

# DualCurtain Outdoor User Manual

Updated May 31, 2022



**DualCurtain Outdoor** is a wireless bidirectional outdoor curtain motion detector with an adjustable detection range of up to 30 meters. The detector features an anti-masking system and ignores pets if set up and installed correctly.

DualCurtain Outdoor has a narrow horizontal detection angle and is designed to control property perimeter and passages: windows, archways, doors, gates.



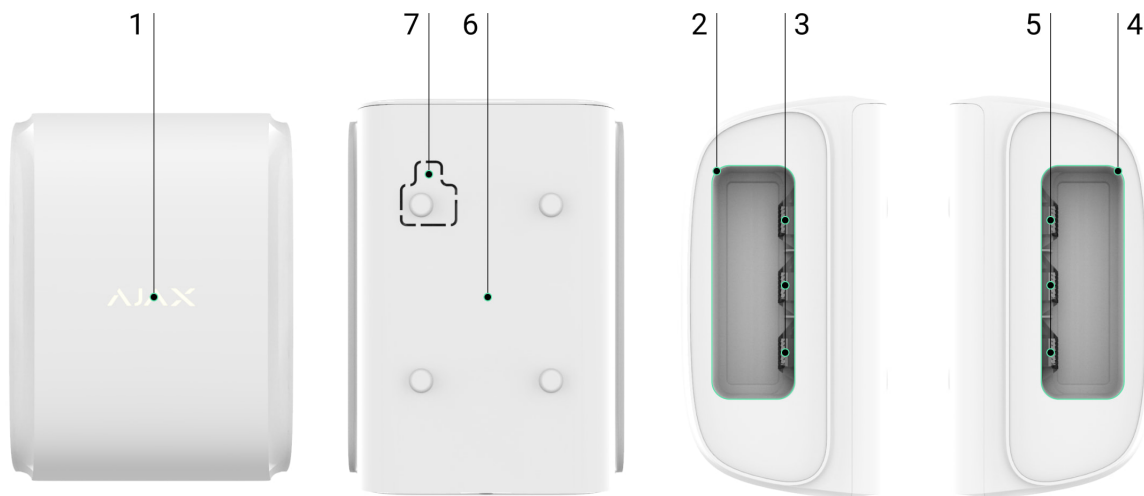
The detector is compatible only with [Hub Plus](#), [Hub 2](#), [Hub 2 Plus](#), and [radio signal range extenders](#). Connectivity with [Hub](#) and the [ocBridge Plus](#) and [uartBridge](#) integration modules is not supported!

DualCurtain Outdoor operates as part of an Ajax security system by connecting via the [Jeweller](#) secure radio communication protocol. The communication range with a hub in the line of sight is up to 1,700 meters.

[Buy DualCurtain Outdoor](#)

# Functional elements

## Exterior



1. LED indicator in the form of Ajax logo
2. Left-side detector lens
3. Left-side masking sensors
4. Right-side detector lens
5. Right-side masking sensors
6. SmartBracket mounting panel (slide the panel down to detach it)



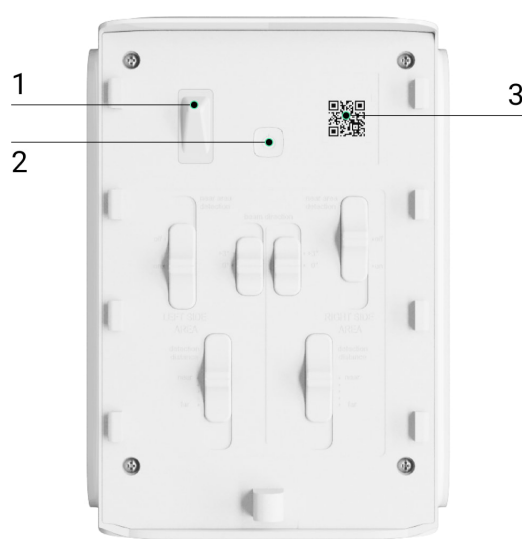
The perforated part is necessary to trigger a tamper if there is an attempt to tear off the detector from the surface. Do not break it!

7. The hole for attaching SmartBracket panel with a screw

## Controls



Control and adjustment elements are located on the back of the detector.

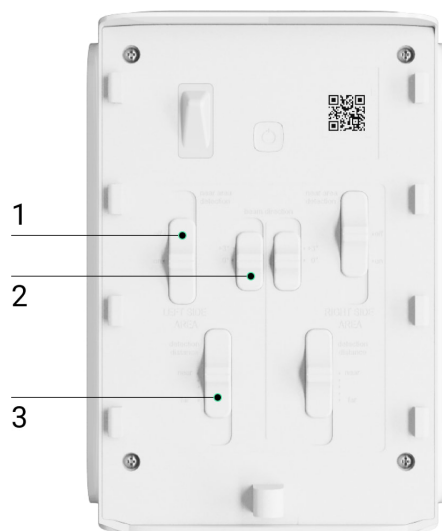


1. Tamper button

2. Power button

3. QR code to connect to an Ajax security system

## Controls for the left side of the detector

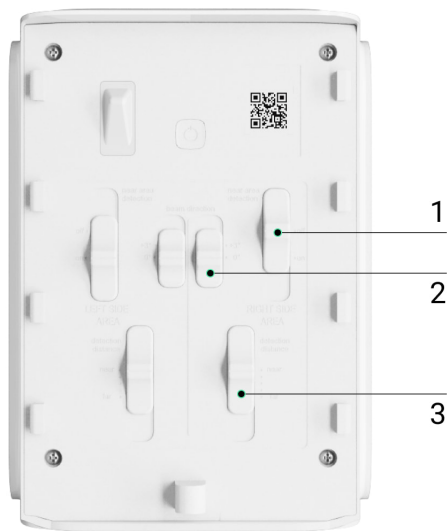


1. **Near area detection** switch

2. **Beam direction** switch

3. Scrollbar for adjusting the **Detection distance**

## Adjustment elements for the right side of the detector

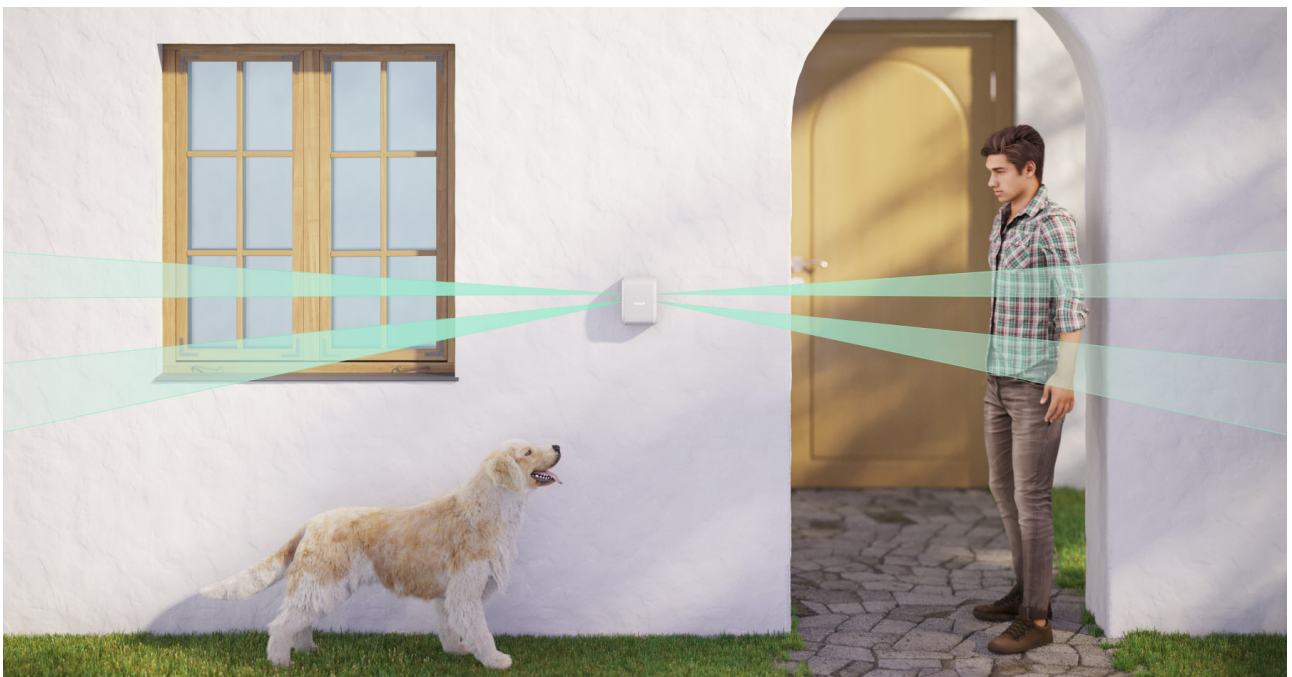


1. **Near area detection** switch

2. **Beam direction** switch

3. Scrollbar for adjusting the **Detection distance**

## Operating principle



DualCurtain Outdoor is a bidirectional outdoor curtain motion detector that uses IR sensors to identify moving objects with temperatures close to that of the human body.

[Learn more about Ajax motion detectors](#)

When armed, the detector continuously processes the sensor signals. When motion is detected, DualCurtain Outdoor transmits an alert to a hub and alarms by flashing the logo (if the indication is on). Motion is detected only if both IR sensors on the same side are triggered.

When received an alarm event, a hub activates sirens, executes scenarios, notifies users and a security company. All DualCurtain Outdoor alerts and events are recorded in the notification feed of the Ajax app.




The detector informs of consecutive triggerings at 5 seconds intervals. Keep this in mind when testing the detector.

DualCurtain Outdoor features two narrow-angle motion detectors facing opposite directions. The detection range in total can reach up to 30 meters long (15 meters in each direction).



The detection distance for each side can be adjusted independently, allowing you to set the detection zone precisely and avoid false alarms caused by bushes, trees, or other objects.

Users are notified of where the motion was detected. Notifications include the device name, the virtual room, and the name of the triggered side. Pressing the  button opens an image of the triggered side.



The detector doesn't arm instantly. The arming time depends on two factors: exit delays (specified in the detector settings) and the detector ping interval (Jeweller settings, the default value is 36 seconds). The delay can be equal to the ping interval and extended by the delay set by a user.

# Pet immunity



When set up and installed correctly, DualCurtain Outdoor ignores pets up to 80 centimeters tall. The detector is equipped with four IR sensors (two on each side). DualCurtain Outdoor only activates an alarm when motion is detected by both sensors on a side.

If installed correctly, animals will trigger only one of the detector's sensors. In such a way, DualCurtain Outdoor filters false alarms. For additional protection against false alarms, the detector applies ELSA, an advanced software algorithm.

Why motion detectors react to animals and how to avoid it

## Anti-masking system



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

**DualCurtain Outdoor detects the following types of masking:**

- Obstacle in front of the detector's lens at a distance of up to 10 centimeters (depends on the material).
- Painting over the lenses or the detector's side.
- Taping the lenses or the detector's side.

| Masking type   | Time to alarm, seconds | Time to restore, seconds |
|--|------------------------|--------------------------|
| Obstacle in front of the detector's lenses (at a distance of up to 10 centimeters from the lens) | 7                      | 20                       |
| Painting over the lenses or the detector's side  | 100                    | 20                       |
| Taping the lenses or the detector's side   | 100                    | 20                       |

The system informs users and a security company monitoring station about masking. For extra protection and awareness, turn on the sirens' response to masking. The maximum masking detection time is 180 seconds (depends on the type of obstacle and the distance to it).



Note that the anti-masking system is always active and works regardless of the security mode.

## Protection against false triggerings

To filter false alarms, DualCurtain Outdoor applies ELSA (Extended Live Signal Analysis) — a three-stage software algorithm that analyzes the signals received from two narrow-angle IR sensors of the same optical system.

### 1. Form analysis

The shapes of both IR sensor signals should indicate the crossing of the secured zone. In any direction: either perpendicular or along the direction of the detector optics. At the same stage, a correction for the signal intensity is made to take into account the distance from the sensors and the size of the object.

### 2. Patterns comparison of

The signal amplitudes are verified with the pattern database. To create it, we analyzed thousands of test triggers of curtain detectors on people, animals, lights, and other natural sources in various weather conditions. Signal patterns should be the same or insignificantly different from those typical to humans.

### 3. Time verification

When signals from both IR sensors match the conditions: this is motion and it is typical for a human, the ELSA algorithm compares the time frames of the signals — whether the upper and lower sensors detected the motion synchronously.

The system raises an alarm if all three conditions are met. The ELSA algorithm takes less than 1 second to render a “threat” or a “false alarm” verdict.

## Near area detection

Typically, outdoor curtain detectors have a blind spot near the enclosure. Its size depends on the height of the installation, the type of the detector, and the motion detection distance. The blind spot creates a potential vulnerability in the security system.



DualCurtain Outdoor uses a technology extending the detection area that is unique among outdoor curtain detectors to. When the **Near area detection** is activated, the upper IR sensor of the detector receives an additional narrow sector of view, directed at the angle of 40 degrees downward.

When enabled, **Near area detection** significantly reduces the blind spot near the sensors and enables covering doors, windows, and other pathways into the room that are in close proximity to the detector.

The **Near area detection** mode is activated for each side on the back of the detector enclosure, and it allows the sensors to detect motion when a person crosses the protected perimeter near the device, eliminating the blind spot.



The **Near area detection** mode is designed to protect windows and other passages that are not accessible to animals because it significantly reduces the efficacy of pet immunity in the proximity of the detector.

## Viewing angle shift

With the **Beam Direction** slider, the DualCurtain Outdoor viewing angle can be shifted by 3 degrees in the horizontal perspective. Shifting applies separately for each side of the detector.

This feature helps to avoid blind spots and hinderings if there are obstacles in the detection zone. For example, gutters, columns, or lamps.

## Event transmission to a monitoring station

The Ajax security system can transmit alarms to central monitoring stations (CMS) in **SurGard (Contact ID)**, **SIA (DC-09)**, **ADEMCO 685**, and other proprietary protocol formats. The complete list of supported protocols is [available here](#).

### Which CMSs can the Ajax security system be connected to

The device ID and the loop (zone) number can be found on the [states screen](#). Keep in mind that an alarm of each side is delivered to a CMS software with one

code. You can distinguish between right and left side detector alarms in the [Ajax PRO Desktop](#) app.

## Adding to the system



The detector is not compatible with [Hub](#), third-party security control panels, and [ocBridge Plus](#) and [uartBridge](#) integration modules.

## Before adding a device


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



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

### [Types of accounts and their rights](#)

## How to add DualCurtain Outdoor to the system

1. Open the Ajax app. If your account has access to multiple hubs, select the one to which you want to add DualCurtain Outdoor.
2. Go to the **Devices**  menu and click **Add Device**.
3. Name the detector, scan or type in the QR code (placed on the detector body and the packaging), select a room and a group (if the group mode is enabled).

4. Click **Add**; the countdown will begin.

5. Switch on the device by holding the power button for 3 seconds.



To make sure DualCurtain Outdoor is connected to the hub, the detector must be located at the same secured facility as the system (within the range of the hub's radio network).


The connected detector will appear in the list of hub devices in the Ajax app. Device statuses updating in the list depends on the **Jeweller settings**; the default value is 36 seconds.






If the connection failed, try again after 5 seconds. If the maximum number of devices has already been added to the hub, you will be notified when you try to add a new one.








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

## Icons

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


| Icon  | Value   |
|---|---|
|  | Jeweller signal strength between the hub (or a radio signal range extender) and the detector        |
|  | DualCurtain Outdoor battery level   |
|  | Malfunction detected. A list and description of malfunctions are available in the detector states   |
|  | DualCurtain Outdoor works via a radio signal range extender   |
|  | At least one side of the detector is in the <b>Always active</b> mode<br><a href="#">Learn more</a> |


|  |  |
|--|--|
| <br> | <p>Delay when entering and/or leaving enabled (applies to both sides of the detector)</p> <p><a href="#"><b>Learn more</b></a></p> |
|   | <p>DualCurtain Outdoor operates in the Night mode</p> <p><a href="#"><b>Learn more</b></a></p>                                     |
|   | <p>DualCurtain Outdoor body status notifications are temporarily disabled</p> <p><a href="#"><b>Learn more</b></a></p>             |
|   | <p>DualCurtain Outdoor is temporarily excluded from the system operation</p> <p><a href="#"><b>Learn more</b></a></p>              |

## What do icons mean in Ajax mobile apps

## States

The states screen includes information about the device and its operating parameters. The states of DualCurtain Outdoor can be found in the Ajax app:

1. Go to the **Devices**  tab.
2. Choose DualCurtain Outdoor in the list.

| Parameter   | Value   |
|-------------|---|
| Malfunction | <p>Pressing  opens the DualCurtain Outdoor malfunctions list.</p> <p><b>The field is displayed only if a malfunction is detected</b></p> |
| Temperature | <p>Detector temperature. It is measured on the processor and changes gradually.</p> <p>Acceptable error between the value in the app and the room temperature: 2-4°C</p>  |

|                          |   |
|--------------------------|---|
| Jeweller signal strength | <p>Signal strength between the hub (or a radio signal range extender) and DualCurtain Outdoor.</p> <p>Recommended values – 2-3 bars</p>   |
| Connection               | <p>The state of the connection between the hub or the radio signal range extender and the DualCurtain Outdoor detector:</p> <ul style="list-style-type: none"> <li>• <b>Online</b> – the detector is online</li> <li>• <b>Offline</b> – no connection to the detector</li> </ul>  |
| Battery charge           | <p>The battery charge level of the device. Two states are available:</p> <ul style="list-style-type: none"> <li>• OK</li> <li>• Battery low</li> </ul> <p>When the batteries are discharged, the Ajax apps and the security company will receive appropriate notifications.</p> <p>After sending a low battery notification, the detector can work for up to 2 months</p> <p><b><u>How battery charge is displayed in Ajax apps</u></b></p> |
| Lid                      | <p>The status of the detector's tamper that responds to detachment of or damage to the body:</p> <ul style="list-style-type: none"> <li>• Opened</li> <li>• Closed</li> </ul> <p><b><u>What is a tamper</u></b></p>   |
| Delay when entering, sec | <p>Delay when entering time (5 to 120 seconds). Turns on for both sides of the detector.</p> <p>Delay when entering (alarm activation delay) is the time the user has for disarming the security system after entering the secured area</p>   |

|                         |   |
|-------------------------|---|
|                         | <h2><u>What is Delay When Entering</u></h2>   |
| Delay when leaving, sec | <p>Delay when leaving time (5 to 120 seconds). Turns on for both sides of the detector.</p> <p>Delay when leaving (arming delay) – this is the time the user has to leave the secured area after arming</p> <h2><u>What is Delay When Leaving</u></h2>  |
| Temporary deactivation  | <p>Shows the status of the device temporary deactivation function:</p> <ul style="list-style-type: none"> <li>• <b>No</b> – the device operates normally and transmits all events</li> <li>• <b>Lid only</b> – the hub administrator has disabled notifications about the body opening</li> <li>• <b>Entirely</b> – the hub administrator has entirely excluded the detector from the system. The device does not execute system commands and does not report alarms or other events</li> <li>• <b>By number of alarms</b> – the device is automatically disabled when the number of alarms is exceeded (specified in the settings for <b>Devices Auto Deactivation</b>). The feature is configured in the Ajax PRO app</li> </ul> <h2><u>Learn more</u></h2> |
| <b>Left side</b>        |   |
| Active                  | <p>Indicates whether the <b>left</b> side of the device is on.</p> <p>The states of the left side (below) will be available if the side is active</p>   |
| Sensitivity             | <p>Sensitivity level of the <b>left</b> side of the motion detector:</p> <ul style="list-style-type: none"> <li>• Low</li> <li>• Medium</li> <li>• High</li> </ul>  |



|               |  |
|---------------|--|
| Always active | <p>When enabled, the <b>left</b> side of the detector is constantly armed and detects motion</p> <p><a href="#">Learn more</a></p>   |
| Anti-masking  | <p>Masking state of the <b>left</b> sensor of the detector:</p> <ul style="list-style-type: none"> <li>• <b>Alarm</b> – masking detected</li> <li>• <b>On</b> – the anti-masking system is on</li> <li>• <b>Off</b> – the anti-masking system is off</li> </ul> <p><a href="#">Learn more</a></p>  |
| Right side    |  |
| Active        | <p>Indicates whether the <b>right</b> side of the device is on.</p> <p>The states of the right side (below) will be available if the side is active</p>  |
| Sensitivity   | <p>Sensitivity level of the <b>right</b> side of the motion detector:</p> <ul style="list-style-type: none"> <li>• Low</li> <li>• Medium</li> <li>• High</li> </ul>  |
| Always active | <p>When enabled, the <b>right</b> side of the detector is constantly armed and detects motion</p> <p><a href="#">Learn more</a></p>  |
| Anti-masking  | <p>Masking state of the <b>right</b> sensor of the detector:</p> <ul style="list-style-type: none"> <li>• <b>Alarm</b> – masking detected</li> <li>• <b>On</b> – the anti-masking system is on</li> <li>• <b>Off</b> – the anti-masking system is off</li> </ul> <p><a href="#">Learn more</a></p> |

|          |  |
|----------|--|
| Firmware | Detector firmware version  |
| ID       | Detector ID. Also available on the QR code on the detector body and on packaging |
| Device № | Number of the device loop (zone)   |

## Settings


**Note** that only part of the detector parameters can be configured in the Ajax app. Detection distance, horizontal viewing angle shift, and near zone detection are adjustable with switches on the detector body.

**To change the detector settings in the Ajax app:**

1. Go to the **Devices**  tab.
2. Choose DualCurtain Outdoor in the list.
3. Go to **Settings** by clicking on the gear icon .



To apply the settings after the change, click the **Back** button.

| Settings                 | Value   |
|--------------------------|---|
| First field              | <p>Detector name. Displayed in the list of hub devices, SMS text, and notifications in the event feed.</p> <p>To change the detector name, click on the pencil icon .</p> <p>The name can contain up to 12 Cyrillic characters or up to 24 Latin characters</p> |
| Room                     | <p>Selecting the virtual room to which DualCurtain Outdoor is assigned. The name of the room is displayed in the text of SMS and notifications in the event feed</p>  |
| Delay when entering, sec | <p>Delay when entering time (5 to 120 seconds). Turns on for both sides of the detector.</p>  |



|                         |   |
|-------------------------|---|
|                         | <p>Delay when entering (alarm activation delay) is the time the user has for disarming the security system after entering the secured area</p> <p><b><u>What is Delay When Entering</u></b></p>   |
| Delay when leaving, sec | <p>Delay when leaving time (5 to 120 seconds). Turns on for both sides of the detector.</p> <p>Delay when leaving (arming delay) – this is the time the user has to leave the secured area after arming</p> <p><b><u>What is Delay When Leaving</u></b></p> |
| Delays in Night mode    | <p>When enabled, the delays when entering and leaving apply to the Night mode.</p> <p>The field is displayed and active if delays are enabled, as well as the <b>Arm in Night mode</b> feature</p> <p><b><u>What is Night mode</u></b></p>                  |
| Arm in Night mode       | <p>If active, the device will switch to Armed mode when using Night mode</p> <p><b><u>What is Night mode</u></b></p>  |
| Alarm LED indication    | <p>Allows you to disable the flashing of the Ajax logo on the detector in case of an alarm, tamper triggering or masking detection</p>  |
| Sides setup             | <p>Accessing the settings menu of the right and left sides of the detector</p>  |
| <b>Left side</b>        |   |
| Active                  | <p>When enabled, the <b>left</b> side of the detector will be active</p>  |
| Sensitivity             | <p>Selection of the sensitivity level of the <b>left</b> side of the motion detector:</p> <ul style="list-style-type: none"> <li>• Low</li> <li>• Normal (default)</li> </ul>   |

|                   |   |
|-------------------|---|
|                   | <ul style="list-style-type: none"> <li>• High</li> </ul> <p>The choice of the sensitivity level is determined during the detection zone test. If during the test the detector doesn't react to motion in 5 cases out of 5, the sensitivity can be increased</p>   |
| Always active     | <p>When enabled, the <b>left</b> side of the detector is constantly armed and detects motion</p> <p><a href="#">Learn more</a></p>  |
| Anti-masking      | <p>When enabled, DualCurtain Outdoor will detect masking on the <b>left</b> side of the detector</p> <p><a href="#">Learn more</a></p>  |
| <b>Right side</b> |   |
| Active            | <p>When enabled, the <b>right</b> side of the detector will be active</p>   |
| Sensitivity       | <p>Selection of the sensitivity level of the <b>right</b> side of the motion detector:</p> <ul style="list-style-type: none"> <li>• Low</li> <li>• Normal (default)</li> <li>• High</li> </ul> <p>The choice of the sensitivity level is determined during the detection zone test. If during the test the detector doesn't react to motion in 5 cases out of 5, the sensitivity can be increased</p> |
| Always active     | <p>When enabled, the <b>right</b> side of the detector is constantly armed and detects motion</p> <p><a href="#">Learn more</a></p>   |
| Anti-masking      | <p>When enabled, DualCurtain Outdoor will detect masking on the <b>right</b> side of the detector</p> <p><a href="#">Learn more</a></p>   |
|                   |   |

|  |   |
|--|---|
| Alert with a siren if motion detected – left   | When enabled, the <a href="#">sirens</a> connected to the system are activated when motion is detected on the <b>left</b> side of the detector  |
| Alert with a siren if masking detected – left  | When enabled, the <a href="#">sirens</a> connected to the system are activated when masking of the <b>left</b> side of the detector is identified   |
| Alert with a siren if motion detected – right  | When enabled, the <a href="#">sirens</a> connected to the system are activated when motion is detected on the <b>right</b> side of the detector   |
| Alert with a siren if masking detected – right | When enabled, the <a href="#">sirens</a> connected to the system are activated when masking of the <b>right</b> side of the detector is identified  |
| Jeweller Signal Strength Test                  | <p>Switches the detector to the Jeweller signal strength test mode.</p> <p>The test allows you to check the signal strength between the hub (or a radio signal range extender) and the detector and choose the optimal installation location</p> <p><b><a href="#">What is Jeweller Signal Strength Test</a></b></p>  |
| Detection zone test                            | <p>Switches the detector to the detection zone test mode.</p> <p>The test allows you to check how the detector responds to motion and masking and to determine the optimal installation location.</p> <p><b>4 test types are supported:</b></p> <ul style="list-style-type: none"> <li>• Upper detector sensors</li> <li>• Lower detector sensors</li> <li>• Anti-masking sensors</li> <li>• All motion sensors together</li> </ul> <p><b><a href="#">What is Detection Zone Test</a></b></p> |
| Attenuation Test                               | Switches the detector to the signal attenuation test mode.  |

|                        |  |
|------------------------|--|
|                        | <p>The test allows you to reduce or increase the power of a radio transmitter to simulate a changing environment to test the stability of the connection between the detector and the hub (or a radio signal range extender)</p> <p><b><u>What is Attenuation Test</u></b></p>   |
| User Manual            | <p>Opens the DualCurtain Outdoor User Manual in the Ajax app</p>   |
| Temporary deactivation | <p>Allows the user to disable the device without removing it from the system. Two options are available:</p> <ul style="list-style-type: none"> <li>• <b>Entirely</b> – the device will not execute commands or participate in automation scenarios. The system will ignore alarms and other device notifications</li> <li>• <b>Lid only</b> – the system will only ignore notifications about the device tamper triggering</li> </ul> <p><b><u>Learn more</u></b></p> <p>The system can also automatically deactivate devices when the set number of alarms is exceeded</p> <p><b><u>Learn more</u></b></p> |
| Unpair Device          | <p>Unpairs the detector, disconnects it from the hub, and deletes its settings</p>   |

## Indication



|   |   |
|---|---|
| Lights red while the button is pressed                  | Pressing the power button when the detector is on |
| Lights green while the device is being activated        | Activation  |
| First lights red, then blinks three times and turns off | Deactivation                                      |



## Enabled detector indication

| Indication  | Event  |
|---|--|
| Lights up green for 1 second  | Alarm, masking, or tamper activation   |
| Blinks red after the first power on   | Hardware error. The detector requires repairing, please contact <a href="#">Support Service</a>  |
| Blinks red in a few minutes after installing in SmartBracket                        | Calibration was not successful — something was obstructing the detector's view during calibration, or it was not installed correctly. Recalibrate the detector. Take off the detector from the bracket, then put it back. Make sure that nothing interferes with the detector's view. Re-adjustment will start automatically |
| Lights green for a few seconds  | Detector connection to the hub   |
| In case of alarm, masking or tampering, it lights up smoothly and goes out in green | Detector batteries need to be replaced. The instruction on how to replace the batteries is <a href="#">available here</a>  |

## Functionality testing

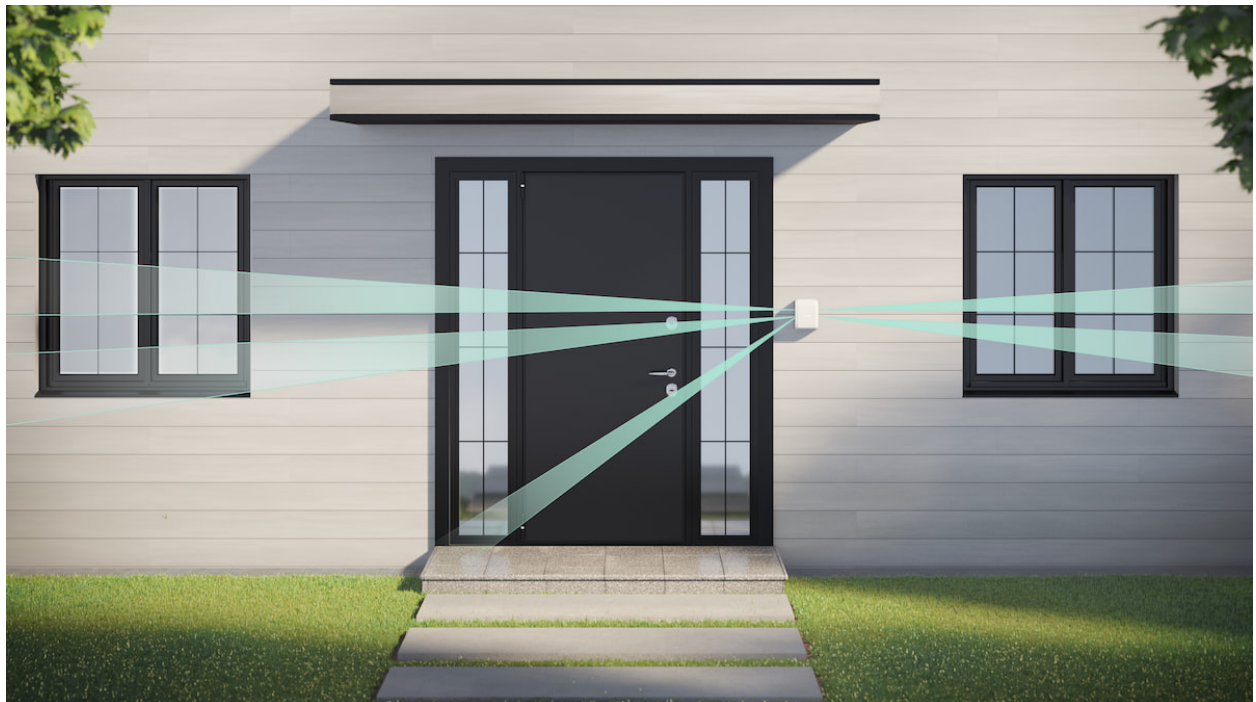
The Ajax security system has several tests for choosing the right installation location for the devices.

The DualCurtain Outdoor tests do not start straight away but not later than over a single hub-detector ping period (36 seconds with the standard settings of the hub). You can change the ping period of devices in the **Jeweller** menu of the hub settings.

The tests are available in the device settings menu (Ajax App → Devices  → DualCurtain Outdoor → Settings 

- Jeweller Signal Strength Test
- Detection zone test
- Attenuation Test

## Choosing a location



DualCurtain Outdoor is suitable for the protection of the area around the secured site. It allows to guard the perimeter, leaving space for free movement inside. The detector can be installed both outdoors and indoors.

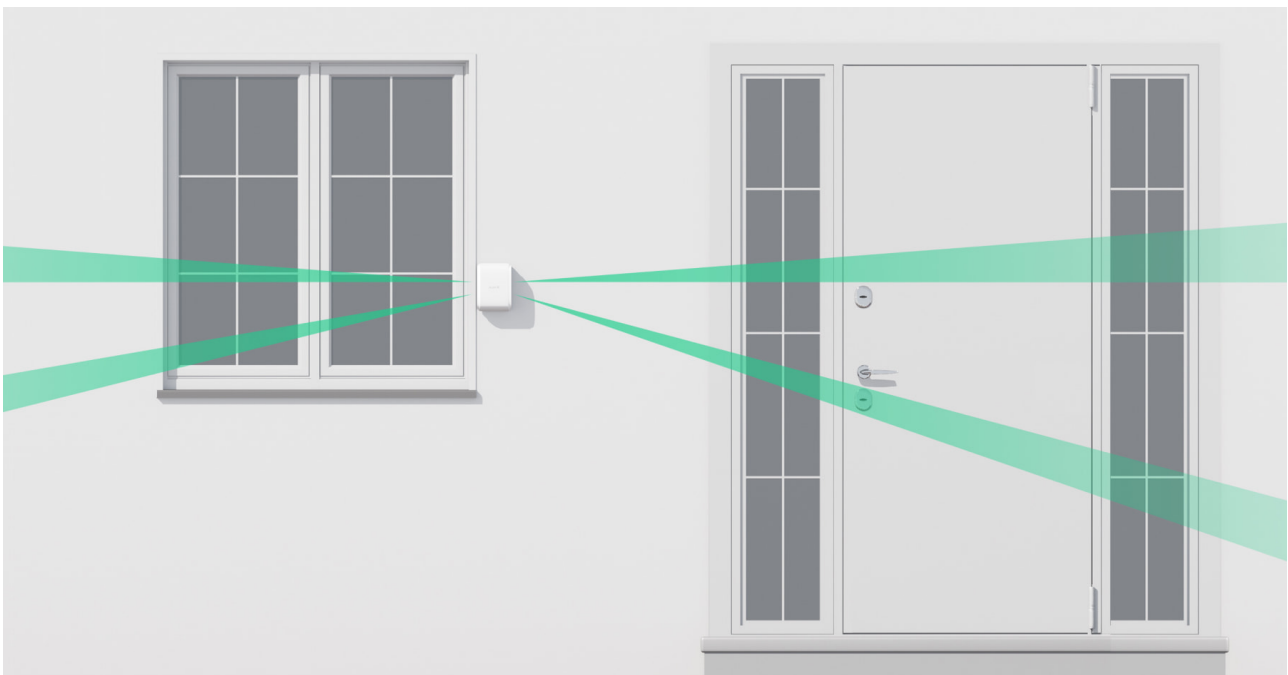
### DualCurtain Outdoor can protect:

- Entrance doors

- Windows
- Gates
- Fences
- Arches and other places where you need to protect the perimeter or the passage

**The detector is placed at the height of 0.8 – 1.3 meters from the ground level,** if it is used to protect doors, fences or arches. If the area is not flat, the height of the installation is calculated from the highest point of the monitored area. Such installation height is a prerequisite for the effective functioning of the pet immunity function. Installation at the wrong height can result in false alarms in response to animals.

If the device is used to protect windows or window displays, **the detector is placed at the height of 0.5 to 0.6 meters from the window sill.**



If one side of the detector is used to protect a door, and the other to protect a window, the detector is installed at the height of **0.5 to 0.6 meters from the window sill**. If the detector is placed close to a window, the Near area detection option should be enabled (the **Near area detection** switch on the back of the detector). The option reduces the blind spot near the detector.

When choosing a location, you also need to consider two main factors: **signal strength** and **detection zone**.

# Signal strength

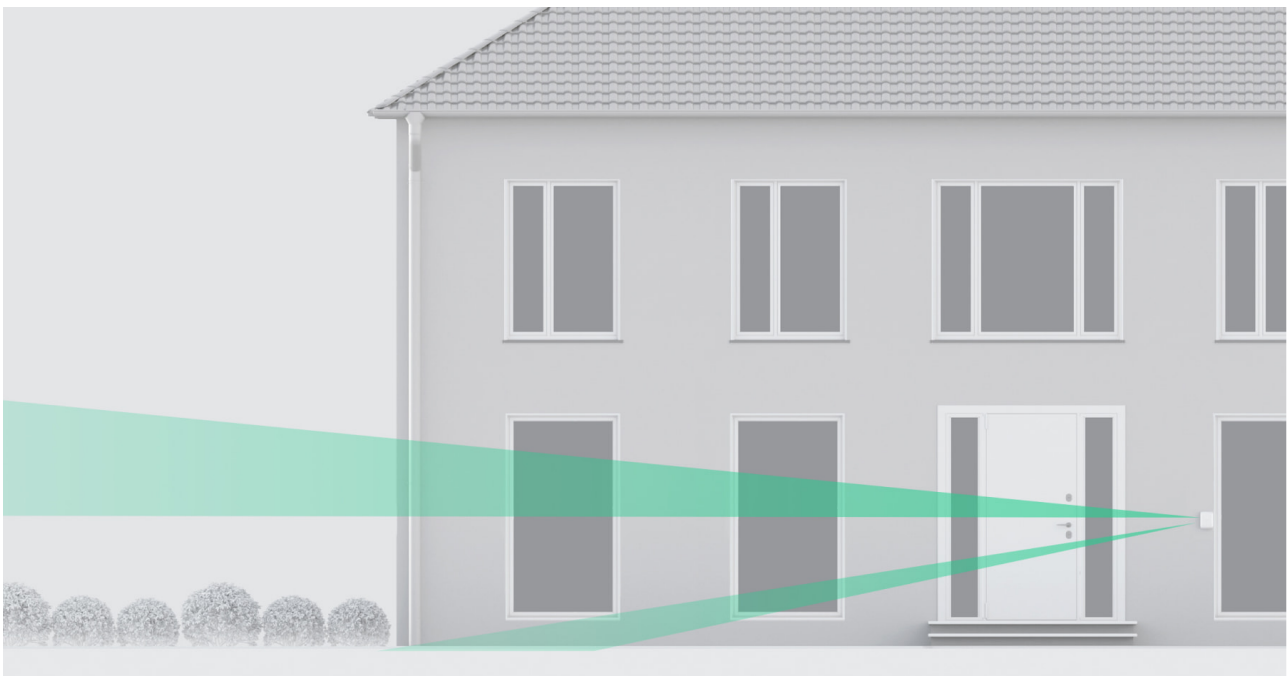
Install DualCurtain Outdoor in a place with stable Jeweller signal strength (2-3 bars in the Ajax app). When selecting the place for installation, consider the distance between the detector and the hub or radio signal range extender and the presence of obstacles between the devices that block the radio signal: walls, floors, large objects located in the room.



Be sure to check the Jeweller signal strength at the installation site. If the signal strength is low (a single bar), we cannot guarantee a stable operation of the security system! At the very least, relocate the device as repositioning even by 20 cm can significantly improve the signal reception.

If poor or unstable signal strength is still reported after the relocation of the detector, use the radio signal range extender.

## Detection zone



DualCurtain Outdoor includes two opposing curtain motion detectors. The detection distance is adjusted separately for each side with the **Detection Distance** scrollbars on the back of the detector.

When selecting the installation location, consider the maximum specified detection distance of the detector. It depends on the position of the Detection



distance scrollbar, the type and speed of human movement (running, walking), and the ambient temperature.

| Detection distance scrollbar position                                    | Motion detection distance |
|--|---------------------------|
| Upper (corresponds to the “near” inscription on the detector body)       | Up to 4 meters            |
| Second division  | Up to 5 meters            |
| Third division   | Up to 7 meters            |
| Fourth division  | Up to 12 meters           |
| Fifth division (corresponds to the far inscription on the detector body) | Up to 15 meters           |



The detection distance was tested at the medium sensitivity level, ambient temperature of +23°C, and clear weather. Motion type – walking. Under other conditions, the results may be different.

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

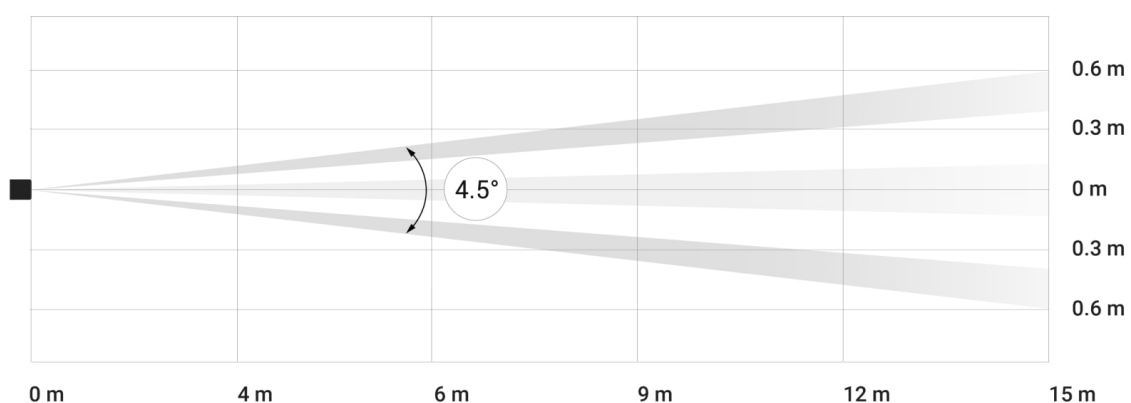
If there are obstacles in the view path of the detector, such as gutters, columns or lamps, set the viewing angle to 3 degrees (the scrollbar labeled **beam direction** on the back of the detector).





If appropriate, turn on **Near area detection** (**Near area detection** scrollbar) for the desired side. The mode allows the detector sensors to detect motion when an attempt is made to break in at the very body of the device, reducing the blind spot.

When installing, also consider the width of the detection zone. Incorrect choice of the detector installation site can lead to false alarms or incorrect operation of the detector.



Horizontal viewing angle of the detector

| Detection distance | Detection zone width |
|--------------------|----------------------|
| 4 meters           | 0.25 meters          |
|                    |                      |

|           |             |
|-----------|-------------|
| 6 meters  | 0.45 meters |
| 9 meters  | 0.7 meters  |
| 12 meters | 0.9 meters  |
| 15 meters | 1.15 meters |

Avoid the situations where the detector identifies movement at a greater distance than required. To do this, adjust and set the desired detection distance. The best place to install the detector may be within an enclosed place. For example, when the detection zone of the detector is limited by a fence. This will reduce the likelihood of false alarms in response to external factors.

Make sure that no obstacles block the view of the detector. Note that DualCurtain Outdoor does not detect movement behind the glass. Therefore, do not install the detector where an open window or a door may obstruct the view of the device.

## Do not install the detector

- Near metal objects and mirrors (they can shield the radio signal and lead to its attenuation).
- Opposite the trees with leaves in the detection zone of both IR sensors of the detector.
- In places where the detection zone of the detector might include bushes 80 centimeters high or above.
- In places with low or unstable signal strength.
- Closer than within 1 meter of a hub or a radio signal range extender.

## Mounting the detector



Prior to installing DualCurtain Outdoor, be sure to select the optimal location following the requirements of this manual!



Before mounting, set the desired detection distance of the detector (**Detection distance** scrollbar), the viewing angle deviation (**Beam direction** scrollbar), and activate the Near area detection mode (**Near area detection** scrollbar), if necessary.

1. Temporarily attach the SmartBracket panel with the bundled ties (or other temporary fasteners, such as double-sided tape). The installation height is 0.8 to 1.3 meters above the ground, if you need to protect a door, an arch, another passage or walk-up to the window. Or 0.5 to 0.6 meters above the window sill, if you use the detector for window protection.



If you install the detector to protect a window, it must be placed close to the opening.

Respecting the installation height is necessary for the correct operation of pet immunity as well as near area detection. **To install the SmartBracket mount on ties, you must first make holes in it.**

2. Install the detector on the SmartBracket panel.
3. Leave the detector detection area (horizontal detection angle – 4.5°) and make sure there is no motion within the detector coverage area. This is necessary for correct calibration of the masking sensors. During the calibration, the detector will blink green around one time per second. Calibration takes up to 2 minutes.



Masking sensors calibration starts automatically when the detector is put on the SmartBracket mounting plate.

4. If the signal strength is unstable or if a single bar is displayed, move the detector or use a radio signal range extender.



Ties or double-sided adhesive tape are only used to temporarily mount the detector. The device attached with adhesive tape can at any time be detached from the surface and fall, which may lead to failure. Note that as long as the device is installed with ties or adhesive tape, the tamper will not be triggered when someone tries to dismantle the detector.

5. Make detection zone tests. First, of the lower sensors, and then of the upper ones. This will help determine and set the required maximum detection distance of the detector (determined by a lower sensor). Then, perform the detection zone test for both sensors simultaneously, as well as the masking sensors test. If there is no response to motion, select the appropriate sensitivity level, the detection distance (**Detection distance** scrollbar), the viewing angle deviation (**Beam direction** scrollbar), activate the near area detection mode (**Near area detection** scrollbar), and check the inclination angle of the detector.
6. Attach the SmartBracket mounting plate to the surface using the bundled screws. When attaching, use at least two fixing points. To make the tamper react to an attempt to detach the device, be sure to lock the SmartBracket corner with perforation.
7. Put DualCurtain Outdoor on the mounting plate, wait for the calibration to complete, and screw in the screw on the bottom of the body. It is needed for a more secure mounting and so that the detector can't be quickly removed from the mount.
8. Once the detector is attached firmly to SmartBracket, the LED will blink — this is a signal indicating that the tamper has been activated. If the LED doesn't blink after installation on SmartBracket, check the tamper status in the Ajax app, and then make sure the plate is firmly attached.

## Maintenance

Check the functioning of the detector regularly. The optimal frequency of testing is once every three months. Clean the detector body from dust, cobwebs, and other contaminants as they emerge. Use a soft dry cloth that is suitable for equipment care.

Do not use substances that contain alcohol, acetone, gasoline or other active solvents to clean the detector. Carefully wipe the lens – scratches on the plastic can reduce the detector sensitivity.

The pre-installed batteries provide up to 4 years of battery life based on 1 alarm per day with standard Jeweller settings (ping period – 36 seconds). When the detector batteries are discharged, the security system will send an appropriate notification, and the LED will light up and go out gradually when the detector detects a movement or the tamper is activated.

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

**How long Ajax devices operate on batteries, and what affects this**

**How to replace DualCurtain Outdoor detector batteries**

## Technical Specifications

|   |   |
|---|---|
| Compatibility                                       | <a href="#">Hub Plus</a><br><a href="#">Hub 2</a><br><a href="#">Hub 2 Plus</a><br><a href="#">ReX</a><br><a href="#">ReX 2</a> |
| Sensing element                                     | IR sensor, 2 on each side   |
| Motion detection distance                           | 4 to 15 meters (on each side, depends on settings)  |
| Detection angle, horizontal                         | 4.5°  |
| Possibility to deviate the horizontal viewing angle | Yes, by 3°  |
|   |   |

|                                     |  |
|-------------------------------------|--|
| Motion detection speed              | From 0.3 to 2 m/s  |
| Pet immunity option                 | <p>Yes. The detector ignores animals up to 80 centimeters in height when installed and set up correctly</p> <p><b><u>Why motion detectors react to animals and how to avoid it</u></b></p>   |
| Near area detection                 | +  |
| Protection against false triggering | +  |
| Tamper protection                   | +  |
| Protection against masking          | +  |
| Installation                        | Outdoors and indoors   |
| Radio communication protocol        | <p>Jeweller</p> <p><b><u>Learn more</u></b></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</p> <p>Depends on the region of sale.</p> |
| Maximum radio signal strength       | 6.35 mW (limit up to 20 mW)  |
| Radio signal modulation             | GFSK   |
| Radio signal range                  | <p>Up to 1,700 m (without obstacles)</p> <p><b><u>Learn more</u></b></p>   |
| Power supply                        | 2 CR123 batteries, 3 V   |
| Battery life                        | Up to 4 years  |
| Protection class                    | IP54   |
| Operating temperature range         | From -25°C to +60°C  |
| Operating humidity                  | Up to 95%  |
| Dimensions                          | 174 × 123 × 88 mm  |
| Weight                              | 615 g  |

|              |   |
|--------------|---|
| Service life | 10 years                                |
| Warranty     | 24 months<br><a href="#">Learn more</a> |

### Compliance with standards

## Complete set

1. DualCurtain Outdoor
2. SmartBracket mounting panel
3. Two CR123 batteries (pre-installed)
4. Installation kit
5. Quick Start Guide

## Warranty

The warranty for the AJAX SYSTEMS MANUFACTURING Limited Liability Company products is valid for 2 years after purchase and does not extend to the bundled batteries.

If the device does not function properly, we recommend that you first contact the support service as technical issues can be resolved remotely in half of the cases!

### Warranty obligations

### User agreement

Technical support: [support@ajax.systems](mailto:support@ajax.systems)



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