

# MotionProtect Curtain User Manual

Updated March 23, 2020



**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 to 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).

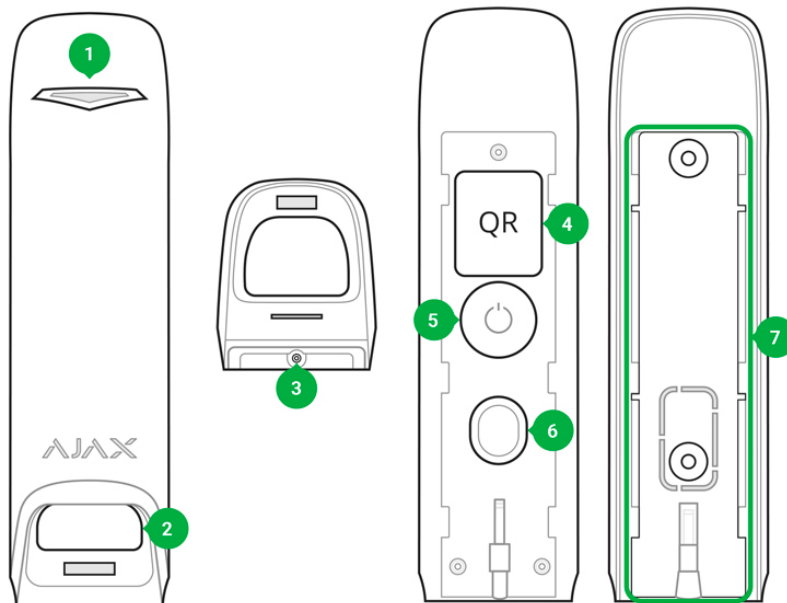
Ajax can be connected to the central monitoring station of a security company.



Connection to [ocBridge Plus](#) and [uartBridge](#) integration modules is not provided.



## 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.

## Pairing the Detector with a hub

### Before you start pairing the detector:

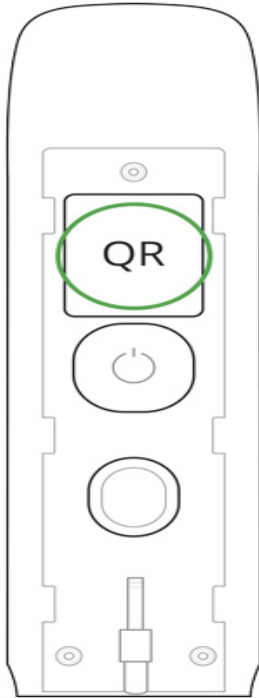
1. Turn on your hub and check the Internet connection (via Ethernet and/or GSM).
2. Install the Ajax application on your smartphone. Create an account, add your hub to the app, and create at least one room.
3. Check the status of the hub in the app to make sure it is disarmed and is not updating.



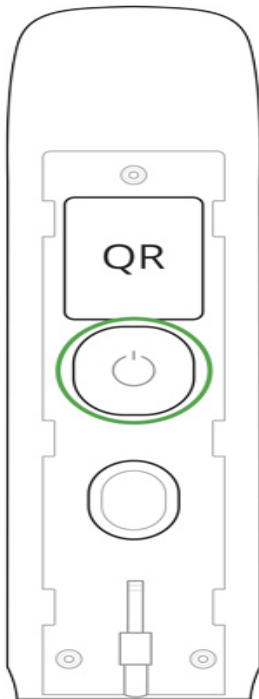
Please note that only a user with admin permissions can add devices to the hub

### 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.

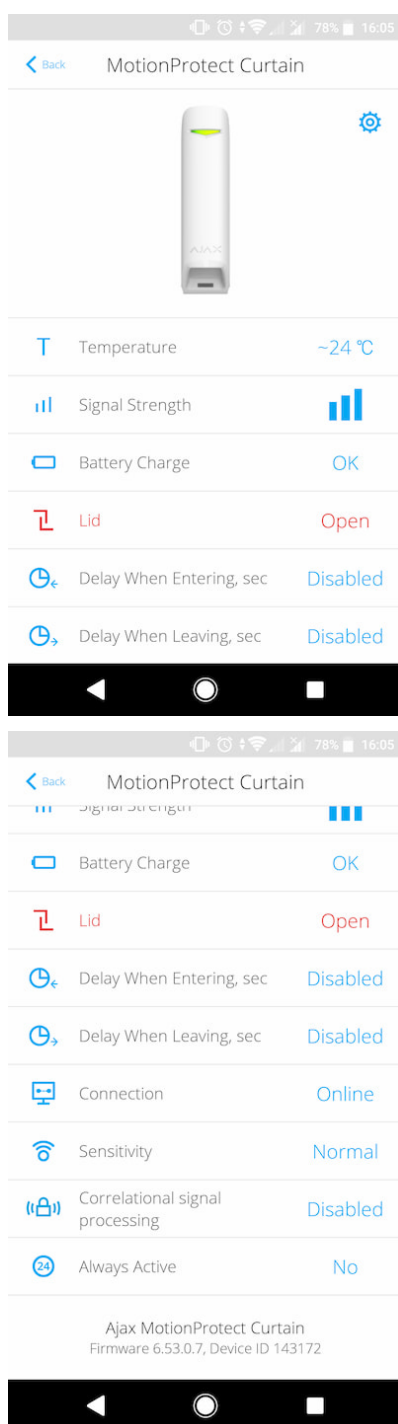
If the MotionProtect Curtain has already been paired with another hub, turn off the detector, and then follow the standard pairing procedure.

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

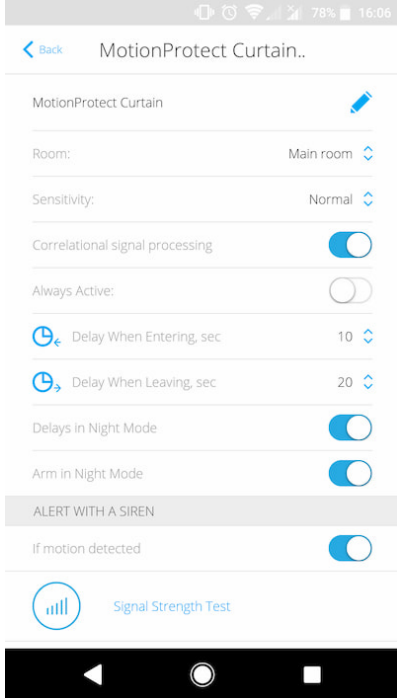
1. Devices
2. MotionProtect Curtain



| 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                | The detector's battery charge, displayed in the increments of 25%  |
| 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                   | <p>Detector sensitivity:</p> <ul style="list-style-type: none"> <li>• Low</li> <li>• High</li> <li>• Normal</li> </ul> |
| Correlation signal processing | Status of the signal correlation processing functionality  |
| Always Active                 | If enabled, motion detection is active always  |
| 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: <ul style="list-style-type: none"> <li>• High</li> <li>• Normal</li> <li>• Low</li> </ul> |
| 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  |
| Alert with a siren if motion detected | If active, <a href="#">HomeSiren</a> and <a href="#">StreetSiren</a> 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 <b>firmware version 3.50 or later</b> ) |
| 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 <a href="#">Battery replacement</a> 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.

Incorrect placement may result in false alarms or faulty operation of the detector.

### **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.

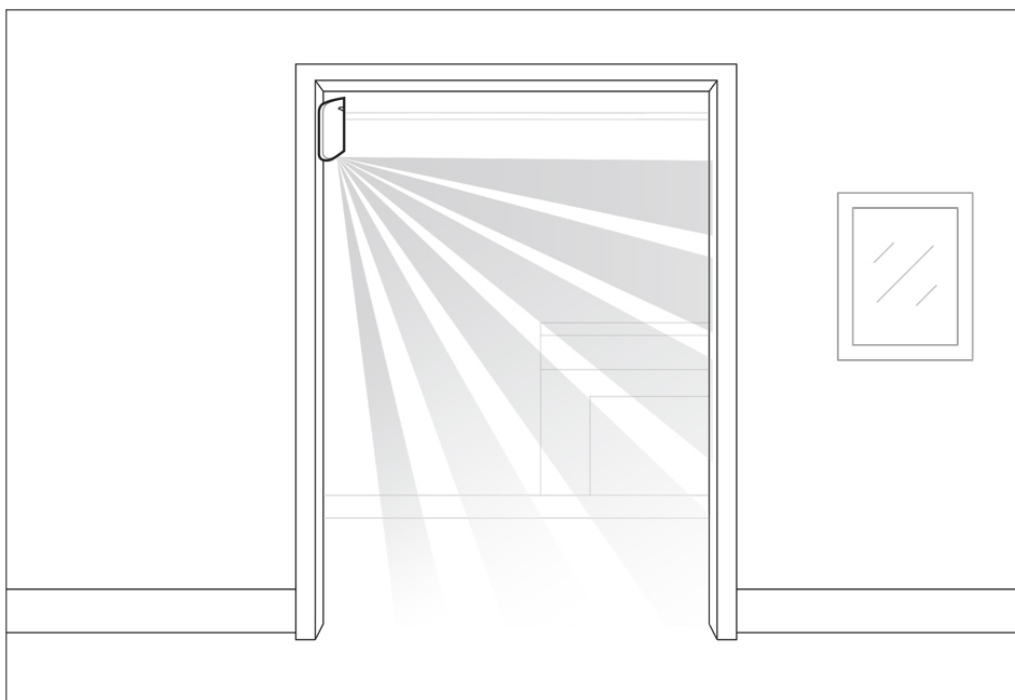


Please note that if the Correlation Signal Processing is enabled, the range of motion detection is reduced depending on the detector sensitivity chosen

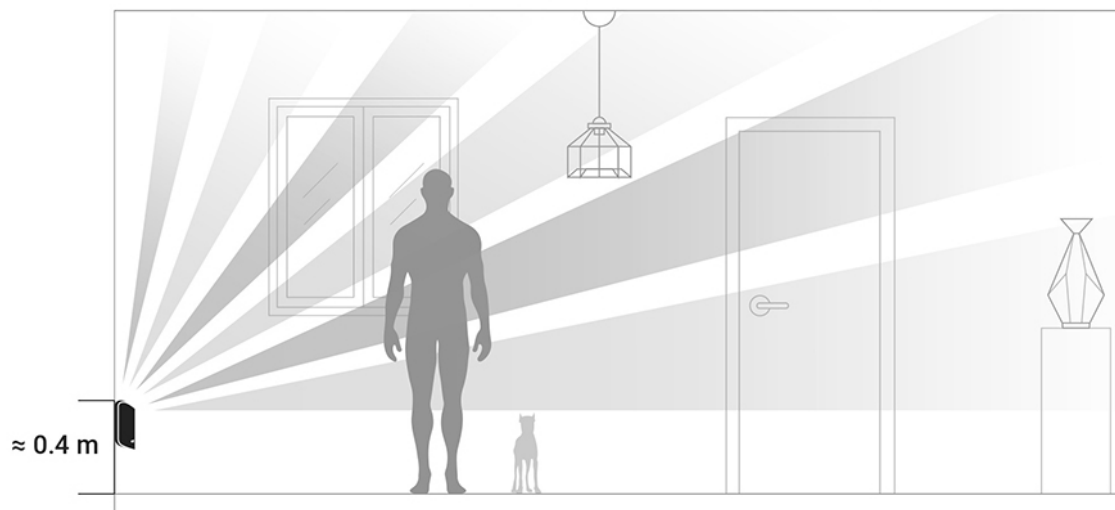
| Sensitivity | Motion detection range w/ Signal Correlation Processing * | Motion detection range w/o Signal Correlation Processing * |
|-------------|---|--|
| Low         | Up to 6 m   | Up to 11 m   |
| Normal      | Up to 7 m   | Up to 13 m   |
| High        | Up to 8 m   | Up to 15 m   |

\*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.

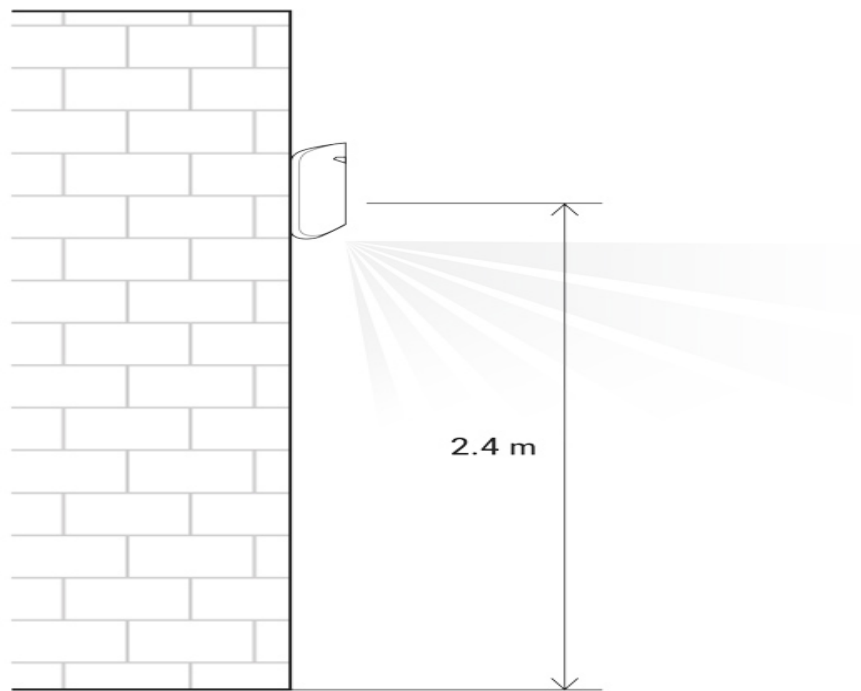
If the device still shows low or unstable signal level even after you move it, use a [ReX radio signal range extender](#).

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.

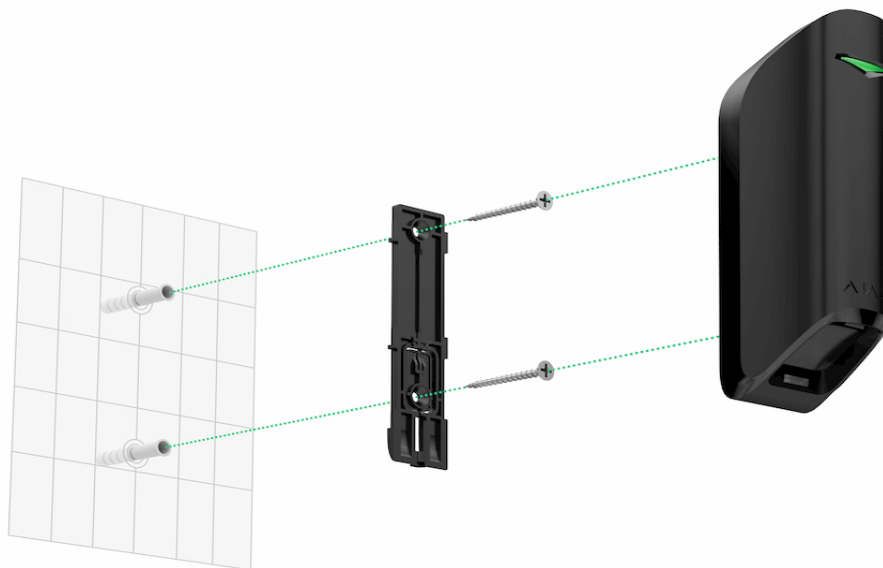
Keep in mind that MotionProtect Curtain does not detect movement behind the glass. Therefore, do not install the detector in places where glass structures may block its range of view, e.g., in places where an open window may obstruct the device's field of view.

## Detector Installation

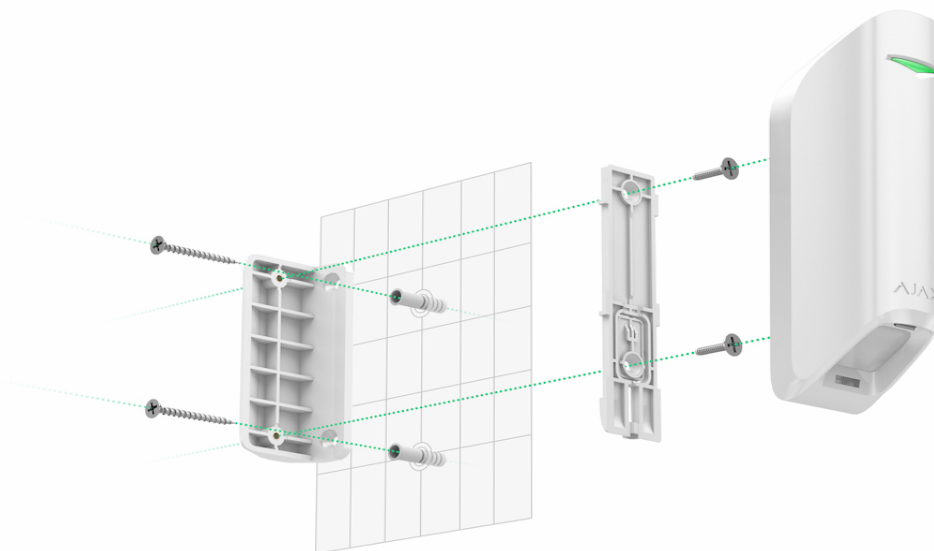
Before installing the detector, make sure that you have chosen an appropriate location as indicated in this manual.

**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.

### Battery replacement

## Specifications

|                        |                                      |
|------------------------|--------------------------------------|
| Sensor                 | PIR sensor, 2 pcs                    |
| Detection angles       | Horizontal — 6°; vertical — 90°      |
| 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 <a href="#">Hub</a> , <a href="#">Hub Plus</a> , <a href="#">Hub 2</a> and <a href="#">ReX</a> |
| 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   |
| Operating temperature range | From -10°C to +40°C   |
| Protection class            | IP54  |
| Overall dimensions          | 134 × 44 × 34 mm  |
| Weight                      | 118 g   |

## 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](mailto:support@ajax.systems)



## Need help?

In this section you'll find detailed manuals and educational videos about all features of Ajax. And in case you need help of a technical specialist, we're available 24/7.

Send request