



# Mounting this Camera

**Note**

- Special attention is required when installing the camera to the wall or ceiling. You should not carry out installation work yourself. Ask a professional to do the job, because injuries and accidents may occur if the camera falls.
- To prevent this camera from falling, connect it to a strong section (a ceiling slab or channel) using a fall prevention wire.
- When you attach the camera body to the ceiling, be sure to wear safety goggles to protect your eyes from falling objects.

## Mounting the lens (VN-H57U/VN-H37U)

**Note**

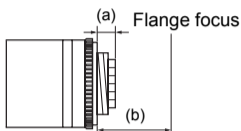
- Use a Megapixel lens only.

### 1 Check the lens mount before mounting the lens.

- The VN-H37U has the CS mount.
- The lens mount size (a) must be as shown in the table below.

Lens	Flange focus (b)	Dimension (a)
CS mount lens	12.5 mm	5.5 mm or less

- Never use a lens whose dimension (a) is more than the specified value. Otherwise, the lens may not be mounted correctly, or internal parts of the camera may be damaged. Also, the camera may fail.



### 2 Mount the lens securely by rotating it clockwise (CW).

### 3 When using a DC iris lens, connect the lens cable to the IRIS terminal at the side of this camera.

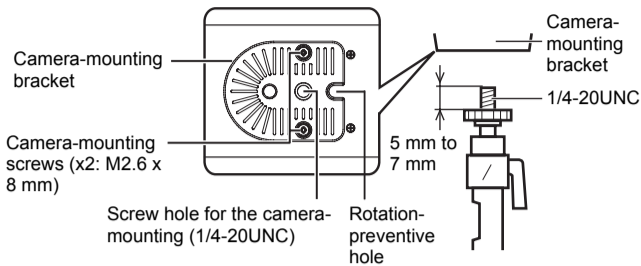
**Memo**

- You cannot use a video iris lens.
- If the lens cable plug does not match, use a 4-pin plug. [4-pin plug part number: SCV2859-001] The 4-pin plug is available from the dealer or a JVC Service Center.

## Mounting this camera onto a fixer, pan/tilt unit and similar object

When you mount the camera onto a fixer, pan/tilt unit or similar object, use the tripod screw hole (1/4-20UNC) of the camera-mounting bracket.

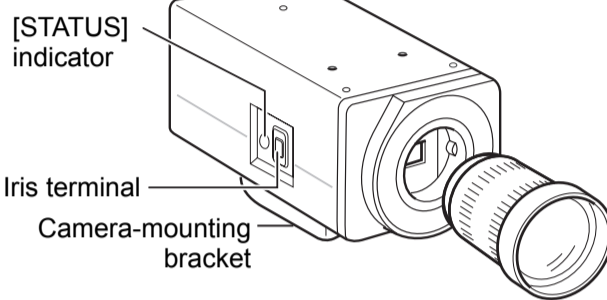
When you mount the camera on a high place, fix the fall-prevention wire to the wire attachment screw on the camera rear panel.



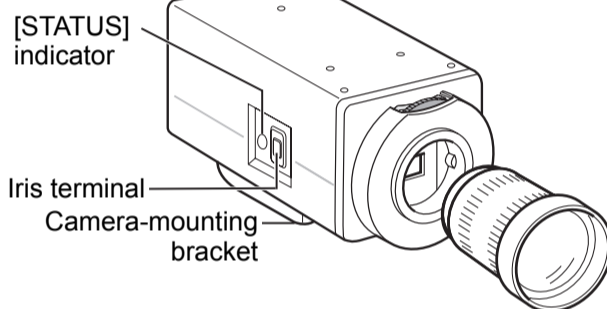
**Note**

- Tighten setscrews securely.
- Use the screws to mount the camera so that the screws protrude between 5 and 7 mm from the mounting surface. Do not use screws that exceed the specified length as it may damage the internal parts.

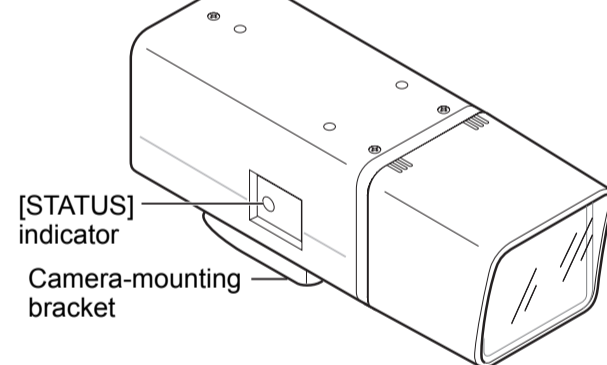
### VN-H57U



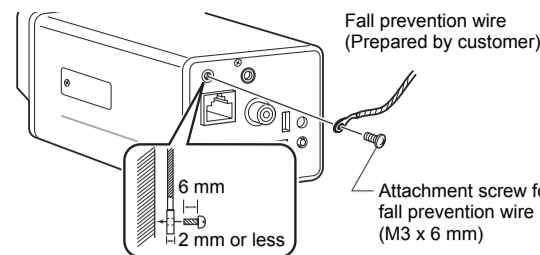
### VN-H37U



### VN-H137U



## Mounting the fall prevention wire



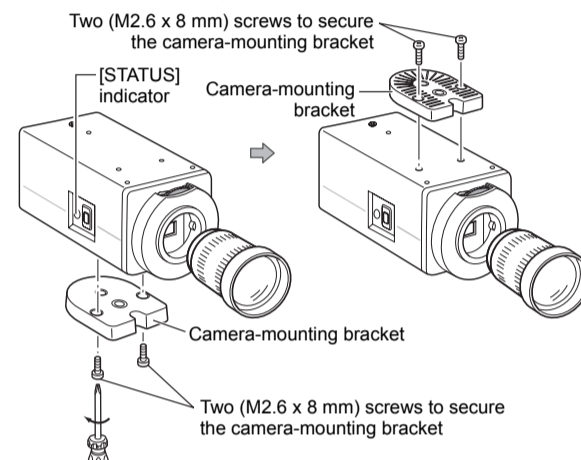
**Note**

- Take note of the length, strength and pull of the fall prevention wire. For the fall prevention wire use the insulation material. Make the wire length as short as possible. The wire must be sufficiently strong to hold the weight of the camera and the total weight of the lens and fixer. (Also, make sure that the wire ends are terminated carefully)
- Use the screws mounted on the camera rear panel to hold the fall prevention wire.
- Mount the fall prevention wire using an attachment screw for the fall prevention wire. Use the screws (M3 x 6 mm) mounted on the rear panel of the camera to hold the fall prevention wire. Do not use a screw that is longer than 6 mm as doing so may damage the inside of the camera.

## Attach the camera-mounting bracket to the top of this camera

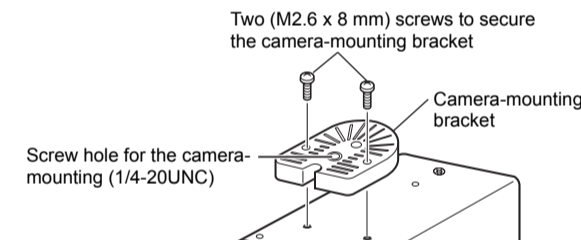
**Memo**

- The bracket is attached to the bottom of this camera before being shipped from the factory. Remove two screws for the camera-mounting bracket and attach the bracket to the top of the camera if required.



**Note**

- Use setscrews with a length of 8 mm or less to secure the camera-mounting bracket. Do not use screws that exceed the specified length as it may damage the internal parts.



# Attaching cables

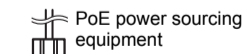
## Power Connection

### When using the PoE cable (Common)

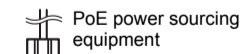
- Power is supplied via the LAN cable. Connect the PoE power sourcing equipment.
- When power is supplied, the [STATUS] indicator lights up orange on the side of this camera and lights up green after booting.

**Memo**

- You can also turn the [STATUS] indication Off when the camera is operating. For details about the settings, see "Instructions (Setting)" on the supplied CD-ROM.
- A Category-5 or higher grade cable is recommended for 100BASE-TX communication.
- Be sure to properly ground the PoE power sourcing equipment before use.



VN-H57U



VN-H37U/VN-H137U

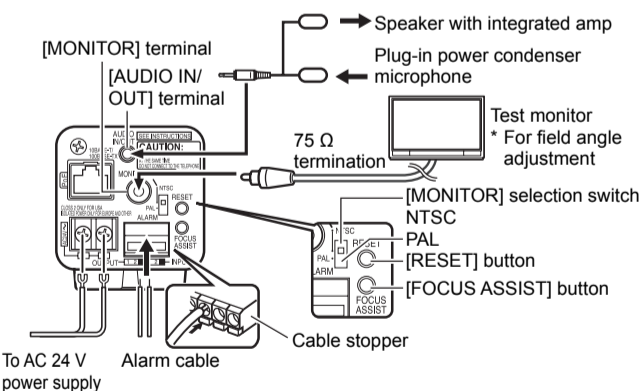
### When connecting the AC 24 V power cable (VN-H57U)

- When power is supplied, the [STATUS] indicator lights up on the camera side panel.

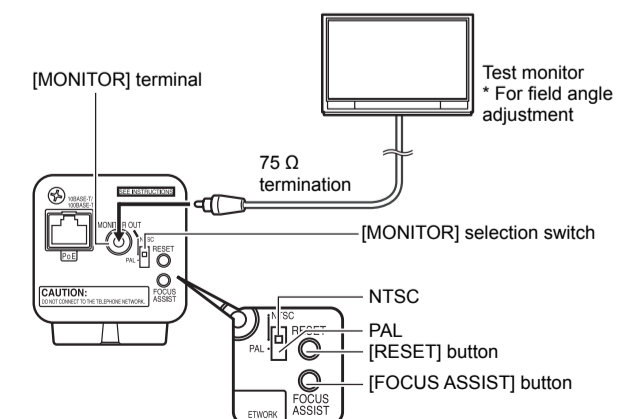
**Note**

- Always use an AC 24 V power supply that is insulated from the primary power circuit. An autotransformer or similar single-winding transformer may fail or damage the camera.
- If you use both the AC 24 V power cable and the PoE-based LAN cable simultaneously, the camera may fail. Always supply power using either method.

### VN-H57U



### VN-H37U/VN-H137U



**Memo**

- The camera has the 16:9 aspect ratio. If the test monitor for checking the image has the 4:3 aspect ratio, the camera image is converted and displayed in the 4:3 ratio.

## Connecting the monitor signal output terminal to the coaxial cable (Common)

Connect a test monitor to the [MONITOR] terminal. Use this terminal to adjust the field angle during camera setup and to adjust the focus in Focus Assist mode. Connect an RCA video cable from this MONITOR terminal to the video monitor. When using a PAL system monitor, set the [MONITOR] switch to the "PAL" position. Then, press the RESET button to restart the camera.

**Note**

- If you extend the cable, more signals attenuate, the video resolution drops, and video noise increases. A cable with lower attenuation is recommended for when the camera is attached.
- If you keep pressing the [RESET] button for more than 5s, the camera enters the Service mode. Do not press this button for more than 5s.

## Connecting the Audio cable (VN-H57U)

Connect the stereo mini jack cable to the [AUDIO IN/OUT] terminal (Φ3.5 mm). For details about the audio cable, refer to [Audio cable connection] (page 4).

## Alarm I/O Terminal Connection (VN-H57U)

**Note**

- An ambient noise source may cause a malfunction of the camera even if the cable length is 50 meters or less. In that case, keep the noise source away from the camera system.
- The cable stopper may drop from the Alarm terminal. Securely connect the cables.

## Turn on the power

After connections and installations are completed, turn on the power to the unit. When the camera is booting, the [STATUS] indicator lights up orange. It lights up green after booting.

## Image Adjustment (VN-H137U)

Adjust the field angle and the focus while checking the actual image on the monitor.

### Note

- Before you touch this camera, be sure to touch the metal surface of the monitor terminal first in order to discharge static electricity. Otherwise, static electricity may cause the camera to malfunction.

## Adjust the field angle and focus

### 1 Remove the lens cover.

Press the lens cover marking (either A or B) up and down, release either catch, and then release another catch from this camera.

### Note

- Do not forcibly pull the lens cover. If you do so, the fall prevention sheet may be removed.
- When mounting the lens cover, be careful not to pinch the protection sheet.
- Remove the lens cover by pulling it straight, and exercise care not to hit the lens. If the lens is hit, it may be scratched by the lens cover.

### 2 Adjust the direction of the camera.

Direct the camera at the target.

### Note

- Do not hold the lens section when adjusting the direction of the camera. The lens section may be damaged if you apply force to it.

### 3 Adjust the field angle.

Loosen the zoom ring setscrew, and adjust the image size by rotating the zoom ring to the right or left. After completing the adjustment, move the fastening screw toward the direction of the lens (direction of the subject), and tighten the screw accordingly.

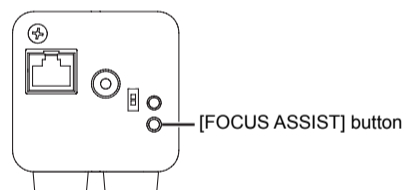
### 4 Adjust the focus.

- 1 Lift the focusing gear control, release the catch from position C and insert it into position D to disengage the gear.
- 2 Loosen the focusing ring setscrew, and focus the image by rotating the ring to the right or left.

### Note

- If you open the gear beyond position D, the gear shaft is released from the bearing (E in the figure) to prevent it from being damaged. In this case, insert the shaft into bearing E (the original position) again and use them.

## Finely adjust the focus



### 1 Press the [FOCUS ASSIST] button.

- The camera enters Focus Assist mode, and [STATUS] indicator flashes green and orange alternately.
- The image is sharpened with the opening of the aperture.

### 2 Shoot the subject.

### 3 Finely adjust the focus.

Return the catch to C from D in the diagram, and rotate the focus adjustment gear knob to adjust the focus to the optimum position.

### 4 Fix the focusing ring.

Hold and press the focus adjustment gear between your fingers in the arrow direction of the figure, and tighten screw of focus adjusting ring.

### 5 Release the Focus Assist mode.

- When you release the Focus Assist mode by pressing the [FOCUS ASSIST] button, the [STATUS] indicator lights in green.
- Mount the lens cover.

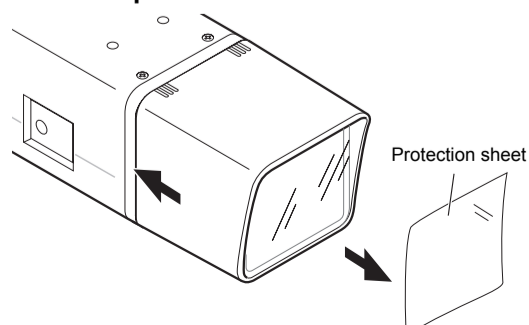
## Mount the lens cover

### 1 Mount the lens cover.

### Note

- Mount the lens cover carefully to avoid hitting the lens. If the lens is hit, it may be scratched by the lens cover.
- Mount the lens cover securely.

### 2 Remove the protection sheet.



## Image Adjustment (VN-H57U/VN-H37U)

Adjust the field angle and the focus while checking the actual image on the monitor.

### Note

- Before you touch this camera, be sure to touch the metal surface of the monitor terminal first in order to discharge static electricity. Otherwise, static electricity may cause the camera to malfunction.

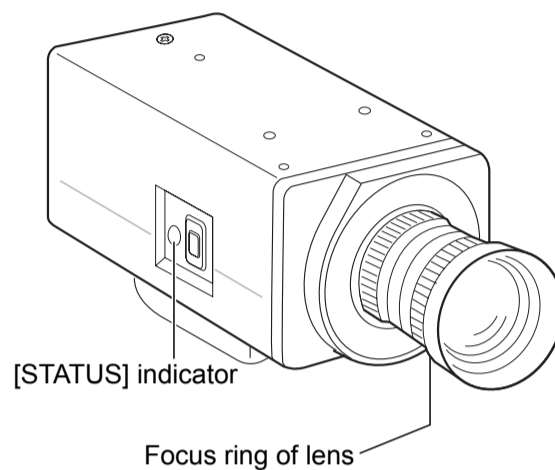
## Adjust the direction of the camera

Direct the camera at the target.

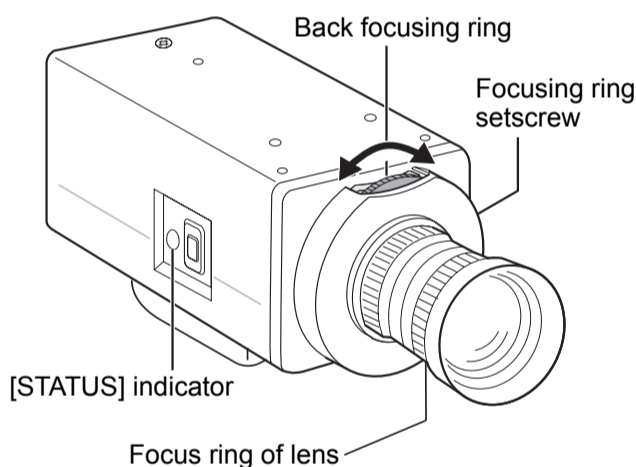
### Note

- Do not hold the lens section when adjusting the direction of the camera. The lens section may be damaged if you apply force to it.

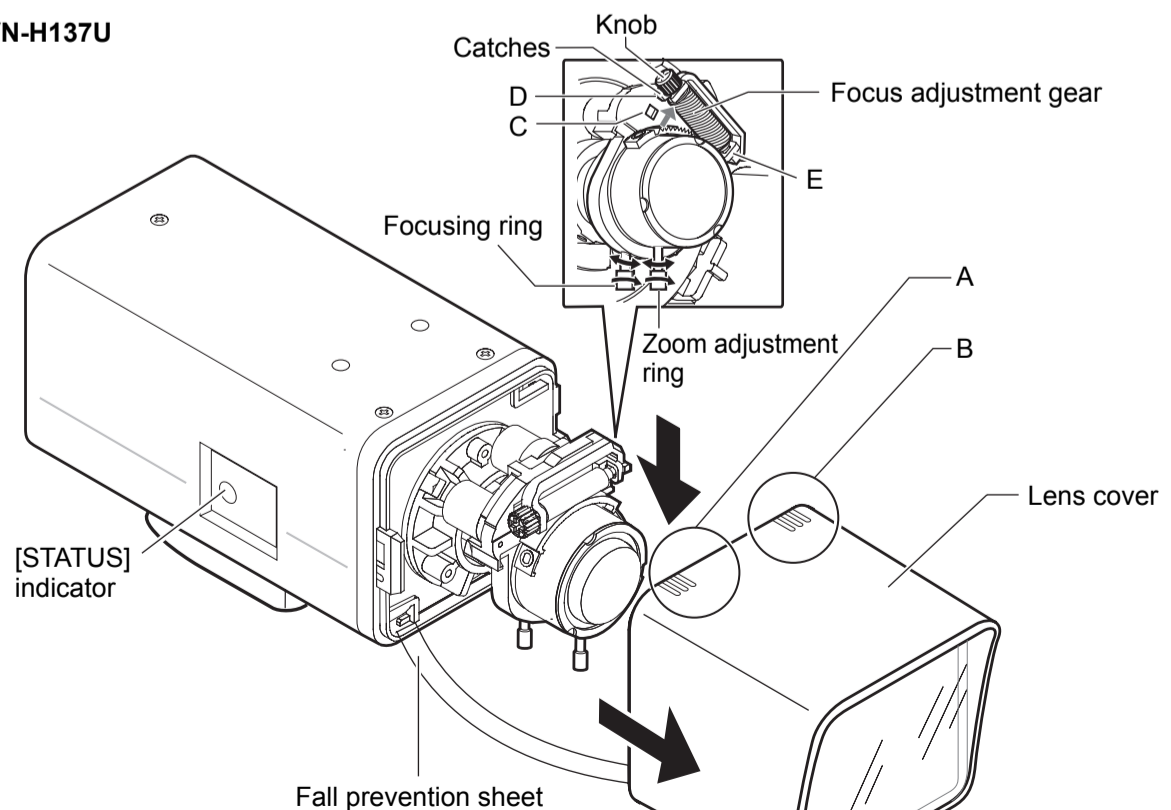
### VN-H57U



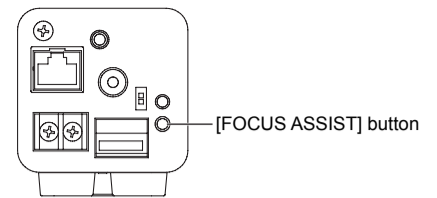
### VN-H37U



### VN-H137U



## Adjust the field angle and focus



### 1 Shoot the subject and press the [FOCUS ASSIST] button.

- The camera enters Focus Assist mode, and [STATUS] indicator flashes green and orange alternately.

### 2 Adjust the focus of the lens.

#### VN-H37U camera

- 1 Loosen the back focus setscrew using a cross slot screwdriver.
- 2 Shoot the fine designs farther than the subject you are shooting.
- 3 Connect the camera to a computer, and open the Built-in Viewer.
  - For details about computer settings and methods for connecting the camera to a computer, refer to "Instructions (IP Address Settings)".
- 4 Select "Lens Type" from the "Lens" page in "Advanced Settings".
  - For details on the lens type, refer to "Instructions (Setting)" on the supplied CD-ROM.
- 5 Adjust the back focus.

#### With a Fixed-Focus Lens

- Set the focus ring of the lens to the  $\infty$  position.
- Rotate the back focusing ring to adjust the focus.

#### With a Zoom Lens

- Zoom the lens to the tele position, and focus an image by rotating the focus ring of lens.
- Zoom the lens to the wide position, and adjust the focus by rotating the back focusing ring.

- 6 Tighten the back focus setscrews by turning them to securely fix them.

#### VN-H57U camera

- 1 Turn the lens focus ring to adjust the focus.
- 2 When you finish adjustment, secure the lens focus.
- 3 Press the [FOCUS ASSIST] button to release the Focus Assist mode.
- 4 Connect the camera to a computer, and open the Built-in Viewer.
  - For details about computer settings and methods for connecting the camera to a computer, refer to "Instructions (IP Address Settings)".
- 5 Select "Lens Type" from the "Lens" page in "Advanced Settings".
  - For details on the lens type, refer to "Instructions (Setting)" on the supplied CD-ROM.
- 6 Select "Day Focus Adjust" from the "Focus" page in "Advanced Settings".
  - The back focus position is automatically adjusted. Adjust the back focus position to finely adjust the focus.
  - For details on back focus, refer to "Instructions (Setting)" on the supplied CD-ROM.

### Note

- It may be difficult to acquire focus the following places.
  - Too bright places.
  - Too dark places.
  - Places where brightness always flickering; people are passing by
  - Places where there is little contrast
  - Places where there are repeating
- The focus position can be manually adjusted by using the Built-in Viewer installed on your computer connected to the camera. (☞ "Instructions (Setting)") Resort to this method if it is difficult to acquire focus automatically.
- If you have changed the lens after performing automatic focus adjustment, initialize the back focus position via the "Focus" page, and perform focus adjustment again from step 1.
- If you experience difficulty with automatic focusing, select "Manual Focus" from the "Focus" page, and manually adjust the focus to the optimal position.
- When using a zoom lens, focus the lens, and then select "Manual Focus" to perform focus adjustment for the zoom range.

## Cables

### Connecting the power cable to AC 24 V source (VN-H57U)

Conductor diameter (mm)	1.0 mm dia or more	1.6 mm dia or more	2.0 mm dia or more
Max cable distance (meters) (Reference value)	90	240	370

#### Note

- For safety reasons, turn on the power only after confirming that all the connections are completed.
- Be sure to turn off the camera before connecting cables.
- If you use both the AC 24 V power cable and the PoE-based LAN cable simultaneously, the camera may fail. Always supply power using either method.

### LAN cable

- When connecting to a switching hub: Use a straight cable.
- When connecting to a computer: Use a crossing cable.
- A 100-meter or less length and Category-5 or higher grade STP (shielded) cable is recommended.

#### Note

- The crossing cable may not be used for some computer models. Check the LAN specifications of the computer when you directly connect this unit to the computer.

### Alarm I/O cable (VN-H57U)

- A 50-meter or less length shielded cable is recommended.

## Audio cable connection (VN-H57U)

Connect the stereo mini jack cable ( $\Phi$  3.5).

R channel (MIC IN) : Connect to a condenser microphone that has a plug-in power system.

L channel (LINE OUT) : Connect to a speaker that has a built-in amp.

#### Note

- Always connect an external mic to the R channel only. If you plug the mic jack directly into the [AUDIO IN/OUT] terminal, a loud noise may be generated.

#### Memo

- A shielded audio cable is recommended.
- For the location to connect the audio cable, refer to [Cabling] (page 2).

## Alarm I/O cable connection (VN-H57U)

### Alarm input

Connect an infrared sensor, door sensor, metal sensor, a manual switch or other device.

- To avoid noise entering the internal circuit, enter the non-voltage contact signal in the Alarm IN terminal.
- Do not supply voltage.
- The alarm can be set to be activated during close contact (MAKE) or during open contact (BREAK) can be set from the menu.
- The alarm signal should last for at least 500 msec. If the alarm signal is short, it may not be recognized.

### Input conditions

- Connect non-voltage a contact or open collector output circuit (For details on how to set polarities, please refer to "Instructions (Settings)".)
- Low level terminal current below 1 mA
- High level terminal current 3.3 V

### Alarm output

Connect an alarm device, indicator, lighting, buzzer or other device.

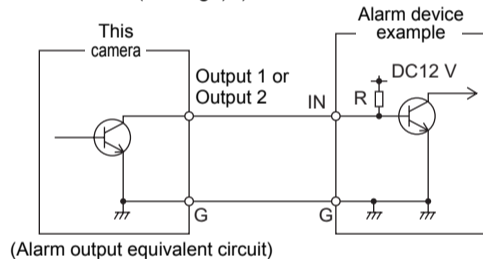
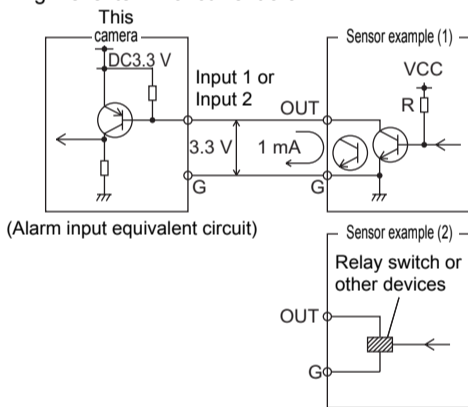
- An alarm output signal is an open collector output. You can configure the menu to set the alarm to sound when contacts short circuit (MAKE) or when the contacts are open (BREAK). (Pressure resistance lower than 16V, 30 mA)
- This terminal has different polarities. The output voltage at the positive terminal must always be higher than the output voltage at the negative terminal. Otherwise, the circuit may be damaged.

### Output conditions

- Equivalent to NPN open collector output (For details on how to set the output logic, please refer to "Instructions (Settings)".)
- Safe excitation voltage: DC16 V or lower
- Allowable surge current: 30 mA
- Momentary (100 ms to 5000 ms) output (For details on how to set the time, please refer to "Instructions (Settings)".)

#### Note

- Connect the G terminal cable of this camera to the GND of the alarm device.



- For connecting the Alarm I/O cable, refer to [Cabling] (page 2).

## Troubleshooting

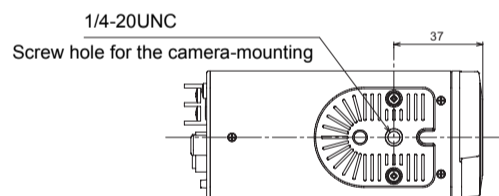
Symptom	Causes and Countermeasures
Movement of network image is not smooth	<ul style="list-style-type: none"> <li>If the monitor image output is turned ON, a lower frame rate is set for network images.</li> <li>If you turned the monitor image output to OFF, set the frame rate again. (Instructions (Setting) - "Internet Explorer Setting" - "Encoding Page")</li> </ul>
No monitor image is output.	The image output may be turned Off on Internet Explorer. Check the monitor output setting.
The external mic sound is not heard.	<ul style="list-style-type: none"> <li>Check the MIC connection.</li> <li>Is the audio setting turned off? (Instructions (Setting) - "Audio Page")</li> </ul>
Lens is out of focus	<ul style="list-style-type: none"> <li>Is the focus adjustment gear engaged? Check the location of the catch. (VN-H137U)</li> <li>Make sure that the lens is compatible with a CS mount. (VN-H57U/VN-H37U)</li> <li>After initializing the back focus position (Instructions (Setting) - "Focus Page"), perform focus adjustment again. (VN-H57U)</li> <li>Rotate the back focusing ring to adjust the focus. (VN-H37U)</li> </ul>

## Specifications

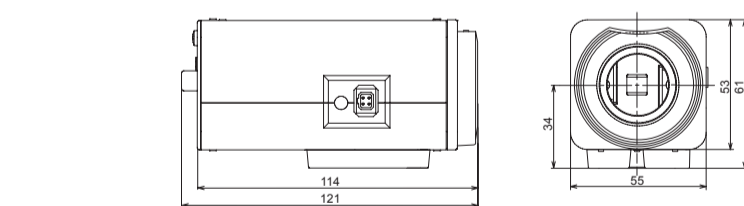
\* The specifications and appearance of this unit are subject to change for purposes of improvement without prior notice.

	VN-H57U	VN-H37U	VN-H137U	
Camera section	Image sensor	1/3-inch Square-Pixel Progressive Scan CMOS (elementary color filter)		
	Effective pixels	Approximately 2,120,000 pixels 1944 (H)×1092 (V)		
	Lens mount	CS mount		
	Approved lens	Refer to our catalog.		
Minimum illuminance of subject	(F1.2, 50 % , AGC High, 1/30 s) Color: 0.3 lx (typ.) Black and White : 0.03 lx (typ.)		(50 % ,AGC High, 1/30 s) Color: 0.3 lx (typ.) Easy Day and Night : 0.25 lx (typ.)	
	Monitor output	75 $\Omega$ , 1.0 Vp-p NTSC or PAL (switch selectable)		
	Audio input	Input	mini-jack ( $\Phi$ 3.5 stereo R ch), can connect to a microphone that has a plug-in power system	
Reference voltage		DC2.47 V(typ.)		
Impedance		2.2 k $\Omega$ (typ.)		
Audio output	Line OUT (200 $\Omega$ , Max 1.9 Vp-p) mini jack ( $\Phi$ 3.5 stereo L ch)		-	
Network output	Image compression format	JPEG, H.264 High Profile, H.264 Baseline Profile, MPEG-4		
	Frame size	1920 × 1080 1280 × 960 1280 × 720 640 × 480 640 × 360 320 × 240		
	Audio compression formats	$\mu$ -Law (64 kbps), AD/DA 16 bits, Fs = 8 kHz, monaural	-	
	Network interface	RJ-45 100BASE-TX/10BASE-T/FULL/HALF/Auto-negotiation enabled		
Alarm input	No-voltage a contact input, PNP open collector input, low level, latch/momentary (500 msec or longer) (1 mA circuit current at low level, and 3.3 VDC applied voltage at high level)		-	
Alarm output	NPN open collector -output (12 VDC safe excitation voltage, and 30 mA allowable sink current)		-	
Alarm record	16 MB			
Lens	Focal length	-		f = 2.8 to 10.5 mm
	Maximum aperture ratio	-		F1.2 (f = 2.8 mm) to F2.6 (f = 10.5 mm)
	Aperture range	-		F1.2 to F360
	Zoom ratio	-		3.75 x
LAN standards	Standards	Compliant with IEEE802.3, IEEE802.3u and IEEE802.3af		
	Communication protocol	TCP/IP, UDP/IP, FTP, ICMP, ARP, DHCP, SNTP, HTTP, SMTP, RTP, RTSP, IPv4, IPv6, DSCP, HTTPS, SNMP		
General	Power supply voltage	AC24 V 50 Hz/60 Hz, or PoE(DC-48 V)	PoE(DC-48 V)	
	Current consumption	AC24 V 0.5 A, or PoE 150 mA (7.2 W)	120 mA	
	Ambient temperature	-10 °C to 50 °C (Operation) 0 °C to 40 °C (Recommended)		
	Ambient humidity	20 %RH to 90 %RH (without condensation)		
	Mass	Approx. 360 g	Approx. 340 g	Approx. 390 g

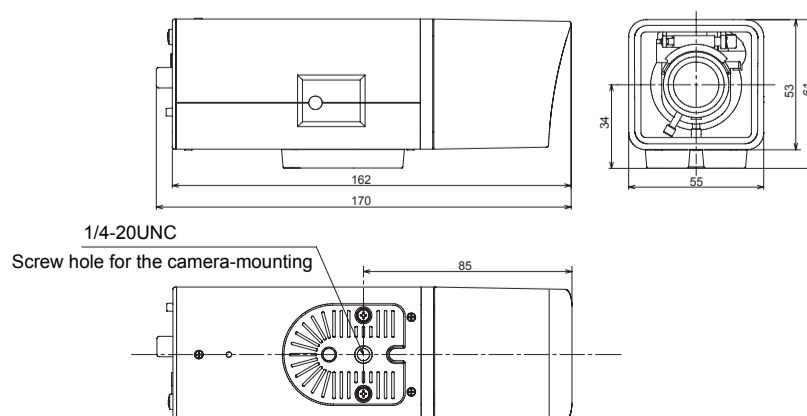
### VN-H57U External dimensions (unit: mm)



### VN-H37U External dimensions (unit: mm)



### VN-H137U External dimensions (unit: mm)



LST1230-001D

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