CombiProtect user manual

Updated September 4, 2024



CombiProtect is a device combining a wireless motion detector with the viewing angle of 88.5° and distance up to 12 meters, as well as a glass break detector with the distance up to 9 meters. It can ignore animals and detects a person within the protected zone from the first step. The calculated battery life of the detector is up to 5 years from a pre-installed battery. The device is designed for indoor use only.

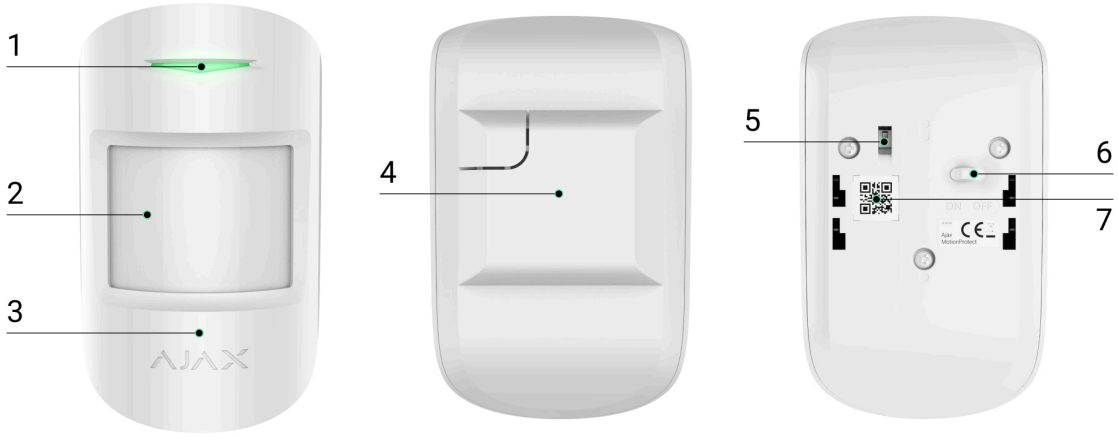
CombiProtect operates within the Ajax system, connected to the **hub** via the protected **Jeweller** protocol. The communication range is up to 1200 meters in the line of sight. In addition, the detector can be used as a part of third-party security central units via the **Ajax uartBridge** or **Ajax ocBridge Plus** integration modules.

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

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

Buy motion and glass break detector CombiProtect

Functional Elements



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

Operating Principle



objects with a temperature close to the temperature of the human body. However, the detector can ignore domestic animals if the suitable sensitivity has been chosen in the settings.

The electret microphone is responsible for glass break detection. The intelligent event registration system requires a sequence of sounds of a specific nature – first dull blow, then ringing sound of falling chips, which prevents accidental actuation.

> CombiProtect does not detect glass breaking if the glass is covered with any film: shockproof, sunscreen, decorative or other. In order to detect the breaking of this type glass, we recommend using a DoorProtect Plus wireless opening detector with shock and tilt sensor.

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

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

Connecting the Detector to the Ajax system

The detector is connected to the hub and set up via the Ajax Security system mobile application. To establish connection please locate the detector and the hub within the communication range and follow the device adding procedure.

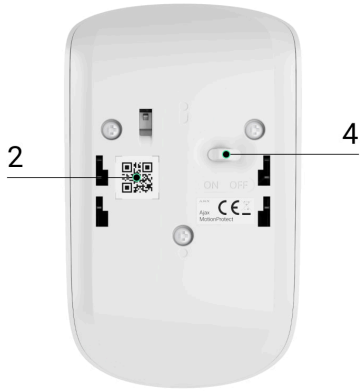
Before starting connection:

1. Following the hub manual recommendations, install the **Ajax application**. Create an account, add the hub to the application, and create at least one room.
2. Switch on the hub and check the internet connection (via Ethernet cable and/or GSM network).
3. Ensure that the Hub is disarmed and does not update by checking its status in the mobile application.

> Only users with administrator rights can add the device to the hub

How to connect the detector to the hub:

1. Select the **Add Device** option in the Ajax app.
2. Name the device, scan/write manually the **QR Code** (located on the body and packaging), and select the location room.
3. Select **Add** — the countdown will begin.
4. Switch on the device.



For detection and pairing to occur, the detector should be located within the coverage 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 connection to the Ajax Hub failed, switch off the detector for 5 seconds and retry.

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 **uartBridge** or **ocBridge Plus** integration module, follow the recommendations in the manual of the respective device.

States

1. Devices –
2. CombiProtect

Parameter	Value
Temperature	Temperature of the detector. Measured on the processor and changes gradually. Acceptable error between the value in the app and the room temperature — 2°C. The value is updated as soon as the detector identifies a temperature change of at least 2°C. You can configure a scenario by temperature to control automation devices. **Learn more**
Jeweller Signal Strength	Signal strength between the hub and the detector.

Connection via Jeweller	Connection status on the Jeweller channel between the device and the hub (or the range extender): • **Online** — the device is connected to the hub or the range extender. Normal state. • **Offline** — the device is not connected to the hub or the range extender. Check the device connection.
Battery Charge	Battery level of the device. Displayed as a percentage. **How battery charge is displayed in Ajax apps**
Lid	The tamper mode of the detector, which reacts to the detachment of or damage to the body.
ReX	Displays the status of using a **radio signal range extender**.
Motion Detector Sensitivity	Sensitivity level of the motion detector.
Motion Detector Always Active	If active, the motion detector is always in the armed mode.
Glass Detector Sensitivity	Sensitivity level of the glass detector.
Glass Detector Always Active	If active, the glass detector is always in the armed mode.
Permanent Deactivation	Shows the status of the device 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.
Alarm Reaction	
Operating Mode	Shows how the detector reacts to alarms: • **Instant Alarm** — the armed detector immediately reacts to a threat and raises the alarm. • **Entry/Exit** — when a delay is set, the armed device starts the countdown and doesn't raise the alarm even if triggered until the countdown ends. • **Follower** — the detector inherits the delays from Entry/Exit detectors. However, when the Follower is triggered individually, it immediately raises the alarm.
Delay When Entering, sec	Delay time when entering.
Delay When Leaving, sec	Delay time when exiting.
Firmware	Detector firmware version.
Device ID	Device identifier.

Setting Up the Detector

1. Devices

2. CombiProtect

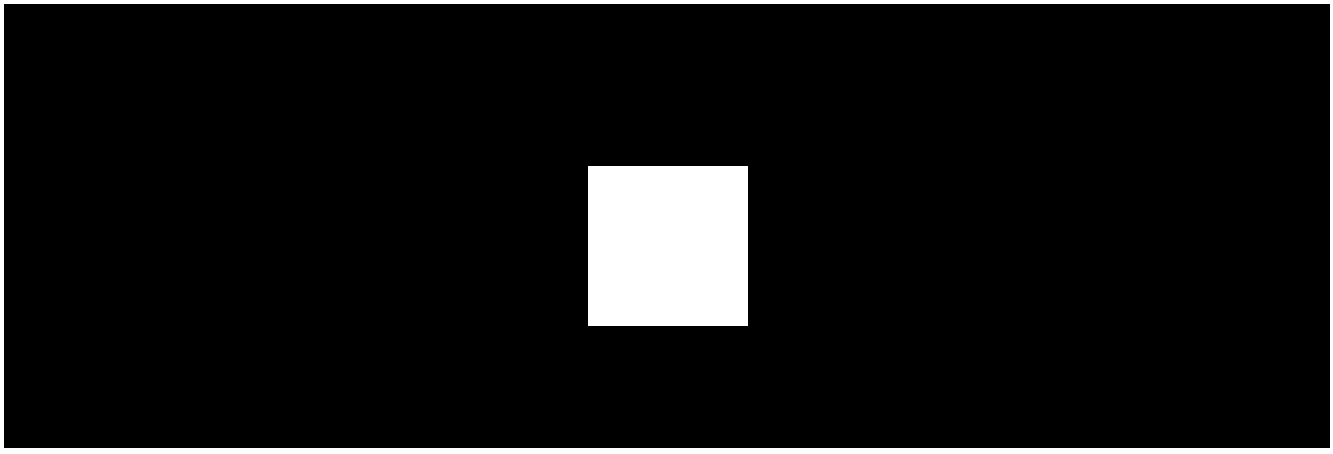
3. Settings

Setting	Value
First field	Detector name, can be edited.
Room	Selecting the virtual room to which the device is assigned.
Alarm LED indication	Allows you to disable the flashing of the LED indicator during an alarm. Available for devices with firmware version 5.55.0.0 or higher. **How to find the firmware version or the ID of the detector or device?**
Motion Detector	If active, motion detector will be active.
Motion Detector Sensitivity	Choosing the sensitivity level of the motion detector: • High. • Normal. • Low. **Why motion detectors react to animals and how to avoid it**
Motion Detector Always Active	If active, the detector always registers motion.
Glass Detector Enabled	If active, glass breaking detector will be active.
Glass Protection Sensitivity	Choosing the sensitivity level of the glass detector: • High. • Normal. • Low.
Glass Protection Always Active	If active, the detector always registers glass breaking.

Alert with a siren if motion detected	If active, **sirens added to the system** are activated when the motion detected.
Alert with a siren if glass break detected	If active, **sirens added to the system** are activated when the glass break detected.
Alarm Reaction	
Operating Mode	Specify how this device will react to alarms: • **Instant Alarm** — the armed detector immediately reacts to a threat and raises the alarm. • **Entry/Exit** — when a delay is set, the armed device starts the countdown and doesn't raise the alarm even if triggered until the countdown ends. • **Follower** — the detector inherits the delays from Entry/Exit detectors. However, when the Follower is triggered individually, it immediately raises the alarm.
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	When turned on, the detector will switch to armed mode when using night mode.
Jeweller Signal Strength Test	Switches the detector to the signal strength test mode.
Detection Zone Test	Switches the detector to the detection area test.
Attenuation Test	Switches the detector to the signal fade test mode (available in detectors with **firmware version 3.50 and later**).
Permanent Deactivation	Allows the user to disconnect the device without removing it from the system. Two options are available: • **Entirely** — the device will not execute system commands or participate in automation

	scenarios, and the system will ignore device alarms and other notifications. • **Lid only** — the system will ignore only notifications about the triggering of the device tamper button. **Learn more about permanent 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	Disconnects the detector from the hub and deletes its settings.

Indication



00:00 00:03

Event	Indication	Note
Turning on the detector	Lights up green for about one second	

Detector connection to the **hub**, **ocBridge Plus** 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, slowly lights up green and goes off	Replacement of the detector battery is described in the **Battery Replacement** manual

Detector Testing

The Ajax 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 time of the start depends on the settings of the detector polling period (the paragraph on “**Jeweller**” settings in the hub settings).

Jeweller Signal Strength Test

Detection Zone Test

- Glass break detection zone Test
- Motion detection zone Test

Attenuation Test

Installing the detector

Selection of the installation site

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

> ⚠ The device developed only for indoor use.

Location of the CombiProtect depends on the 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

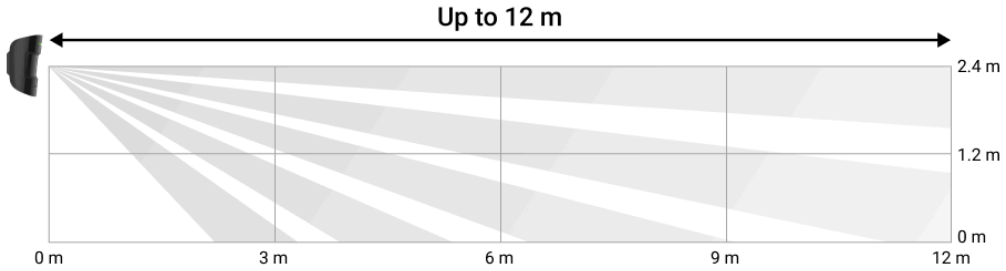
If the signal level is at one bar, we cannot guarantee stable operation of the security system. Take all possible measures to improve the quality of the signal! As a minimum, move the device – even 20 cm shift can significantly improve the quality of reception.

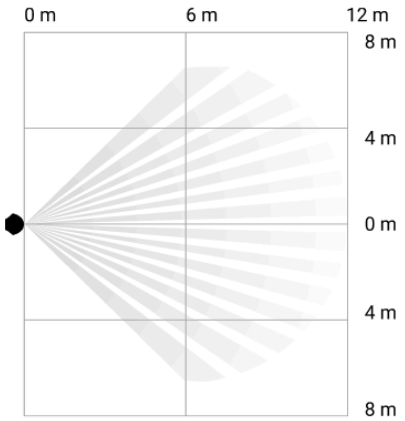
If after moving the device still has a low or unstable signal strength, use a **radio signal range extender**.

The direction of the detector lens should be perpendicular to the probable way of intrusion into the room. The detector microphone should be positioned at the angle of no more than 90 degrees relative to the window.

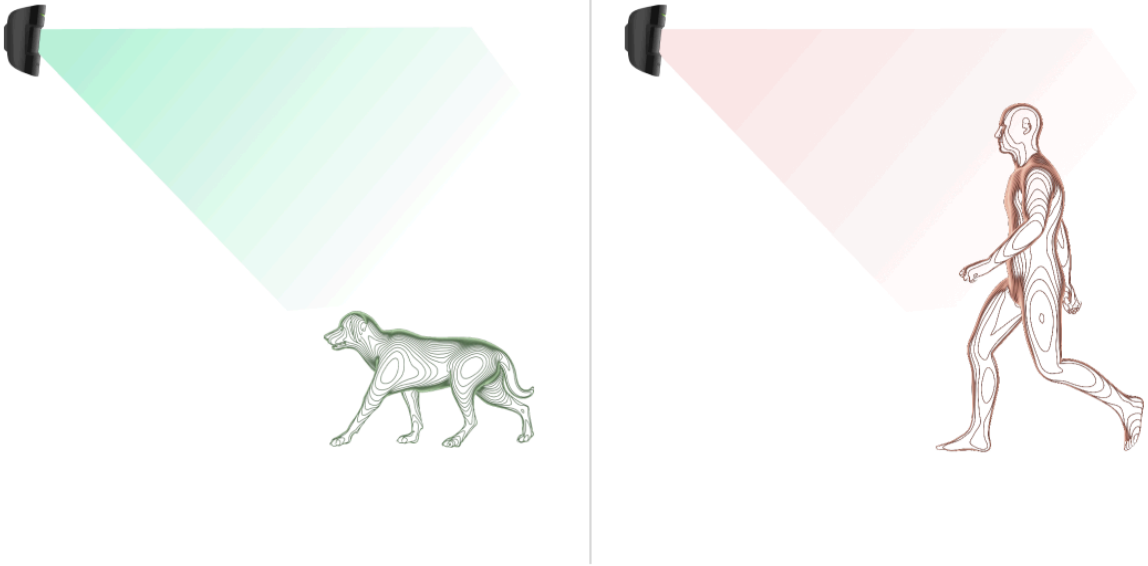
Make sure that any furniture, domestic plants, vases, decorative or glass structures do not block the field of view of the detector.

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

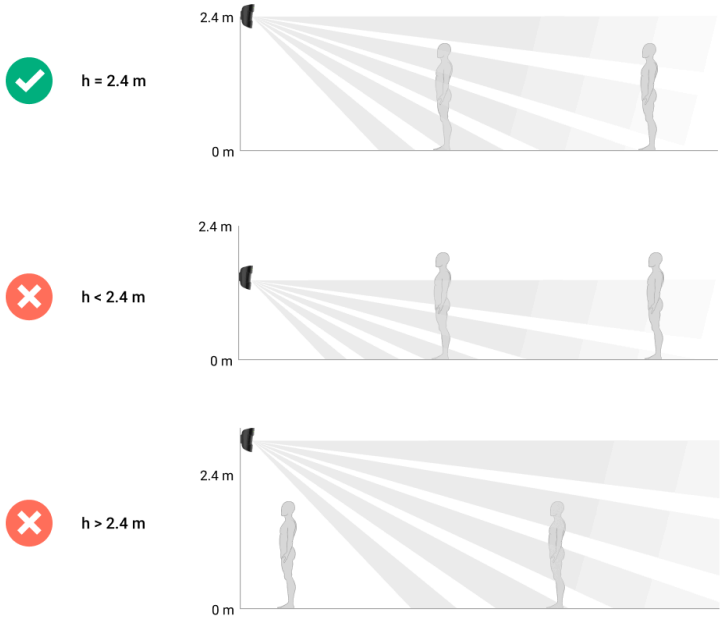




If the detector is not installed at the recommended height, this will reduce the area of the motion detection zone and impair the operation of the function of ignoring animals.



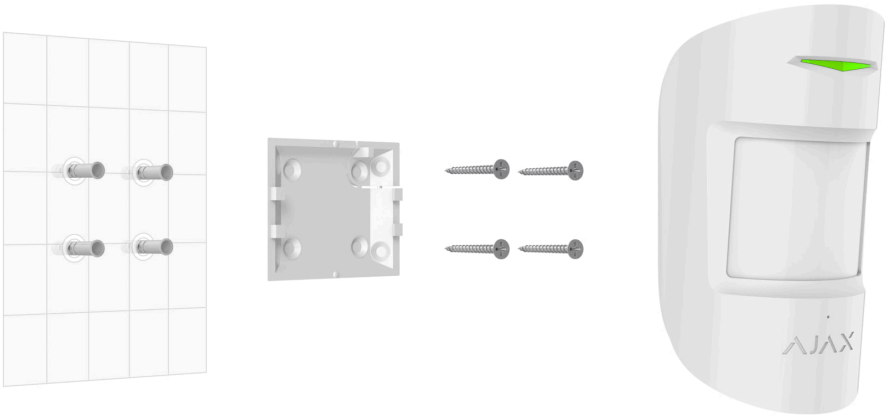
Why motion detectors react to animals and how to avoid it



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

CombiProtect detector can be attached to a vertical surface or in a corner.



1. Attach the SmartBracket panel to the surface using bundled screws, using at least two fixing points (one of them – above the tamper). If you select 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, as a result of an impact.

2. Put the detector on the attachment panel. When 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 light indicator of the detector is not actuated after installation in SmartBracket, check the tamper mode in the **Ajax Security System app** 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:

1. outside the premises (outdoors);
2. in the direction of the window, when the detector lens is exposed to direct sunlight;
3. opposite any object with the rapidly changing temperature (e.g., electrical and gas heaters);
4. opposite any moving objects with the temperature close to that of the human body (oscillating curtains above the radiator);
5. opposite any reflective surfaces (mirrors);
6. at any places with fast air circulation (air fans, open windows or doors);
7. nearby any metal objects or mirrors causing attenuation and screening of the signal;
8. within any premises with the temperature and humidity beyond the range of permissible limits;
9. closer than 1 m from the hub.

Detector Maintenance

Check the operational capability of the CombiProtect detector on a regular basis.

Clean the detector body from dust, spider web and other contaminations 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 5 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 light up and go out, if the detector detects any motion or if the tamper is actuated.

To change the battery, switch off the device, loosen three screws and remove the front panel of the detector. Change the battery for a new one of type CR123A, observing the polarity.

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

Battery Replacement

Technical specifications

All technical specifications of CombiProtect Jeweller

Compliance with standards

Complete Set

1. CombiProtect
2. SmartBracket mounting panel
3. Battery CR123A (pre-installed)

4. Installation kit

5. Quick start guide

Warranty

Warranty for the Limited Liability Company “Ajax Systems Manufacturing” 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!

The full text of the warranty

User Agreement

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

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