

# Hub 2 (2G) Jeweller

Security system control panel supporting photo verification feature. Has three independent communication channels: Ethernet and two 2G SIM cards.



Find the detailed information on the device at the link:

[ajax.systems/support/devices/hub-2/](https://ajax.systems/support/devices/hub-2/)



## Key features

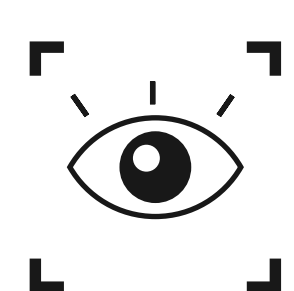
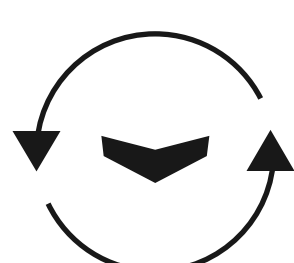
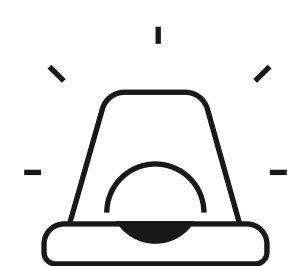


Photo verification support



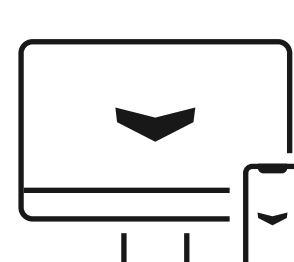
Free software updates



Connection to security company CMS



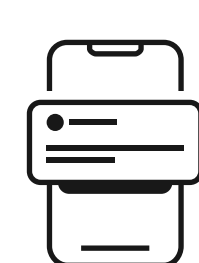
Tampering alarm



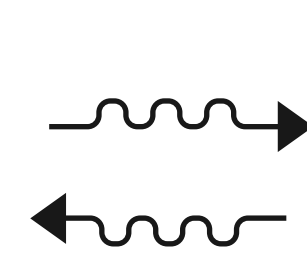
Remote control and setup via the app



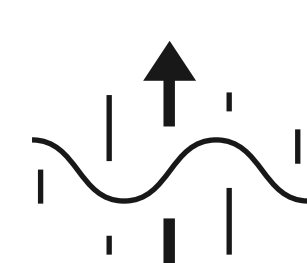
Video surveillance support



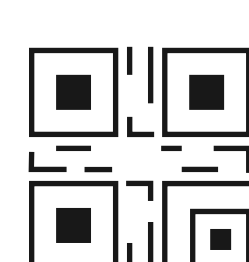
Informing users with push notifications, calls, and SMS



Communication with wireless Ajax devices at a distance of up to 2,000 m



Frequency hopping



Connecting to Ajax apps via QR code

## Always online

To guarantee prompt alarm transmission to the monitoring station and users, Hub 2 (2G) can be connected to three Internet providers simultaneously via **Ethernet** and two **SIM cards (2G)**. Channels work in parallel, and automatic switching between them takes seconds.



Hub is connected to the apps, security companies and users through the Ajax Cloud server with an availability of 99.995% in 2021. For reliability, the servers are located in several data centres. We use the proprietary binary protocol and automatic load balancing for the uninterrupted processing of millions of data packets and the stable operation of security systems.

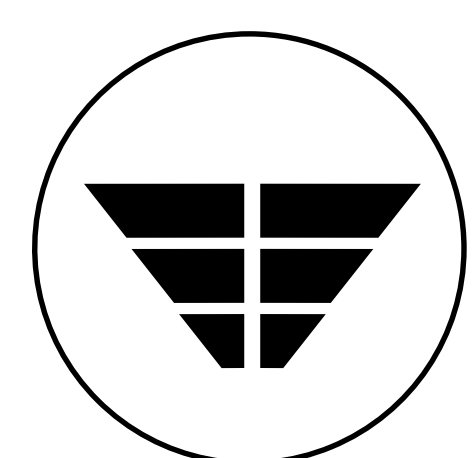
Hub reduces the security system's dependence on the conditions at the facility. The control panel is equipped with a backup battery, providing **up to 16 hours of autonomous operation** in case of a blackout. The system will report a power-down and a power restoration to the CMS and all users.

## Guaranteed delivery of alarms and photo confirmations

Jeweller



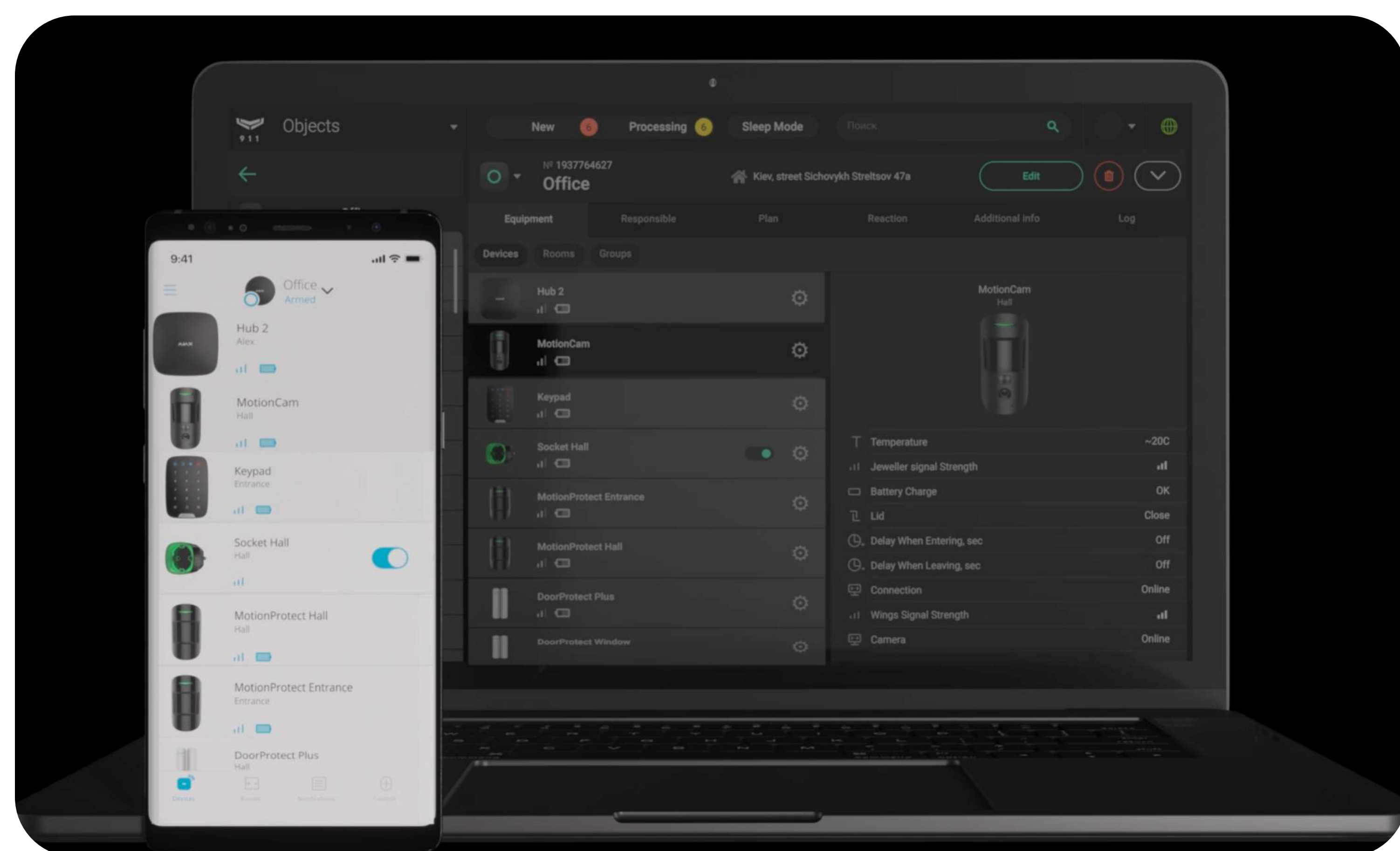
Jeweller provides two-way communication between a hub and connected devices at a distance of up to 2,000 meters. Jeweller uses time frames to synchronize communication with connected devices, authentication to eliminate forgery, and encryption to protect against data theft.



Wings

Wings is a radio protocol developed for the fast transmission of visual data. Hub 2 (2G) uses dedicated antennas to improve channel reliability. Built-in package checking and uploading algorithms allow Wings to deliver photos at a distance of up to 1,700 meters, even if the signal level is unstable.

## Controlled with apps



We've developed two types of applications: for users and PRO. Users' apps are designed for monitoring alarms and managing security via smartphone. Apps for PRO are designed to manage system settings via PC or smartphone.

All types of Ajax apps connect to a hub using a secure channel with Ajax Cloud — our server solution located at several AWS data centres. All security system settings are always available in the app.


The keyboard also allows you to create passcodes for those who are not added to the hub users or use the system from time to time. In this case, the users and the monitoring company operator also know exactly who and when changed the security mode. It is convenient, for example, to create a passcode for a cleaning company.



# More options with these two hub versions

To meet the requirements of the professionals and today’s security market, we manufacture and sell two **Hub 2** models simultaneously. They have the same body and specifications, but only with one difference: a type of built-in cellular modem.

We will ship Hub 2 in two versions: with a 2G and a 4G modem. The hubs are marked as **Hub 2 (2G)** and **Hub 2 (4G)** — and have different packaging to avoid confusion. Choose and install the equipment that precisely matches the client's needs. We will keep producing and selling all the preceding hub models to offer more choices.



Hubs with 2G cellular modems will gradually cease to be supplied in regions where 2G/3G frequencies are planned to be disabled in the near future.

## Fast connection and installation

Hub is ready to work right out of the box. It comes with pre-installed communication modules, a power supply unit, and a backup battery. To begin the system setup, an installer needs to plug the device into a power socket, connect it to the Internet, insert a SIM card, and scan the app's QR code. Thanks to SmartBracket, installers don’t need to disassemble the enclosure to mount the hub.

## Technical specifications

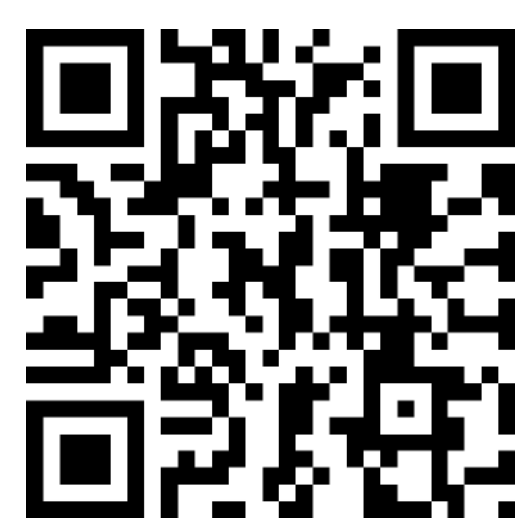
Compliance with standards	EN 50131 (Grade 2) PD 6662:2017	Connection to CMS	SurGard (Contact ID) SIA (DC-09) ADEMCO 685 Other proprietary protocols
Connected devices	up to 100 wireless devices Including up to 5 range extenders and up to 10 sirens.	Features	50 users 25 cameras or DVRs 32 automation scenarios 9 security groups photo verification support

Communication channels with Ajax devices	<div> <b>Jeweller communication technology</b></div> <div><b>Frequency bands</b> 866.0–866.5 MHz 868.0–868.6 MHz 868.7–869.2 MHz 905.0–926.5 MHz 915.85–926.5 MHz 921.0–922.0 MHz Depends on the sales region.</div> <div><b>Maximum effective radiated power (ERP)</b> ≤25 mW</div> <div><b>Communication range</b> up to 2,000 m In an open space.</div>	External communication channels	<b>Ethernet</b> 8P8C slot Up to 100 Mb/s.  <b>Cellular network</b> 1 slot for micro-SIM  2G (GSM900/DCS1800 (B3/B8))
Power supply	<div><b>Main power supply</b> 100–240 V~, 50/60 Hz</div> <div><b>Backup power supply</b> Li-Ion battery with 2 A·h capacity Up to 16 hours of autonomous operation.</div>	Installation	<b>Operating temperature range</b> from -10°C to +40°C  <b>Operating humidity</b> up to 75%  <b>Protection class</b> IP20
Enclosure	<div><b>Colour</b> white black</div> <div><b>Dimensions</b> 163 × 163 × 36 mm</div> <div><b>Weight</b> 362 g</div> <div><b>Tampering alarm</b></div>	Complete set	Hub 2 (2G) Jeweller Power cable Ethernet cable SIM card Depends on the region of sale. Installation kit Quick Start Guide



# MotionCam Jeweller

Wireless indoor IR motion detector supporting photo verification of alarms.



An Ajax hub is required for operation. Find the detailed information on the device by the link:

<http://ajax.systems/support/devices/motioncam/>



2  
GRADE  
EN 50131

PD 6662  
2017

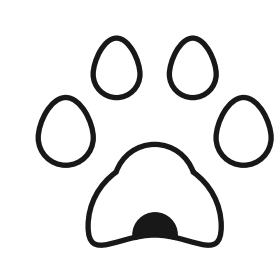
## Key features

12 m

Up to 12 m detection distance

88.5°/80°

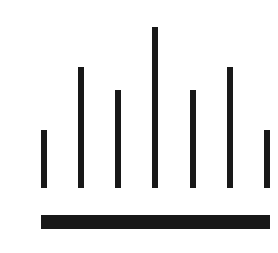
88.5°/80° viewing angles



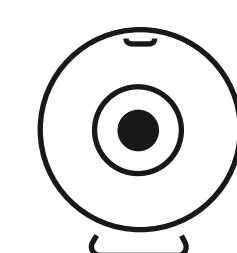
Pet immunity



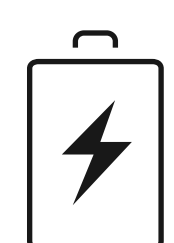
Temperature compensation



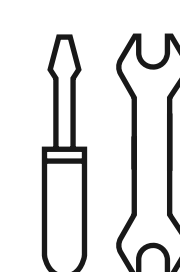
False alarms prevention algorithm



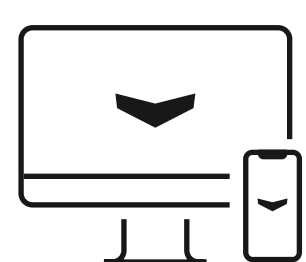
A built-in camera for photo verification



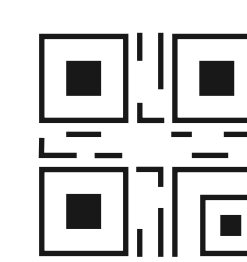
Up to 4 years of operation on pre-installed batteries



Effortless installation and replacement

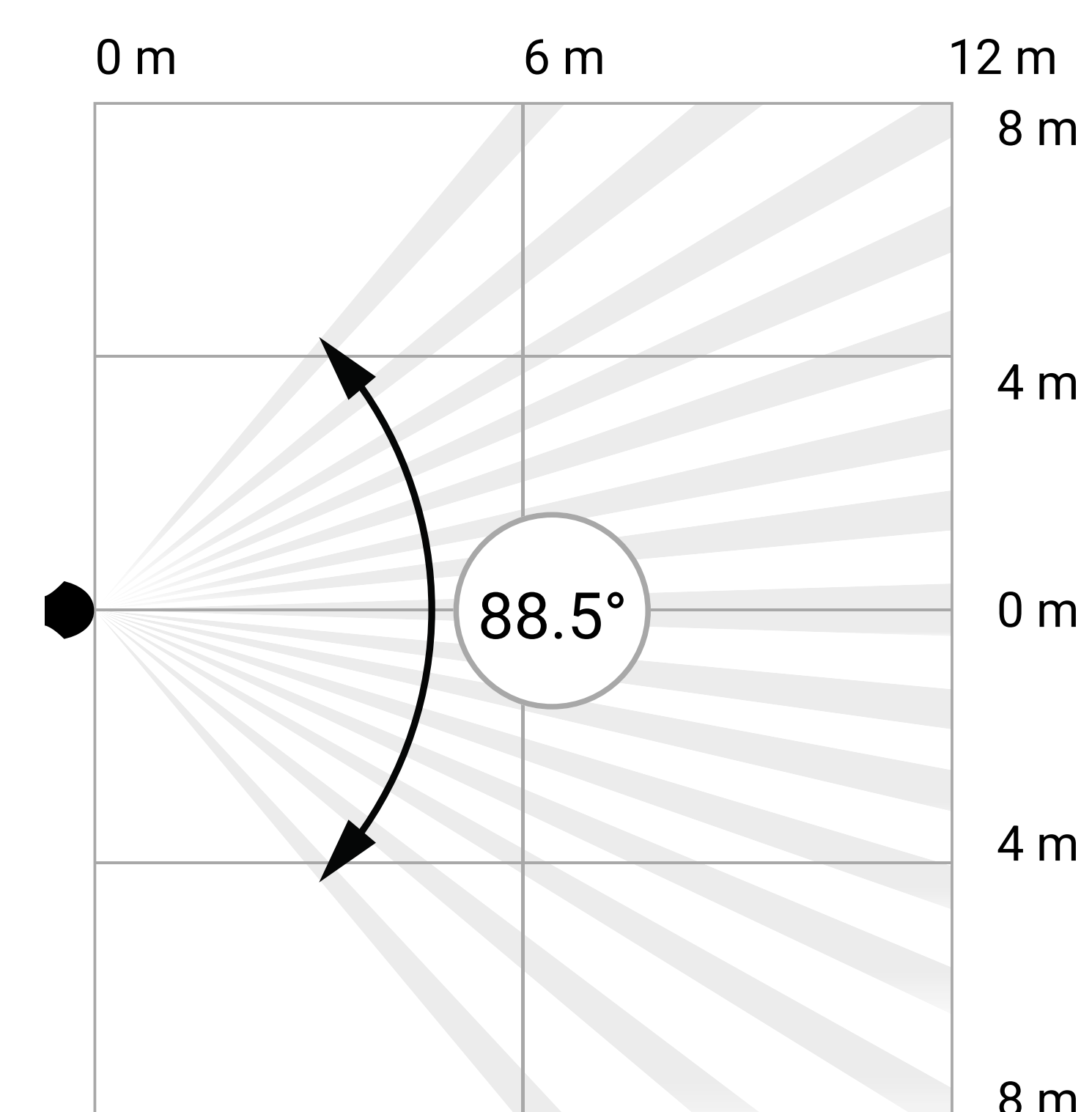
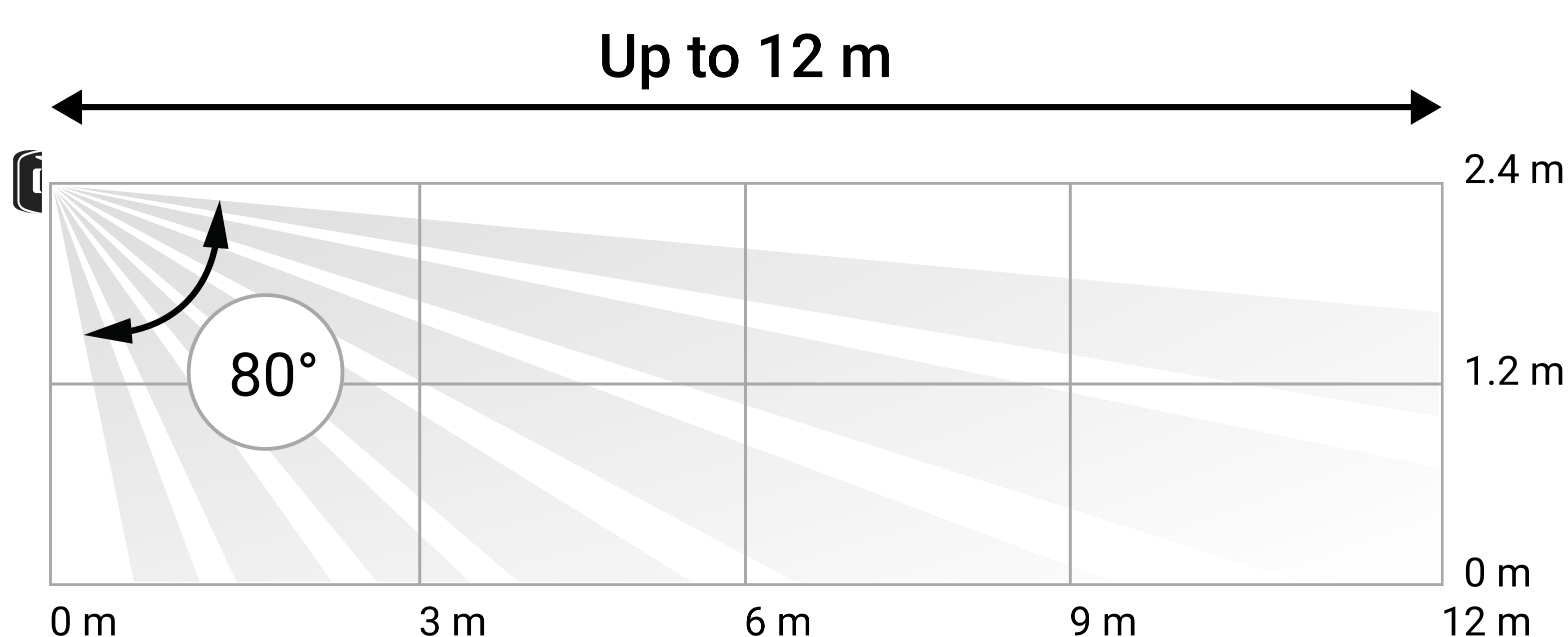


Remote control and setup via the app



Connecting via QR code

## Angles and detection range





# False alarms prevention

## Optics

The detector lens increases sensitivity to human motion, cutting off false alarms caused by other sources of IR radiation. It is designed so that potential IR radiation from pets and other interferences affect only the small lens sections. Large sections, on the contrary, are aimed at the most likely places of burglar motion.

## Software

For additional protection against false alarms, the detector uses the SmartDetect algorithm. The armed detector constantly analyses the thermal diagram from the IR sensor: the intensity of IR radiation, the size of the thermal spots, the speed of movement and other parameters.

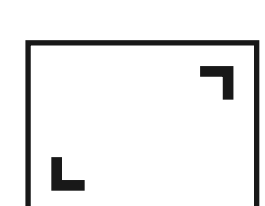
## Installation

When properly installed and configured, the detector does not react to common sources of false alarms and pets under 50 cm tall and 20 kg in weight. The detector has pre-installed batteries and the SmartBracket mounting panel. So, installers don't need to disassemble the device and won't damage the electronics during installation.

# Photo verification



MotionCam equipped with a built-in camera to show the real situation at the facility. A built-in camera is activated if the detector is armed and motion is detected. Only users with access to the hub event feed and security company employees can view the photos. The detector software architecture does not support taking a photo on demand.



Up to 640 × 480 pixels  
photo resolution



Up to 5 photos in a series



IR backlight for low light  
conditions

# Privacy on demand

MotionCam is designed to control security, not privacy. Graphic data is securely protected by encryption at each step of transmission and storage. Only hub users can access its virtual storage on Ajax Cloud and view photos taken by MotionCam detectors. Photos are stored for up to 6 months in the hub event log in Ajax apps. The Ajax Cloud is located on geographically distributed servers in compliance with the General Data Protection Regulation (GDPR) requirements.



# Monitoring software supporting the Ajax photo verification



Horus



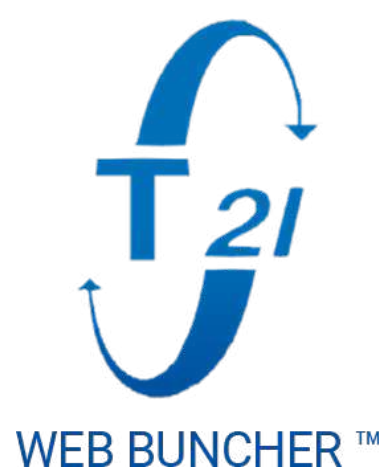
Manitou



SBN



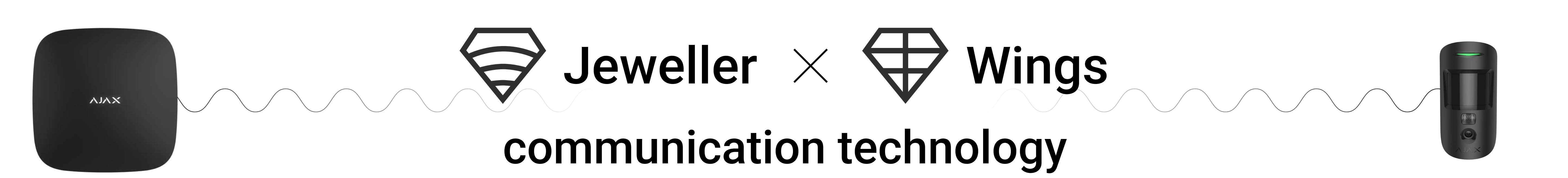
Sentinel



WBB

See the full list by the link: [ajax.systems/connecting-to-cms/](https://ajax.systems/connecting-to-cms/)

# Two-way encrypted communication



**Jeweller** and **Wings** are two-way **wireless data transfer protocols** that provide fast and reliable communication between hubs and connected devices. **Jeweller** delivers instant data-rich alarms: security companies and users know which device was triggered, when and where it happened. **Wings** delivers photos taken by a detector built-in camera.

Both protocols feature **encryption** and **authentication** to prevent forgery, and **polling** to display devices' status. Supporting **up to 1,700 m** of wireless connectivity between MotionCam detectors and hub (or range extender), Jeweller and Wings are ready to protect facilities and deliver **the best user experience** for both end users and installers.

The first photo delivery in 9 s<sup>1</sup>

Alarm delivery within 0.3 s

# Technical specifications


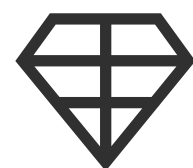
Compliance with standards	EN 50131 (Grade 2) PD 6662:2017	CMS connectivity	<b>Hubs</b> Hub 2 Hub 2 Plus Hub Hybrid (2G) Hub Hybrid (4G)  <b>Range extenders</b> ReX 2
Communication channels with Ajax devices	<div> <b>Jeweller communication technology</b></div> <div> <b>Wings communication technology</b></div> <div><b>Frequency bands</b> 866.0 – 866.5 MHz 868.0 – 868.6 MHz 868.7 – 869.2 MHz 905.0 – 926.5 MHz 915.85 – 926.5 MHz 921.0 – 922.0 MHz Depends on the region of sales.</div> <div><b>Maximum effective radiated power (ERP)</b> ≤ 20 mW</div> <div><b>Communication range</b> up to 1,700 m In an open space.</div> <div><b>Polling interval</b> 12–300 s Adjusted by PRO or user with admin rights in the Ajax app.</div> <div><b>Protection against forgery</b> Device authentication</div>	Motion detection	<b>Sensitive element</b> PIR sensor  <b>Detection distance</b> up to 12 m When installed at a height of 2.4 m.  <b>Detection angles</b> horizontal – 88.5° vertical – 80°  <b>Motion detection speed</b> from 0.3 to 2.0 m/s The direction of the detector lens should be perpendicular to an alleged intrusion path into the facility.  <b>Temperature compensation</b>  <b>Sensitivity</b> 3 levels Adjusted by PRO or user with admin rights in the Ajax app.  <b>Pet immunity</b> weight: up to 20 kg height: up to 50 cm



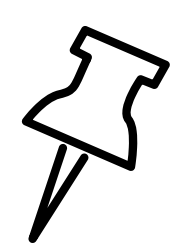
Photo verification	<p><b>Photo resolution in pixels</b> 640 × 480 320 × 240 (default) 160 × 120 Adjusted by PRO or user with admin rights in the Ajax app</p> <p><b>Photos in a series</b> from 1 to 5 pics Adjusted by PRO or user with admin rights in the Ajax app</p> <p><b>IR backlight</b></p>	Installation	<p><b>Recommended installation height</b> 2.4 m</p> <p><b>Operating temperature range</b> from –10°C to +40°C</p> <p><b>Operating humidity</b> up to 75%</p> <p><b>Protection class</b> IP50</p>
Power supply	<p><b>Battery</b> 2 x CR123A Pre-installed.</p> <p><b>Battery life</b> up to 4 years</p>	Enclosure	<p><b>Colour</b> white, black</p> <p><b>Dimensions</b> 110 × 65 × 50 mm</p> <p><b>Weight</b> 86 g</p> <p><b>Tampering alarm</b></p>
Complete set	<p>MotionCam Jeweller 2 × CR123A battery Pre-installed SmartBracket mounting panel Installation kit Quick Start Guide</p>		

# DoorProtect Jeweller

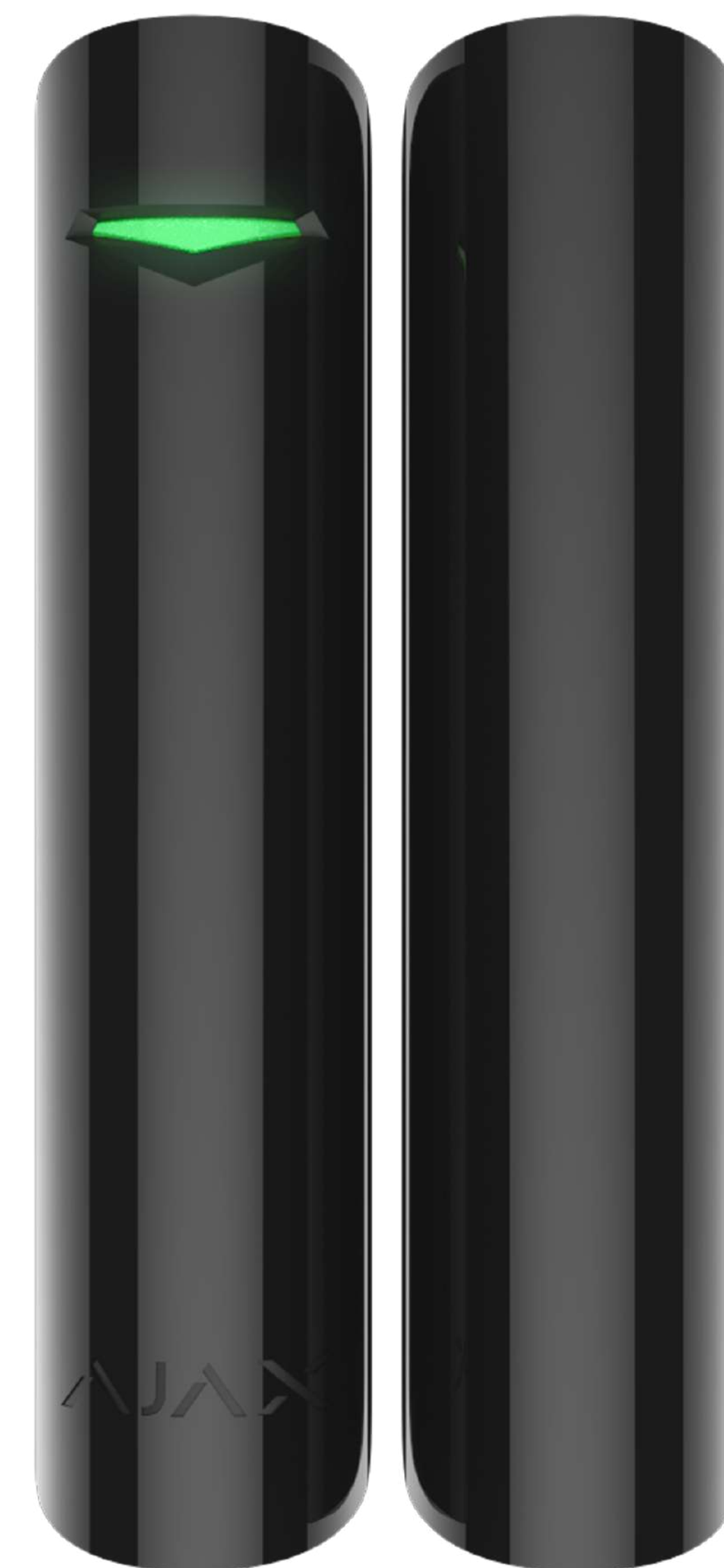
Wireless indoor opening detector



An Ajax hub is required for operation.  
Find the detailed information on the  
device at the link:



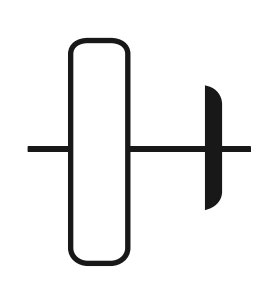
<https://ajax.systems/support/devices/doorprotect/>



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EN 50131

PD 6662  
2017

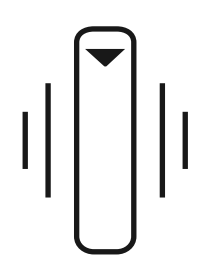
## Key features



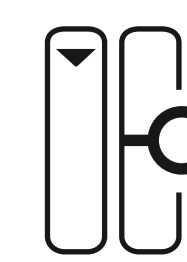
More installation options with two  
magnets of different size



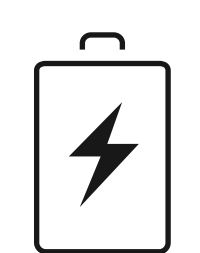
The reed switch with a resource  
of 2,000,000 openings



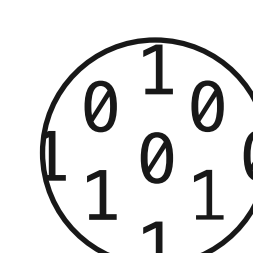
Protected against reed switch  
chattering



Additional NC input for connecting a  
third-party detector



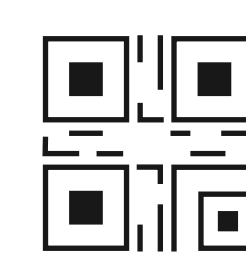
Up to 7 years of operation on pre-  
installed battery



Up to 1,200 m of two-way encrypted  
wireless communication



Remote control and setup via the app



Pairing via QR code


## Jeweller communication technology

**Jeweller** is a **two-way wireless protocol** that provides fast and reliable communication between hubs and devices. The protocol delivers instant data-rich alarms: security companies and users know which device was triggered, when and where it happened.

Jeweller features **encryption** and **authentication** to prevent forgery, and **polling** to display devices' status in real time. Supporting **up to 1,200 m** of wireless connectivity, Jeweller is ready to protect facilities and deliver **the best user experience** for both end users and installers.



# Technical specifications

Compliance with standards	EN 50131 (Grade 2) PD 6662:2017	Compatibility	<b>Hubs</b> all Ajax hubs  <b>Range extenders</b> all Ajax radio signal range extenders
Communication with control panel and range extenders	 <b>Jeweller communication technology</b>  <b>Frequency bands</b> 866.0 – 866.5 MHz 868.0 – 868.6 MHz 868.7 – 869.2 MHz 905.0 – 926.5 MHz 915.85 – 926.5 MHz 921.0 – 922.0 MHz Depends on the region of sales  <b>Maximum effective radiated power (ERP)</b> ≤ 20 mW  <b>Communication range</b> up to 1,200 m In an open space  <b>Polling interval</b> 12–300 sec Adjusted by PRO or user with admin rights in the Ajax app  <b>Protection against forgery</b> Device authentication	Detection	<b>Sensing element</b> 1 × reed switch  <b>Opening sensors resource</b> 2,000,000 openings  <b>Third-party detector connection</b> wired detector with the normally closed (NC) contact type

Power supply	<div>1 × CR123A, 3 V</div> <div>Pre-installed</div> <div>up to 7 years of battery life</div>	Installation	<div>Operating temperature range</div> <div>from −10°C to +40°C</div> <div>Operating humidity</div> <div>up to 75%</div> <div>Ingress protection</div> <div>IP50</div>
Enclosure	<div>Colours</div> <div>white, black</div> <div>Dimensions</div> <div>Ø 20 × 90 mm</div> <div>Weight</div> <div>29 g</div> <div>Tampering alarm</div>	Complete set	<div>DoorProtect Jeweller</div> <div>2 magnets</div> <div>(small and large)</div> <div>1 × CR123A (pre-installed)</div> <div>SmartBracket</div> <div>Installation kit</div> <div>External contact for NC detector</div> <div>Quick Start Guide</div>

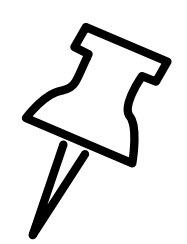


# SpaceControl Jeweller

Key fob for controlling the security system.

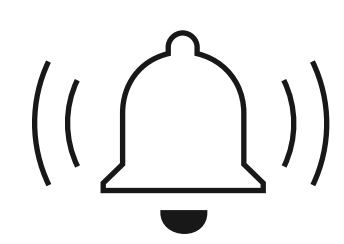


An Ajax hub is required for operation.  
Find the detailed information on the  
device at the link:

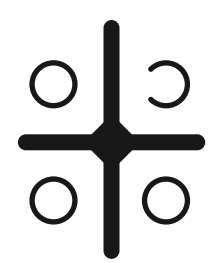


[ajax.systems/support/devices/spacecontrol/](https://ajax.systems/support/devices/spacecontrol/)

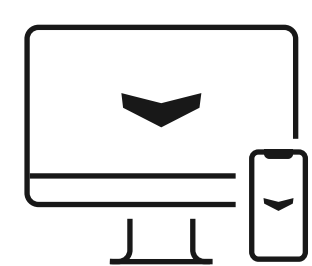
## Key features



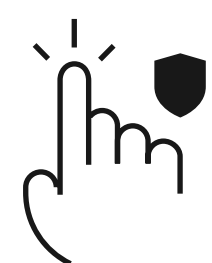
Build-in panic button in case of emergency



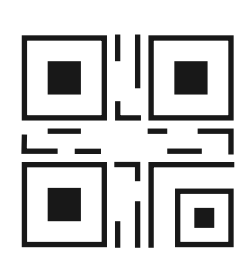
Indication of command execution by LED



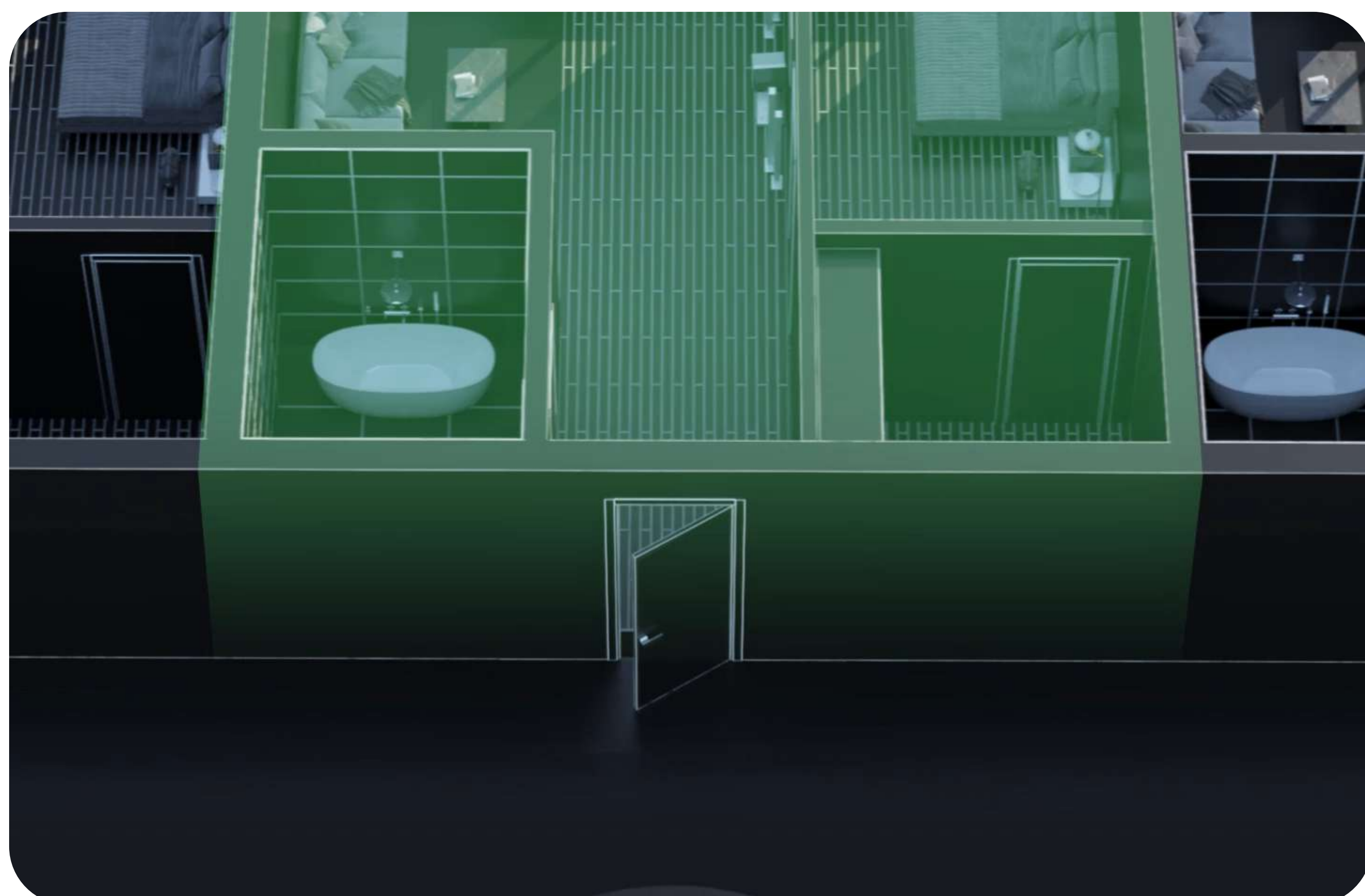
Remote control and setup via the app



Double or long press against accidental activation



Connecting via QR code



## Security modes control

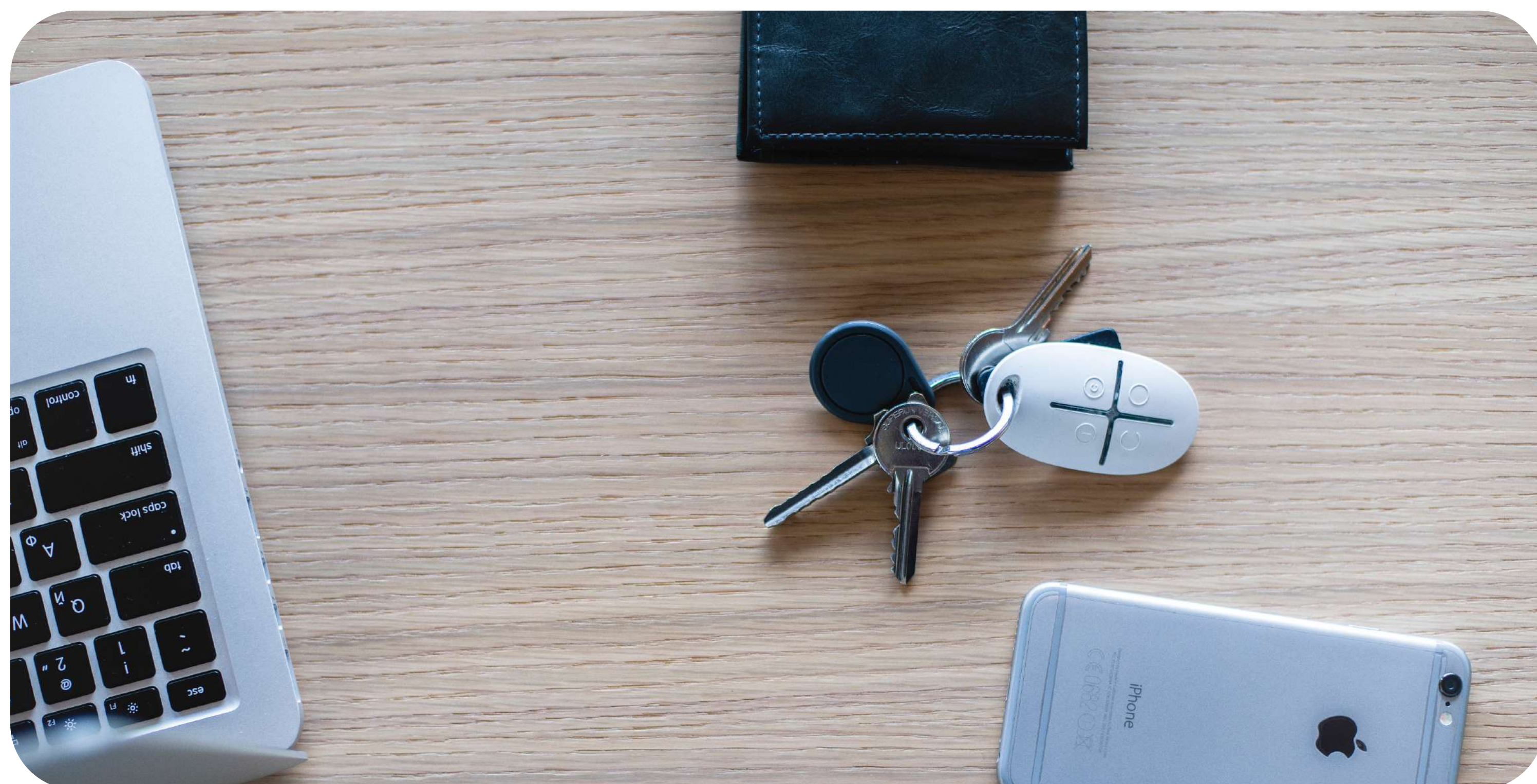
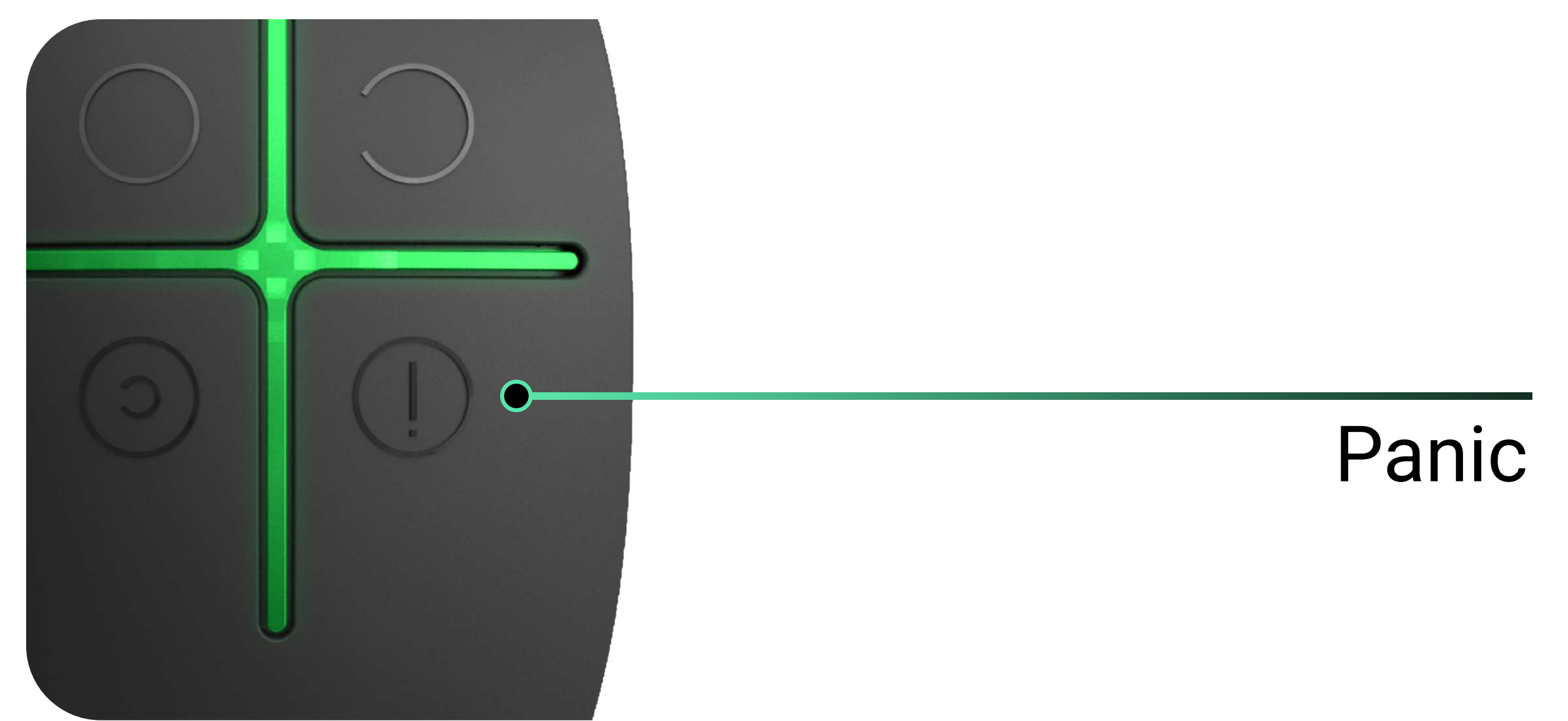
With SpaceControl, users can arm, disarm and activate the **Night mode** for the entire system. The key fob can also be configured to manage a separate security group.

The device can be assigned to a user. In this case, SpaceControl will have the same security modes management rights as the user.



## Panic button

In case of an emergency, the user can press the built-in panic button and notify the security company monitoring station (CMS) and users about the dangerous situation. This ensures a fast and accurate response to the threat.



## Protection against accidental pressing

In the Ajax app, a long or double press can be configured to exclude accidental activation of SpaceControl buttons while carrying it in a pocket or bag. Users do not need to worry about false panic alarms or incidental disarming.



 **Jeweller**  
**communication technology**



**Jeweller** is a radio protocol for fast and reliable two-way communication between hub (or range extender) and connected devices. The protocol provides a wireless radio communication range with SpaceControl **up to 1300 meters**. This communication range allows using the Ajax security system even on large-scale objects.

Jeweller is responsible for transmitting alarms and commands. Thanks to Jeweller, users and the monitoring station can always see the current status of SpaceControl and the security mode of the system in Ajax apps.


## Quick pairing with the system

The device connects to the Ajax security system in less than a minute. An installer needs to open the Ajax app, scan the QR code, add the device to the room and assign it to the user or a security group if needed. The key fob is configured remotely: the installer does not need to visit the facility to change key fob settings.

No need to disassemble the enclosure: replaceable batteries are pre-installed. With a special handler, SpaceControl can easily be attached to a key ring and carried around with the set of keys in a bag or a pocket.



# Technical specifications

Communication with control panel or range extender	<div> <b>Jeweller communication technology</b></div> <div><b>Frequency bands</b> 866.0–866.5 MHz 868.0–868.6 MHz 868.7–869.2 MHz 905.0–926.5 MHz 915.85–926.5 MHz 921.0–922.0 MHz Depends on the region of sales.</div> <div><b>Maximum effective radiated power (ERP)</b> Up to 20 mW</div> <div><b>Communication range</b> up to 1,300 m Without obstacles.</div>	Compatibility	<div><b>Hubs</b> all Ajax hubs</div> <div><b>Range extenders</b> all Ajax radio signal range extenders</div>
Compliance with special fire standards	<div>EN 50131 (Grade 2) PD 6662:2017</div>	Features	<div><b>4 buttons</b> Arm Disarm Night mode Panic Panic button can be deactivated by PRO or a user with admin rights in the Ajax apps.</div> <div><b>LED indication</b> green and red SpaceControl reports its status only after any button is pressed.</div> <div><b>Protection against accidental press</b> double or long press Configured by the PRO or user with admin rights in the Ajax apps.</div>



Anti-sabotage protection	<b>Protection against spoofing</b> device authentication	Power supply	1 × CR2032 battery Up to 5 years of battery life.
Enclosure and installation	<b>Dimensions</b> 65 × 37 × 10 mm  <b>Weight</b> 13 g  <b>Operating temperature range</b> from -25°C to +50°C  <b>Operating humidity</b> up to 95%  <b>Protection class</b> IP50  <b>Colours</b> Black White	Complete set	SpaceControl Jeweller 1 × CR2032 battery Pre-installed Quick Start Guide



# HomeSiren Jeweller

Wireless siren with external LED connector.

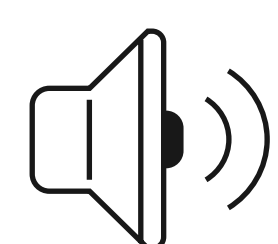


An Ajax hub is required for operation.  
Find the detailed information on the device at the link:

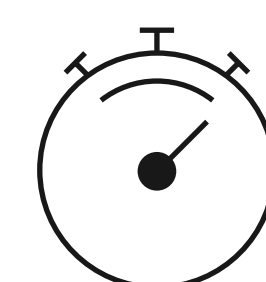
 <https://ajax.systems/support/devices/homesiren/>



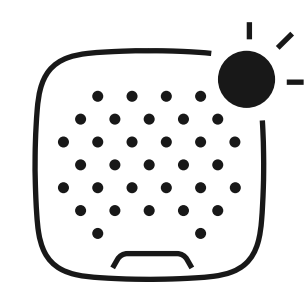
## Key features



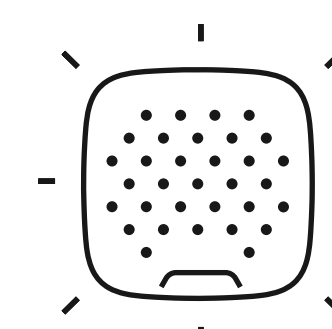
Adjustable volume: from 80 dB to 98 dB



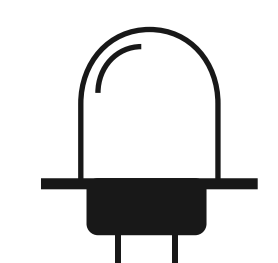
Adjustable alarm duration:  
from 3 to 180 s



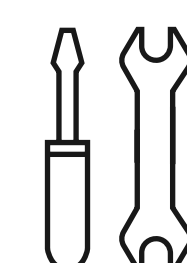
Delay and security mode  
changing indication



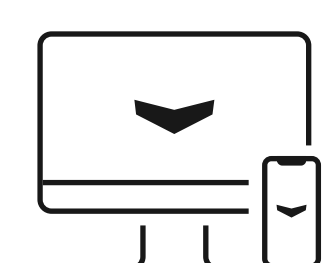
Door opening notifications



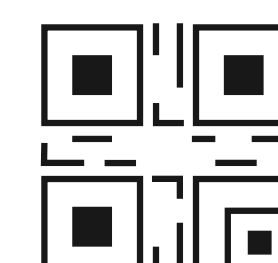
External LED connector



Effortless installation and replacement

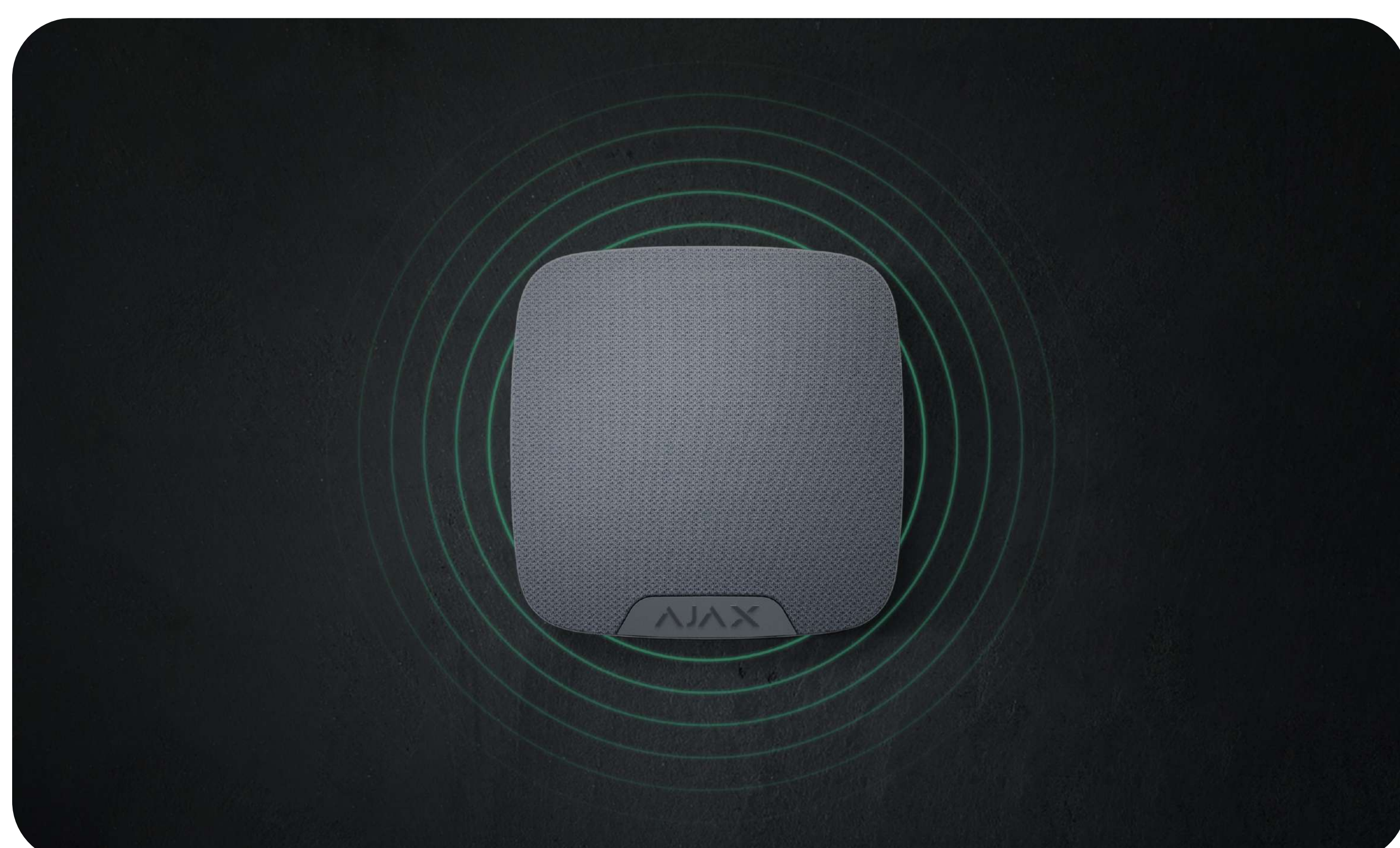


Remote control and setup via the app



Connecting via QR code

## Operating principle



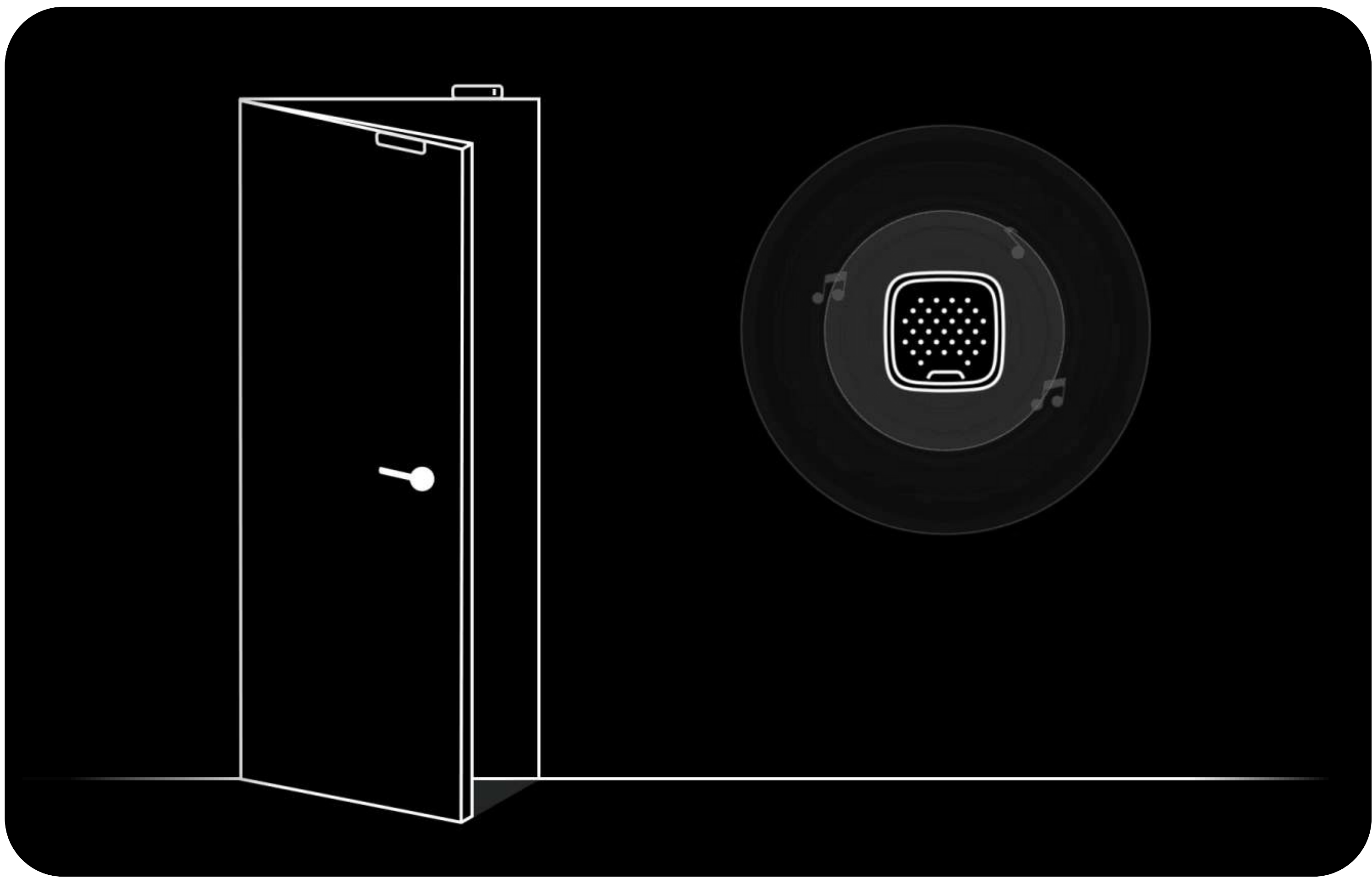
## Informs about alarms

The siren responds to tamper and security system alarms in less than a second. It is loud enough to scare away intruders and attract the attention of neighbours.



# Serves as a security status indicator

The siren LED notifies that the facility is armed, and a sound signal indicates **Delay When Entering / Leaving**. These are helpful features for the users who control the security system with a keypad or key fob.



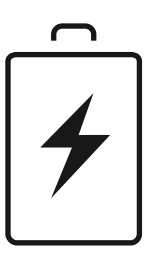
# Notifies on door opening

When the **Chime** feature is enabled, the siren makes a special sound to indicate that the opening detectors are triggered when the system is disarmed. The feature is used, for example, in stores to notify employees that someone has entered the building.

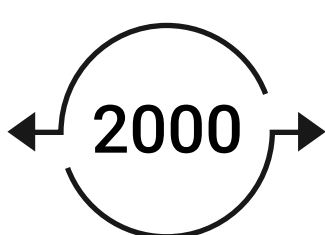


**Jeweller** is a **two-way wireless protocol** that provides fast and reliable communication between hubs and devices. The protocol delivers instant data-rich alarms: security companies and users know who and when has armed or disarmed the facility.

Jeweller features **encryption** and **authentication** to prevent forgery, and **polling** to display devices' status in real-time. Supporting up **to 2,000 m** of wireless connectivity, Jeweller is ready to protect facilities and deliver **the best user experience** for both end-users and installers.




Up to 5 years of operation on pre-installed battery



Up to 2,000 m of two-way encrypted wireless communication between hub and siren

# Technical specifications

Compliance with standards	<b>EN 50131 (Grade 2)</b> <b>PD 6662:2017</b>	Compatibility	<b>Hubs</b> all Ajax hubs  <b>Range extenders</b> all Ajax radio signal range extenders
Communication with control panel and range extenders	 <b>Jeweller communication technology</b>  <b>Frequency bands</b> 866.0 – 866.5 MHz 868.0 – 868.6 MHz 868.7 – 869.2 MHz 905.0 – 926.5 MHz 915.85 – 926.5 MHz 921.0 – 922.0 MHz Depends on the region of sales  <b>Maximum effective radiated power (ERP)</b> ≤ 20 mW  <b>Communication range</b> up to 2,000 m In an open space  <b>Polling interval</b> 12 – 300 s Adjusted by PRO or user with admin rights in the Ajax app  <b>Protection against forgery</b> Device authentication	Features	<b>Types of notifications</b> Acoustic LED  <b>Alarm volume</b> from 80 to 98 dB at a distance of 1 m Adjusted by PRO or user with admin rights in the Ajax app  <b>Alarm duration</b> from 3 to 180 s Adjusted by PRO or user with admin rights in the Ajax app  <b>Siren sound frequency</b> 3.4 ± 0.5 kHz  <b>Additional LED connection</b> 3 V An external LED works in parallel with the siren built-in LED and fully replicates its indication  <b>Chime</b> The siren makes a special sound to notify that the opening detectors are triggered when the system is disarmed



Power supply	<b>Battery</b> 2 × CR123A Pre-installed  <b>Battery life</b> up to 5 years	Installation	<b>Operating temperature range</b> from -10°C to +40°C  <b>Operating humidity</b> up to 75%
Enclosure	<b>Colours</b> white, black  <b>Dimensions</b> 75 × 76 × 27 mm  <b>Weight</b> 97 g  <b>Tampering alarm</b>	Complete set	HomeSiren Jeweller 2 × CR123A battery Pre-installed SmartBracket Connector for LED indicator Installation kit Quick Start Guide