

MotionCam Outdoor User Manual

Updated January 17, 2023



MotionCam Outdoor is a wireless outdoor motion detector with a camera for alarm verification. It detects motion at a distance of up to 15 meters. It has anti-masking protection and ignores animals when properly configured and installed.



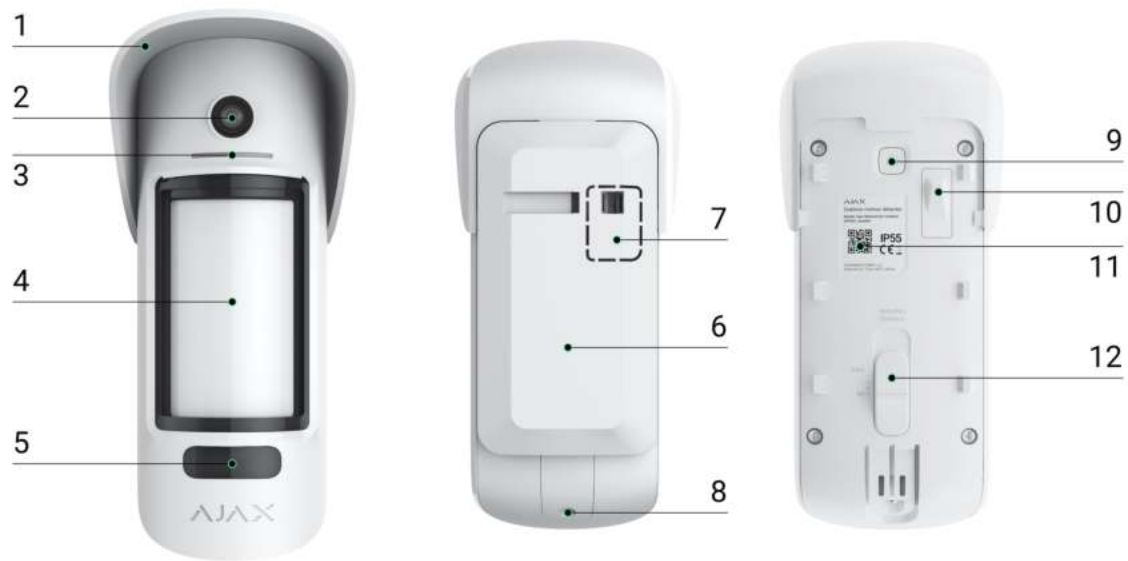
A hub is required for the detector to work.

[List of compatible hubs and repeaters](#)

MotionCam Outdoor works as part of the Ajax security system by connecting to the hub using encrypted radio protocols [Jeweller](#) and [Wings](#). The [obstacle-free](#) communication range is up to 1700 meters.

[Buy MotionCam Outdoor](#)

Functional elements



- 1.**Hood to protect the camera and anti-masking sensors from rain and snow.
- 2.**Camera.
- 3.**LED indicator.
- 4.**Motion detector lens.
- 5.**IR backlight for night shots and low light conditions.
- 6.**SmartBracket mounting panel. To remove the panel, slide it down.
- 7.**Perforated portion of the mounting panel. Required for activation of the tamper switches in case of any attempt to remove the detectors from the surface. Do not remove it.
- 8.**Hole for the screw for fixing to the SmartBracket mounting panel.
- 9.**Power button.
- 10.**Anti-tamper button.It is activated when an attempt is made to tear the detector off the surface or remove the mounting panel.

11.QR code/detector ID. Used to connect MotionCam Outdoor to the Ajax security system.

12.Slide bar to adjust the detection range.

Compatible hubs and repeaters

MotionCam Outdoor requires a hub to operate. The list of compatible hubs and repeaters is available in the table below:

Hubs	Radio signal repeaters
<ul style="list-style-type: none">• Hub 2 (2G)• Hub 2 (4G)• Hub 2 Plus• Hub Hybrid (2G)• Hub Hybrid (4G)	<ul style="list-style-type: none">• ReX 2

No connection is provided to others [hubs](#), [radio signal repeaters](#), [ocBridge Plus](#) nor [touartBridge](#).

Operating principle

0:00 / 0:08



MotionCam Outdoor is an outdoor motion detector with a camera. The detector's IR sensors identify intrusions by detecting moving objects with temperatures close to that of the human body. Visual verification helps you assess the situation instantly, saving users and alarm receiving centers unnecessary worries about sending patrols due to false calls.

[Learn more about Ajax motion detectors](#)

In armed mode, the detector constantly reads signals from infrared (IR) sensors. When motion is detected, MotionCam Outdoor transmits an alarm to the hub and emits the signal by flashing the LED indicator (if the indication is enabled).

The alarm is confirmed if both IR sensors detect a movement. The detector takes 1 to 5 photos at a time (depending on the settings) and transmits them to the hub. You can activate the Send photo in case of alarm function in the [detector configuration](#).

When the alarm is triggered, the hub activates sirens, initiates scenarios, notifies users and the alarm receiving center. In case of alarm, photos are transmitted to the alarm receiving center and to all users of the system who have access to the hub's event history. All alarms, photos and

MotionCam Outdoor events are recorded in the event history of the Ajax application.



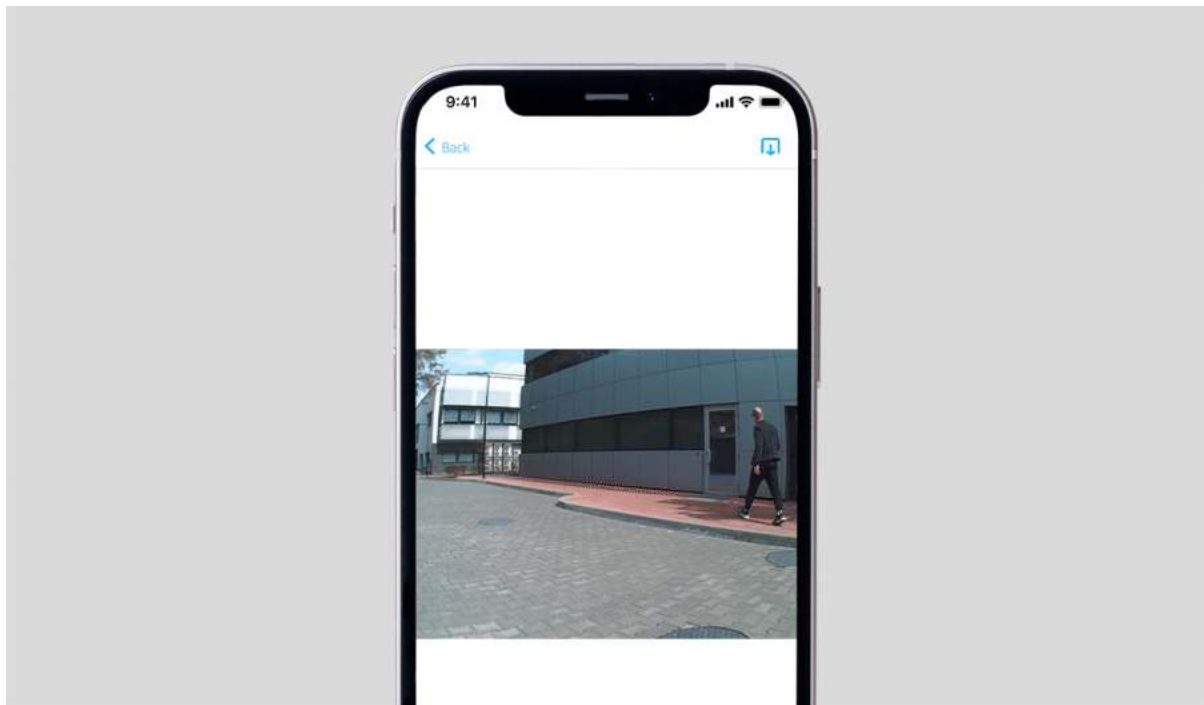
The detector does not enter armed mode instantly. The time to switch to armed mode depends on two factors: exit delays (specified in the detector settings) and the ping interval between the hub and the detector (Jeweller settings; default is 36 seconds). In the first case, the delay is set by the user. In the second case, the delay is caused by the fact that the hub does not notify the detector about the transition to armed mode instantly, but at a ping interval.

The motion detection range is set manually, using a slider bar on the detector housing, and is from 3 to 15 meters. This allows you to set the detection area precisely and avoid false triggers from bushes, trees and other objects.



Users know exactly where motion is detected. Notifications contain the name of the hub (name of the protected object), the name of the device and the virtual room to which the detector is assigned.

Photographic verification of alarms



When the detector is triggered, the integrated MotionCam Outdoor camera can take 1 to 5 images with a resolution of 320×176 and up to 3 images with a resolution of 640×352 pixels. The detector has infrared illumination for taking pictures in the dark, which is activated only when an alarm is triggered.



It is also available detector version with Photo on Demand and Photos on Stage. In addition to the Alarm Photo function, the PhOD version can take photos at the user's request at any time and automatically take photos in case of Ajax fire detector alarm.

A series of photos is played in the app as an animation, allowing you to dynamically evaluate the incident. Photos are available both in the Ajax apps and in the alarm monitoring center software. MotionCam Outdoor uses the radio protocol Wingsto to transmit photos.

Photo delivery time

The time it takes to send photos to the Ajax apps depends on the selected resolution, the detector connection method (the detector is connected directly to the hub or via a repeater), the Wings signal strength and

of the Internet connection speed. Alarm messages are transmitted immediately.

Resolution of the photo	Reception time		
	When connected directly to the hub*	When connected to the hub using ReX 2 (ReX 2 transmits photos via Wings)**	When connected to the hub using ReX 2 (ReX 2 transmits photos via Ethernet)***
320 × 176 pixels (default)	up to 9 seconds	up to 14 seconds	up to 10 seconds
640 × 352 pixels	up to 20 seconds	up to 20 seconds	up to 17 seconds

** The delivery time of an image when the signal strength between the hub and MotionCam is 2 to 3 bars and the hub is connected via Ethernet, Wi-Fi or 4G.*

** * Values were calculated with a 3-bar signal strength between ReX 2 and the detector or between the hub and ReX 2. The hub operates via Ethernet, Wi-Fi or 4G.*

** * * Values were calculated with a signal intensity of 3 bars between ReX 2 and the detector. The hub connects via Ethernet, Wi-Fi or 4G*

Temperature compensation

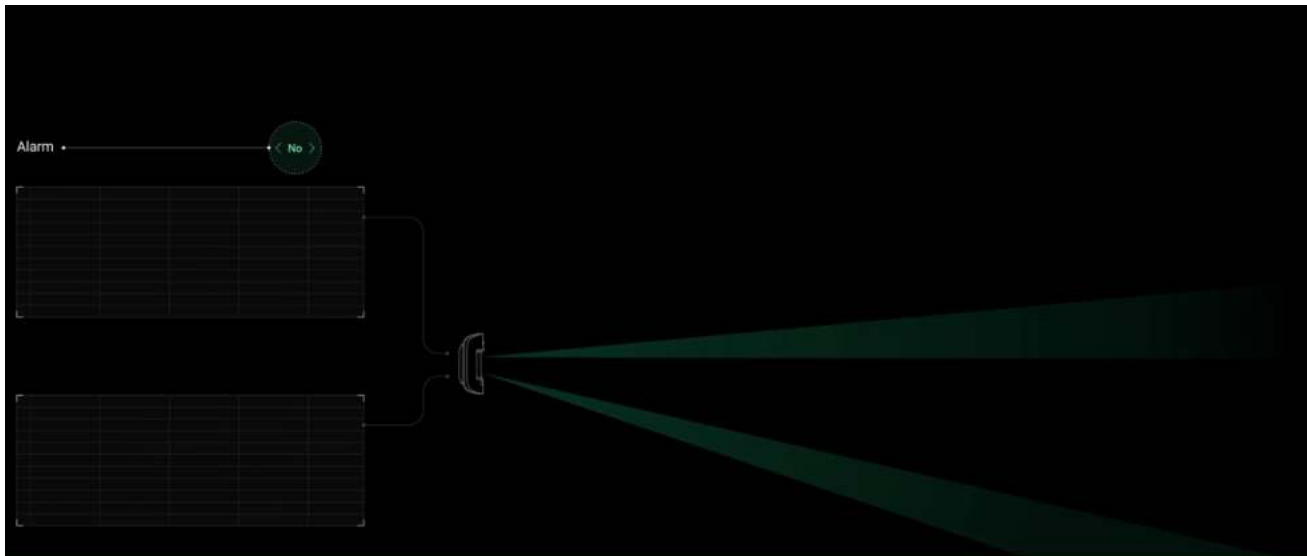
The detector perceives a person and other objects as heat points. The device monitors these heat points and, if they move, signals an alarm. MotionCam Outdoor reacts to the movement of heat points that have a temperature close to that of the human body.

In case the ambient temperature is close to that of the human body, the correct operation of the detector is not guaranteed unless temperature compensation is applied. Because of this, the detector identifies movement in the entire operating temperature range.

Temperature compensation is used in all Ajax motion detectors. This allows them to effectively detect motion over the entire operating temperature range of the detector.

[More information](#)

Ignore the pets



When properly set up and installed, MotionCam Outdoor ignores animals up to 80 centimetres in height. The detector has two IR sensors and triggers an alarm only when both sensors detect movement.

When installed correctly, animals will only enter the detection zone of one of the detector's sensors. MotionCam Outdoor thus eliminates false alarms. And to additionally protect against false alarms, the detector uses the LISA software algorithm.

[Why do motion detectors react to animals and how to avoid it?](#)

Anti-masking system

Masking is an attempt to block the detector's view by painting over it, covering it, placing an obstacle in front of the detector lens, or otherwise.

MotionCam Outdoor detects the following types of masking:

- 1.Obstacle in front of the detector lens at a distance of up to 10 centimeters (distance limit depends on the type of material).
- 2.Painting on the detector lens.
- 3.Glue on the detector lens.

Type of masking	Time to alarm, seconds	Time to restore, seconds
Obstacle in front of the detector lens (up to 10 centimeters away from it)	7	20
Painting on the detector lens	100	20
side of the detector	100	20

The system informs users and the alarm receiving center about masking. For added protection and better notification, enable the sirens' reaction to masking (you can do this in theSettingsof the detector).

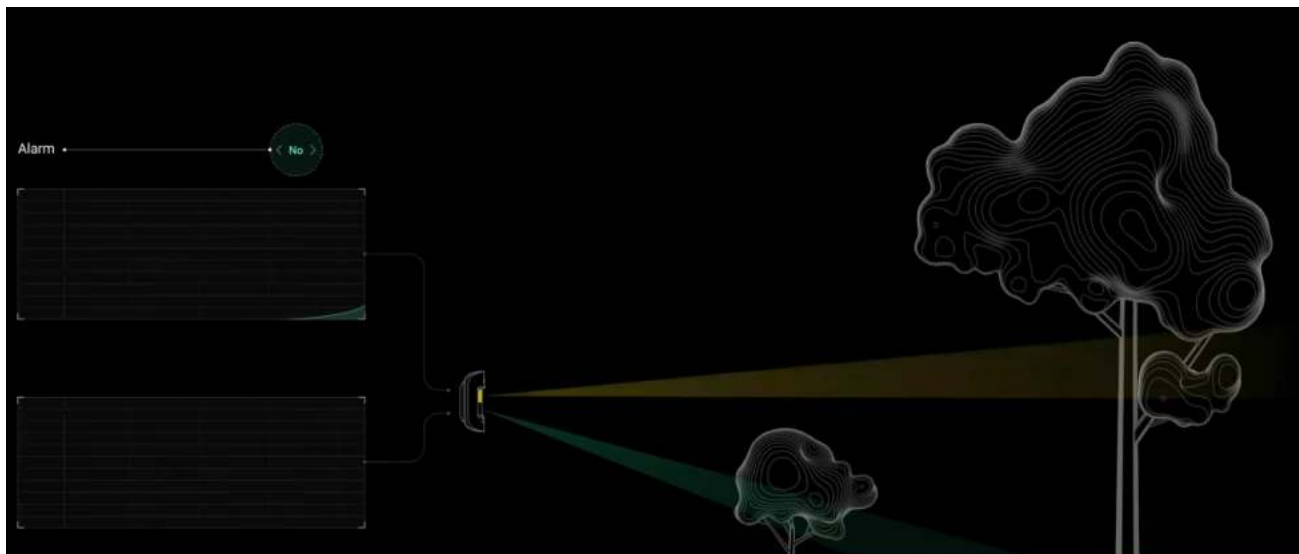
The maximum masking detection time is 180 seconds (depends on the type of obstacle and the distance to it).



Please note that the anti-masking system is always active and works regardless of the detector or the mode of the Ajax security system.

For additional protection of the camera or masking detection system from false alarms caused by heavy rain or snow, a Hood is provided.

Protection against false alarms



MotionCam Outdoor features two independent infrared sensors, whose signals are analyzed by a two-stage LISA algorithm. As soon as both IR sensors detect movement, LISA performs correlation analysis and spectral analysis of the signals, allowing it to instantly distinguish between real threats and interference.

Correlation analysis

Whenever a movement is detected, the LISA algorithm analyses and compares the waves of two signals in real time. If they are similar, the detector triggers an alarm.

Spectral analysis

When both sensors detect motion, but correlational analysis does not reveal sufficient similarity of the waves, LISA compares the frequency components of the signals from the two sensors.

Sending events to the alarm receiving center

The Ajax security system can transmit alarms to the alarm receiving center (ARC) in protocol formats such as **South Gard(ContactID)**, **SIA (DC-09)**, **ADEMCO 685** and other proprietary protocols. The full list of supported protocols is available [at available here.](#)

Which CRA can the Ajax security system be connected to?

The device ID and loop (zone) number can be found at their states. Please note that photos are sent to the alarm monitoring centre only if the ARC software supports the transmission of photo verifications. The list of ARCs that support photo verification is available at: [available here](#).



Photo verifications are available at the [CRA Ajax PRO Desktop](#) without additional configuration.

Add to system



The detector is incompatible with Hub and Hub Plus, the ReX radio signal repeater, third-party security central units, as well as the ocBridge Plus and uartBridge integration modules.

Before adding a device


1. Install the [Ajax app](#). Create a [account](#). Add a hub to the app and create at least one room.
2. Make sure the hub is turned on and has access to the Internet (via Ethernet cable, Wi-Fi, or mobile network). You can do this in the Ajax app or by checking the hub logo on the front plate. The logo should light up white or green if the hub is connected to the network.
3. Make sure the hub is disarmed and does not start updating by checking its status in the Ajax app.



Only a user or a PRO with administrator rights can add the device to the hub.

[Types of accounts and their rights](#)

How to add MotionCam Outdoor to the system?

1. Open the [Ajax app](#). If your account has access to multiple hubs, select the hub you want to add MotionCam Outdoor to.
2. Go to the tab **Devices**  and select **Add device**.
3. Assign a name to the detector, scan or write the QR code (placed on the detector housing and packaging), select a room and a group (if the group mode). [_____](#)



4. Select in **Add**; the countdown will begin.
5. Turn on the device by pressing the power button for 3 seconds.



To ensure that the MotionCam Outdoor is connected to the hub, the detector must be located in the same protected facility as the system (within the radio network range of the hub).

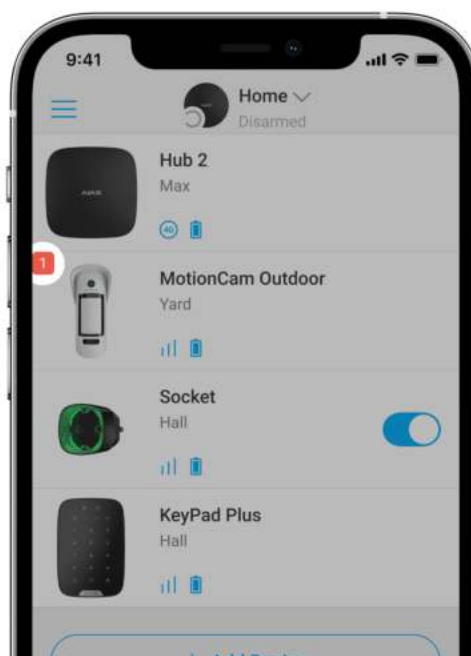
The detector connected to the hub will appear in the list of hub devices in the Ajax app. Updating the device statuses depends on the configuration of the hub. **Jeweller**; the default is 36 seconds.

If the connection fails, please wait 5 seconds and try again. Please note that if the maximum number of devices (depending on the hub model), you will be notified when you try to add a new one.

MotionCam only works with one hub. When connected to a new hub, the detector stops transmitting commands to the previous hub. Once added to a new hub, MotionCam Outdoor is not removed from the device list of the previous hub. This must be done via the Ajax app.

Malfunction


When a device detects a malfunction (for example, there is no connection to the hub via the Jeweller protocol), the Ajax application displays a malfunction counter above the device icon. All faults are displayed in the detector statuses. Fields with faults are highlighted in red.














A malfunction is displayed if the following occurs:

- The detector temperature is outside the acceptable limits: below -25°C and above +60°C.
- Detector housing open (tamper activated).
- There is no connection to the hub or radio signal repeater via Jeweller.
- There is no connection to the hub or radio signal repeater via Wings.
- Detector battery low.

Icons


The icons represent some of the states of MotionCam Outdoor. You can see them in the tab **Devices** , in the Ajax app.


Icon	Worth
	Jeweller Signal Strength – Displays the signal strength between the hub and the detector
	MotionCam Outdoor Battery Level
	Malfunction detected. A list and description of these are available in the detector states
	<p>The detector works in mode Always active</p> <p>More information</p>
 	<p>Entry or exit delay is enabled</p> <p>More information</p>
	<p>MotionCam Outdoor will work when the Night mode is enabled</p> <p>More information</p>
	MotionCam Outdoor has detected motion

	<p>MotionCam Outdoor is temporarily disabled</p> <p>More information</p>
	<p>MotionCam Outdoor has been disabled due to exceeding the number of alarms</p> <p>More information</p>
	<p>MotionCam Outdoor has temporarily disabled tamper activation events</p> <p>More information</p>

States

Statuses display information about the device and its operating parameters. MotionCam Outdoor statuses are available in Ajax apps. To view them:

1. Log in to the Ajax application.
2. Select the hub, if you have several or use the PRO app.
3. Go to menu **Device** .
4. Select the MotionCam Outdoor from the list.

Parameter	Worth
Malfunction	<p>Click on  and open the list of bad ones MotionCam Outdoor operations.</p> <p>This field is displayed if a malfunction is detected.</p>
Temperature	<p>Detector temperature. It is measured in the detector processor and changes</p>

	<p>gradually.</p> <p>The acceptable error between the value in the application and the ambient temperature is 2°C.</p> <p>The value is updated as soon as the detector detects a temperature change of at least 1°C.</p>
Jeweller signal strength	<p>Signal strength between the detector and the Jeweller channel hub or signal repeater. Recommended value is 2–3 bars.</p> <p>Jeweller is a protocol for transmitting MotionCam Outdoor events and alarms.</p>
Connection through Jeweller	<p>Connection status on the Jeweller channel between the detector and the hub or signal repeater:</p> <ul style="list-style-type: none"> • On-line—the detector is connected to the hub or radio signal repeater. • Offline—The detector is not connected to the hub or radio signal repeater. Check the detector connection.
Wings signal strength	<p>Signal strength between the detector and the hub or signal repeater via the Wings channel. The recommended value is 2–3 bars.</p> <p>Wings is a protocol for transmitting MotionCam Outdoor photos.</p>
Connection through Wings	<p>Connection status on the Wings channel between the detector and the hub or repeater:</p> <ul style="list-style-type: none"> • On-line—the detector is connected to the hub or radio signal repeater. • Offline—The detector is not connected to the hub or radio signal repeater. Check the detector connection.
Battery level	<p>Device battery charge level:</p>

	<ul style="list-style-type: none"> • OK • Low battery <p>Ajax apps and security companies will receive appropriate notifications when the batteries are low.</p> <p>After sending a low battery notification, the detector can operate for up to 2 months.</p> <p>How to display the battery charge level</p> <p>Battery life calculator</p>
Cover	<p>Tamper state of the detector that responds to the device being detached from the surface or the housing being opened:</p> <ul style="list-style-type: none"> • Open—The detector has been removed from the SmartBracket panel, or the integrity of its housing has been compromised. Check the mounting of the detector. • Closed—The detector is mounted on the SmartBracket mounting panel. The integrity of the detector housing and mounting panel are not compromised — normal condition. <p>More information</p>
Delay when entering, sec	<p>Delay time on entry: 5 to 120 seconds.</p> <p>Entry delay time (alarm activation delay) is the time that the user has to disarm the Ajax security system after entering the protected area.</p> <p>More information</p>
Delay in leaving, sec	<p>Delay time on exit: 5 to 120 seconds.</p>

	<p>Exit delay (arming delay) is the time the user has to leave the secure area after arming the security system.</p> <p>More information</p>
Delay when entering Night Mode, sec	<p>Delay time when entering the Night Mode: from 5 to 120 seconds.</p> <p>Entry delay (alarm activation delay) is the time the user has to disarm the security system after entering the premises.</p> <p>More information</p>
Delay when exiting Night Mode, sec	<p>Delay time when leaving in the Night Mode: from 5 to 120 seconds.</p> <p>Exit delay (arming delay) is the time the user has to exit the facilities after the security system arm is armed.</p> <p>More information</p>
Sensitivity	<p>Motion detector sensitivity level:</p> <ul style="list-style-type: none"> • Low • Normal • High <p>The sensitivity is selected based on the results of the detection zone test.</p>
Anti-masking	<p>Detector Masking Status:</p> <ul style="list-style-type: none"> • Alarm–Masking detected. Check the status of the detector.

	<ul style="list-style-type: none"> • Activated—anti-masking enabled. Masking not detected. • Disabled—anti-masking disabled. Masking will not be detected. <p>More information</p>
Always active (24h)	<p>When this option is enabled, the detector is always armed.</p> <p>This means that the detector will constantly respond to motion and trigger alarms regardless of the system arming mode.</p> <p>More information</p>
Temporary deactivation	<p>Displays the status of the Device Soft Disable feature:</p> <ul style="list-style-type: none"> • No—the device works in normal mode. • Cover only—Detector tamper activation notifications are disabled. • Completely—The detector is completely excluded from the system. The device does not respond to system commands or report alarms and other events. • By number of alarms—The device stops its operation when the number of alarms (specified in the configuration Automatic device deactivation). <p>More information</p>
Firmware	Detector firmware version.

ID	Detector ID. It is also available in the QR code on the detector housing and its packaging box.
Device No.	Device loop number (zone).


Settings

Please note that the motion detection range is set using a switch located on the detector housing.

To change the detector settings in the Ajax application:


1. Go to the tab **Devices** .

2. Select MotionCam Outdoor from the list.

3. Go to **Settings** selecting the gear icon. .

4. Set the parameters.

5. Select **Back** to save the new settings.

Settings	Worth
First field	<p>Detector name. Displayed in the hub device list, in SMS text message, and in event history notifications.</p> <p>To rename the detector select the pencil icon . </p> <p>The name can contain up to 12 Cyrillic characters or up to 24 Latin characters.</p>
Stay	Select the virtual room to which MotionCam Outdoor is assigned. The room name is displayed in the SMS text and in notifications in the event history

Sensitivity	<p>Sensitivity level of the motion detector.</p> <p>The choice depends on the type of object, the presence of sources of possible false alarms and the protected area:</p> <ul style="list-style-type: none"> • Low—There are likely to be sources of false alarms in the protected area. For example, tall bushes. • Half(default value) — recommended value, suitable for most objects. Do not change it if the detector is working properly. • High—There is no interference in the protected area, the maximum detection range and alarm detection speed are important. For example, if the detector is installed in a narrow corridor. <p>The sensitivity level is selected based on the results of the zone test detection. If during this test the detector does not react to movement in 5 cases out of 5, sensitivity can be increased</p>
Anti-masking	<p>When this option is enabled, MotionCam Outdoor detects masking</p> <p>More information</p>
Always active	<p>If enabled, the detector will always be in armed mode and will detect motion</p> <p>More information</p>
LED alarm indication	<p>Allows you to disable the detector's LED flashing in the event of an alarm, tamper switch activation, or masking detection</p>
Image resolution	<p>Selecting the image resolution (in pixels):</p>

	<ul style="list-style-type: none"> • 320 × 176 • 640 × 352 <p>The higher the resolution, the more detailed the image will be. However, please note that high resolution will increase the time the hub receives photos.</p> <p>More information</p>
Send a photo in case of alarm	<p>Selecting the number of photos in case of alarm:</p> <ul style="list-style-type: none"> • No photo • 1 photo • Series of 2 • Series of 3 • Series of 4 (only available in 320 × 176 resolution) • Series of 5 (only available in 320 × 176 resolution)
Alarms with photo confirmation	<p>Select the number of alarms that are accompanied by photos. You can specify 1 to 10 alarms or set a photo to be transmitted each time the device is triggered.</p> <p>The limit is reset once the Ajax security system is disarmed.</p> <p>The setting is only available when the option Always active is disabled. In this mode, the detector will always transmit photos in case of alarm</p>
Delay when entering, sec	<p>Delay time upon entry (5 to 120 seconds).</p>

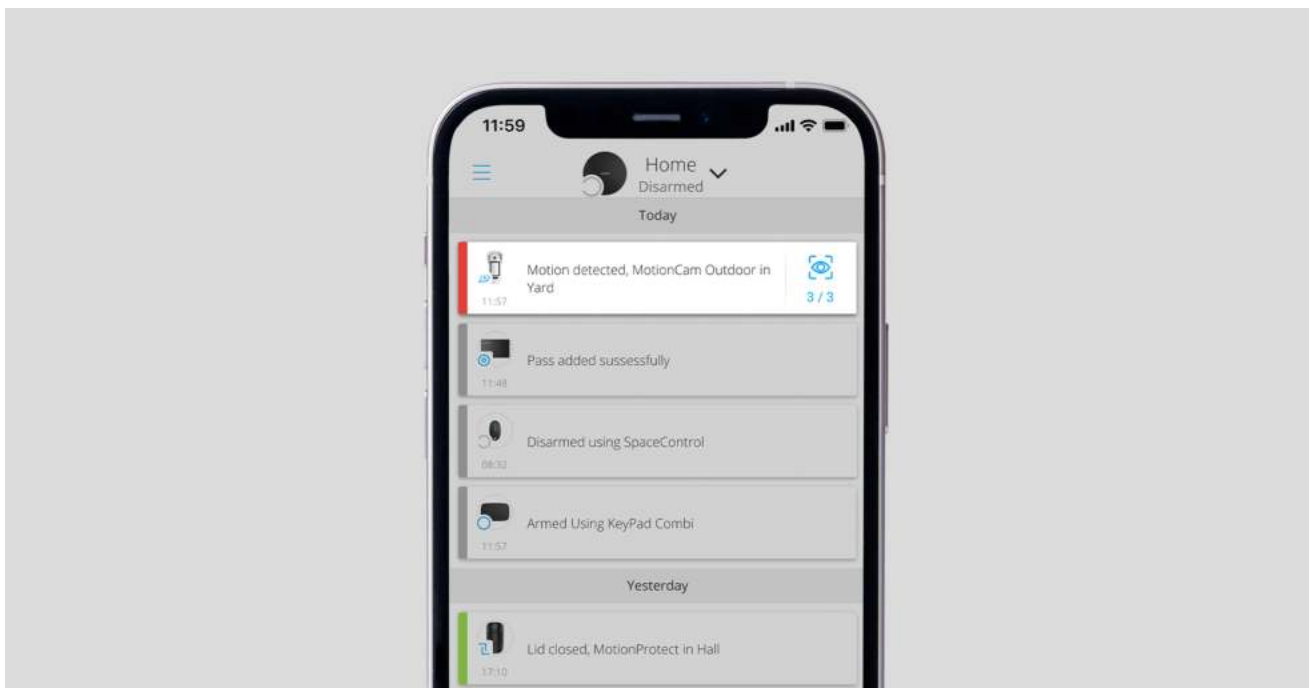
	<p>The entry delay time (alarm activation delay) is the time that the user has to disarm the Ajax security system after entering the protected area.</p> <p>More information</p>
Delay in leaving, sec	<p>Delay time on exit (5 to 120 seconds).</p> <p>The exit delay time (arming delay) is the time the user has to leave the protected area after arming.</p> <p>More information</p>
Night Mode Delay	<p>If enabled, entry and exit delays apply to the Night mode.</p> <p>The field is displayed and active if delays are enabled, as well as the function Armed in Night mode</p> <p>More information</p>
Armed in Night Mode	<p>If enabled, the detector switches to armed mode when the Night mode is enabled</p> <p>More information</p>
Alert with siren if movement is detected	<p>If enabled, the mermaids added to the system is activated when the MotionCam Outdoor detector detects movement</p>
Siren alert if masking is detected	<p>If enabled, the mermaids added to the system is activated when the MotionCam Outdoor detector sensors are masked.</p> <p>The field is displayed and active if the option Anti-masking is enabled</p>
Jeweller signal strength test	<p>Activates the detector's Jeweler signal strength test mode.</p>

	<p>The test verifies the signal strength between the hub and the detector at Jeweller frequencies to determine the optimal installation location.</p> <p>More information</p>
Detection zone test	<p>Activates the detector's detection zone test mode.</p> <p>The test verifies how the detector responds to motion and masking and determines the optimal installation location.</p> <p>4 types of tests are allowed:</p> <ul style="list-style-type: none">• Upper detector sensor• Lower detector sensor• Masking Sensors• All motion sensors together <p>More information</p>
Wings signal strength test	<p>Activates the detector's Wings signal strength test mode.</p> <p>The test verifies the signal strength between the hub and the detector at Wings frequencies to determine the optimal installation location.</p> <p>More information</p>
Signal attenuation test	<p>Activates the detector signal attenuation test mode.</p> <p>The test decreases or increases the power of the radio transmitter to simulate a change in the environment to check the stability of the communication between the detector and the hub.</p> <p>More information</p>

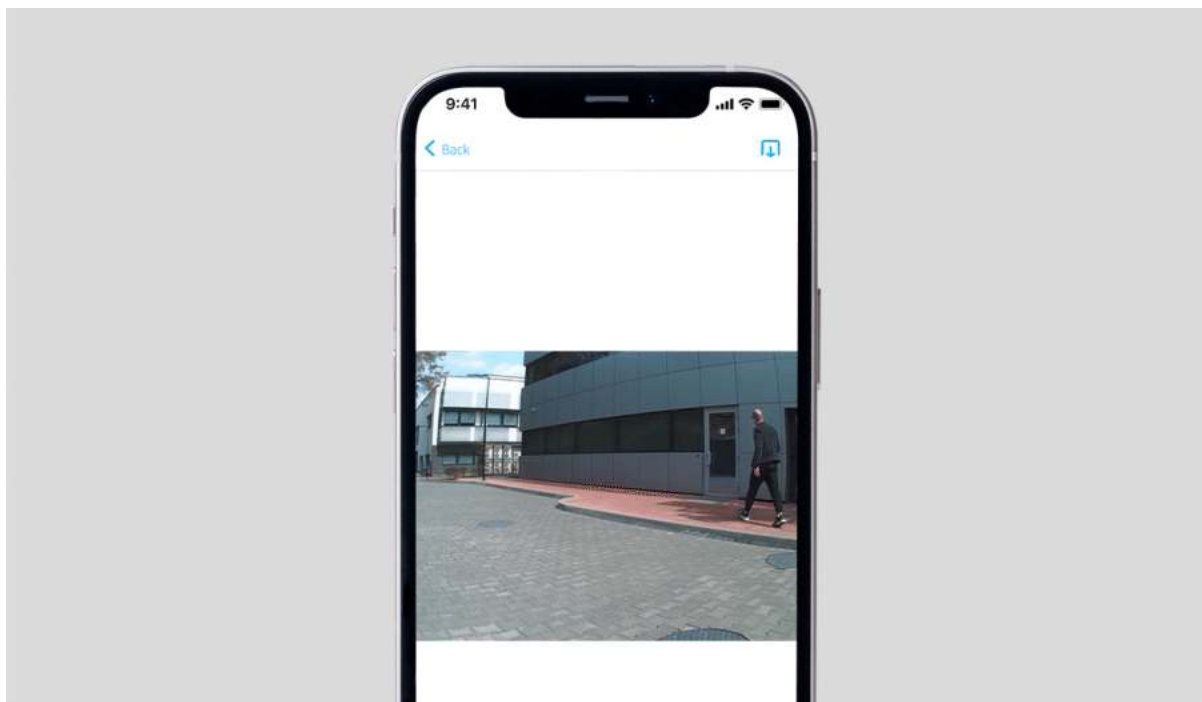
Temporary deactivation	<p>Allows the user to disconnect the device without removing it from the system. There are two options available:</p> <ul style="list-style-type: none"> • Completely—The device will not execute commands or participate in automation scenarios. The system will ignore alarms and other notifications from the device • Cover only—The system will ignore notifications about the device's tamper switch being activated only <p>More information</p> <p>The system can also automatically disable devices when the set number of alarms is exceeded.</p> <p>More information</p>
User Guide	Open the MotionCam Outdoor User Manual in the Ajax application
Unlink device	Unpairs the detector, disconnects it from the hub and deletes its settings

Photo verification of alarms in Ajax apps

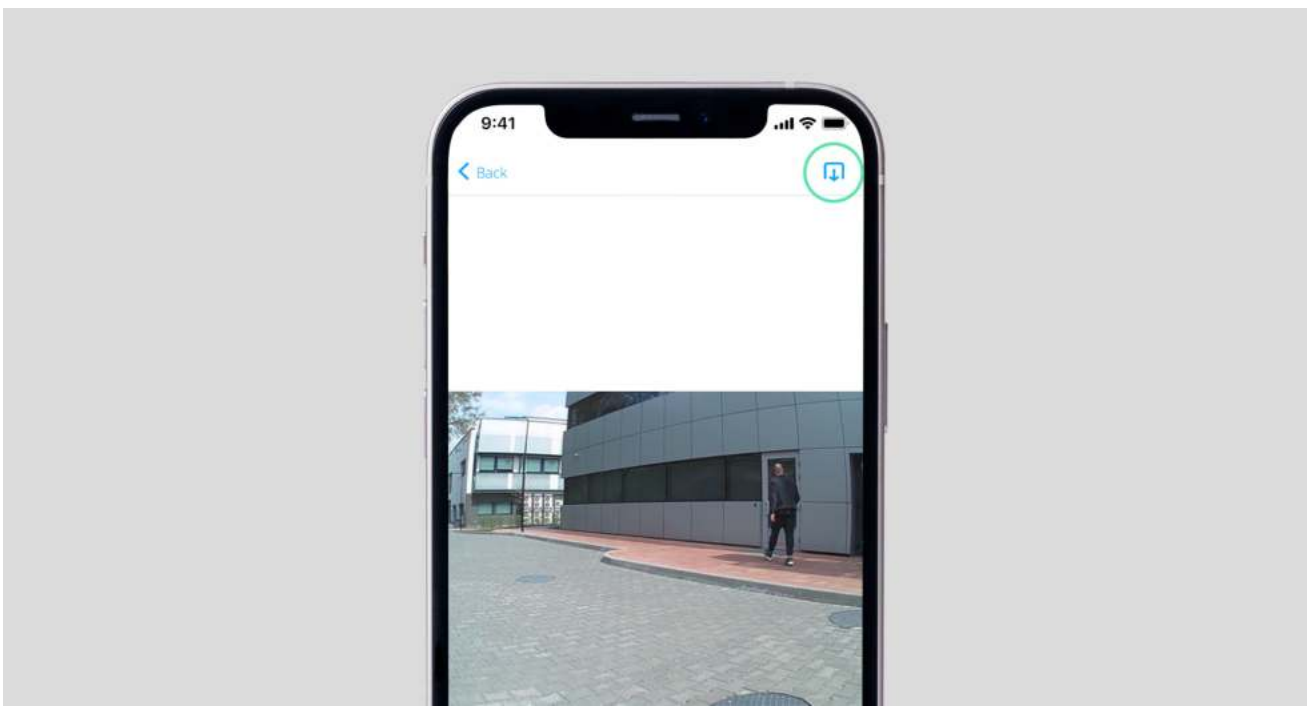
If the option **Send photo in case of alarm** is enabled for MotionCam Outdoor, alarms in Ajax apps will be accompanied by a series of photos (the number depends on the settings). To view the photos, select the alarm notification in the event history.



A series of photos are played in the app as animation, so the user can evaluate the development of the incident over time.



To save a series of photos, select the button highlighted in the screenshot. You can save each image individually (in JPEG format) or the entire series (in GIF or MP4 format).



[More information about photo verification](#)

Indication

The MotionCam Outdoor LED indicator may light up red or green, depending on the status of the detector.

0:00 / 0:03

Indication when pressing the power button

Indication	Event
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Lights up red while the button is pressed	Press the power button when the detector is on
Lights up green while the device is being activated	On
First it lights up red, then it flashes three times and turns off.	Off

Detector activated indication

Indication	Event
Lights up green for 1 second	Alarm, masking or tamper switch activation
Flashes red after first power on	Hardware error. The detector needs to be repaired, please contact the service center. service of technical support
It flashes red a few minutes after being installed on the bracket	<p>There was an error in calibration: something was obstructing the view of the detector during calibration or it was not installed correctly.</p> <p>Recalibrate the detector. To do this, remove the device from the bracket and reinstall it. Recalibration will start automatically. Make sure that nothing obstructs the detector's view.</p>
It lights up green for a few seconds	Connect the detector to the hub
In case of alarm, masking or activation of the anti-tamper switch, it turns on slowly and turns off in green	The detector batteries need to be replaced.

Functional tests



The Ajax security system has several tests to choose the right installation location for the devices. MotionCam Outdoor tests

They do not start immediately, but do not take more than a single ping period between the hub and the detector (36 seconds with the default hub settings). You can change the ping period of the devices in the menu **Jeweller** from the hub configuration.

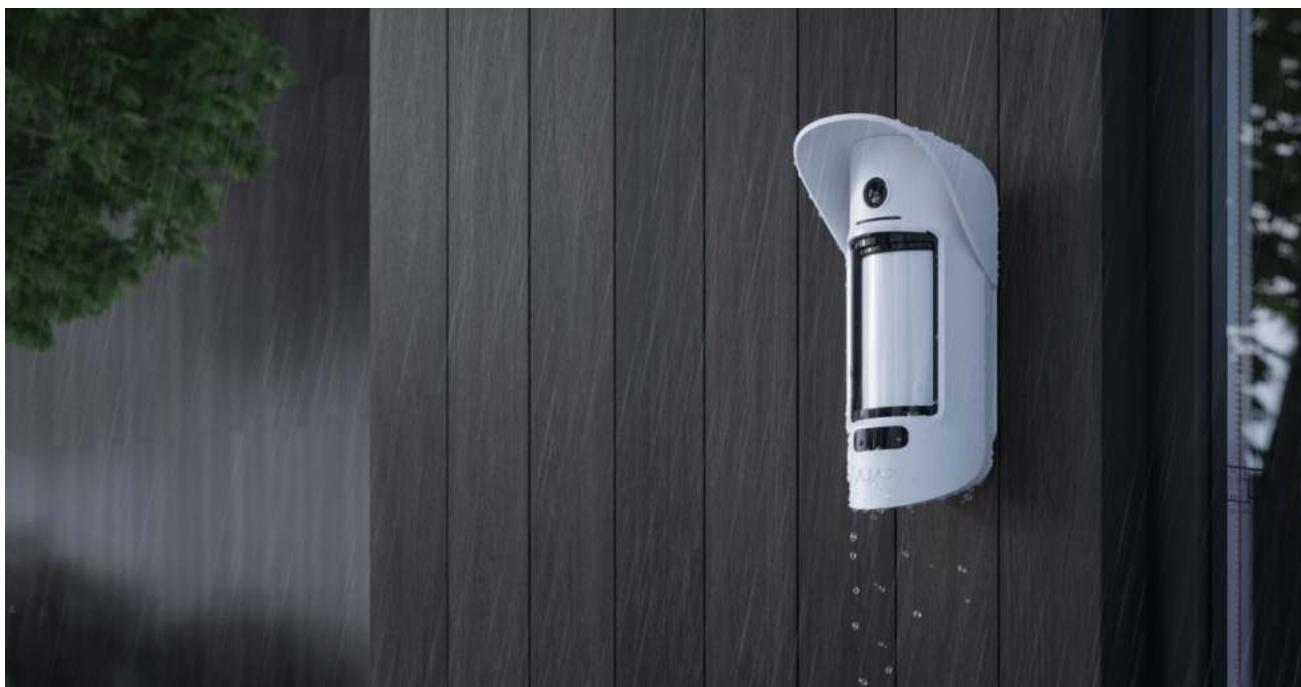
There are 4 tests available for MotionCam Outdoor:

- Jeweller signal strength test
- Wings signal strength test
- Detection zone test
- Signal attenuation test

To perform a test, in an Ajax app:

1. Select a hub if you have multiple hubs or if you use the PRO app.
2. Go to menu **Devices** .
3. Select MotionCam Outdoor.
4. Go to **Settings** .

Detector placement

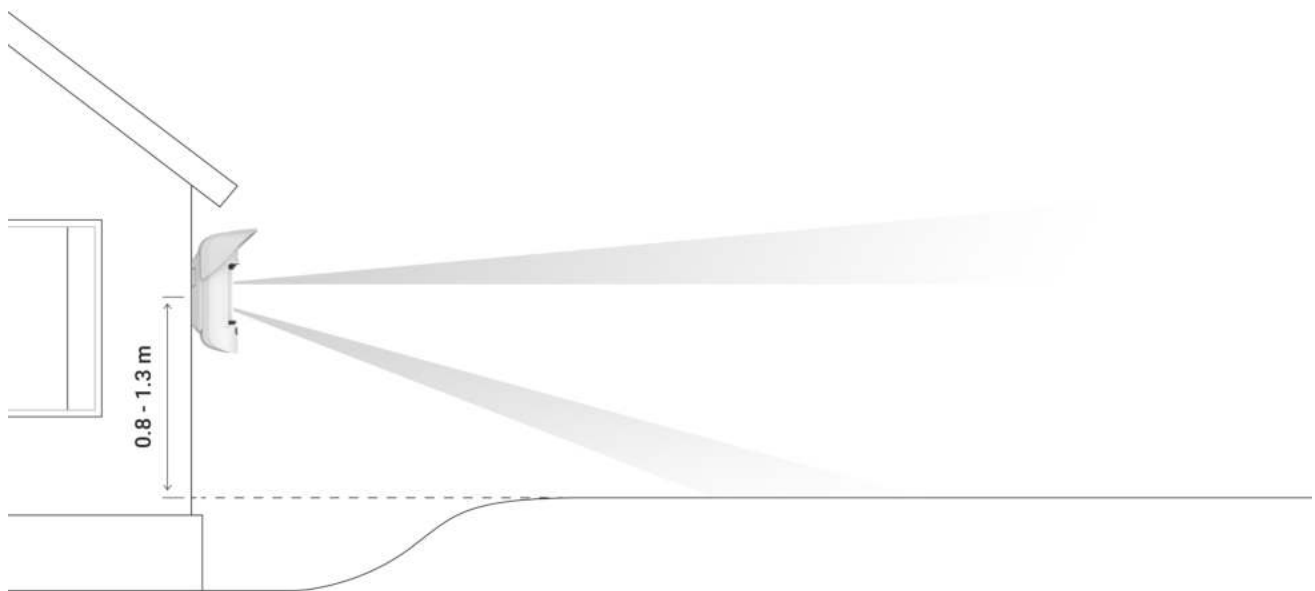


MotionCam Outdoor is suitable for protecting the area surrounding the protected site. It can protect a private house yard, a parking lot, unheated premises and other places. The detector can be installed both outdoors and indoors.

The detector is placed 0.8–1.3 meters above ground level. Such height is a prerequisite for the effective performance of the pet immunity function. Placing at a different height may cause false alarms due to pets or poor detection of human movement.

The detector must be installed on a flat and stable surface, for example on the wall of a house or on a fence. If the detector is installed on an unstable surface, this may cause false alarms.

The lens axis must be parallel to the ground level. The intruder's intended path must be perpendicular to the detector's lens axis. If the area is uneven, the installation height is calculated from the highest point of the area monitored by the detector.



The detector can be placed 0.5 meters above ground level.from the ground to protect the installation from crawling burglars. When installed in this way, the pet-ignore function is not available. This detector mounting height is recommended for installations in industrial establishments and warehouses. Important: Animals must not have access to the area of these installations, as they will cause false alarms.

The detector should be placed in a corner if it is installed at a height of 0.5 m. In this case, MotionCam Outdoor will have no blind spots, and it will be more difficult for burglars to avoid it.

If MotionCam Outdoor cannot be installed in a corner, it can be placed on a flat vertical surface such as a wall or fence. In this case, install another detector that covers the blind spots of the first MotionCam Outdoor detector.

When choosing a location, consider 2 main factors: **signal strength** and **the detection zone**.

Signal strength

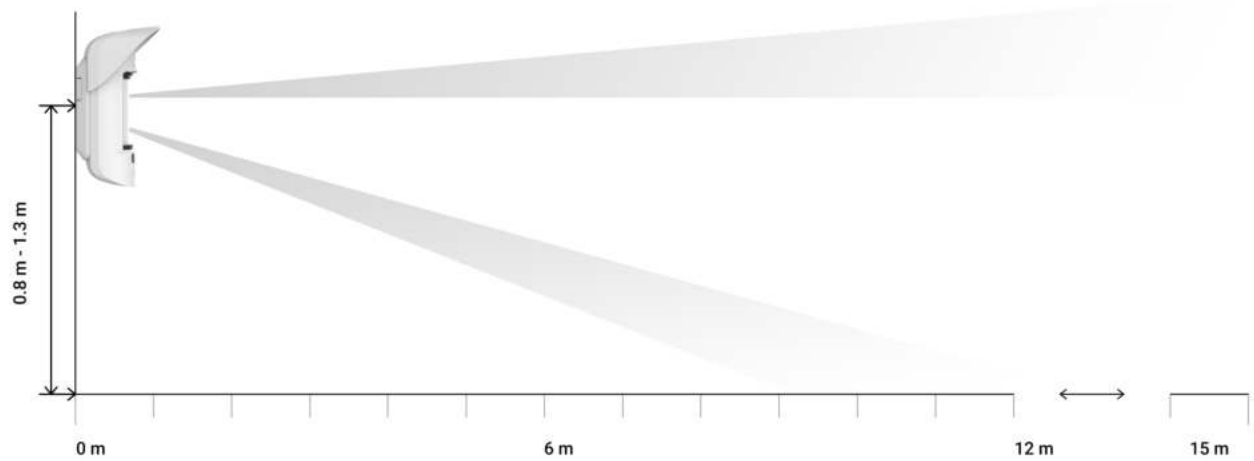
Place MotionCam Outdoor in a location with stable Jeweller and Wings signal strength (2-3 bars in the Ajax app). When choosing an installation location, consider the distance between the detector and the hub and the presence of any obstacles between the devices that hinder the passage of the radio signal: walls, intermediate plants or large objects located in the room.



Make sure to check the Jeweller and Wings signal strength at the installation location. If the signal strength is low (single bar), use a radio signal repeater. At least relocate the device, as changing its position by just 20 cm can significantly improve reception quality.

If low or unstable signal strength is still detected after relocating the device, use aReX 2 radio signal repeater. Please note that MotionCam Outdoor does not work with radio signal repeaters.ReX.

Detection zone



The detection distance is adjusted by the scroll bar **Detection distance(Detection Distance)** located on the rear panel of the detector. When choosing the installation location, take into account the maximum detection range of the detector. It depends on the sensitivity, the position of the detection distance slider, the type and speed of people's movement (running, walking) and the ambient temperature.



Position of the bar displacement	Motion detection distance when installed at 0.8–1.3 meters	Motion detection distance when installed at 0.5 meters
First bar (corresponds to the inscription near (near) in the detector housing)	Up to 4 meters	Up to 1 meter
Second bar	Up to 5 meters	Up to 3 meters

Third bar	Up to 7 meters	Up to 4 meters
Fourth bar	Up to 12 meters	Up to 7 meters
Fifth bar (corresponds to the inscription far(far) in the detector housing)	Up to 15 meters	Up to 13 meters



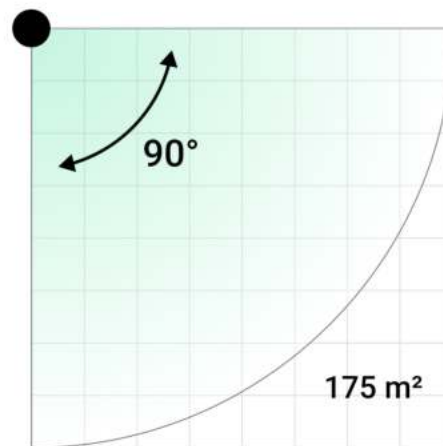
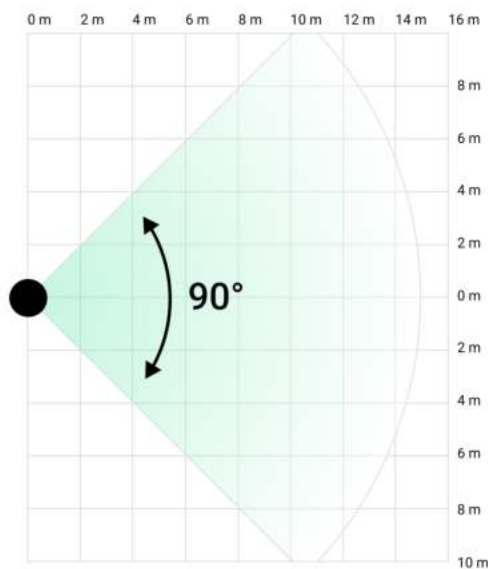
The detection distance for an installation height of 0.8-1.3 m was tested at a medium sensitivity level, ambient temperature of +23°C and clear weather. Movement type: walking. Other conditions may produce different results.

The detection distance for an installation height of 0.5 meters was tested at a medium sensitivity level, with ambient temperature of +30°C and clear weather. Movement type: walking. Other conditions may produce different results.

When choosing where to place the detector, be sure to use the Detection zone test to determine the sector in which the detector recognizes movement as accurately as possible.

Make sure that no obstacles block the detector's view. Please note that MotionCam Outdoor does not detect motion behind glass. Therefore, do not install the detector in places where an open window or door may obstruct the view.

When installing, also consider the width of the detection zone. Incorrect placement of the detector can cause false alarms.



Detection distance (m)	Detection zone width (m)
1	2
3	6
4	8
6	12
7	14
9	18
12	24
13	26
15	30

Avoid situations where the detector detects motion at a distance greater than required. To do this, adjust and set the desired detection distance. This will reduce the likelihood of false alarms in response to external factors.

If you set the scroll bar to the fifth bar, which corresponds to the inscription of the **extreme** In the detector housing, make sure that a wall or fence limits the detector's view. This will reduce the possibility of false alarms due to external factors: passing cars or other sources of false alarms.

Do not install the detector

- Near metal objects and mirrors. They can block and attenuate the radio signal.
- In front of trees with leaves in the detection zone of both IR sensors of the detector. This may cause false alarms in a warm climate.
- In locations where the detector's detection zone may include bushes 80 centimeters high or more. This may cause false alarms in warm weather.
- In places with low or unstable signal strength.
- Less than 1 meter from the hub.

Installing the detector



Before installing MotionCam Outdoor, be sure to select the optimal location following the requirements in this manual. Before installation, be sure to set the desired detection distance of the detector (detection distance slider).



To install MotionCam Outdoor:

1. Temporarily attach the SmartBracket panel using the packaged ties (or other temporary fasteners, such as double-sided tape). The installation height is 0.8–1.3 meters from the floor.



The detector must be installed at the recommended height to ensure proper performance of the pet immunity feature. To install the SmartBracket on tie-downs, first drill holes in the bracket.

2. Install the detector into the SmartBracket panel.
3. Leave the detector's detection zone (horizontal viewing angle: 90°) and make sure there is no movement within the detector's field of view. This is necessary to properly calibrate the masking sensors. During calibration, the detector will flash green once per second. Calibration takes up to 2 minutes.



Calibration of the masking sensors starts automatically as soon as the detector housing is connected to the SmartBracket.

4. Perform the tests of **Signal strength** and of **attenuation**. If the signal strength is unstable or a bar is displayed, move the detector or hub.
5. Perform the detection zone tests, first for the lower sensors and then for the upper sensors. This will help you determine and set the maximum required detection distance of the detector (determined by the lower sensor). Next, run the detection zone test for both sensors simultaneously, as well as the masking sensor test. If there is no response to motion, select the appropriate sensitivity level, detection distance (Detection Distance slider) and check the tilt angle of the detector.

.Attach the SmartBracket mounting panel to the surface using the packaged screws. When securing, use at least two fixing points. To allow the tamper switch to react to attempts to remove the device, be sure to secure the perforated corner of the SmartBracket.



Ties or double-sided tape are only used for temporary attachment. The device attached by adhesive tape can peel off the surface and fall at any time. In addition, the device may fail due to impact. Please note that while the device is secured with tie-wrap or tape, the tamper switch will not activate if the detector is peeled off the surface.

7.Place MotionCam Outdoor on the mounting plate, wait for calibration to complete and tighten the screw on the bottom of the housing. The screw is necessary for a more reliable hold and to protect the detector from quick removal.

.Once the detector is securely attached to the SmartBracket, the LED will flash to indicate that the tamper switch has been activated. If the LED does not light up after securing the device to the SmartBracket, check the tamper mode in the Ajax app, then make sure the panel is firmly attached.



The Hood is used to protect the camera and prevent false alarms from the masking detection system in heavy rain or snow conditions.

Maintenance

Check the detector's operation periodically. The optimal frequency of testing is once every three months. Clean dust, spider webs and other contaminants that may appear on the detector's housing. Use a soft, dry cloth that is suitable for the care of the device.

Do not use substances containing alcohol, acetone, gasoline or other active solvents to clean the detector. Wipe the lens gently, as scratches may occur.

may affect the sensitivity of the detector.

Pre-installed batteries provide up to 3 years of battery life based on 1 alarm per day with Jeweller's standard settings (ping period: 36 seconds). If the detector's batteries are nearly discharged, the Ajax security system will send a corresponding notification, and the LED will gradually turn on and off when the detector senses movement or if the tamper switch is activated.

MotionCam Outdoor can operate for up to 2 months after the low battery signal. However, we recommend that you replace the batteries immediately after the notification. It is recommended to use lithium batteries. They have a large capacity and are less affected by temperatures.

How long do Ajax devices run on batteries and what influences this?

How to replace batteries in the MotionCam Outdoor detector?

Technical specifications

Classification	Radio-interconnected photoelectric safety detector
Installation method	Exterior and interior
Detector type	Wireless
Compatibility	Hub 2, Hub 2 Plus, ReX 2 Does not work with ReX signal repeaters
Sensor	Two IR sensors
Sensitivity	Adjustable, 3 levels
Motion detection distance	3 to 15 meters when installed at 0.8–1.3 meters (set by user)

	From 1 to 13 meters when installed at 0.5 meters (set by user)
Horizontal viewing angle of the detector	90°
Motion detection speed	From 0.3 to 2.0 m/sec
Pet immunity option	<p>Yes. When properly installed and configured, the detector ignores animals installed at a height of 0.8–1.3 meters.</p> <p>More information</p>
Camera angle	<ul style="list-style-type: none"> Horizontal: 105° Vertical: 50°
TV distortion (EBU standard)	On tap: 17%
Send a photo in case of alarm	<p>Photo resolution:</p> <ul style="list-style-type: none"> 320 × 176 pixels (default) 640 × 352 pixels <p>Photo series of up to 5 photos</p> <p>More information</p>
Infrared backlight for taking photos in the dark	Yeah
Protection against false alarms	+
Anti-sabotage tamper	+
Anti-masking protection	+
Temperature sensor	+
CRA Compatibility	Motion alarms are transmitted to ARCs that support SIA (DC-09), ADEMCO 685, SurGuard (Contact ID), and other proprietary protocols.

	CRA software compatible with photo verification of alarms
Radio communication protocols with Ajax detectors and devices	<p>Jeweller—to transmit events and alarms.</p> <p>More information</p> <p>Wings—to transmit images.</p> <p>More information</p>
Radio frequency band	<p>866.0 – 866.5 MHz</p> <p>868.0 – 868.6 MHz</p> <p>868.7 – 869.2 MHz</p> <p>905.0 – 926.5 MHz</p> <p>915.85 – 926.5 MHz</p> <p>921.0 – 922.0 MHz Depends on sales region.</p>
Maximum radio signal strength	≤ 20 mW
Radio signal modulation	GFSK
TDMA	+
Radio signal range	<p>Up to 1700 m (without obstacles)</p> <p>More information</p>
Ping interval	From 12 to 300 seconds
Feeding	4 CR123 batteries
Supply voltage	6 V
Battery life	<p>Up to 3 years (up to 2.5 years with the configuration of Delay on entry enabled)</p> <p>Calculate battery life</p>
Protection classification	IP55
Operating temperature range	From –25°C to +60°C
Operating humidity	Up to 95%
Dimensions	206 × 108 × 93 mm

Weight	470 g
Shelf life	10 years
Warranty	24 months More information

Compliance with standards

Full team

- 1.MotionCam Outdoor
 - 2.SmartBracket fixing panel
 - 3.Hood Visor
 - 4.Four CR123 batteries (pre-installed)
 - 5.Installation kit
- .Quick guide

Warranty

Limited Liability Company “Ajax Systems Manufacturing” products have a 2-year warranty after purchase and this does not apply to packaged batteries.

If the device is not working properly, please contact the Support Service first. In 50% of cases, technical issues can be resolved remotely.

Warranty obligations

User Agreement

Technical support:support@ajax.systems

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