AJAX DoorProtect Wireless Door and Window Opening Detector User Manual

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AJAX DoorProtect Wireless Door and Window Opening Detector

DoorProtect is a wireless door and window opening detector designed for indoor use. It can operate up to 7 years from a pre-installed battery and capable to detect more than 2 millions openings. DoorProtect has a socket for connecting an external detector.

The functional element of DoorProtect is a sealed contact reed relay. It consists of ferromagnetic contacts placed in a bulb that form a continuous circuit under the effect of a constant magnet.

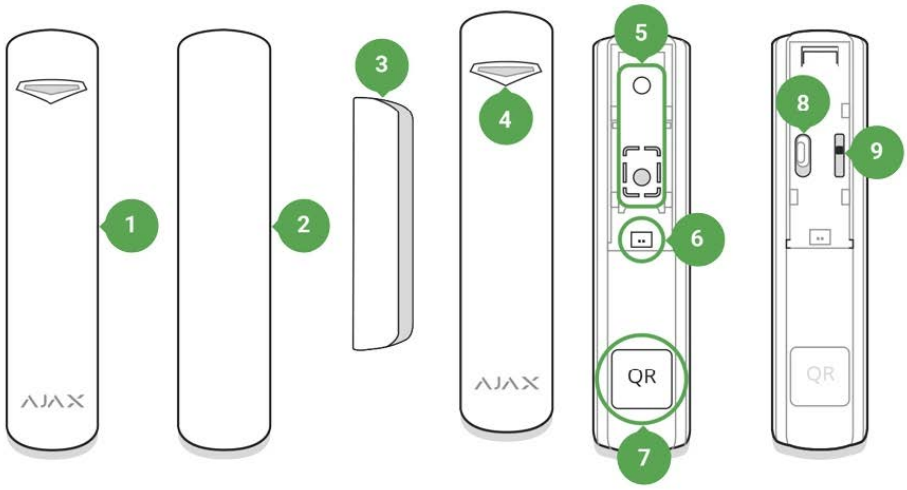
DoorProtect operates within the Ajax security system, connecting via the protected Jeweler radio protocol. Communication range is up to 1,200 m in the
line of sight. Using the uart Bridge or Bridge Plus integration modules, DoorProtect can be used as part of third party security systems.

The detector is set up via Ajax app for iOS, Android, macOS and Windows. The app notifies user of all events through push notifications, SMS 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 opening detector DoorProtect

Functional Elements



1. DoorProtect
2. Big magnet (should be placed to the right of the detector)
3. Small magnet (should be placed to the right of the detector)
4. LED indicator
5. Smart Bracket attachment panel (perforated part is required for actuating the tamper in case of any attempt to dismantle the detector. Don’t break it out!)
6. External detector connection socket
7. QR code
8. Device switch
9. Tamper button

Operating Principle

DoorProtect consists of two parts: the detector with a sealed contact reed relay, and the constant magnet. Attach the detector to the door frame, while the magnet can be attached to the moving wing or sliding part of the door. If the sealed contact reed relay is within the coverage area of the magnetic eld, it closes the circuit, which means that the detector is closed. The opening of the door pushes out the magnet from the sealed contact reed relay and opening the circuit. In such a way, the detector recognizes the opening.

Attach the magnet to the RIGHT of the detector.

A small magnet works at a distance of 1 cm, and the big one — up to 2 cm.

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

Pairing the Detector

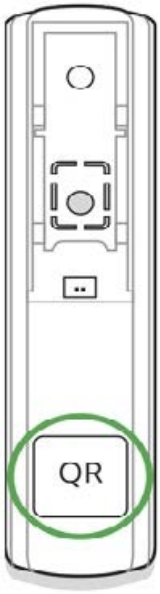
Before starting pairing:

1. Following the hub instruction recommendations, install the Ajax app on your smartphone. Create an account, add the hub to the app, and create at least one room.
2. Switch on the hub and check the internet connection (via Ethernet cable and/or GSM network).
3. Make sure that the hub is disarmed and does not update by checking its status in the app.

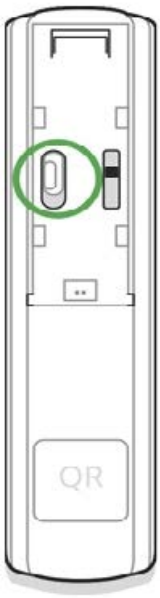
Only users with administrator rights can add the device to the hub.

How to pair the detector with 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 area of the wireless network of the hub (at the same facility).

The request for connection to the hub is transmitted for a short period of time at the moment of switching on the device.

If pairing with the hub failed, switch off the detector for 5 seconds and retry it.

If the detector has paired with the hub, it will appear in the list of devices in the Ajax app. The update of the detectors statuses in the list depends on the detector ping interval set in the hub settings. The default value is 36 seconds.

Connecting to Third-Party Systems

To connect the detector to a third-party security central unit using the uartBridgeor ocBridge Plus integration modules, follow the recommendations in the user manual of the respective device.

States

The states screen contains information about the device and its current parameters. Find the DoorProtect states in the Ajax app:

1. Go to the Devices tab.
2. Select DoorProtect from the list.

Parameter	Value
Temperature	Device temperature. It is measured on the processor and changes gradually. Displayed in 1°C increment. Acceptable error between the value in the app and temperature at the installation site: 2–4°C
Jeweller Signal Strength	Signal strength between the hub/range extender and the opening detector. We recommend installing the detector in places where the signal strength is 2–3 bars
Connection	Connection status between the hub/range extender and the detector: • Online — the detector is connected with the hub/range extender • Offline — the detector has lost connection with the hub/range extender
ReX range extender name	Radio signal range extender connection status. Displayed when the detector works via Radio signal range extender
Primary Detector	The primary detector status
External Contact	The status of the external detector connected to DoorProtect

Battery Charge Lid Delay When Entering, sec Delay When Leaving, sec Night Mode Delay When Entering, sec Night Mode Delay When Leaving, sec Always Active	Battery level of the device. Displayed as a percentage How battery charge is displayed in Ajax appsThe tamper state, which reacts to detachment or damaging of the detector bodyEntry delay (alarm activation delay) is the time you have to disarm the security system after entering the room **What is delay when entering** Delay time when exiting. Delay when exiting (alarm activation delay) is the time you have to exit the room after arming the security system **What is delay when leaving** The time of Delay When Entering in the Night mode. Delay when entering (alarm activation delay) is the time you have to disarm the security system after entering the premises. **What is delay when entering** The time of Delay When Leaving in the Night mode. Delay when leaving (alarm activation delay) is the time you have to exit the premises after the security system is armed. **What is delay when leaving** If the option is active, the detector is always in armed mode and notifies about alarms Learn more
Chime	When enabled, a siren notifies about opening detectors triggering in the Disarmed system mode What is chime and how it works
Temporary Deactivation	Shows the status of the device temporary 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 by the system when the number of alarms is exceeded (specified in the settings for Devices Auto Deactivation). The feature is configured in the Ajax PRO app. By timer — the device is automatically disabled by the system when the recovery timer expires (specified in the settings for Devices Auto Deactivation). The feature is configured in the Ajax PRO app.

Firmware	The detector firmware version
Device ID	The device identifier
Device No.	Number of the device loop (zone)

Settings

To change the detector settings in the Ajax app:

1. Select the hub if you have several of them or if you are using the PRO app.
2. Go to the Devices tab.
3. Select DoorProtect from the list.
4. Go to Settings by clicking on the .
5. Set the required parameters.
6. Click Back to save the new settings.

Setting	**Value**
First fiel	Detector name that can be changed. The name is displayed in the text of SMS and notifications in the event feed. The name can contain up to 12 Cyrillic characters or up to 24 Latin characters
Room	Selecting the virtual room to which DoorProtect is assigned. The name of the room is displayed in the text of SMS and notifications in the event feed

Delay When Entering, sec	Selecting delay time when entering. Delay when enteri ng (alarm activation delay) is the time you have to dis arm the security system after entering the room **What is delay when entering**
Delay When Leaving, sec	Selecting the delay time when exiting. Delay when exit ing (alarm activation delay) is the time you have to exit the room after arming the security system **What is delay when leaving**
Arm in Night Mode	If active, the detector will switch to the armed mode w hen using the night mode
Night Mode Delay When Entering, sec	The time of Delay When Entering in the Night mode. Delay when entering (alarm activation delay) is the tim e you have to disarm the security system after enterin g the premises. **What is delay when entering**

- Night Mode Delay When Leaving, sec
  - The time of Delay When Leaving in the Night mode. Delay when leaving (alarm activation delay) is the time you have to exit the premises after the security system is armed.
    What is delay when leaving
- 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 nd the firmware version or
    the ID of the detector or device?
- Primary Detector
  - If active, DoorProtect primarily reacts to opening/closing
- External contact

    - If active, DoorProtect registers external detector alarms
- Always Active
    - If the option is active, the detector is always in armed mode and notices about alarms

      Learn more
- Alert with a siren if opening detected
    - If active, sirens added to the system are activated when the opening detected
- Activate the siren if an external contact opened
    - If active, sirens added to the system are activated during an external detector alarm
- Chime settings
    - Opens the settings of Chime.

      How to set Chime What is Chime
- Jeweler Signal Strength Test
    - Switches the detector to the Jeweler signal strength test mode. The test allows you to check the signal strength between the hub and DoorProtect and determine the optimal installation site

      What is Jeweler Signal Strength Test
- Detection Zone Test
    - Switches the detector to the detection area test What is Detection Zone Test
- Signal Attenuation Test
    - Switches the detector to the signal fade test mode (available in detectors with firmware version 3.50 and later)

      What is Attenuation Test
- User Guide
    - Opens DoorProtect User Guide in the Ajax app
- Temporary Deactivation
    - Allows the user to disconnect the device without removing it from the system.

      Three options are available:
        - No — the device operates normally and transmits all alarms and events
        - 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 temporary deactivation of devices

          The system can also automatically deactivate devices when the set number of alarms is exceeded or when the recovery timer expires.

          Learn more about auto deactivation of devices
- Unpair Device
    - Disconnects the detector from the hub and deletes its settings

How to set Chime
Chime is a sound signal that indicates the triggering of the opening detectors when the system is disarmed. The feature is used, for example, in stores, to notify employees that someone has entered the building.
Notifications are configured in two stages: setting up opening detectors and setting up sirens.

Learn more about Chime

Detectors settings

1. Go to the Devices menu.
2. Select the DoorProtect detector.
3. Go to its settings by clicking the gear icon in the upper right corner.
4. Go to the Chime Settings menu.
5. Select the events to be notified by the siren:
    - If a door or a window is open.
    - If an external contact is open (available if the External Contact option is enabled).
6. Select the chime sound (siren tone): 1 to 4 short beeps. Once selected, the Ajax app will play the sound.
7. Click Back to save the settings.
8. Set up the required siren.

How to set up a siren for Chime

Indication

Event	Indication	Note
Switching on the detector	Lights up green for about one second	
Detector connecting to the hub, ocBridge Plus and uartBridge	Lights up 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 Battery Replacement manual

Functionality Testing

The Ajax security system allows conducting tests for checking the functionality of connected devices.
The tests do not start immediately but within 36 seconds by default. The starting time depends on the ping interval (the paragraph on “Jeweler” settings in hub settings).

- Jeweler Signal Strength Test
- Detection Zone Test.
- Attenuation Test

Installing the Detector

Selecting the location
Location of DoorProtect is determined by its remoteness from the hub and presence of any obstacles between the devices hindering the radio signal transmission: walls, inserted floors, large objects located within the room.

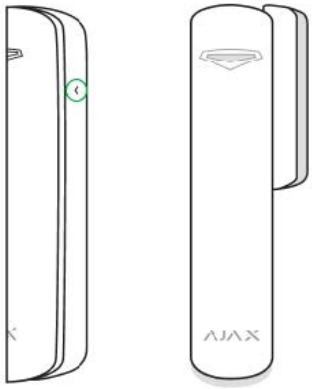
The device developed only for indoor use.

Check the signal level at the installation location

If the signal level is low (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 the reception.

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

The detector is located either inside or outside of the door case (window frame).
When installing the detector in the perpendicular planes (inside the case/frame), use the small magnet. The distance between the magnet and detector should not exceed 1 cm.
When positioning the parts of DoorProtect in the same plane, use the big magnet. Its actuation threshold — 2 cm.
Attach the magnet to the moving part of the door (window) to the right of the detector. The side to which the magnet should be attached is marked with an arrow on the detector's body. If necessary, the detector may be positioned horizontally.



Before installing the detector, make sure that you have selected the optimal location and it complies with the guidelines of this manual!

1. Fix the SmartBracket attachment panels and the magnet using the bundled screws. If using any other attachment hardware, make sure that they do not damage or deform the panel.
   Double-sided adhesive tape may be only used for temporary attachment. The tape will run dry in the course of time, which may result in falling of DoorProtect 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 a LED signaling that the tamper is closed.
   If the light indicator do not blink after installing in SmartBracket, check the status of the tamper in the Ajax 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 a notification.

3. Put the magnet on the attachment panel.

Do not install the detector:

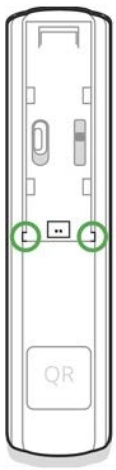
1. Outside the premises (outdoors);
2. Nearby any metal objects or mirrors causing attenuation or interference of the signal;
3. Inside any premises with the temperature and humidity beyond the permissible limits;
4. Closer than 1 m to the hub.

Connecting a Third-Party Wired Detector

A wired detector with the NC contact type can be connected to DoorProtect using the outside-mounted terminal clamp.

We recommend to install a wired detector at a distance not exceeding 1 meter —increasing the wire length will increase the risk of its damage and reduce the quality of communication between the detectors.

To lead out the wire from the detector body, break out the plug:



If the external detector is actuated, you will receive a notification.

Detector Maintenance and Battery Replacement

Check the operational capability of the DoorProtect 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 any substances containing alcohol, acetone, gasoline and other active solvents for cleaning the

detector.
The battery lifetime depends on battery quality, actuation frequency of the detector and ping interval of the detectors by the hub.
If the door opens 10 times a day and the ping interval is 60 seconds, then DoorProtect will operate up to 7 years from the pre-installed battery. Setting the ping interval of 12 seconds, you will reduce the battery life to 2 years.
How long Ajax devices operate on batteries, and what affects this
If the detector battery is discharged, you will receive a notification, and the LED will smoothly light up and go out, if the detector or tamper is actuated.

Battery Replacement

Technical specifictaion

Sensor	**Sealed contact reed relay**
Sensor resource	2,000,000 openings
Detector actuation threshold	1 cm (small magnet) 2 cm (big magnet)
Tamper protection	Yes
Socket for connecting wire detectors	Yes, NC
Radio communication protocol	Jeweller Learn more
Radio frequency band	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 sale.
Compatibility	Operates with all Ajax hubs, radio signal range extenders, ocBridge Plus, uartBridge
Maximum RF output power	Up to 20 mW
Modulation	GFSK
Radio signal range	Up to 1,200 m (any obstacles absent) Learn more
Power supply	1 battery CR123A, 3 V
Battery life	Up to 7 years
Installation method	Indoors
Protection class	IP50
Operating temperature range	From -10°C to +40°C
Operating humidity	Up to 75%

Dimensions	Ø 20 × 90 mm
Weight	29 g
Service life	10 years
Certification	Security Grade 2, Environmental Class II in conformity with the requirements of EN 50131- 1, EN 50131-2-6, EN 50131-5-3

Compliance with standards

Complete Set

1. DoorProtect
2. Smart Bracket mounting panel
3. Battery CR123A (pre-installed)
4. Big magnet
5. Small magnet
6. Outside-mounted terminal clamp
7. Installation kit
8. 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!

The full text of the warranty.

User Agreement

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

Documents / Resources

	AJAX DoorProtect Wireless Door and Window Opening Detector [pdf] User Manual DoorProtect, Wireless Door and Window Opening Detector, Door and Window Opening Detect or, Window Opening Detector, Opening Detector, DoorProtect, Detector
	AJAX DoorProtect Wireless Door and Window Opening Detector [pdf] User Manual DoorProtect, Wireless Door and Window Opening Detector, DoorProtect Wireless Door and Wi ndow Opening Detector, Door and Window Opening Detector, Window Opening Detector, Open ing Detector, Detector

References

- End user agreement - Ajax Systems
- Jeweller radio technology | Ajax Systems
- DoorProtect — Wireless magnetic opening detector | Ajax Systems
- Security system control panels | Ajax Systems
- ocBridge Plus — Module for Ajax devices integration with wired systems
- Signal range extenders in the security system | Ajax Systems
- Alarm sirens for Ajax security systems
- uartBridge — Module for Ajax devices integration with third-party wireless alarms systems
- Jeweller and Wings radio protocols in the Ajax security system
- Software | Ajax Systems
- Ajax devices standards compliance list
- Warranty - Ajax Systems
- How battery charge is displayed in Ajax apps | Ajax Systems Support
- What is Devices Auto Deactivation and how it works | Ajax Systems Support
- How to find out the device firmware version | Ajax Systems Support
- How to set up the Always active operation mode | Ajax Systems Support
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- How to temporarily deactivate a device without removing it from the system | Ajax Systems Support
- How to change the batteries in the DoorProtect | Ajax Systems Support
- Jeweller radio protocol: technology and capabilities | Ajax Systems Support
- What is Attenuation Test | Ajax Systems Support
- What is Delay When Entering/Leaving | Ajax Systems Support
- What is Detection Zone Test | Ajax Systems Support
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- What is Chime, and how does this function work | Ajax Systems Support
- What is Jeweller Signal Strength Test | Ajax Systems Support