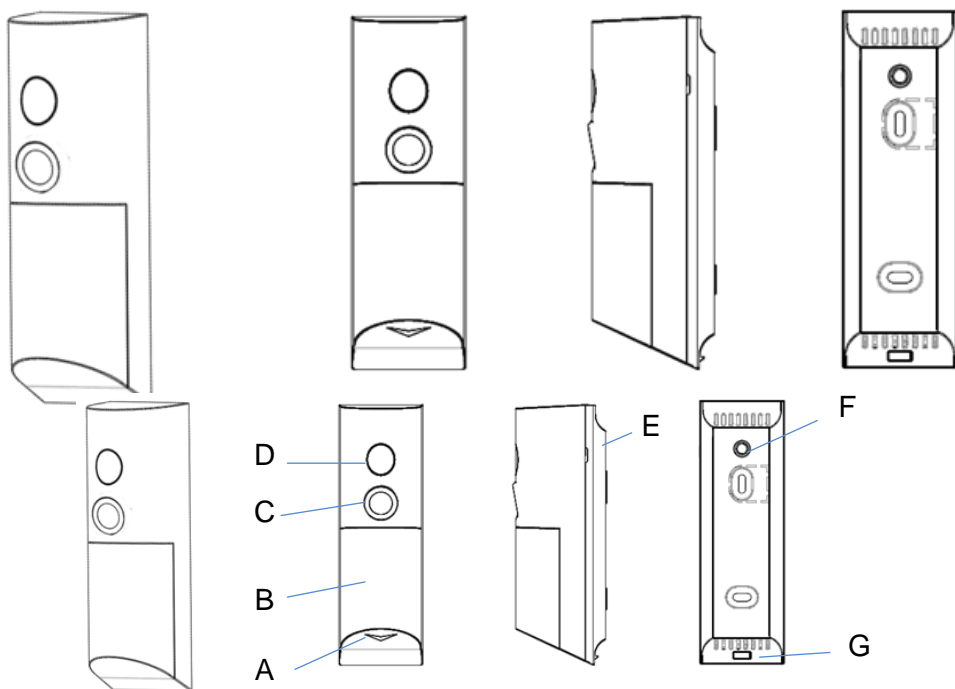


General Introduction

The SV201 PIRCAM is a detector combining Passive Infra-Red (PIR) sensor and image sensor to capture images when motion is detected. This is used for video verification at an alarm monitoring center to reduce false alarms events triggered from the protected site.

The device also supports on-demand photo capture by the controller, as requested by a user through the App, or as an action following an alarm condition or perhaps as part of a home automation scenes.

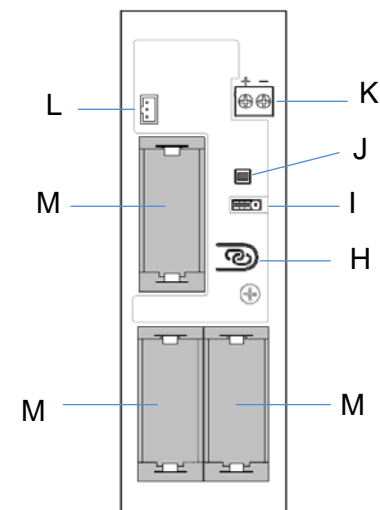
Its great compatibility with our U-Net family security products makes it suitable for smart home cloud based platforms such as VIAS.



A. LED indicator	E. Back cover
B. PIR sensor	F. Mounting hole for bracket screw
C. Camera	G. Back cover hook
D. IR LED	

Back cover removed:

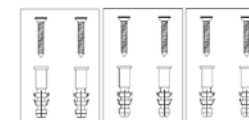
H. Binding button
I. LED jumper
J. Back cover tamper switch
K. External DC power
L. Test point, factory use only
M. Battery slot



Accessories



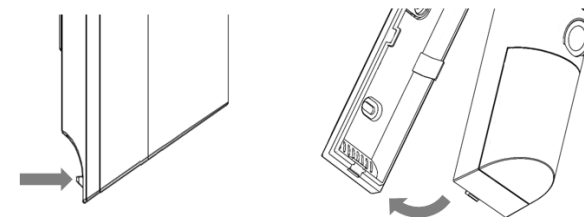
3M wall mount tapes



Screw packs

Pairing to controller

1. Open the back cover by pressing the back cover hook "G" (see Product Overview).



2. Insert 3 pcs of CR123A batteries. Note the polarity of the batteries before inserting into the battery slots. Once inserted, do not put back the back cover yet.
3. Login to the VIAS app, and select which controller to pair, which will then display the controller's main dashboard page.
4. Go to Menu (3-bar)> System Setup >Add device> choose SV201.
5. Follow the instruction on the APP to locate the Binding button "H" (see Product Overview) on the detector. When prompted, press and hold this button for more than 3 seconds until the blue "V" LED flashes moderately, then release the button.
6. The LED should stop blinking indicating the pairing process is complete.
7. Follow the on screen instruction to set up the detector.

IMPORTANT : To store photos taken by PIRCAM, the VIAS controller must be fitted with storage hardware for video, either an SSD or at least an SD card. Please refer to the user manual for the VIAS controller for details.

Mounting

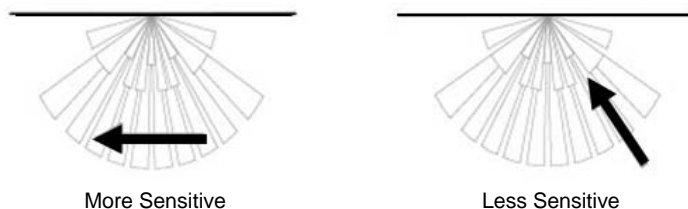
Choosing a location

The detector is suitable for mounting indoor in dry interior locations only.

When considering a location for the detector the following points should be considered:

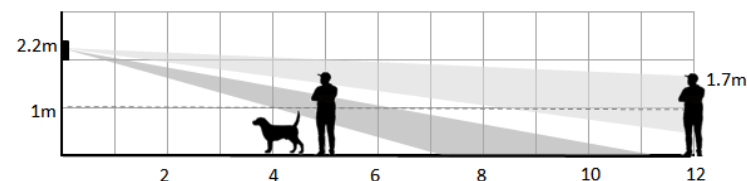
- Do not locate the detector facing a window or where it is exposed to or facing direct sunlight. PIR detectors are not suitable for use in conservatories.
- Do not locate the detector where it is exposed to ventilators.
- Do not locate the detector directly above a heat source, (e.g. fire, radiator, boiler, etc).
- Do not locate the detector in a position where it is subject to excessive vibration.

Where possible, mount the detector in the corner of the room so that the logical path of an intruder would cut across the detection zone. PIR detectors respond more effectively to movement across the detection area than to movement directly towards the sensor.

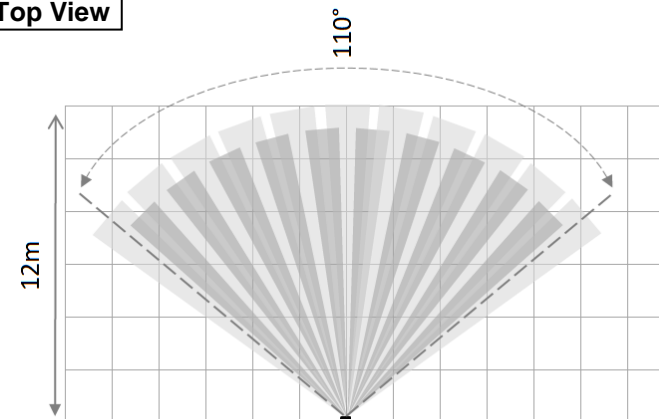


The recommended position for the motion sensor is on the wall of a room mounted at a height of 2.1~2.3 meters. At this height, the detector will optimize the detection range of up to 12 meters with a field of 110° and 8 meters with a field of 120°.

Side View



Top View

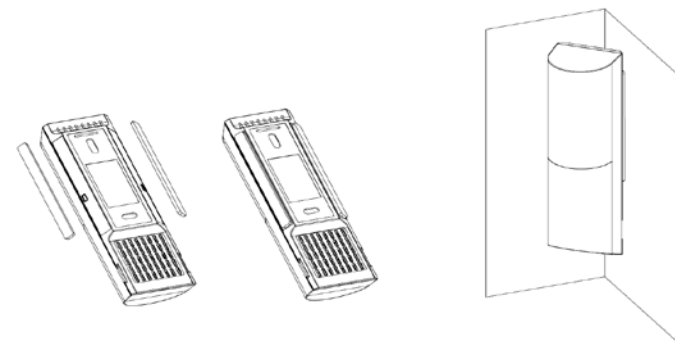


This detector is designed to be pet immune, meaning small pets or animals will not trigger the detector and cause false alarms. For pet immunity to be effective the pet's height and weight must not exceed 100cm/27kg respectively to avoid triggering the detector.

If the detector is installed below the recommended height, then the animals will move in the high sensitivity zone that may raise an alarm.

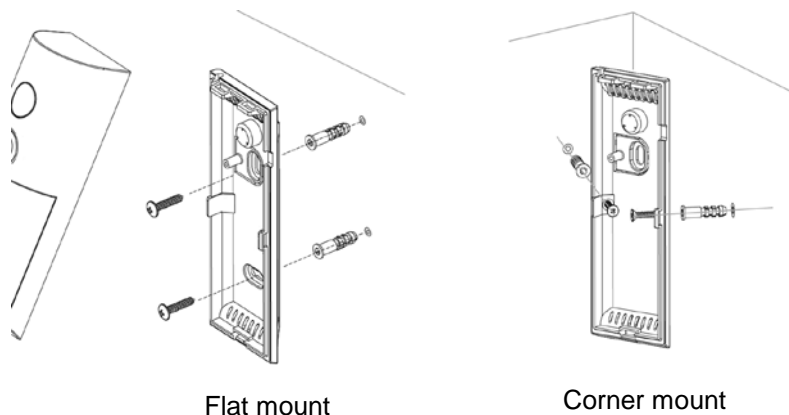
Wall mounting by tape

Stick the 3M tapes on surface "F" (see Product Overview) then align SV201 onto the wall corner.



Wall mounting by screw

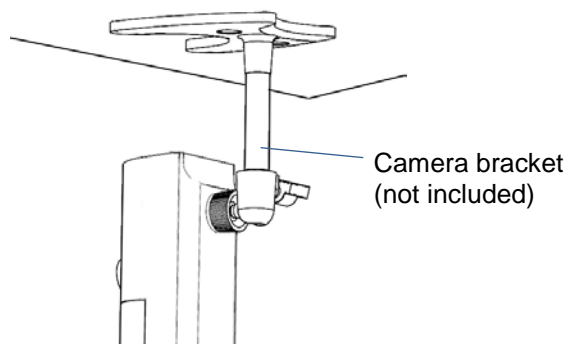
1. Using the back plate as a template, mark the positions of the fixing holes, according to whether the unit is mounted in a corner or against a flat wall.
2. Drill out the required mounting holes (diameter:5mm, depth:25mm) in the rear cover
3. Secure the back plate with the screws provided. (Do not over-tighten the fixing screws as this may distort or damage the back plate.)



4. Align the top of the detector to clip it onto the top edge of the back plate. Then push the bottom edge of the detector until it locks into place.

Ceiling mounting by bracket

The screw hole on the back cover is compatible with 1/4-20 UNC standard used on many tripods and surveillance camera bracket.

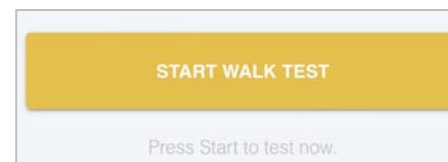


When using camera bracket, the built in accelerometer can be enabled to detect tamper by displacement. Refer to the Advanced Settings section.

Walk Test

Once mounted, the coverage area of the PIR can be tested using the Walk Test function of the VIAS app.

1. From the App, long press on the PIRCAM icon to enter the Sensor Information page.
2. Locate the "START WALK TEST" button at the bottom and press to start.



Note: Often the PIR may not be ready because it has been triggered recently. Stand away from the PIR's range and wait until the timer counter to expire before pressing again.

3. Once Walk Test has started, walk around detection area and observe the LED on the PIRCAM. Whenever motion is detected the LED will blink red, after which it will turn off for 2 secs before detecting the next motion.
4. Press STOP button when Walk Test is complete.

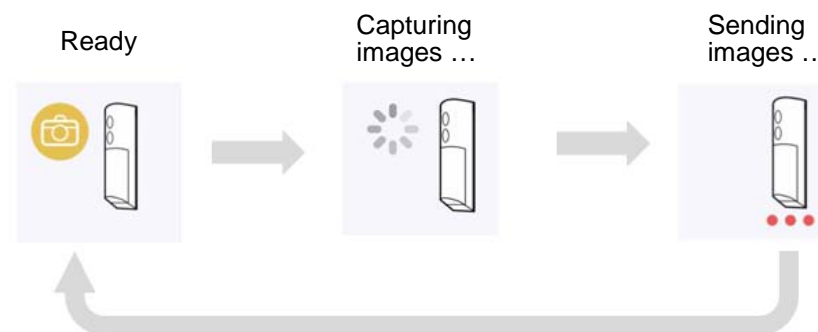
Note: When powered on, the PIR on the PIRCAM needs one minute to warm up before it can begin proper operation. This is indicated by a red LED blinking once every 3 seconds. Once the PIR is ready the red LED will turn on for about 5 seconds to commence operation.

Camera Operation

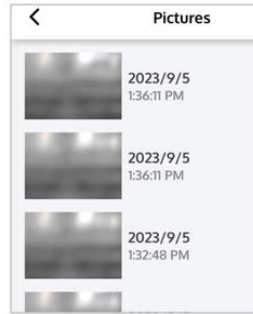
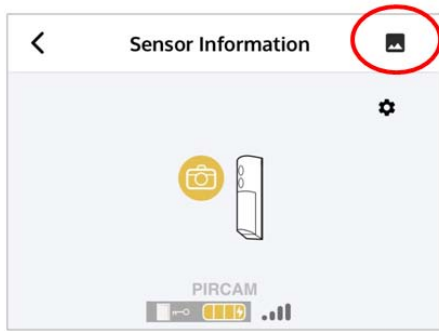
Manual capture

The Pircam can capture an image simply by pressing the yellow camera icon next to its icon. Captured images are then sent wirelessly over to the controller, this may take some time depending on the number of images and image size. As a reference, a single picture of VGA size may take approximately 20 seconds.

Below diagram shows the stages of the image capture indicated by icon changes.

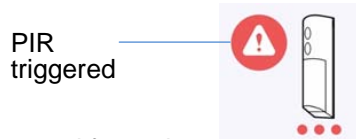


To view images, long press on the icon of the PIRCAM to enter the Sensor information page. Tap the Pictures icon to see image thumbnails.



Alarm capture

When the system is Armed, the Pircam will capture images when its PIR detects motion.

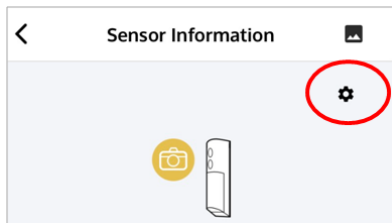


Images captured from alarm are shown along with alarm logs on the Notification page of the app.

Note: When the system is Disarmed, no images will be captured when PIR is triggered. This is to preserve battery life and to reduce wireless traffic on the system.

Advanced settings

Long press on the Pircam icon on device list to enter its Sensor Information page. Tap on the gear-shaped icon to enter the Advanced settings page.



- **Enable Camera:** Turns on/off the camera function of the PIRCAM. When turned off, the yellow camera icon disappears and the Pircam will behave like a normal PIR sensor.

- **Enable PIR during Disarm:** By default the PIR sensor on the Pircam is turned off when the system is Disarmed. In some cases the user would like to keep the PIR sensor on, such as for home automation use.
- **Tamper detection for ceiling mount:** This turns on/off the vibration sensor within the Pircam, to detect displacement when mounted using a bracket from the ceiling.
- **PIR Sensitivity:** Choose from High, Medium or Low

IMAGE CAPTURE AT PIR TRIGGER for Alarm capture

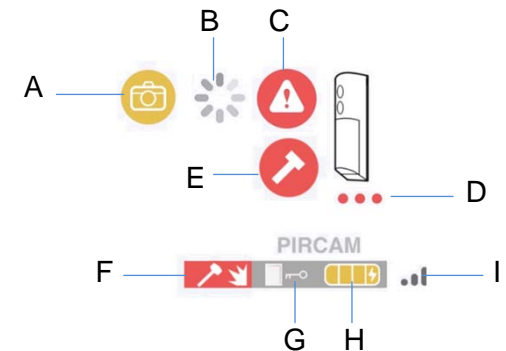
- **Resolution :** QVGA (320x240), VGA (640x280)
- **Quality:** Capture quality Low or High. Setting High quality will result in longer period for receiving pictures by the Gateway.
- **Auto Lighting :** Set to Disable will turn off the IR led on the Pircam, setting to Auto will turn on the IR LED under low light conditions.
- **Capture Quantity:** Number of images to capture each time PIR is triggered. When set to VGA and High Quality, only maximum of 3 images are allowed.
- **Lock camera after:** turns off the camera after consecutive PIR triggers. This serves to preserve battery life and to avoid unnecessary transmission of images from the same repeated triggers. This is similar to Zone Lock where the siren is turned off after repeated number of triggers.
- **Lock period:** sets the lock period for disabling the camera. The camera will resume normal operation after this lock period expires.

IMAGE CAPTURE FROM APP

This section sets the parameters for on-demand capture by the controller, whether for manual capture, or as capture action following an alarm or home automation event. The parameters in this section are similar as to PIR trigger parameters above.

Status icons

A.	Ready to capture image
B.	Capturing image
C.	PIR Trigger alert
D.	Sending images
E.	Accelerometer Tamper
F.	Cover removed Tamper
G.	PIR Trigger alert
H.	Battery level
I.	RF signal level



Maintenance

Low Battery: The detector will report to the controller when its battery becomes low. When this happens, the camera function will be disabled to conserve battery life. Promptly replace with a new batteries to resume operation.

Lens cleaning: The camera lens is protected with lens shield. To clean, simply wipe with a clean dry cloth or tissue.

Troubleshooting

The troubleshooting table lists some possible causes and solutions. Please contact your original retailer or nearest service center if the below solutions cannot solve your problem.

Symptom	Possible Cause	Recommendation
LED does not turn on	No power	Check if batteries are inserted correctly or replace with new ones.
	Jumper for LED is not inserted (see item "I" in Product Overview).	Insert the LED jumper connector
Camera is capturing but no images appears in App	No storage in Control Panel	Insert SD card or SSD storage at Control Panel
Camera does not capture when its PIR triggers	Low battery	Replace with new batteries
	Camera is locked. See Advanced Settings, item "Lock camera after"	Wait for time out period, or Disarm and then Arm again.
Takes a long time to send images over	PIRCAM located too far from Control Panel	Relocate the PIRCAM nearer, or add a Repeater

LED indicator

Table below is a summary of the LED indicators on the PIRCAM. If needed, the LED can be disabled by removing LED jumper (see item "I" in Product Overview).

Blue LED : indicator for RF and Low Battery

LED behavior	Description
Blink slowly	Pairing: Device not paired, still in factory mode
Blink quickly for 30 secs	Pairing: Device is waiting to pair
Flash rapidly 3 times	Pairing: Device fail to pair
On about 5 secs	Sending Images after image capture
Blink once after PIR triggered	Low battery
Blink once every 5 secs	RF test mode, per EN50131

Red LED : indicator for PIR and Camera

LED behavior	Description
Blink every 3 secs for 60 secs	PIR warm up
Blink once	PIR trigger
Flash rapidly multiple times	Image capture

Reset to Factory Settings

- Press and hold the Binding button for 3 or more seconds, and the detector's LED will start to flash. Release the button.
- Press and hold the Binding button again, this time for longer than 6 seconds until the LED turns off. The device is now reset back to factory mode.

Specifications

Operating temperature range	-10°C to 55°C
Operating humidity	85% RH at 30°C
Mounting height	2.1 ~ 2.3m
PIR	
PIR Detection Coverage	Up to 12m x 110°(at 2.1m height & below25°C)
Pet Immunity	Weight-Up to 27 kg, Height- Up to 100 cm
Sensitivity adjustment	High / Med / Low
Warm Up Time	About 1 minute
Camera	
Image resolution	640 x 480, 320 x 240
Camera angle (deg)	96 (H), 71(V), 126 (D)
Night Vision	IR-LED, up to 10m
Auto Day/Night	Color / Black& White
Images at alarm	Selectable 1-5 images, 2 secs interval
Image encryption	JPEG
Others	
Battery type	CR123A 3.0V *3 (external Dc power)
Battery life	Up to 4 years
External DC input	12V, 1A
RF Frequency	868 MHz (EU) , 923 MHz (US)
RF transmission range	Up to 800m (Open space)
Tamper detection	Front cover, removal, ceiling mount
Security Grade 2, Environmental Class II	EN50131-1:2006/A1:2009/A2:2017/A3:2020, EN50131-2:2017, EN50131-5-3:2017, EN50131-6:2017

** Specifications are subject to change without prior notice.



WARNING:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal free of charge.

CAUTION:

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

Federal Communication Commission Interference Statement

FCC warning:

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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Industry Canada statement:

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with IC RF radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body."

Ce matériel est conforme aux limites d'exposition aux rayonnements rf de ic énoncés dans un autre environnement.

Ce matériel doit être installé et exploité à une distance minimale de 20 cm entre le radiateur et votre corps.



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