

① Pull out the screw cover and loosen the screw with a screwdriver.
② Turn the dome casing anticlockwise, and remove it from the camera unit. When the screw catches on the screw hole, pull up the screw.

SNC-VM601/VM601B/VM631/EM601/EM631

① Loosen the screw with the wrench (supplied).
② Turn the dome casing anticlockwise, and remove it from the camera unit. 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 M3 screw to the hole for the wire rope on the bottom of the camera unit.

Pass the wire rope between the wire rope guides.

② Fix the wire rope to the ceiling or wall.

4 Attach the camera unit to the bracket.

① Align the projection on the top and bottom of the camera's card slot with the bracket mounting screw hole on the bracket.

② Turn the camera unit lightly in the direction of the arrow (clockwise rotation), then lock the temporary tightening hook of the camera (3 positions).

③ Turn the camera in the rotational direction until it completely stops and tighten the camera unit mounting screws in the order of 1, then 2.

Notes

- Be sure to tighten the camera unit mounting screws in the order of 1, then 2. Otherwise, the camera unit may not be secure and could fall.
- If you cannot use screws on a ceiling or a wall, or if you want to make the camera less conspicuous, use the YT-ICB600 in-ceiling bracket (optional) with which you can mount the camera on the ceiling.

When you install the camera with the in-ceiling bracket, tighten the fixing screw on the side brackets to the **D** position. Refer to the in-ceiling bracket Installation Instructions for details.

Adjusting the Camera Direction and Coverage **F**

You can adjust all pan, tilt and rotation positions. There is no screw for rotation position.

Turn the lens case to rotate the camera.

You can invert the image by using the setting menu.

1 Loosen the camera head fixing screw.

① Loosen the tilt screws (2 positions).
② Loosen the pan screws (2 positions).

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

3 Tighten the camera head fixing screw to fix the camera. (4 positions)

4 Slide the ZOOM/FOCUS switch to W/T to adjust the zoom.

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

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

Notes

- When you adjust the camera head angle without loosening camera head fixing screw, an internal part may be damaged.
- Be sure to turn off the setting of superimposing when adjusting the focus.

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

Notes

- 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 tilt screw more than 360 degrees and pan screw more than 2-3 turns, as they may become loose and fall out.

Attaching the Dome Casing **G**

1 Align the notch on the dome casing with the convex part on the rear of the camera unit, then turn the dome casing in the direction of the arrow.

2 Secure the screw. Only the SNC-VM600/VM600B/VM630/EM600/EM630 cover should be attached.

3 Remove the protecting film on the dome cover.

Connection

Connecting to the Network

Connect the LAN connector of the camera to a PoE* supported device (such as a hub) using the network cable (straight, not supplied).

The electrical power is supplied through the network cable. For details, refer to the instruction manuals of the PoE supported devices.

(* PoE: The acronym for Power over Ethernet. IEEE 802.3af standard compliant devices.)

SNC-VM600/VM600B/VM630/VM601/VM601B/VM631

It is also possible to connect the LAN port of the camera to a router or hub in the network using a network cable (not supplied).

Connecting the Power Source

The camera can be powered in the following ways.

- 12 V DC or 24 V AC (Either voltage supported by SNC-VM600/VM600B/VM630/VM601/VM601B/VM631 only.)
- Power supply equipment pursuant to IEEE802.3af (PoE* system)
*PoE means Power over Ethernet.

Note

- Do not turn off the camera immediately after turning it on. Wait for at least five minutes before turning off the camera.
- Do not connect the power input cable if power is supplied by a PoE system.

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

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

Connecting to 12 V DC or 24 V AC source

Connect the power input cable of the camera to a 12 V DC or 24 V AC source.

- Use a 12 V DC or 24 V AC source isolated from 100 to 240 V AC. Each usable voltage ranges are as follows.

12 V DC: 10.8 V to 13.2 V

24 V AC: 19.2 V to 28.8 V

- In the USA, The product shall be powered by a UL Listed Class 2 Power Supply Only.
- In Canada, The product shall be powered by a CSA certified Class 2 Power Supply Only

- Use UL cable (VW-1 style 10368) for these connections.

Recommended cable

DC 12 V:

CABLE(AWG)	#24	#22	#20
Max. length(m)	9	15	23

AC 24 V:

| CABLE(AWG)	#24	#22	#20
Max. length(m)	37	63	92

Connecting the I/O Cable

Compatible models: SNC-VM600/VM600B/VM630/VM601/VM601B/VM631
Connect the wires of the I/O cable as follows:

Wiring diagram for sensor input

Mechanical switch/open collector output device

Camera inside / Outside

3.3 V

10 KΩ

2.2 KΩ

10 KΩ

Sensor input + / Mechanical switch

10 KΩ

Sensor input − (GND) / or

GND GND GND / Open collector output device
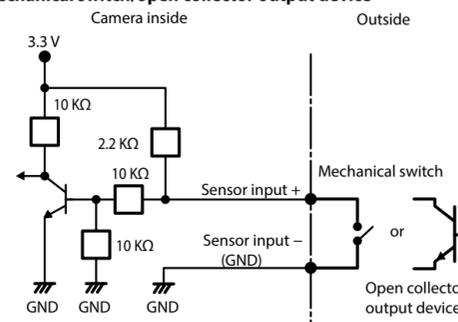
Wiring diagram for alarm output

Camera inside / Outside

5 V

R

Alarm Output +

Magnet relay −
24 V AC
24 V DC,
1 A or less

Circuit example

Alarm Output −

GND
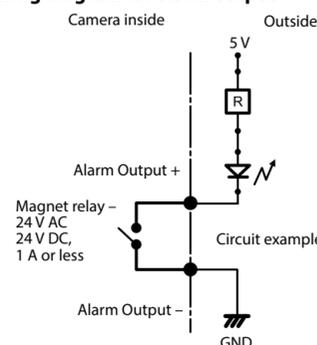
Specifications

Compression

Video compression format	JPEG/H.264
Audio compression format	G.711/G.726/AAC
Maximum frame rate	SNC-VM600/VM601/VM630/VM631 60 fps
	SNC-VM600B/VM601B/EM600/EM630/EM601/EM631 30 fps

Camera

Signal system	NTSC color system/PAL color system (switchable)
Image device	SNC-VM600/VM600B/VM601/VM601B/EM600/EM601 1/3type CMOS (Exmor) Effective picture elements: Approx. 1,370,000 SNC-VM630/VM631/EM630/EM631 1/2.9type CMOS (Exmor) Effective picture elements: Approx. 2,140,000
Synchronization	Internal synchronization
Horizontal resolution	SNC-VM600/VM600B/VM601/VM601B: 600 TV lines (analog video) SNC-VM630/VM631: 700 TV lines (monitor display ratio 4:3)
Video S/N	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-VM600/VM600B/VM601/VM601B/EM600/EM601 Color: 0.05 lx Black & White: 0.04 lx SNC-VM630/VM631/EM630/EM631 Color: 0.10 lx Black & White: 0.07 lx

* VE stands for Visibility Enhancer.

Lens

Focal length	3.0 mm to 9.0 mm
Maximum relative aperture	F1.2 to F2.1
View angle	SNC-VM600/VM600B/VM601/VM601B/EM600/EM601: 1280 × 1024 (aspect ratio 5:4) Vertical: 73.1° to 25.5° Horizontal: 92.9° to 31.8° SNC-VM630/VM631/EM630/EM631: 1920 × 1080 (aspect ratio 16:9) Vertical: 56.9° to 20.1° Horizontal: 105.3° to 35.6°
Movable angle	Pan: −192° to +192° Tilt: −7° to +75° Rotation: −99° to +99°
Minimum object distance	300 mm

Interface (SNC-VM600/VM600B/VM630/VM601/VM601B/VM631)

LAN port (PoE)	10BASE-T/100BASE-TX, auto negotiation (RJ-45)
I/O port	Sensor input: × 2, make contact, break contact Alarm output: × 2, 24 V AC/DC, 1 A (mechanical relay outputs electrically isolated from the camera)
SD memory card slot	
Video output	VIDEO OUT: BNC, 1.0 Vp-p, 75 ohms, unbalanced, sync negative
Microphone input*	Minijack (monaural) Plug-in-power supported (rated voltage: 2.5 V DC) Recommended load impedance: 2.2 kΩ
Line input*	Minijack (monaural)

* The microphone input and the line input are switchable with operating menu.

Line output	Minijack (monaural), Maximum output level: 1 Vrms

Interface (SNC-EM600/EM630/EM601/EM631)

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

Others

Power supply	IEEE802.3af compliant (PoE system) SNC-VM600/VM600B/VM630/VM601/VM601B/VM631: 12 V DC ±10%, 24 V AC ±20% 50 Hz/60 Hz
Power consumption	SNC-VM600/VM600B/VM630/VM601/VM631: 6.0 W max. SNC-EM600/EM630/EM601/EM631: 5.0 W max.
Operating temperature	Start temperature: 0°C to 50°C (32°F to 122°F) Working temperature: −10°C to +50°C (14°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) **H**	148 mm × 108 mm (5 ⁷⁄₈ inches × 4 ³⁄₈ inches)
Mass	SNC-VM600/VM600B/VM630/EM600/EM630: Approx. 760 g (1 lb 8.7 oz), not including the cables and bracket SNC-VM601/VM601B/VM631/EM601/EM631: Approx. 800 g (1 lb 12 oz), not including the cables and bracket
Supplied accessories	All models: CD-ROM (supplied programs) (1), Bracket (1), Template (1), Wire rope (1), Camera unit mounting screw M3 (1), Safety Regulations, Installation Manual (this document) (1 set) SNC-VM601/VM601B/VM631/EM601/EM631: Wrench (1) SNC-VM600/VM600B/VM630/VM601/VM601B/VM631: Audio cable (1), I/O cable (1), BNC cable (1), Power input cable (1)

Optional accessory

In-ceiling bracket   YT-ICB600*
* Using the fixture position **D** on the bracket.
Dome Cover Smoked
SNC-VM600/VM600B/VM630/EM600/EM630: YT-LD600S
SNC-VM601/VM601B/VM631/EM601/EM631: YT-LD601S

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.