MotionProtect Plus U Jeweller user manual

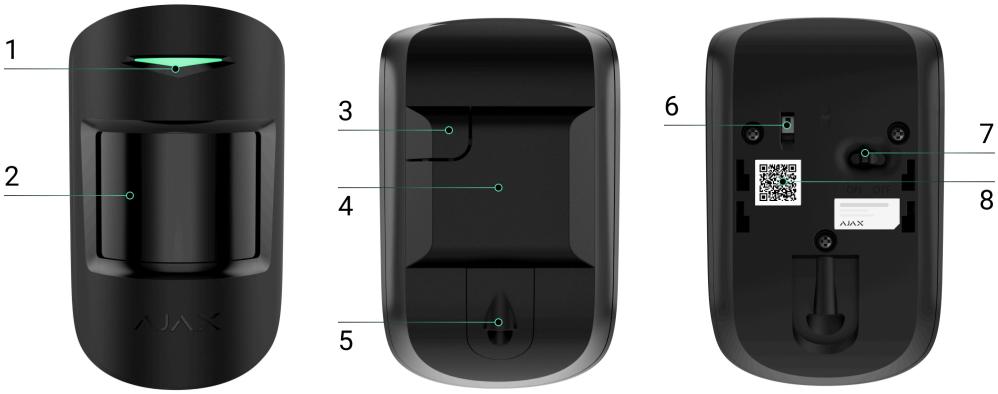
Updated July 1, 2025

MotionProtect Plus U Jeweller is a wireless motion detector. Detects movement at a distance of up to 12 meters. Ignores pets when installed and configured correctly. Together with the IR sensor, the detector applies a radio-frequency scan with a K-band microwave sensor that filters out thermal interference. The device is designed for indoor use only.

MotionProtect Plus U Jeweller communicates with the hub using an encrypted Jeweller radio protocol. The communication range without obstacles is up to 1,200 meters.

Buy MotionProtect Plus U Jeweller

Functional elements



1. LED indicator.
2. Motion detector lens.
3. Perforated part of the mounting panel. Do not break it off. It is needed for a tamper triggering in case of any attempt to detach the detector from the surface.
4. SmartBracket mounting panel with holding screw. To remove the panel, slide it down.
5. Holding screw to secure the detector on SmartBracket.
6. **Tamper button**. Triggers when someone tries to detach the detector from the surface or remove it from the mounting panel.
7. Device switch.
8. QR code with the device ID. It is used to pair the device with an Ajax hub.

Compatible hubs and range extenders

An Ajax hub with an up-to-date **OS Malevich** version is required for the device to operate.

Check device compatibility

Operating principle

0:00 / 0:12

MotionProtect Plus U Jeweller is a wireless IR motion detector with an additional microwave sensor. It can identify intrusions by detecting moving objects with temperatures close to the temperature of the human body.

When an armed detector identifies motion, it conducts an additional RF scan of the room with a built-in K-band microwave sensor to eliminate false alarms due to thermal interference: air flows, heated curtains and blinds, fans, fireplaces, air conditioners, and other likely sources of false alarms.

> Do not install the device near other detectors with K-band microwave sensors. The minimum distance between devices should be **at least 20 cm**. Otherwise, detection quality can be decreased, or false alarms can be activated because of wave interference of K-band microwave sensors.

In case of an alarm, it instantly sends an alarm to the hub, activating the sirens connected to the system, triggering scenarios, and notifying users and the security company. All MotionProtect Plus U Jeweller alarms and events are recorded in the event feed of Ajax apps.

Users and the monitoring company know exactly where movement is detected. The notifications contain the name of a **space** (the name of a guarded facility), the device name, and the **virtual room** to which the device is assigned.

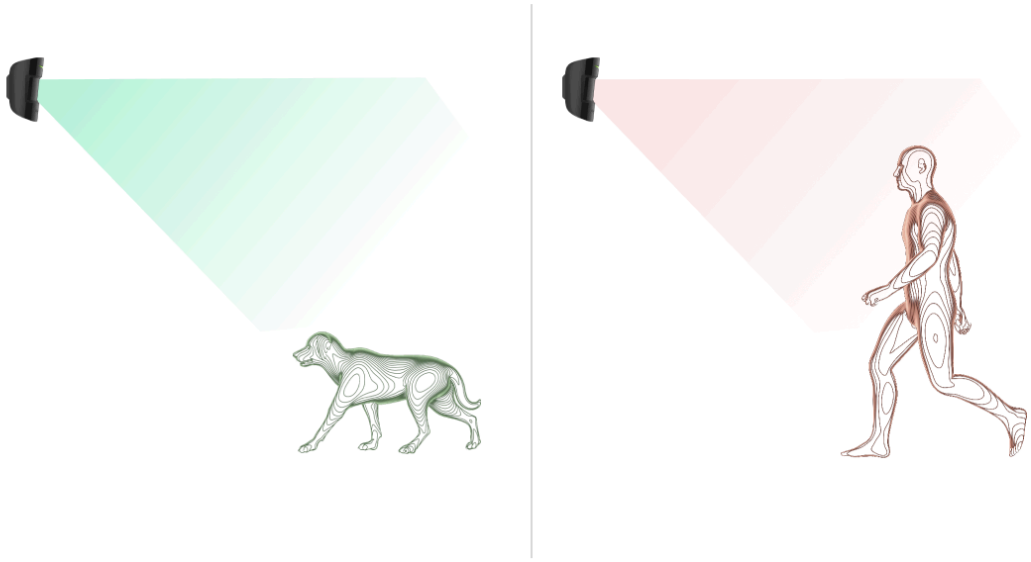
The detector doesn't go to the armed mode instantly. The time it takes to switch to armed mode depends on exit delays (specified in the detector settings) and the hub–detector polling interval (**Jeweller** or **Jeweller**/**Fibra** settings, the default value is 36 seconds). In the first case, the delay is set by an admin or a PRO-user with admin rights. In the second case, the delay occurs because the hub takes one polling interval to notify the detector about the transition to armed mode.

How Ajax notifies of alarms

More about Ajax motion detectors

Pet immunity

When properly installed and configured, MotionProtect Plus U Jeweller does not react to pets weighing up to 20 kg and below 50 cm in height. To **install** and **configure** the detector, follow our recommendations.



Why motion detectors react to animals and how to avoid it

How to install the detector correctly

Temperature compensation

Temperature compensation is necessary for the detector's response to movements, even if the room temperature is close to the human body

temperature. Read more about temperature compensation in **this article**.

Sending events to the monitoring station

The Ajax system can transmit alarms to the **PRO Desktop** monitoring app as well as the central monitoring station (CMS) in the formats of **SurGard (Contact ID), SIA (DC-09), ADEMCO 685**, and **other protocols**.

MotionProtect Plus U Jeweller can transmit the following events:

1. Motion alarm.
2. Tamper alarm. Tamper recovery.
3. Loss of connection with the hub. Restoration of connection.
4. Permanent deactivation/activation of the detector.
5. One-time deactivation/activation of the detector.

When an alarm is received, the operator of the security company monitoring station knows what happened and precisely where to send a rapid response unit. The addressability of Ajax devices allows sending events to the **PRO Desktop** or the CMS, the type of the device, its name, security group, and virtual room. The list of transmitted parameters may differ depending on the type of CMS and the selected communication protocol.

You can find the device ID and loop (zone) number in the device states.

Detector placement

The device is designed for indoor use only.

When choosing where to place MotionProtect Plus U Jeweller, consider the parameters that affect its operation:

- **Jeweller radio signal strength**.
- **Motion detection zone**.
- Distance between the detector and the hub or radio signal range extender.
- Presence of obstacles for radio signal passage: walls, interfloor ceilings, large objects located in the room.
- The distance between MotionProtect Plus U Jeweller and another detector with a K-band microwave sensor should be at least 20 cm.

Consider the recommendations for placement when developing a project for the security system of the facility. The security system must be designed and installed by specialists. A list of recommended partners is **available here**.

Signal strength

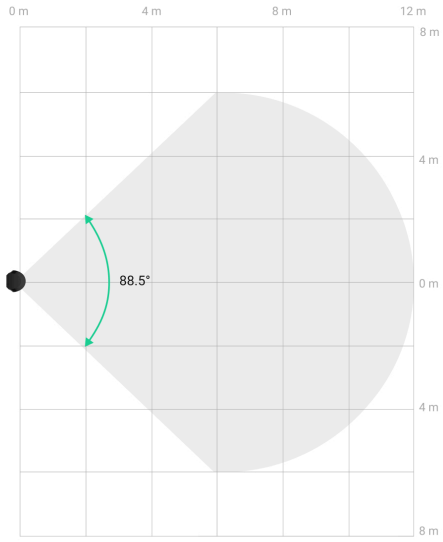
The Jeweller signal strength is determined by the number of undelivered or corrupted data packages over a certain period of time. The icon on the **Devices** tab indicates the signal strength:

- **three bars** — excellent signal strength;
- **two bars** — good signal strength;
- **one bar** — low signal strength, stable operation is not guaranteed;
- **crossed-out icon** — no signal.

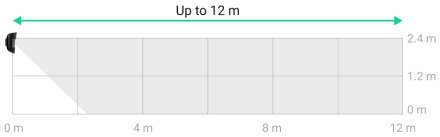
Check the Jeweller signal strength before final installation. With a signal strength of one or zero bars, we do not guarantee stable operation of the device. Consider to relocate the device as repositioning even by 20 cm can significantly improve the signal strength. If there is still poor or unstable signal after the relocation, use a radio signal range extender.

Motion detection zone

When choosing the installation place, consider the direction of the lens, viewing angles of the detector, and the presence of obstacles impairing the view. The intended path of the intruder must be perpendicular to the axis of the detector's lens. Ensure that furniture, houseplants, vases, decorative or glass elements do not obstruct the view of the detector.



Horizontal viewing angle of the detector



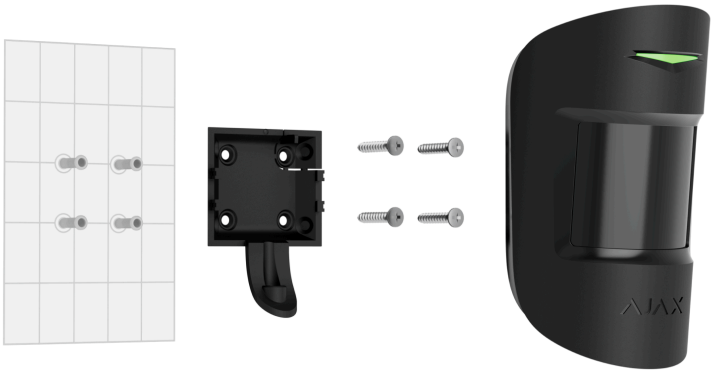
Vertical viewing angle of the detector

When installing the detector, perform the **Detection zone test**. This allows you to check the operation of the device and accurately determine the sector in which the detector registers motion.

Do not install the detector

1. Outdoors. This can lead to false alarms and detector failure.
2. In places where objects and structures may block the detector's view. For example, behind a flower or a column. In this case, the view will be limited, and it will be more difficult for MotionProtect Plus U Jeweller to detect motion.
3. In places where glass structures may obstruct the detector's view. MotionProtect Plus U Jeweller does not register motion behind glass.
4. Inside premises with temperature and humidity outside the permissible limits. This could damage the detector.
5. Closer than 1 meter from the hub or radio signal range extender. This can lead to a loss of communication with the detector.
6. In places with low or unstable signal strength. This may result in the loss of the connection with the hub.
7. Near other detectors with K-band microwave sensors. The minimum distance between devices should be **at least 20 cm**. Otherwise, detection quality can be decreased, or false alarms can be activated because of wave interference of K-band microwave sensors.

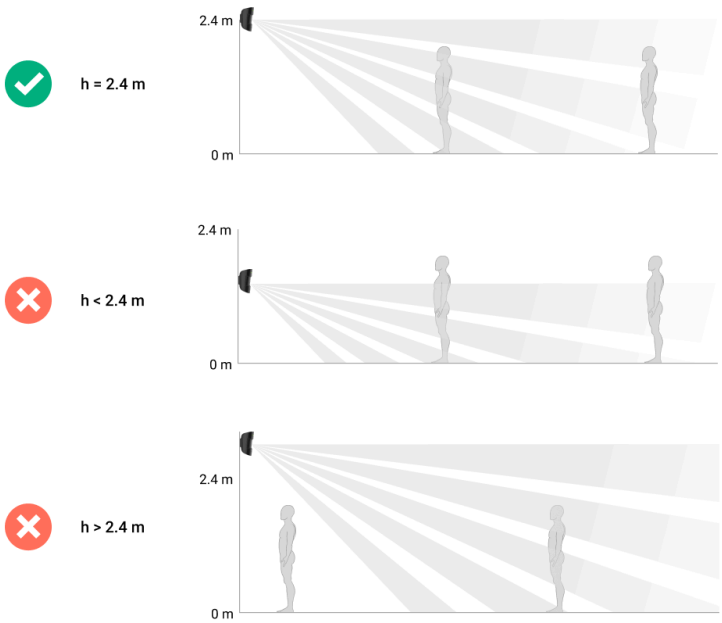
Installation



Before installing MotionProtect Plus U Jeweller, ensure that you have selected the optimal location that complies with the requirements of this manual.

To mount a detector:

1. Remove the SmartBracket mounting panel from the detector by sliding it down. Unscrew the holding screw first.
2. Add the detector to the system.
3. Fix the SmartBracket panel using double-sided tape or other temporary fasteners. The panel can be mounted on a vertical surface or in a corner of the room. **The installation height is 2.4 meters**.



Double-sided tape can only be used for temporary installation. The device attached by the tape may come unstuck from the surface at any time. As long as the device is taped, the tamper will not be triggered when the device is detached from the surface.

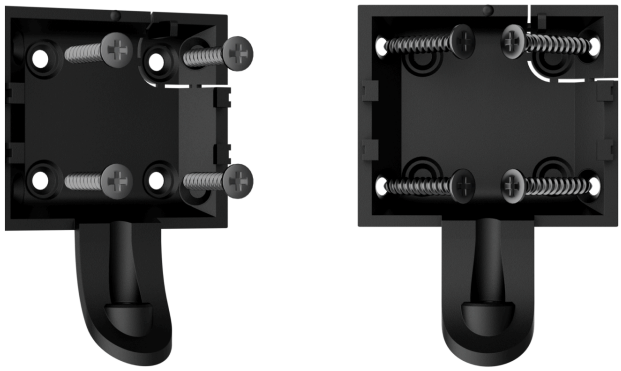
4. Place the detector on SmartBracket. The device's LED indicator will flash. It is a signal indicating that the tamper on the detector is closed.

5. Run the **Jeweller signal strength test**. The recommended signal strength is two or three bars. If the signal strength is low (a single bar), we do not guarantee stable operation of the device. Consider relocating the device as repositioning even by 20 cm can significantly improve the signal strength. If there is still poor or unstable signal after the relocation, use a **radio signal range extender**.

6. Run the **Detection zone test**. To check the motion detector, walk around the premises while observing the LED and determine the detection zone of the detector. The maximum range of motion detection is 12 meters. If the detector did not respond to movement during the test in 5 out of 5 cases, relocate the device.

7. Remove the detector from SmartBracket.

8. SmartBracket has special recesses that need to be drilled to fix the panel with the bundled screws. Attach the SmartBracket mounting panel with the bundled screws using all fixation points (one of them is in the perforated part of the mounting panel above the tamper). When using other fasteners, make sure they do not damage or deform the mounting panel.



9. Place the detector on the SmartBracket mounting panel.

10. Tighten the holding screw on the bottom of the detector's enclosure. The screw is needed for more reliable fastening and protection of the detector from quick dismantling.

Adding to the system

To connect MotionProtect Plus U Jeweller to the hub, the detector must be located at the same secured facility as the system (within the range of the hub radio network). For the detector to work via the **ReX Jeweller** or the **ReX 2 Jeweller** radio signal range extender, you must first add the detector to the hub, then connect it to **ReX Jeweller** or **ReX 2 Jeweller** in the settings of the range extender.

The hub and the device operating at different radio frequencies are incompatible. The radio-frequency range of the device may vary by region. We recommend purchasing and using Ajax devices in the same region. You can check the range of operating radio frequencies with the technical support service.

Before adding a device

1. Install an **Ajax app**.
2. Log in to your **account** or create a new one.
3. Select a **space** or create a new one.
4. Add at least one **virtual room**.
5. Add a **compatible hub** to the space. Ensure the hub is switched on and has internet access via Ethernet, Wi-Fi, and/or mobile network.
6. Check the states in the Ajax app to ensure the space is disarmed and the hub is not starting an update.

Only a PRO or a space admin with the rights to configure the system can add a device to the hub.

Types of accounts and their rights

Connecting to the hub

1. Open an **Ajax app**. Select a **space** to which you want to add the device.
2. Go to the **Devices** tab and click **Add Device**.
3. Assign a name to the device.
4. Scan the QR code or enter the device ID manually. A QR code with ID is placed on the device enclosure. Also, it is duplicated on the device packaging.

5. Select a virtual room and a security group (if **Group mode** is enabled).
6. Tap **Add**, and the countdown will begin.
7. Switch on the device.

Once added to the hub, the device will appear in the list of hub devices in the Ajax app. The update frequency for device statuses in the list depends on the **Jeweller** or **Jeweller/Fibra** settings and is 36 seconds by default.

If the connection fails, try again in 5 seconds. If the maximum number of devices has already been added to the hub, you will receive an error notification when you try to add more.

MotionProtect Plus U Jeweller works with one hub. When connected to a new hub, the detector stops sending events to the old one. When added to a new hub, the detector is not removed from the device list of the old hub. This must be done through the Ajax app.

Functionality testing

An Ajax system provides several types of tests to help select the correct installation place for the devices. For MotionProtect Plus U Jeweller, the following tests are available:

- **Jeweller signal strength test** — to determine the signal strength and stability between the hub (or the radio signal range extender) and the device via the wireless Jeweller data transfer protocol at the device installation site.
- **Detection zone test** — to check how the detector responds to **movement** at the installation site.
- **Signal attenuation test** — to decrease or increase the power of the radio transmitter; to check the stability of communication between the

device and the hub, the changing environment at the site is simulated.

Icons

Icons in an Ajax app display some of MotionProtect Plus U Jeweller states. You can check the icons in the **Devices** tab.

Icon	Meaning
	Jeweller signal strength. Displays the signal strength between the hub and the detector. The recommended value is 2–3 bars. Learn more
	Battery charge level of the device. Learn more
	The detector has a malfunction. The list of malfunctions is available in the detector states. Learn more
	The device operates through the radio signal range extender. Learn more
	The detector operates in the **Always active** mode. Learn more
	Delay when entering and/or leaving is enabled. Learn more

	The device operates in Night mode. **Learn more**
	MotionProtect Plus U Jeweller has detected motion. The icon is displayed when the detector is armed.
	The icon is displayed when you select the Max or Attenuation option in the **Signal attenuation test** menu.
	The device is automatically disabled because the number of alarms has been exceeded. **Learn more**
	The device is permanently deactivated. **Learn more**
	Tamper alarm notifications are permanently deactivated. **Learn more**
	The device is deactivated until the system is disarmed for the first time. **Learn more**
	Tamper alarm notifications are deactivated until the system is disarmed for the first time. **Learn more**
Offline	The device has lost connection with the hub or the hub has lost connection with the Ajax Cloud server.
Not transferred	The device has not been transferred to the new hub. **Learn more**

States

The states include information about the device and its operating parameters. The states of MotionProtect Plus U Jeweller can be found in Ajax apps:

1. Go to the **Devices** tab.
2. Select MotionProtect Plus U Jeweller from the list.

Parameter	Meaning
Malfunction	Tapping on ⓘ opens the list of device malfunctions. The field is only displayed if a malfunction is detected.
Temperature	Device temperature. It is measured by the processor and changes depending on the ambient temperature. You can create a scenario by temperature to control automation devices. Learn more
Jeweller Signal Strength	Signal strength between the hub or range extender and the detector on the Jeweller channel. The recommended value is 2–3 bars.
Connection via Jeweller	Connection status on the Jeweller channel between the hub or the range extender and the detector: • **Online** — the detector is connected to the hub or the range extender. • **Offline** — the detector is not connected to the hub or the range extender.

<Range extender name>	Status of device connection to the **radio signal range extender**. • **Online** — the device is connected to the range extender. • **Offline** — the device is not connected to the range extender. The field is displayed if the device operates via the radio signal range extender.
Battery charge	Battery level of the device. Displayed as a percentage. When the batteries are low, the Ajax apps and the security company will receive appropriate notifications. After sending a low battery notification, the detector can work for up to 2 months. **How the battery charge is displayed**
Lid	The status of the detector tamper that responds to detachment or opening of the device enclosure: • **Open** — the detector was removed from the SmartBracket, or its integrity was compromised. Check the device. • **Closed** — the detector is installed on the SmartBracket mounting panel. The integrity of the device enclosure and the mounting panel is not compromised. Normal state. **Learn more**
Transmitter power	Displays the selected power of the transmitter. The parameter appears when the **Max** or **Attenuation** option is selected in the **Signal**

	attenuation test menu. Learn more
Sensitivity	Sensitivity level of the motion detector: • **Low** • **Normal** • **High** Select the sensitivity depending on the results of the **detection zone test**.
Always active	When this option is enabled, the detector is constantly armed, detects motion, and raises alarms. Learn more
Permanent deactivation	The state of the device's permanent deactivation setting: • **No** — the device operates in normal mode and transmits all events. • **Entirely** — the device is completely excluded from the system operation by the hub admin. The device does not execute system commands and does not report alarms or other events. • **Lid only** — the hub admin has disabled notifications of tamper triggering. • **By number of alarms** — the device is automatically excluded from the system when the number of alarms is exceeded. The number of alarms is specified in the **Devices auto deactivation** hub settings in the Ajax PRO app. Learn more

One-time deactivation	Shows the state of the device's one-time deactivation setting: • **No** — the device operates in normal mode. • **Entirely** — the device is entirely excluded from the operation of the system for a time armed mode is active. The device does not execute system commands and does not report alarms or other events. • **Lid only** — notifications of tamper triggering are disabled for a time armed mode is active. Learn more
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	Delay when entering (alarm activation delay) is the time the user has to disarm the security system after entering the premises. Learn more
Delay when leaving	Delay when leaving (arming delay) is the time the user has to leave the premises

	after arming. Learn more
Arm in Night mode	If this option is enabled, the device will enter armed mode when the system is set to **Night mode**. Learn more
Night mode delay when entering	Delay when entering in **Night mode**. Delay when entering (alarm activation delay) is the time the user has to disarm the security system after entering the premises. Learn more
Night mode delay when leaving	Delay when leaving in **Night mode**. Night mode delay when leaving (arming delay) is the time the user has to leave the premises after **Night mode** is enabled. Learn more
Night mode delay	Delay when entering in **Night mode** when the device is set to the **Follower** operating mode. It is the time the user has to disable **Night mode** (alarm activation delay) after the Entry/Exit detector is triggered. Learn more
Firmware	Detector firmware version.
Device ID	Device ID. It is also available on the QR code on the device enclosure and its package box.
Device No.	Device number. This number is transmitted to the CMS in case of an alarm or event.

Settings

To change MotionProtect Plus U Jeweller settings in the Ajax apps:

1. Go to the **Devices** tab.
2. Select MotionProtect Plus U Jeweller from the list.
3. Go to **Settings**.
4. Set the required parameters.
5. Tap **Back** to save the new settings.

Setting	Meaning
Name	Device name. It is displayed in the list of hub devices, text of SMS and notifications in the events feed. To change the device name, tap on the text field. The name can contain up to 24 Latin characters or up to 12 Cyrillic characters.
Room	Selecting the virtual room to which MotionProtect Plus U Jeweller is assigned. The room's name is displayed in the SMS text and notifications in the event feed.
Alarm LED indication	When this option is disabled, the LED indicator does not notify users of alarms and tamper triggering.
Sensitivity	Sensitivity level of the motion detector. The choice depends on the type of the object, the presence of probable sources of false alarms, and the specifics of the secured area: • **Low** — it does not respond to animals up to 50 cm in height.

	• **Normal** (by default) — it does not respond to small dogs (up to 35 cm in height). • **High** — the detector does not respond to cats (up to 25 cm in height). **Why motion detectors react to animals and how to avoid this**
Always active	When this option is enabled, the detector is always in armed mode and detects movement. **Learn more**
Alert with a siren if motion detected	When this option is enabled, sirens are activated when the device detects the movement.
Alarm reaction	
Operating Mode	Specify how this device responds to alarms: • **Instant alarm** — the armed detector immediately responds to a threat and raises an alarm. • **Entry/Exit** — when a delay is set, the armed device starts the countdown and does not raise an alarm even if it is triggered before the countdown is completed. • **Follower** — the detector inherits the delays from Entry/Exit detectors. However, when the Follower is triggered individually, it immediately raises an alarm.
Delay when entering	Selecting delay time when entering: 5 to 120 seconds. Delay when entering (alarm activation delay) is the time the user has to disarm the security system after entering the premises.

	Learn more
Delay when leaving	Delay when leaving: 5 to 255 seconds. Delay when leaving (arming delay) is the time the user has to leave the premises after the system is armed. **Learn more**
Arm in Night Mode	When this option is enabled, the detector will enter the armed mode if the system is set to **Night mode**. **Learn more**
Night mode delay when entering	Delay when entering in **Night mode**: 5 to 255 seconds. Night mode delay when entering (alarm activation delay) is the time the user has to disable **Night mode** after entering the premises. **Learn more**
Night mode delay when leaving	Delay when leaving in **Night mode**: 5 to 255 seconds. Night mode delay when leaving (arming delay) is the time the user has to leave the premises after enabling **Night mode**. **Learn more**
Night mode delay	Delay time in **Night mode**: 5 to 255 seconds. It is the time the user has to disable **Night mode** (alarm activation delay) after the Entry/Exit detector is triggered. The setting is displayed if the device is set to the **Follower** operating mode and the **Arm in Night mode** option is enabled.

	Learn more
Jeweller signal strength test	Switches the device to the Jeweller signal strength test mode. The test allows you to check the signal strength between the hub (or the radio signal range extender) and the device via the wireless Jeweller data transfer protocol to select the optimal installation site. **Learn more**
Detection zone test	Switches the device to the detection zone test mode. **Learn more**
Signal attenuation test	Switches the device to the signal attenuation test mode. **Learn more**
User guide	Opens the MotionProtect Plus U Jeweller user manual in the Ajax app.
Permanent deactivation	Allows a user to disable events of the device without removing it from the system. Three options are available: • **No** — the device operates in normal mode and transmits all events. • **Entirely** — the device does not execute system commands and does not participate in automation scenarios; the system ignores device alarms and other notifications. • **Lid only** — the system ignores only notifications that the device tamper is triggered. **Learn more**

	The system can also automatically deactivate devices when the set number of alarms is exceeded. Learn more
One-time deactivation	Allows a user to disable events of the device until the system is disarmed for the first time. Three options are available: • **No** — the device operates in normal mode and transmits all events. • **Entirely** — the device is entirely excluded from the system operation until the system is disarmed for the first time. The device does not execute system commands and does not report alarms or other events. • **Lid only** — notifications of the tamper triggering are disabled until the system is disarmed for the first time. Learn more
Delete device	Unpairs the device, disconnects it from the hub, and deletes its settings.

Indication

0:00 / 0:03

Event	Indication	Note
Turning on the detector.	Lights up green for about one second.	
Pairing the detector with a hub.	Lights up continuously for a few seconds.	
Alarm/tamper activation.	Lights up green for about one second.	An alarm is sent once in 5 seconds.
Battery needs replacing.	During the alarm, it slowly lights up and goes off green.	Replacement of the detector battery is described in the **Battery replacement** manual.

Malfunctions

When a malfunction is detected, the Ajax app displays a malfunction counter on the device icon. All malfunctions are shown in the detector states. Fields with malfunctions will be highlighted in red.

A malfunction is displayed if:

- The detector temperature is outside acceptable limits.
- The detector enclosure is open (tamper is triggered).
- No connection with the hub or radio signal range extender via Jeweller.

- The detector battery is low.

Maintenance

Check the functioning of the detector regularly. The optimal frequency of checks is once every three months. Clean the device enclosure of dust, cobwebs, and other contaminants as they emerge. Use a soft dry wipes suitable for equipment care.

Do not use substances that contain alcohol, acetone, petrol, and other active solvents to clean the detector.

The pre-installed battery ensures up to 5 years of autonomous operation. The security system will send an early warning about replacing the battery. In case of an alarm, the LED will slowly light up green and go out.

How to replace batteries

Technical specifications

All technical specifications

Compliance with standards

Setup in compliance with EN requirements

Warranty

The warranty for the products of the “Ajax Systems Manufacturing” Limited Liability Company is valid for 2 years after purchase.

If the device does not operate properly, we recommend contacting support service first, as most technical issues can be resolved remotely.

Warranty obligations

User agreement

Contact Technical Support:

- e-mail
- Telegram

Manufactured by “AS Manufacturing” LLC