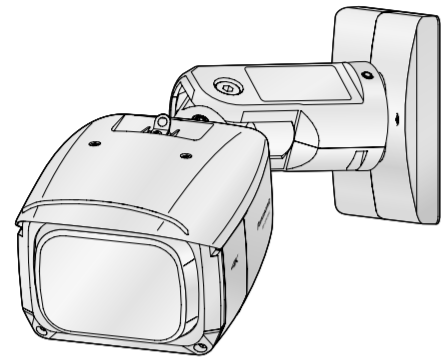


### Network Camera

Model No. **WV-SPV781L**



- This manual describes the installation procedures, network camera installation, cable connections, and field-of-view adjustment.
- Before reading this manual, be sure to read the Important Information.

#### For U.S. and Canada:

Panasonic i-PRO Sensing Solutions Corporation of America  
800 Gessner Rd, Suite 700 Houston, TX 77024  
<https://www.security.us.panasonic.com/>

#### Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario, L4W 2T3 Canada  
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<https://www.panasonic.com/ca/>

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Panasonic Corporation  
<http://www.panasonic.com>

Panasonic i-PRO Sensing Solutions Co., Ltd.  
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Authorised Representative in EU:

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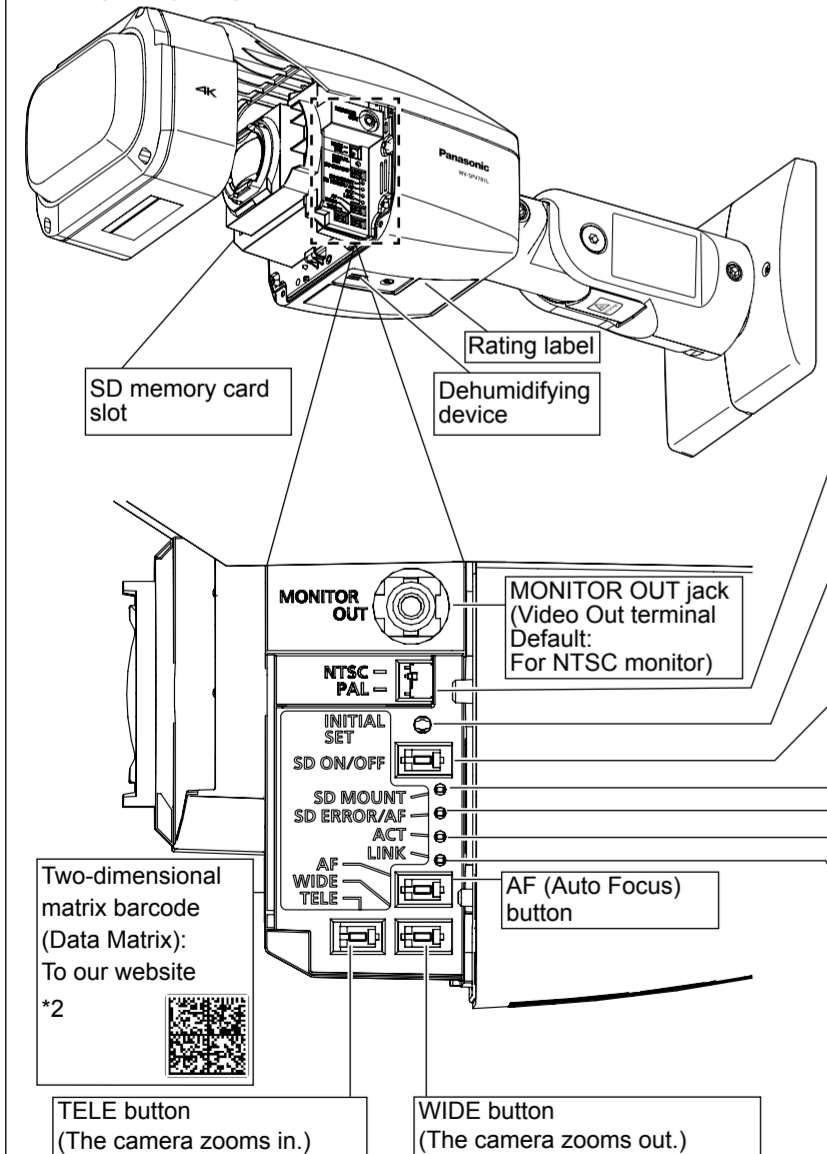


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## Major operating controls

The component names of the camera are as follows. Refer to the illustration when installing or adjusting the camera.



SD memory card slot  
Dehumidifying device  
Rating label

MONITOR OUT jack (Video Out terminal Default: For NTSC monitor)  
MONITOR OUT  
NTSC - PAL  
INITIAL SET  
SD ON/OFF  
SD MOUNT  
SD ERROR/AF  
AF (Auto Focus) button  
AF LINK  
AF (Auto Focus) button  
TELE button (The camera zooms in.)  
WIDE button (The camera zooms out.)

\*1 SDXC/SDHC/SD memory card is described as SD memory card.  
\*2 Depending on the scanning application used, the Data Matrix may not be able to be read correctly. In this case, access the site by directly entering the following URL.  
[http://security.panasonic.com/pss/security/support/qr\\_sp\\_select.html](http://security.panasonic.com/pss/security/support/qr_sp_select.html)

## Standard accessories

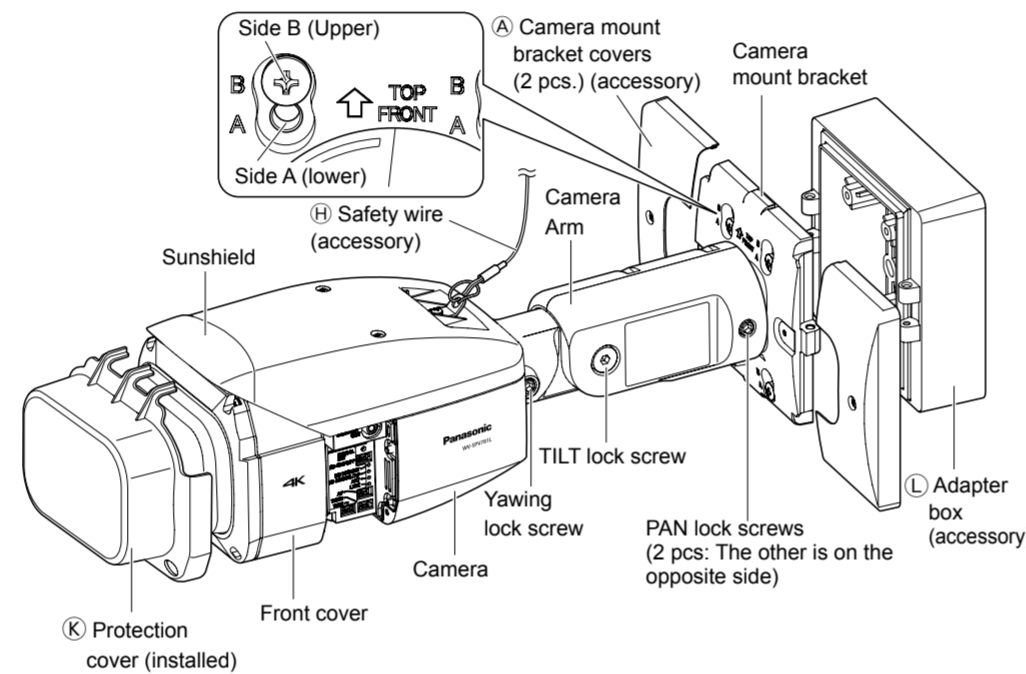
Important Information ..... 1 pc. Installation Guide (this document) ..... 1 set  
Warranty card ..... 1 set CD-ROM\*1 ..... 1 pc.  
Code label\*2 ..... 1 pc. Camera caution label ..... 1 pc.

\*1 The CD-ROM contains the operating instructions and different kinds of tool software programs.  
\*2 This label may be required for network management. The network administrator shall retain the code label.

The following parts are used during installation procedures.

- |                                                                                                       |                                                                                                         |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Ⓐ Camera mount bracket cover ..... 2 pcs.                                                             | Ⓛ Wire lug fixing screw<br>M3 x 10 mm {3/8 inches} ..... 2 pcs.<br>(incl. 1 spare)                      |
| Ⓑ Camera mount bracket cover fixing screw<br>(M3 x 6 mm {1/4 inches}) ..... 3 pcs.<br>(incl. 1 spare) | Ⓜ Protection cover ..... 1 pc.                                                                          |
| Ⓒ Waterproof tape ..... 1 pc.                                                                         | Ⓨ Adapter box ..... 1 pc.                                                                               |
| Ⓓ LAN connector cover ..... 1 pc.                                                                     | Ⓩ Adapter box mounting screw<br>(M4 x 35 mm {1- 3/8 inches}) ..... 1 pc.                                |
| Ⓔ 4P alarm cable ..... 1 pc.                                                                          | ⓐ Safety wire lug ..... 1 pc.                                                                           |
| Ⓕ 2P power cable ..... 1 pc.                                                                          | ⓑ Protection cover ..... 1 pc.                                                                          |
| Ⓖ MONITOR OUT conversion plug*3 ..... 1 pc.                                                           | ⓓ Adapter box ..... 1 pc.                                                                               |
| Ⓗ Safety wire ..... 1 pc.                                                                             | ⓔ Mounting screws for adapter box (M5 x 20<br>mm {13/16 inches}) ..... 5 pcs.<br>(of them, 1 for spare) |
|                                                                                                       | ⓕ Adapter box mounting screw<br>(M4 x 35 mm {1- 3/8 inches}) ..... 1 pc.                                |

\*3 The audio/monitor output cable can be switched to be used as MONITOR OUT using the software. The MONITOR OUT conversion plug is used to connect the camera to the audio/monitor output cable and to convert a stereo mini jack (ø3.5 mm) {1/8 inches} into an RCA pin output jack.



#### NTSC/PAL switch

- Switches the MONITOR OUT terminal output between NTSC and PAL.

#### Note:

- Use a thin, non-conductive tool to press the switch.

#### INITIAL SET button

- How to initialize the camera

Follow the steps below to initialize the network camera.

- Turn off the power of the camera. When using a PoE hub, disconnect the LAN cable from the camera. When using an external power supply, disconnect the 2P power cable plug from the camera.
- Turn on the power of the camera while holding down the INITIAL SET button, and then keep holding down the button for 5 seconds or more. About 2 minutes after you have released the INITIAL SET button, the camera will start up and the settings including the network settings will be initialized.

#### IMPORTANT:

- When the camera is initialized, the settings including the network settings will be initialized. Note that the CRT key (SSL encryption key) used for the HTTPS protocol will not be initialized.
- Before initializing the settings, it is recommended to write down the settings in advance.
- Do not turn off the power of the camera during the process of initialization. Otherwise, it may fail to initialize and may cause malfunction.

#### SD ON/OFF button

- When the SD ON/OFF button is pressed for less than 1 second, the SD MOUNT indicator is lit green and data can be saved to the SD memory card\*.
- When the SD ON/OFF button is held down for about 2 seconds, the SD MOUNT indicator goes out, and the SD memory card can be removed.

#### SD MOUNT indicator

- When an SD memory card is inserted and could be recognized
- When data can be saved after the SD memory card is inserted and the SD ON/OFF button is pressed (for less than 1 second)
- When data can be saved to the SD memory card
- When the SD memory card is removed after holding down the SD ON/OFF button for about 2 seconds

Lights off → Blinks green →  
Lights off  
Lights off → Lights green

Lights green  
Lights green → Blinks green →  
Lights off (recording)  
Lights green →  
Lights off (waiting for recording)  
Lights off

#### SD ERROR/AF indicator

- When data cannot be saved to the SD memory card because an abnormality was detected or the SD memory card is configured not to be used
- When AF (Auto Focus) operation is being executed
- When the camera is being started
- When an SD memory card is recognized normally
- When the SD memory card slot is not used or an abnormality is detected in SD memory card after the camera has started

Blinks red (about once per second)  
Lights red  
Lights red → Lights off  
Lights red → Stays red

#### ACT indicator

- When data is being sent via the network camera

Blinks green (accessing)

#### LINK indicator

- When the camera is able to communicate with the connected device

Lights orange

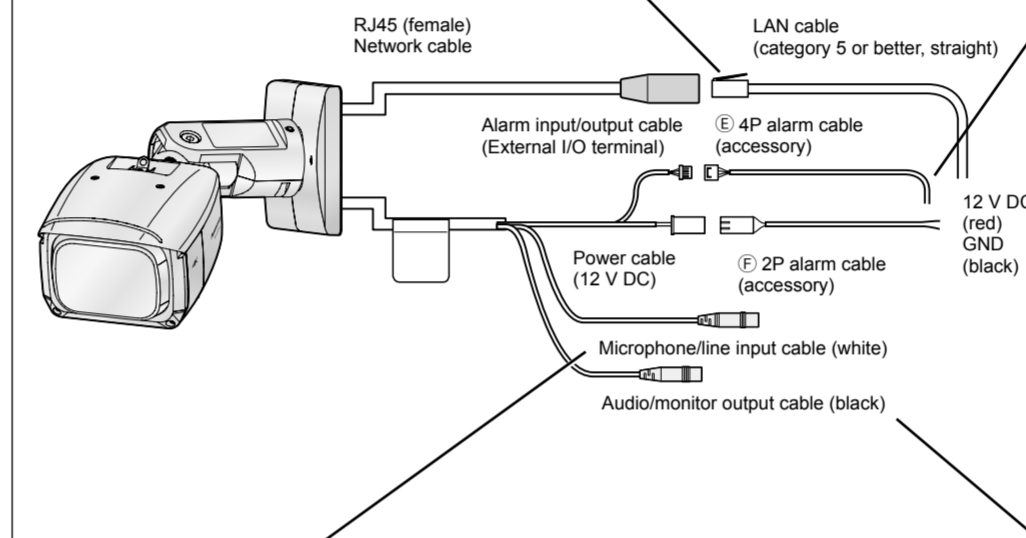
## Making connections

Turn off each system's power supply before making a connection. Before making connections, prepare the required peripheral devices and cables.

### Connect a LAN cable (category 5 or better, straight)

#### IMPORTANT:

- Use all 4 pairs (8 pins) of the LAN cable (category 5 or better, straight).
- The maximum cable length is 100 m {328 feet}.
- Make sure that the PoE device in use is compliant with IEEE802.3af standard.
- When connecting both the 12 V DC power supply and the PoE device for power supply, 12 V DC will be used for power supply.
- \*If a 12 V DC power supply and a PoE hub or router are used at the same time, network connections may not be possible. In this case, disable the PoE settings. Refer to the operating instructions of the PoE hub or router in use.
- \*Depending on the PoE device used, if you stop the 12 V DC power supply after operating it and a PoE hub or router at the same time, the power supply may stop, causing the camera to restart.
- When the LAN cable is disconnected once, reconnect the cable after around 2 seconds. When the cable is quickly reconnected, the power may not be supplied from the PoE device.
- When cables are used outdoors, there is a chance that they may be affected by lightning. In this case, install a lightning arrester just before where the LAN cable connects to the camera.



### Microphone/line input cable

Connect a stereo mini plug (ø3.5 mm {1/8 inches}).

- Input impedance: Approx. 2 kΩ (unbalanced)
- Recommended cable length: Less than 1 m {3.28 feet} (for microphone input) Less than 10 m {32.8 feet} (for line input)
- Recommended microphone: Plug-in power type (option)
- Supply voltage: 2.5 V ±0.5 V
- Recommended sensitivity of microphone: -48 dB ±3 dB (0 dB=1 V/Pa, 1 kHz)
- Input level for line input: Approx. -10 dBV

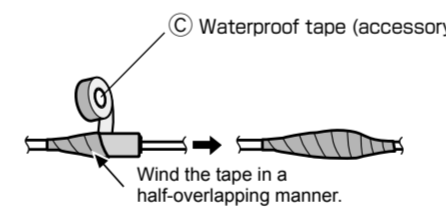
### Waterproof treatment for the cable joint sections

Adequate waterproof treatment is required for the cables when installing the camera with cables exposed or installing it under the eaves.

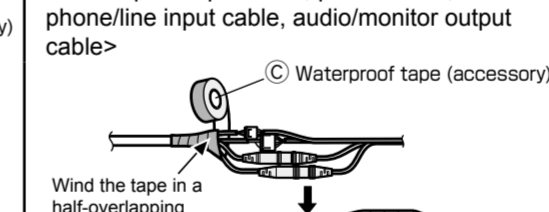
The camera body is waterproof, but the cable ends are not waterproof. Be sure to use the supplied waterproof tape at the points where the cables are connected to apply waterproof treatment in the following procedure.

Failure to observe this or use of a tape other than the provided waterproof tape (such as a vinyl tape) may cause water leakage resulting in malfunction.

#### <LAN cable>

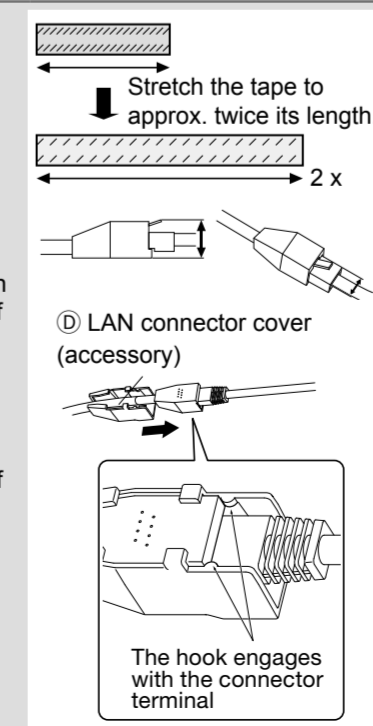


#### <Alarm input/output cable, power cable, microphone/line input cable, audio/monitor output cable>



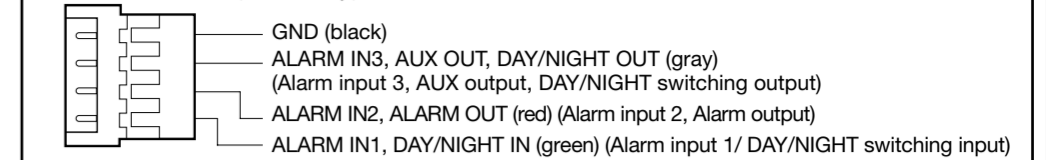
#### IMPORTANT:

- Also waterproof the 2P power cable (accessory), 4P alarm cable (accessory), and external connections in the same way.
- Stretch the tape to approx. twice its length (see the illustration) and wind it around the cable. Insufficient tape stretch causes insufficient waterproofing.
- To prevent the LAN cable hook from coming loose easily, fit the LAN connector cover (accessory) onto the pigtail cable as illustrated, and then slide it in the direction indicated by the arrow. The connector of the LAN cable used with this camera must meet the following restrictions.  
Height when inserted (From bottom to hook.): Max. 16 mm {5/8 inches}  
Connector width: Max. 14 mm {9/16 inches}
- To install this product outdoors, be sure to waterproof the cables.  
Waterproof grade (IEC IP66 or equivalent) is applied to this product only when it is installed correctly as described in these operating instructions and appropriate waterproof treatment is applied.  
The camera mount bracket is not waterproof.



### Connect the alarm input/output cable

#### ⓔ 4P alarm cable (accessory)



#### <Ratings>

- ALARM IN1 (DAY/NIGHT IN), ALARM IN2, ALARM IN3  
Input specification: No-voltage make contact input (4 V - 5 V DC, internally pulled up)  
OFF: Open or 4 V - 5 V DC  
ON: Make contact with GND (required drive current: 1 mA or more)
- ALARM OUT, AUX OUT (DAY/NIGHT OUT)  
Output specification: Open collector output (maximum applied voltage: 20 V DC)  
Open: 4 V - 5 V DC by internal pull-up  
Close: Output voltage 1 V DC or less (maximum drive current: 50 mA)  
\* The default of EXT I/O terminals is "Off".

#### IMPORTANT:

- Be sure to use the 4P alarm cable (accessory) provided with this product.
- Install external devices so that they do not exceed the ratings above.
- When using the external I/O terminals as the output terminals, ensure they do not cause signal collision with external signals.

#### Note:

- Off, input, and output of the external I/O terminal 2 and 3 can be switched by configuring the setting. Refer to the Operating Instructions on the provided CD-ROM for further information about the external I/O terminal 2 and 3 (ALARM IN2, 3) settings ("Off", "Alarm input", "Alarm output", "AUX output" or "DAY/NIGHT switching output").

### Connect the power cable

#### Caution:

- A READILY ACCESSIBLE DISCONNECT DEVICE SHALL BE INCORPORATED TO THE EQUIPMENT POWERED BY 12 V DC POWER SUPPLY.
- ONLY CONNECT 12 V DC CLASS 2 POWER SUPPLY (UL 1310/CSA 223) or LIMITED POWER SOURCE (IEC/EN/UL/CSA 60950-1).

#### Power cable

	12 V DC
Red	Positive
Black	Negative

Connect the output cable of the AC adaptor to the 2P power cable (accessory).

#### IMPORTANT:

- Use 12 V DC power supply that is insulated from the commercial AC power.
- Be sure to use the 2P power cable (accessory) provided with this product.
- Be sure to fully insert the 2P power cable (accessory) into the 12 V DC power supply terminal. Otherwise, it may damage the camera or cause malfunction.
- When installing the camera, make sure that excessive force is not applied to the power cable.
- Be sure to use an AC adaptor compliant with the specifications (written in the indication label on the bottom side of this unit) regarding power source and power consumption.

### Connect an external amplifier-embedded speaker to the audio/monitor output cable

Connect a stereo mini plug (ø3.5 mm {1/8 inches}). \*Use an external powered speaker.

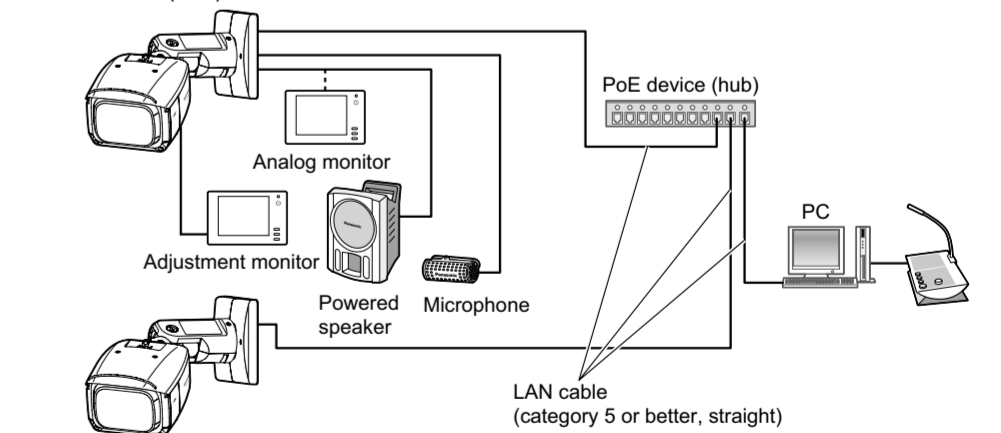
- Output impedance: Approx. 600 Ω (unbalanced)
- Recommended cable length: Less than 10 m {32.8 feet}
- Output level: -20 dBV (can switch to monitor output)

#### IMPORTANT:

- Connect/disconnect the audio cables and turn on the power of the camera after turning off the power of the audio output devices. Otherwise, loud noise may be heard from the speaker.
- Make sure that the stereo mini plug is connected to this cable. When a monaural mini plug is connected, audio may not be heard. When connecting a monaural speaker with amplifier, use a locally procured conversion cable (mono-stereo).

### When connecting to a network using a PoE hub

Before starting the installation, check the entire system configuration. The following illustration gives a wiring example of how to connect the camera to the network via a PoE device (hub).



#### <Required cable>

- LAN cable (category 5 or better, straight)
- Use a LAN cable (category 5 or better, cross) when directly connecting the camera to a PC.

#### IMPORTANT:

- The adjustment monitor is used to adjust the field of view when installing or servicing the camera. It is not provided for recording/monitoring use.
- Depending on the adjustment monitor, some characters (camera title, preset ID, etc.) may not be displayed on the screen.
- Use a switching hub or a router which is compliant with 10BASE-T/100BASE-TX.
- If a PoE hub is not used, each network camera must be connected to a 12 V DC power supply.
- When using 12 V DC, power supply from a PoE hub or router is not required.

