

# MotionProtect / MotionProtect Plus User Manual



**MotionProtect** is a wireless motion detector designed for use inside premises. It can operate up to 7 years from a pre-installed battery, and tracks the area with the radius of 12 meters, is able to ignore animals, however, can recognize a man from the first step.

**MotionProtect Plus** together with a thermal detector uses radio frequency scanning, filtering interferences from thermal radiation. Can operate up to 5 years from a pre-installed battery.

☞ [Buy motion detector with microwave sensor MotionProtect Plus](#)

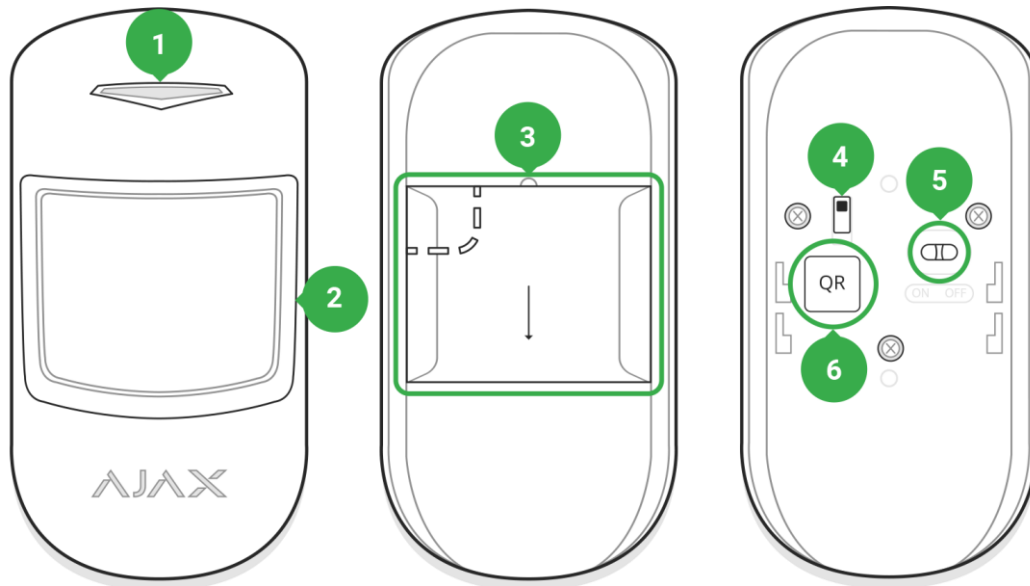
**MotionProtect (MotionProtect Plus)** operates within the Ajax security system, by connecting via the protected Jeweller protocol to the Hub. The communication range is up to 1700 (MotionProtect Plus up to 1200) meters if there are no obstacles. In addition, the detector can be used as part of third-party security central units due to the Ajax uartBridge or Ajax ocBridge Plus integration module.

The detector is set up via a mobile application for iOS and Android-based smartphones. The user is notified of all events through push notifications, SMS messages and calls (if activated).

The Ajax security system is self-sustaining, but the user can connect it to the central monitoring station of a private security company.

☞ [Buy motion detector MotionProtect](#)

## Functional Elements



1. LED indicator
2. Motion detector lens
3. SmartBracket attachment panel (perforated part is required for actuating the tamper in case of any attempt to tear off the detector from the surface)
4. Tamper button
5. Device switch
6. QR code

## MotionProtect Operating Principle

Thermal PIR sensor of MotionProtect detects intrusion into a protected room by detecting moving objects whose temperature is close to the temperature of the human body. At that, the detector can ignore domestic animals - you only need to set up the suitable sensitivity in the settings.

**When the MotionProtect Plus detects motion, it will additionally carry out radio frequency scanning of the room, preventing false actuation from thermal interferences: air flows from sun-heated curtains and louvre shutters, operating thermal air fans, fireplaces, air conditioning units, etc.**

After actuation, the armed immediately transmits an alarm signal to the Hub, activating the sirens connected to the hub and notifying the user and private security company.

If before arming system the detector has detected motion, it will not set in the armed mode immediately, but during the next inquiry by the hub.

## Connecting the Detector to the Ajax security system

### Before starting connection:

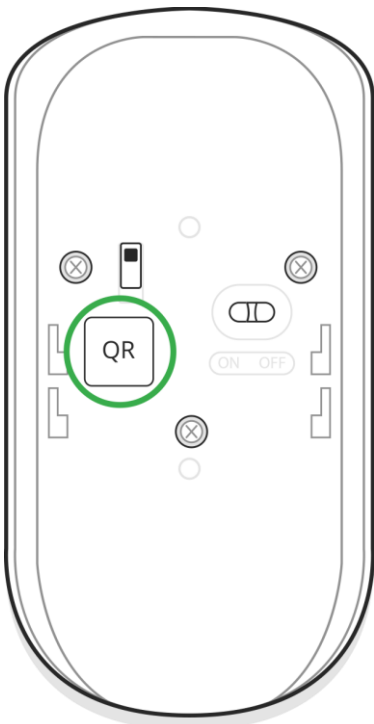
1. Following the Hub instruction recommendations, install the Ajax application on your smartphone. Create an account, add the Hub to the application, and create at least one room.
2. Go to the Ajax application.

3. Switch on the Hub and check the internet connection (via Ethernet cable and/or GSM network).
4. Ensure that the Hub is disarmed and does not start updates by checking its status in the mobile application.

**⚠️ Only users with administrative privileges can add the device to the Hub**

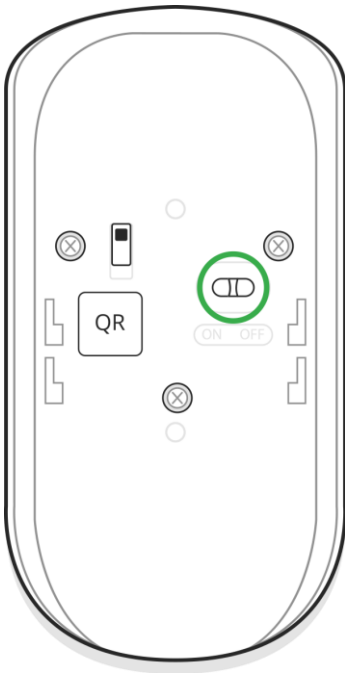
#### How to connect the detector to the Hub:

1. Select the **Add Device** option in the Ajax application.
2. Name the device, scan/write manually the QR Code (located on the body and packaging), and select the location room.



Select **Add** — the countdown will begin.

3. Switch on the device.



**For the detection and interfacing to occur, the detector should be located within the coverage area of the wireless network of the hub (at a single protected object).**

Request for connection to the hub is transmitted for a short time at the time of switching on the device.

If the connection to the Ajax Hub failed, switch off the detector for 5 seconds and repeat the attempt.

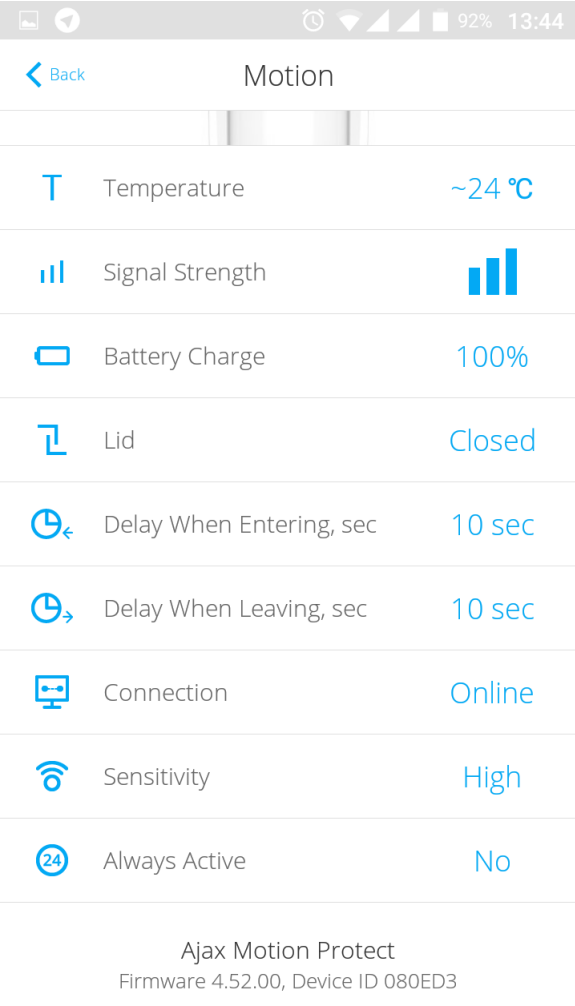
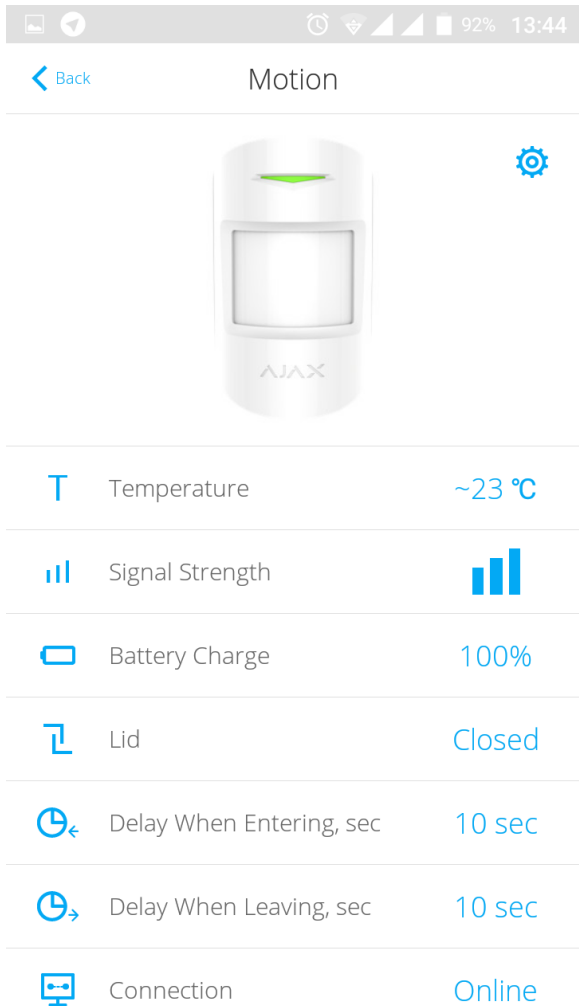
The detector connected to the hub will appear in the list of devices of the hub in the application. Update of the detector statuses in the list depends on the device inquiry time set in the hub settings, with the default value - 36 seconds.

## Connecting the Detector to Third Party security systems

To connect the detector to a third party security central unit using the Ajax uartBridge or Ajax ocBridge Plus integration module, follow the recommendations in the manual of the respective device.

## States

**Devices** → **MotionProtect (MotionProtect Plus)**



Parameter	Value
Temperature	Temperature of the Detector. Measured on the processor and changes gradually
Signal Strength	Signal strength between the Hub and the detector
Battery Charge	Battery level of the detector, displayed in increments of 25%
Lid	The tamper mode of the detector, which reacts to the detachment of or damage to the body
Delay when entering, sec	Delay time when entering
Delay when leaving, sec	Delay time when exiting
Connection	Connection status between the Hub and the detector
Sensitivity	Sensitivity level of the motion sensor

Always Active	If active, the motion detector is always in the armed mode
Firmware	Detector firmware version
Device ID	Device identifier

## Settings

Devices → MotionProtect (MotionProtect Plus) → ⚙️

Setting	Value
First field	Detector name, can be edited
Room	Selecting the virtual room to which the device is assigned
Sensitivity	Choosing the sensitivity level of the motion sensor: <b>For Motion Protect:</b>



	<ul style="list-style-type: none"> <li>• High - for premises with a minimum amount of obstacles, motion is detected as quickly as possible</li> <li>• Normal - for premises with potential obstacles (windows, air conditioner, heating element, etc)</li> <li>• Low - ignore pets weighing up to 20 kg and up to 50 cm tall</li> </ul> <p><b>For MotionProtect Plus:</b></p> <ul style="list-style-type: none"> <li>• <b>High: The detector disregards cats (under 25 cm).</b></li> <li>• <b>Medium: Disregards small dogs (under 35 cm).</b></li> <li>• <b>Low: Disregards animals under 50 cm.</b></li> </ul>
Always active	If active, the detector always registers motion
Delay when entering, sec	Selecting delay time when entering
Delay when leaving, sec	Selecting delay time on exit
Delays in night mode	Delay turned on when using night mode
Arm in night mode	If active, the detector will switch to armed mode when using night mode
Alert with a siren if motion detected	If active, HomeSiren and StreetSiren are activated when the motion detected
<a href="#">Signal Strength Test</a>	Switches the detector to the signal strength test mode
<a href="#">Detection Zone Test</a>	Switches the detector to the detection area test
<a href="#">Attenuation test</a>	Switches the detector to the signal fade test mode (available in detectors with firmware version 3.50 and later)
User Guide	Opens the detector User Guide
Unpair device	Disconnects the detector from the hub and deletes its settings

Before using the detector as a security system element, set up the suitable sensitivity level of the sensor.

The "**Always Active**" mode is worth switching on if the detector is located in a room requiring 24-hour control. Regardless of whether the system is set in the armed mode, you will receive notices of any detected motion.

If any motion is detected, the detector activates the LED for 1 second and transmits an alarm signal to the hub and then to the user and central monitoring station (if it is connected).

## Detector operation indication

Event	Indication	Note
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Turning on the detector	Lights up green for about one second	
Detector connection to the Hub, ocBridge, and uartBridge	Lights up continuously for a few seconds	
Alarm / tamper activation	Lights up green for about one second	Alarm is sent once in 5 seconds
Battery needs replacing	During the alarm, it slowly lights up green and slowly goes out	Replacement of the detector battery is described in the <b>Battery Replacement</b> paragraph

## Detector Testing

The Ajax security system allows conducting tests for checking the functionality of connected devices.

The tests do not start straight away but within a period of 36 seconds when using the standard settings. The test time start depends on the settings of the detector scanning period (the paragraph on “Jeweller” settings in Hub settings).

- [Signal Strength Test](#)
- [Detection Zone Test](#)
- [Attenuation test](#)

## Selection of the Detector Location

The area of the controlled territory and, consequently, the efficiency of the security system depends on the location of the detector.

Location of the Ajax MotionProtect detector determines its remoteness from the hub and presence of any obstacles between the devices hindering the radio signal transmission: walls, inserted floors, large-size objects located within the room.

### **⚠️ Check the signal level at the installation location**

If the signal level is one division, we cannot guarantee stable operation of the security system. Take possible measures to improve the quality of the signal! As a minimum, move the device - even 20 cm shift can significantly improve the quality of reception.

If, after moving, the device still has a low or unstable signal strength, use a radio signal range extender ReX.

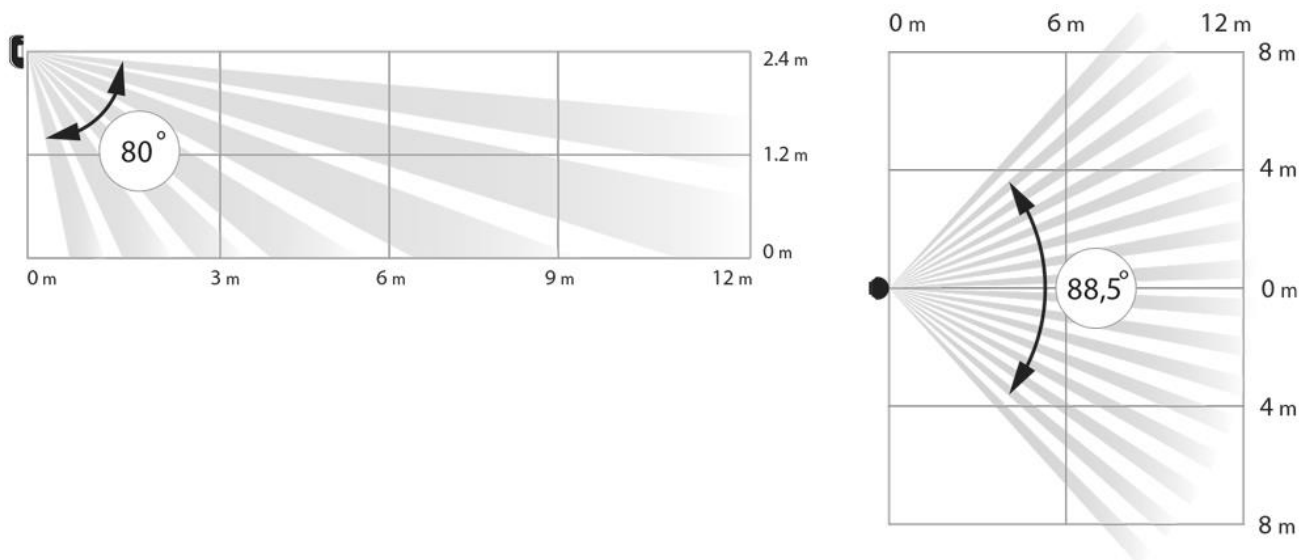
It is advisable that the direction of the detector lens sight is perpendicular to the probable way of intrusion into the room.

Make sure that any furniture, domestic plants, vases, decorative or glass structures do not block the field of view of the detector.

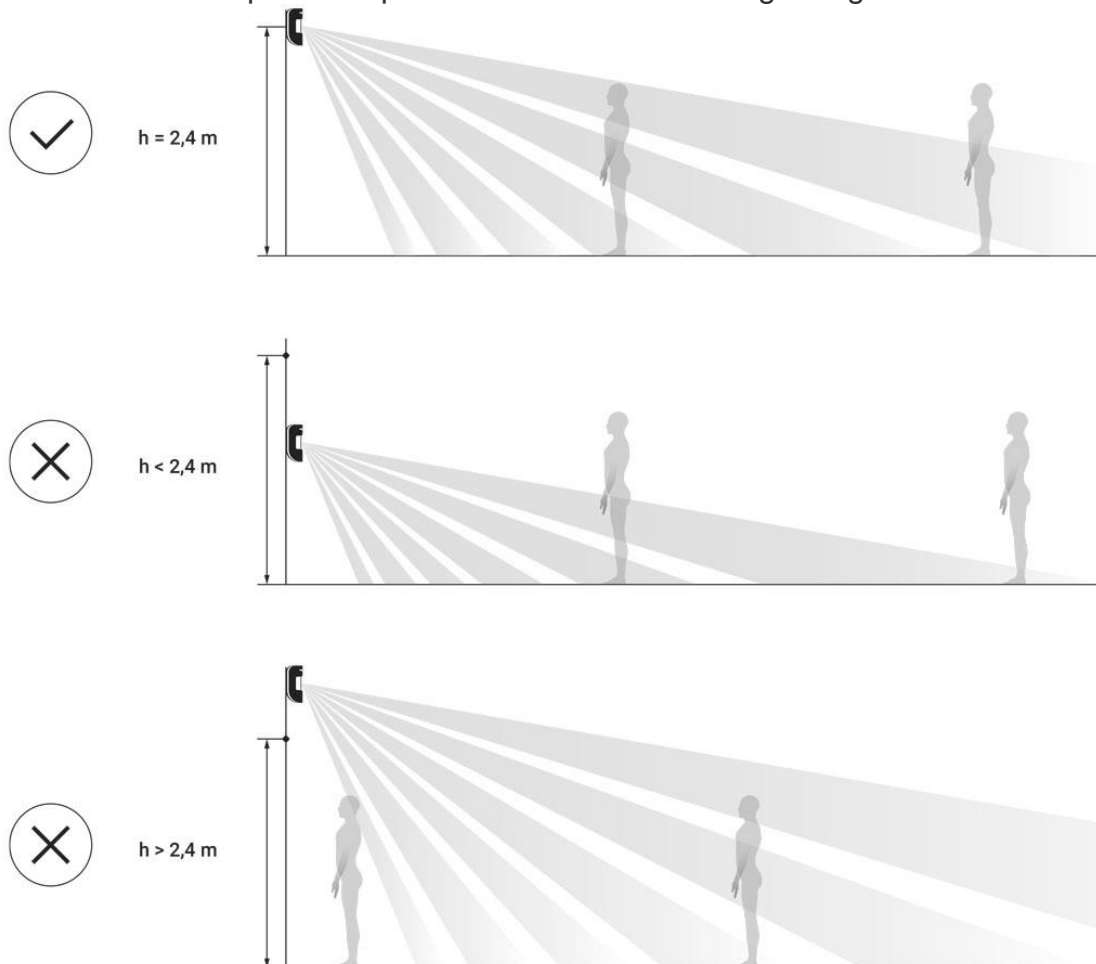




We recommend installing the detector at the height of 2.4 meters.



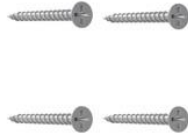
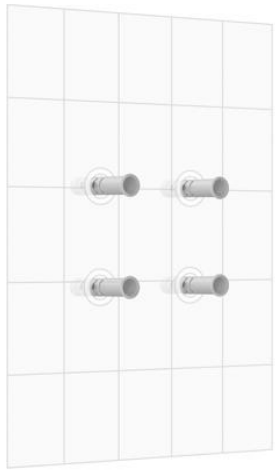
If the detector is not installed at the recommended height, this will reduce the area of the motion detection zone and impair the operation of the function of ignoring animals.



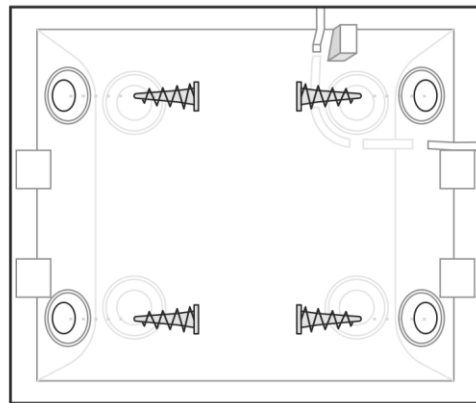
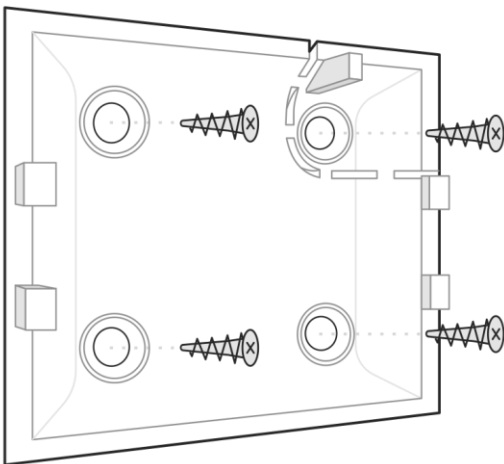
## Installation of the Detector

Before installing the detector, make sure that you have selected the optimal location and it is in compliance with the guidelines contained in this manual!





The Ajax MotionProtect detector should be attached to a vertical surface.



1. Attach the SmartBracket panel to the surface using bundled screws, using at least two fixing points (one of them - above the tamper). After selecting other attachment hardware, make sure that they do not damage or deform the panel.  
The double-sided adhesive tape may only be used for temporary attachment of the detector. The tape will run dry in the course of time, which may result in the falling of the detector and actuation of the security system. Furthermore, the device may fail from a hit.
2. Put the detector on the attachment panel. As soon as the detector is fixed in SmartBracket, it will blink with an LED - this will be a signal that the tamper on the detector is closed.  
If the LED indicator of the detector is not actuated after installation in SmartBracket, check the status of the tamper in the Ajax Security System application and then the fixing tightness of the panel.

If the detector is torn off from the surface or removed from the attachment panel, you will receive the notification.

**Do not install the detector:**



- outside the premises (outdoors);
- in the direction of the window, when the detector lens is exposed to direct sunlight (you can install MotionProtect Plus)
- opposite any object with the rapidly changing temperature (e.g., electrical and gas heaters) (you can install MotionProtect Plus)
- opposite any moving objects with the temperature close to that of the human body (oscillating curtains above the radiator) (you can install MotionProtect Plus)
- at any places with fast air circulation (air fans, open windows or doors) (you can install MotionProtect Plus)
- nearby any metal objects or mirrors causing attenuation and screening of the signal;
- within any premises with the temperature and humidity beyond the range of permissible limits.

## Detector Maintenance

Check the operational capability of the Ajax MotionProtect detector on a regular basis.

Clean the detector body from dust, spider web and other contaminants as they appear. Use soft dry napkin suitable for equipment maintenance.

Do not use for cleaning the detector any substances containing alcohol, acetone, gasoline and other active solvents. Wipe the lens very carefully and gently - any scratches on the plastic may cause reduction of the detector sensitivity.

The pre-installed battery ensures up to 7 years of autonomous operation (with the inquiry frequency by the hub of 3 minutes). If the detector battery is discharged, the security system will send respective notices and the LED will smoothly lights up and goes out, if the detector detects any motion or if the tamper is actuated.

## Battery Replacement

## Tech specs

Sensitive element	PIR sensor (Motion Protect Plus: PIR and microwave sensor)
Motion detection distance	Up to 12 m
Motion detector viewing angles (H/V)	88.5° / 80°
Animal ignoring option	Yes, height up to 50 cm, weight up to 20 kg
Tamper protection	Yes
Frequency band	868.0 – 868.6 MHz or 868.7 – 869.2 MHz, depending on the sales region
Maximum RF output power	Up to 20 mW
Modulation of the radio signal	GFSK

Radio signal range	Up to 1700 m (any obstacles absent) <b>(Motion Protect Plus up to 1200 m)</b>
Power supply	1 battery CR123A, 3 V
Battery life	Up to 7 years <b>(Motion Protect Plus up to 5 years)</b>
Operating temperature range	From -10°C to +40°C
Operating humidity	Up to 75%
Overall dimensions	110 x 65 x 50 mm
Weight	86 g <b>(Motion Protect Plus 96 g)</b>

## Complete Set

1. MotionProtect (**MotionProtect Plus**)
2. Battery CR123A (pre-installed)
3. Installation kit
4. Quick Start Guide

## Warranty

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, you should first contact the support service—in half of the cases, technical issues can be solved remotely!

