MotionProtect Curtain User Manual

Updated May 28, 2021

MotionProtect Curtain is a curtain type wireless motion detector. The detector has a narrow horizontal detection angle and is designed for indoor perimeter control: windows, doorways, and other entrances or exits of the guarded facility. Maximum motion detection distance is 15 m.

MotionProtect Curtain integrates into Ajax security systems, connecting to a **hub** through the **Jeweller** secure protocol. Wireless coverage may reach up 1,700 m line-of-sight. The pre-installed battery ensures up to 3 years of autonomous operation.

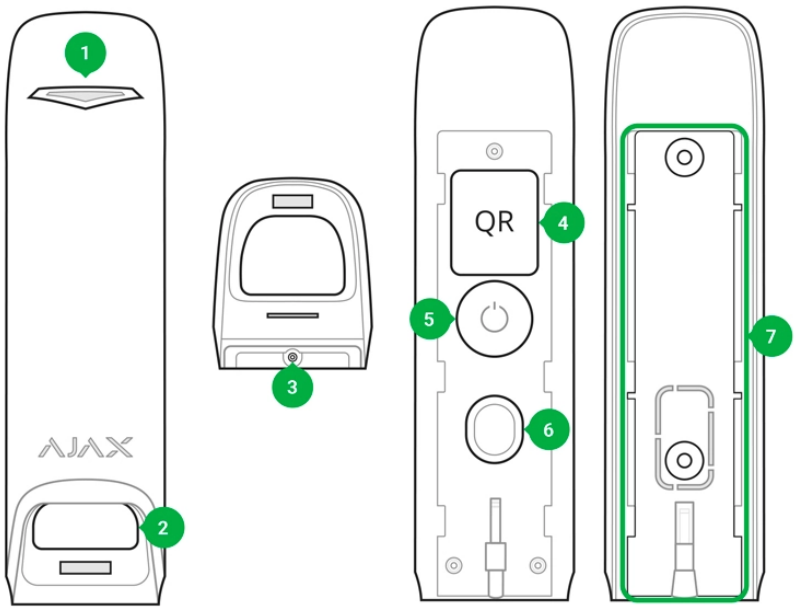
An iOS or Android **app** is used for detector setup. It also notifies the user about any events with push notifications, SMS, or calls (if enabled).

Ajax can be connected to the central monitoring station of a security company.

Connection to ocBridge Plus and uartBridge integration modules is not provided.

Buy curtain type motion detector MotionProtect Curtain

Functional Elements



1. LED indicator
2. Detector light filter
3. Screw aperture for SmartBracket attachment panel
4. QR-Code
5. Power button
6. Tamper button
7. SmartBracket attachment panel (the perforated part is a part of tamper protection for the cases when the detector gets pulled away from a surface)

Operating Principle

MotionProtect Curtain's IR sensors detect intrusion into the premises by detecting moving objects having a temperature close to that of the human body.

Once the system is armed, the detector starts polling its two IR sensors. If a motion is detected, an alarm state is instantly sent to the hub and green LED

starts flashing on the device. Having caught an alarm state, the Hub triggers sirens and notifies the user and the security company.

Motion alarms are sent every 5 seconds

To prevent false alarms, MotionProtect Curtain has a Correlation Signal Processing functionality that can be **enabled in the detector's settings**. Once it is active, the detector starts sending alarm states to the hub only if an identical motion signal is registered by both IR sensors. If it is disabled, MotionProtect Curtain sends an alarm state even with one of the two IR sensors triggered.

What is correlation signal analysis and how does it work

Pairing the Detector with a hub

Before you start pairing the detector:

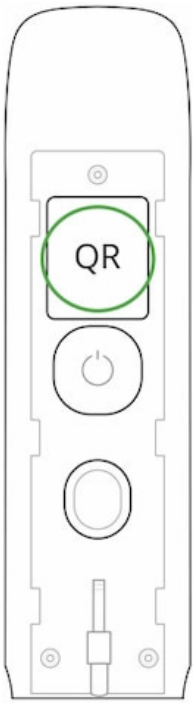
1. Turn on your hub and check the Internet connection (via Ethernet and/or GSM).
2. Install the **Ajax application** on your smartphone. Create an account, add your hub to the app, and create at least one room.
3. Check the status of the hub in the app to make sure it is disarmed and is not updating.

Please note that only a user with admin permissions can add devices to the hub

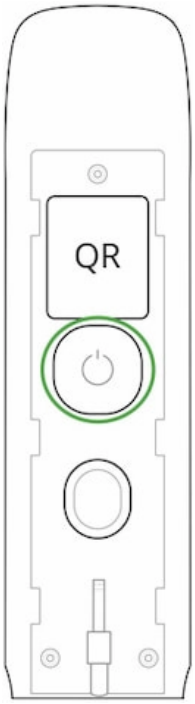
Pairing MotionProtect Curtain with a hub:

1. In the Ajax mobile app, tap **Add device**.
2. Name the device, scan the **QR code** or enter it manually (placed on the back of the detector body or its packaging), select the room for placement, and

tap **Add**. The countdown will start.



3. Turn on the detector by holding its power button for 3 seconds.



For detection and pairing to occur, the device must be within a hub's wireless coverage (at the same facility). The connection request will be sent to the Hub only once the device turns on.

If the MotionProtect Curtain fails to connect to the hub, it will automatically power down within 6 seconds after turning on. There is no need to turn off the device to retry.

If the MotionProtect Curtain has already been paired with another hub, turn off the detector, and then follow the standard pairing procedure.

After pairing, the detector will appear on the app's hub device list. The frequency of the device status updates depends on the polling interval indicated in the hub's settings (36 seconds by default).

If the detector identifies movement before the system is armed, it will activate not immediately but the next it is polled by the hub.

Statuses

> **1.** Devices
>
> **2.** MotionProtect Curtain

Parameter	Value
Temperature	The detector's CPU temperature (changes gradually)
Signal Strength	The strength of the signal between a hub and the detector
Battery Charge	Battery level of the device. Two states available: • OK • Battery discharged **How battery charge is displayed in Ajax apps**
Lid	The status of the detector's tamper device that responds to the detachment and removal attempts.
Delay When Entering, sec	The delay for security system activation when entering premises
Delay When Leaving, sec	The delay for security system activation when leaving premises
Connection	Status of the connection between the hub and the sensor

Sensitivity	Detector sensitivity: • Low • High • Normal
Correlation signal processing	Status of the **signal correlation processing** functionality
Always Active	If enabled, motion detection is active always
Temporary Deactivation	Shows the status of the device temporary deactivation function: • **No** — the device operates normally and transmits all events. • **Lid only** — the hub administrator has disabled notifications about triggering on the device body. • **Entirely** — the device is completely excluded from the system operation by the hub administrator. The device does not follow system commands and does not report alarms or other events. • **By number of alarms** — the device is automatically disabled when the number of alarms is exceeded (specified in the settings for Devices Auto Deactivation). The feature is configured in the Ajax PRO app.
Firmware	The detector's firmware version
Device ID	Device identifier

Detector Setup

1. Devices

2. MotionProtect Curtain

3. Settings ⚙

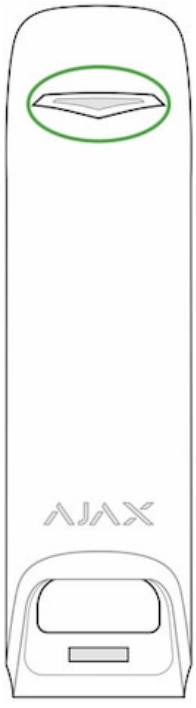
Setting	Value

First field	Detector name (editable)
Room	The virtual room to which the device can be assigned
Sensitivity	The detector sensitivity selector: • High • Normal • Low
Correlation signal processing	The **correlation signal processing** function toggle
Always active	If enabled, motion detection stays active always
Delay When Entering, sec	The delay for security system activation when entering the premises
Delay When Leaving, sec	The delay for security system activation when leaving premises
Delays in Night Mode	The delay for security system activation in Night Mode
Arm in Night Mode	If active, the detector becomes armed once system enters Night Mode
Alarm LED indication	Allows you to disable the flashing of the LED indicator during an alarm. Available for devices with firmware version 6.53.1.1 or higher **How to find the firmware version or the ID of the detector or device?**
Alert with a siren if motion detected	If active, **sirens added to the system** are activated if the motion is detected
Signal Strength Test	Switches the detector into the signal level test mode
Detection Zone Test	Switches the detector to the detection area test
Attenuation test	Switches the detector into the signal attenuation test mode (available in detectors with **firmware version 3.50 or later**)
Temporary Deactivation	Allows the user to disconnect the device without removing it from the system.

	Two options are available: • **Deactivate entirely** — the device will not execute system commands or participate in automation scenarios, and the system will ignore device alarms and other notifications • **Deactivate lid notifications** — the system will ignore only notifications about the triggering of the device tamper button **Learn more about temporary deactivation of devices** The system can also automatically disable devices when the set number of alarms is exceeded. **Learn more about auto deactivation of devices**
User Guide	Opens the detector User Guide
Unpair Device	Unpairs the detector from the Hub and resets its settings

Detector Indication

The MotionProtect Curtain indicator LED may turn red or green, depending on the status of the device.



Indication when pressing the power button

Event	Indication
The power button is pressed (detector is on)	Lights up red while the button is held
Turning on	Lights up green while the device is turning on
Turning off	Lights up red, then flashes three times

Active detector indication

Event	Indication	Note
Connecting the detector to the hub	Lights up green for a few seconds	
Hardware error	Flashes red continuously	The detector needs to be repaired, contact support
Motion or tamper alarm triggered	Lights up green for about 1 second	
Battery replacement needed	Smoothly lights up green and goes off	For battery replacement procedure, see **Battery replacement** manual

Integrity Testing

Ajax security systems can run tests to verify the integrity of connected devices.

The tests start instantly, but no later than within 36 seconds by default. The test start time depends on the detector polling interval setting (see the **Jeweller** section in the Hub settings).

Signal Strength Test

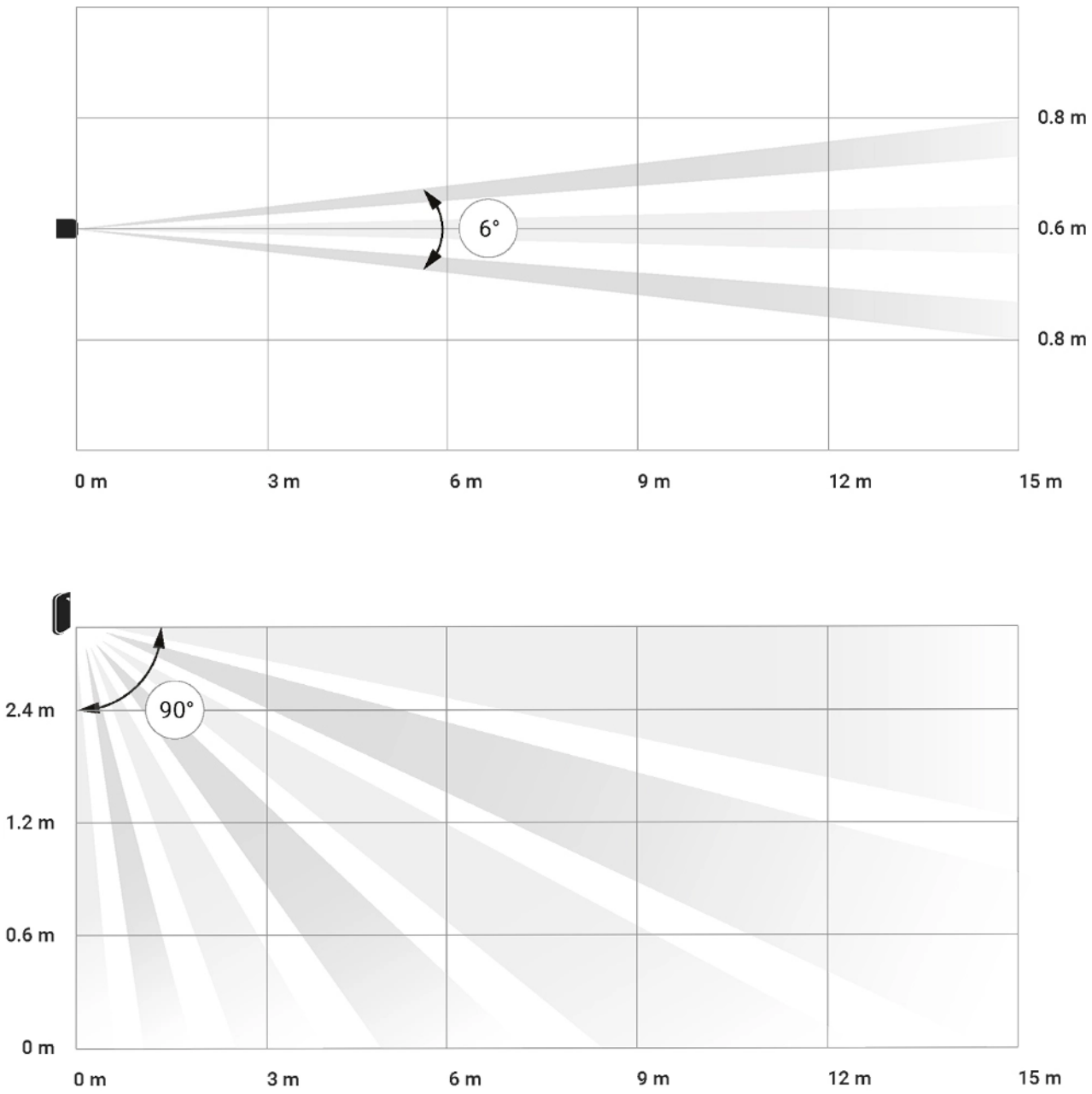
Detection Zone Test

Attenuation test

Detector Placement

The effectiveness of the security system depends on detector placement. Choosing a location to install MotionProtect Curtain, consider the direction of the light filter and obstacles that may affect the detector's field of view and the radio signal transmission.

Consider the detection range as well as the beam width when installing the detector. Incorrect device placement can lead to false alarms or improper operation of the device.



Horizontal and vertical detector's angles of view

Detection range	Beam width
3 meters	0.3 meters
6 meters	0.6 meters

9 meters	0.9 meters
12 meters	1.25 meters
15 meters	1.55 meters

The device developed only for indoor use.

Do not install the detector:

- Outside the premises (outdoors)
- In front of the windows within reach of direct sunlight
- Opposite of the objects that rapidly change temperature (e.g., electric and gas heaters)
- Opposite of the moving objects having a temperature close to that of the human body (curtains swaying above a heating radiator)
- In places with fast air circulation (near fans, open windows or doors)
- Near metal objects and mirrors that cause the attenuation or interfere with radio signals
- Within any premises with the temperature and humidity beyond the permitted range
- Closer than 1 m to a hub

If the detector keeps reacting to interference and raising false alarms, but it is impossible to install it anywhere else, the Correlation Signal Processing can be enabled in the settings.

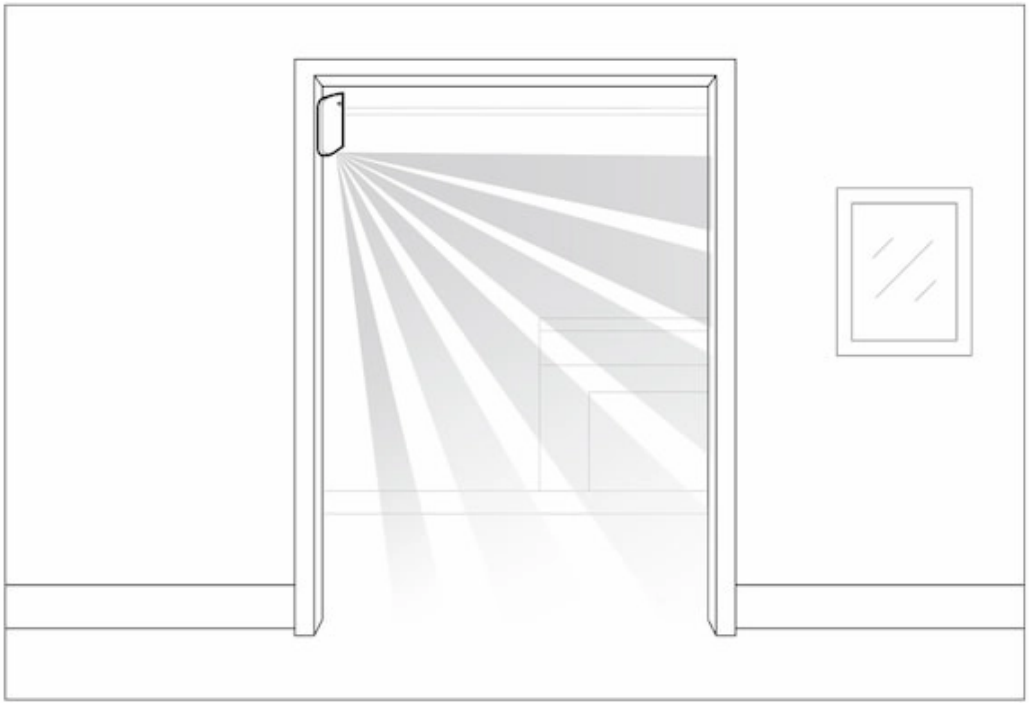
Please note that if the **Correlation Signal Processing** is enabled, the range of motion detection is reduced depending on the detector sensitivity chosen

Sensitivity	Motion detection range w/ Signal Correlation Processing *	Motion detection range w/o Signal Correlation Processing *

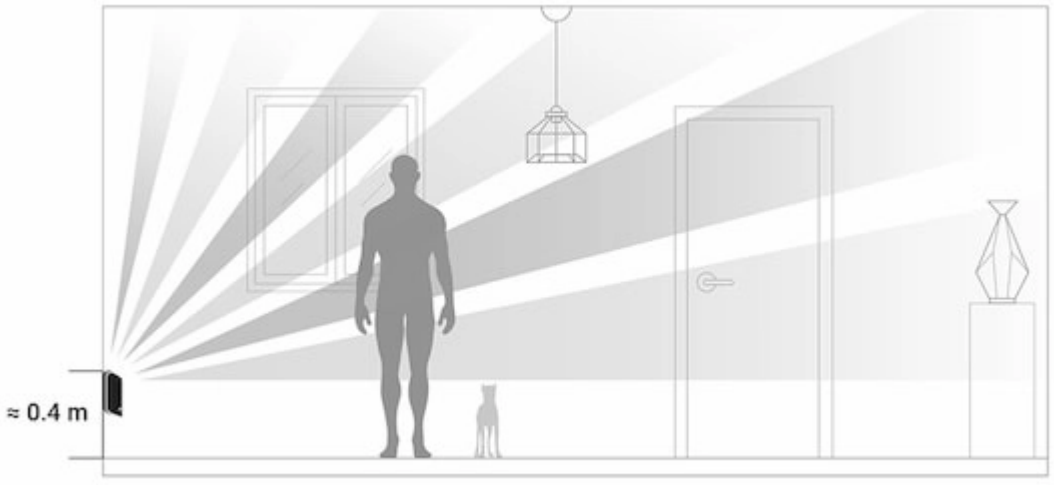
Low	Up to 6 m	Up to 11 m
Normal	Up to 7 m	Up to 13 m
High	Up to 8 m	Up to 15 m

*at an ambient temperature of 23°C

If possible, avoid situations where the detector identifies movement at a longer distance than required. The best place to install it is within an enclosed place. For instance, to detect movement in an archway, install the detector in it. This way, the detector will be triggered only by a person that enters it.



To prevent the detector from reacting to domestic animals, install it upside down, leaving space for the free movement of animals below the detection zone.



The placement of a MotionProtect Curtain also depends on the distance to a hub and whether there are any obstacles between the devices that may hinder the radio signal, e.g., walls, floor deck, or large objects in the room.

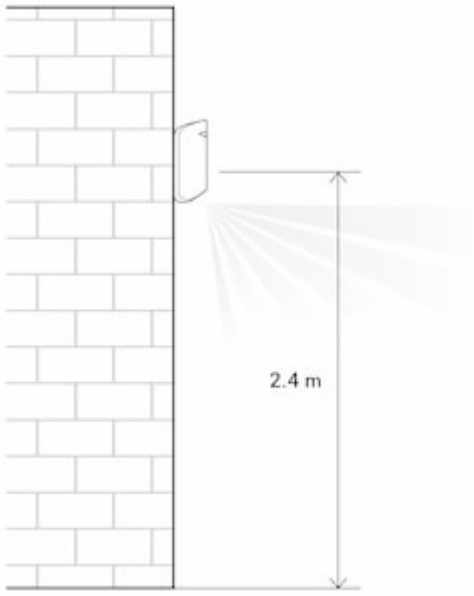
Check the signal strength at the placement location. If you have a signal level of one bar, there is no guarantee of the security system's stable operation. Take all necessary precautions to ensure maximum signal level. At least try moving the device—even 20 cm can make a difference.

If the device still shows low or unstable signal level even after you move it, use a **ReX radio signal range extender**.

The detector's light filter should be directed perpendicularly to the expected entry path to the room!

Make sure that no furniture, home plants, vases, decorative or glass structures are blocking the detector's field of view.

We recommend installing the detector at a height of 2.4 m!



Installing the detector at any other height will narrow the detection zone, affecting the quality of motion detection.

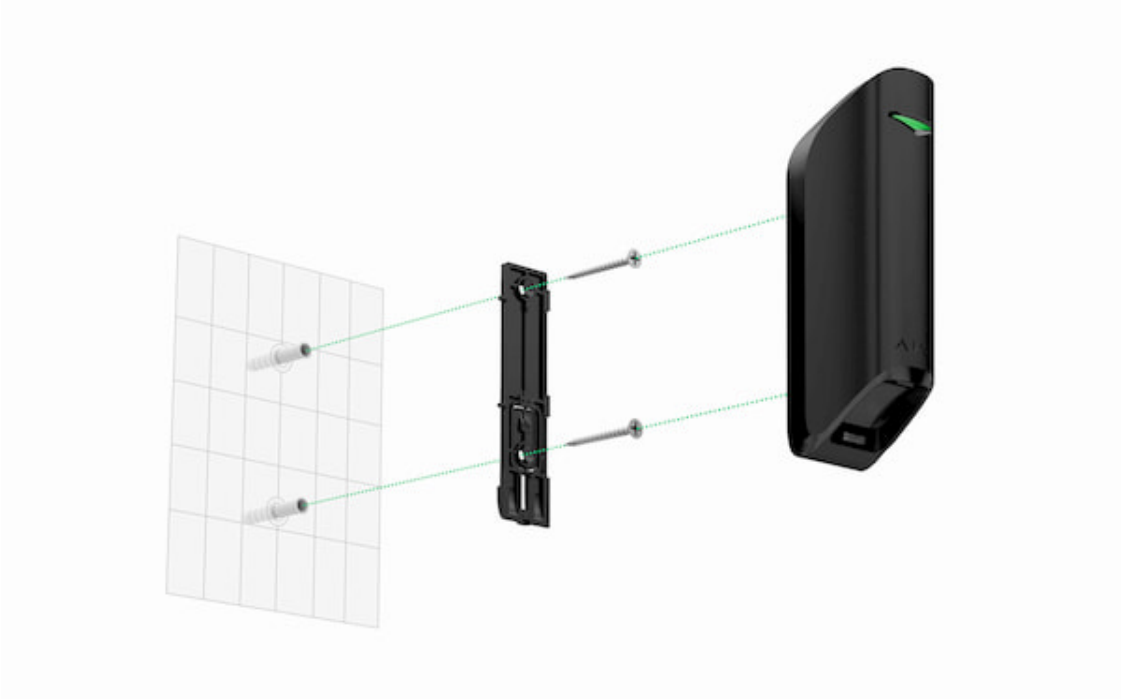
Keep in mind that MotionProtect Curtain does not detect movement behind the glass. Therefore, do not install the detector in places where glass structures may block its range of view, e.g., in places where an open window may obstruct the device's field of view.

Detector Installation

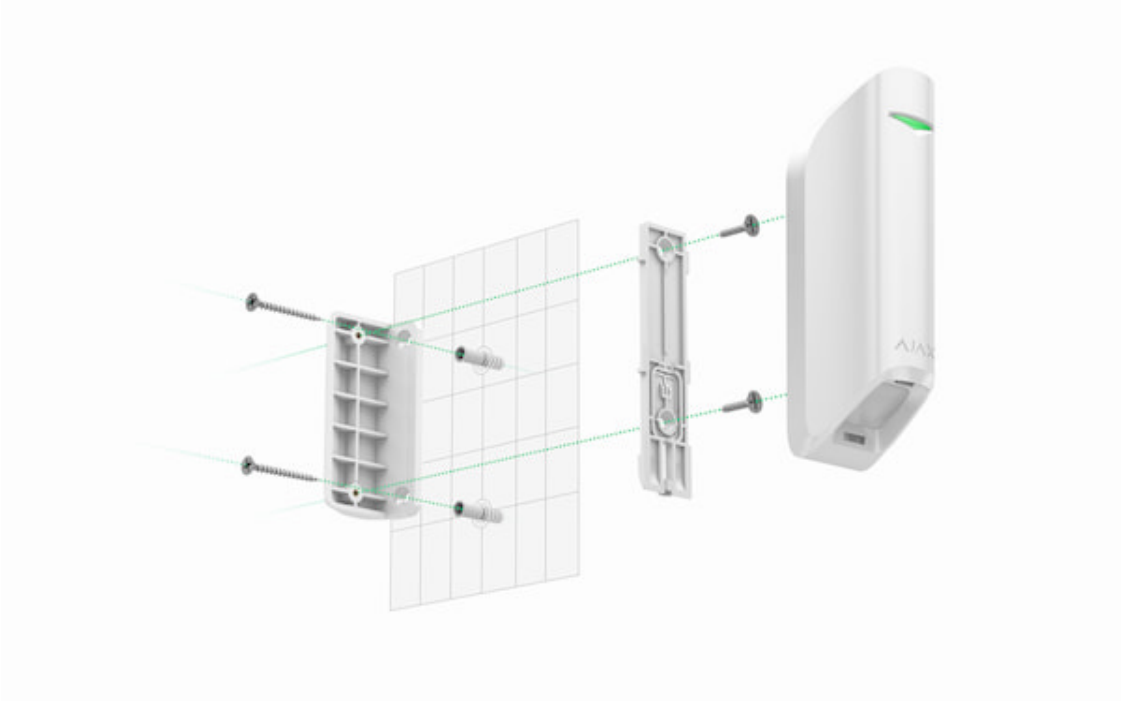
Before installing the detector, make sure that you have chosen an appropriate location as indicated in this manual.

There are two options for installing MotionProtect Curtain:

- directly to a surface



- to the included bracket.



Installation procedure:

1. Attach the SmartBracket panel or a bracket to the surface with the included screws or other equally reliable fasteners. Screw the SmartBracket panel onto the included bracket.
2. Attach the detector to the SmartBracket attachment panel.
3. Mount the detector on the SmartBracket attachment panel using a screw.

The double-sided adhesive tape should be used only for the temporary installation of the detector. It will dry out eventually, becoming unable to reliably hold the detector and possibly causing false alarms in the security system. The fall of the device may also result in its damage.

If the detector's LED fails to light up after the device is attached to the SmartBracket, check the tamper status in the Ajax app and then check if it fits tightly onto the attachment panel. If you try to detach the detector from the surface or the panel, you will receive a notification.

Having installed the detector, run the Detection Zone Test. In case of incorrect operation, the detector needs to be relocated.

Detector Care and Battery Replacement

Check the integrity of the MotionProtect Curtain detector regularly. Clean the detector body from dust, spider webs, and other contaminations as they appear. Use soft dry cloth suitable for equipment care.

Do not clean the detector with any substances containing alcohol, acetone, gasoline, or any other active solvent. Wipe the lens carefully and gently—any scratches on the plastic may reduce the detector's sensitivity.

The pre-installed battery ensures up to 3 years of autonomous operation (at a polling interval of 3 min). If the detector battery is nearly depleted, the security system will send a notification, and the LED will smoothly light up and go out when the detector detects any motion or if the tamper is activated.

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

Battery replacement

Specifications

Sensor	PIR sensor, 2 pcs
Detection angles	Horizontal — 6°; vertical — 90°
Time for motion detection	From 0.3 to 2 m/s
Placement	Indoor only
Motion detection range	Up to 15/13/11 m (up to 8/7/6 m with Correlation Signal Processing enabled depending on sensitivity settings)
False alarm reduction	Available — Correlation Signal Processing
Tamper Protection	Available — detector body detachment and damage
Frequency bands	868.0–868.6 MHz or 868.7–869.2 MHz depending on the region
Compatibility	Operates only with all Ajax **hubs**, and **range extenders**
RF signal strength	Up to 20 mW
Radio signal modulation	GFSK
Radio signal range	Up to 1700 m line-of-sight

Power supply	1 battery CR123A, 3 V
Battery life	Up to 3 years
Installation method	Indoors only
Operating temperature range	From -10°C to +40°C
Protection class	IP54
Overall dimensions	134 × 44 × 34 mm
Weight	118 g
Service life	10 years

Compliance with standards

Complete Set

1. MotionProtect Curtain
2. SmartBracket panel
3. Battery CR123A (pre-installed)
4. Installation kit
5. Quick Start Guide
6. Bundled Bracket

Warranty

The warranty for the “AJAX SYSTEMS MANUFACTURING” LIMITED LIABILITY COMPANY products is valid for 2 years after the purchase and does not apply to the pre-installed battery.

If the device does not work correctly, contact our customer support first—in 50% the cases, technical issues can be solved remotely!

The full text of the warranty

User Agreement

Technical support: **support@ajax.systems**