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AJAX DoorProtect Plus Wireless Opening, Shock and Tilt Detector User Manual

DoorProtect Plus User Manual
Updated January 13, 2021

DoorProtect Plus is a wireless opening, shock, and tilt detector, that operates within the Ajax security system, connecting via the protected **Jeweler** radio protocol. Is used inside premises. The communication range is up to 1,200 m line of sight. DoorProtect Plus can operate for up to 5 years from a pre-installed battery and is capable to detect more than one million openings.
The user can cone the detector via the **Ajax app** for iOS, macOS, Windows, or Android. The app notices through push noti SMS, and calls (if activated).

⚠️ DoorProtect Plus does not support connecting via the **AjaxuartBridge** or **Ajax ocBridge** Plus integration modules.
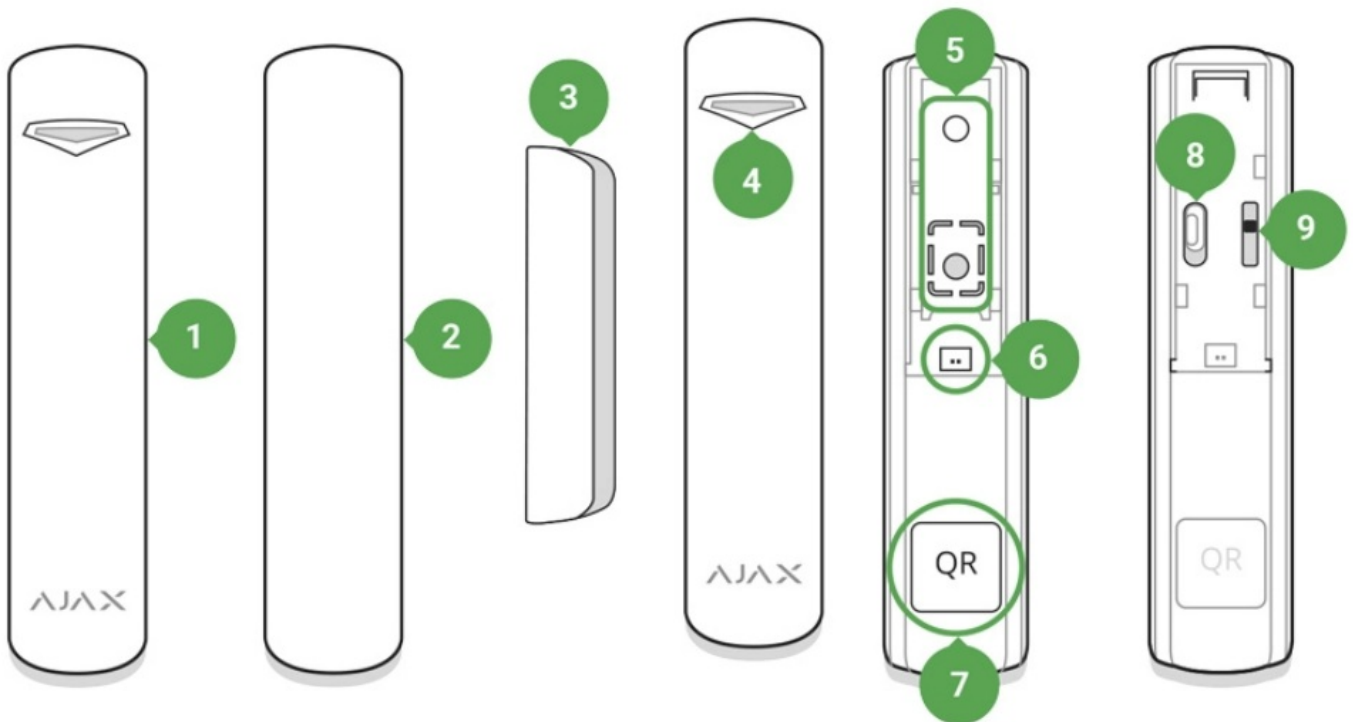
The Ajax security system can be connected to a central monitoring station of a security company.

Buy opening detector with shock and tilt sensor DoorProtect Plus

Functional Elements

1. DoorProtect Plus

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. SmartBracket attachment panel (perforated part triggers the tamper button in case of any attempt to tear off the detector from the surface)

6. External detector connection socket

7. QR code

8. Device switch

9. Tamper button

Operating Principle

DoorProtect Plus consists of two parts: the detector and the constant magnet.

The detector is equipped with the sealed contact reed relay, built-in accelerometer, and socket for a third-party wired detector.

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 suit, which means that the detector is closed. The opening of the door pushes out the magnet from the sealed contact reed relay and opens the circuit. In such a way, the detector recognizes the opening.

The DoorProtect Plus set includes two constant magnets. The small one works at a distance of 1 cm, and the big one — up to 2 cm.

The detector can be positioned horizontally. If there is no need to detect an opening, use only the detector part (without magnets) and disable the primary detector in the settings.

The accelerometer detects shocks and vertical deviation relative to the initial position of more than 5°. DoorProtect Plus can be installed on windows, including dormer windows, and the system can be armed when they are slightly open (disable the primary detector in the settings previously).
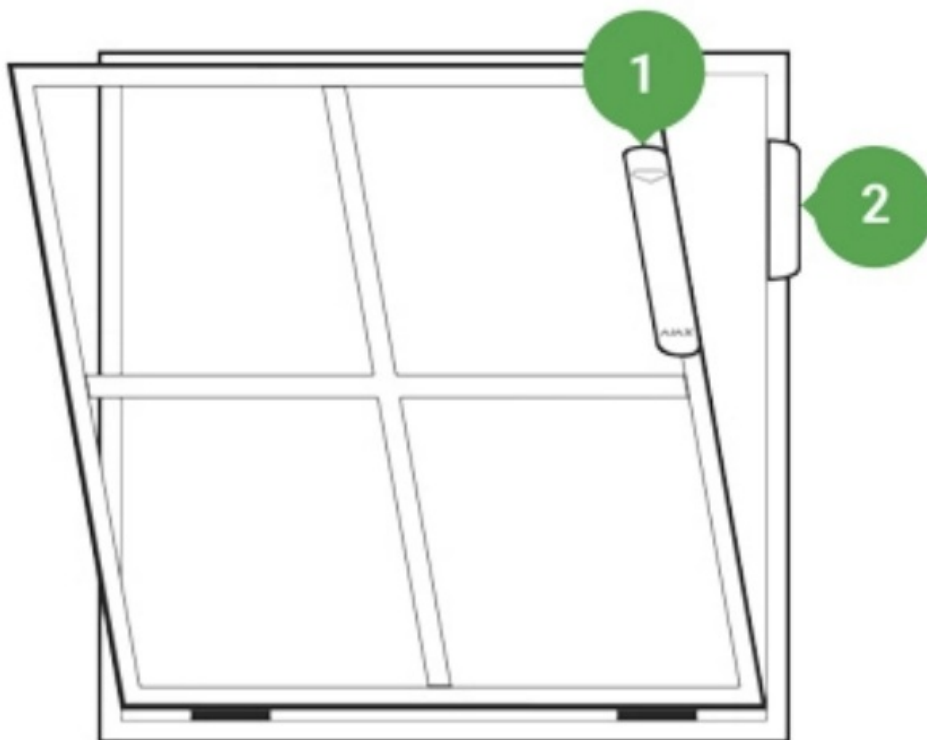
⚠️ Attach the magnet to the **RIGHT** of the detector.

If triggered, DoorProtect Plus immediately transmits the alarm signal to the hub, activating the sirens and notifying the user and security company.
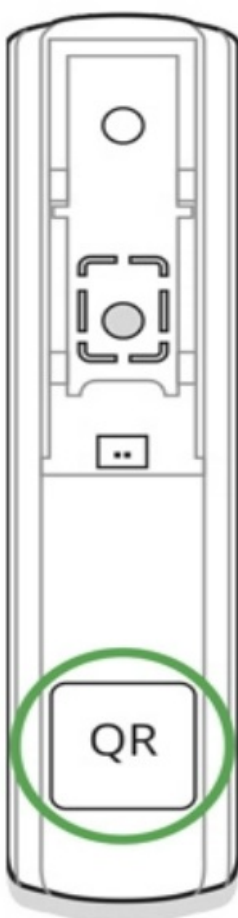
Connecting

Before starting connection

1. Following the hub user guide, install the **Ajax app**. Create the account, add the hub, 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 Ajax app.

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

How to connect the detector to the hub

1. Select **Add Device** in the Ajax app.
2. Name the device, scan or type the **QR code** (located on the detector body and packaging), and select the location room.

3. Tap **Add** — the countdown will start.
4. Switch on the device.
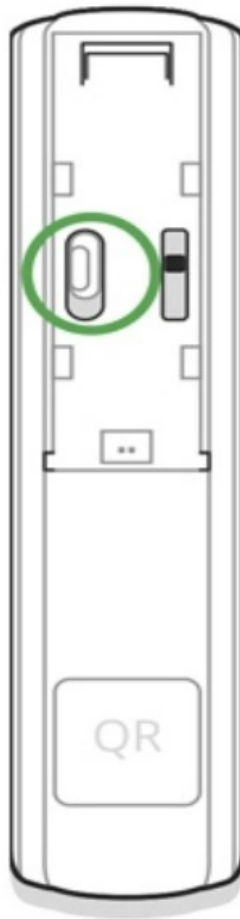
For detection and pairing to occur, the detector should be located within the coverage area of the wireless network of the hub (at a single protected object). The connection request is transmitted for a short time: at the moment of switching on the device.

If the device failed to pair (LED blinks once per second), switch it off for 5 seconds and retry. The detector connected to the hub appears in the list of devices in the app. The update of the detector statuses in the list depends on the device ping interval set in the hub settings (the default value is 36 seconds).

States

1. Devices
2. DoorProtect Plus

Parameter	Value
Temperature	The temperature of the detector. The temperature is measured on the processor and changes gradually
Jeweller Signal Strength	The signal strength between the hub and the detector
Battery Charge	Battery level of the device. Displayed as a percentage

Lid	
Delay When Entering, sec	

Delay When Leaving, sec

ReX

Connection

Primary Detector

External Contact

Always Active

Shock Sensor

Tilt Sensor

Temporary Deactivation

Firmware	
Device ID	

Settings

1. Devices
2. DoorProtect Plus
3. Settings

Setting	Value
First	Detector name can be edited
Room	Selecting the virtual room to which the device is assigned

Delay When Entering, sec	Selecting delay time when entering. Delay when entering (alarm activation delay) is the time you have to disarm the security system after entering the room What is a delay when entering
Delay When Leaving, sec	Selecting the 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 a delay when leaving
Delays in Night Mode	Delay turned on when using Night mode What is night mode
Arm in Night Mode	If activated, the detector switches to the armed state while Night mode is active. Kept in mind that in, all active Night mode sensors of the detector become armed. It is not possible to arm only certain sensors of the detector in Night mode (for example, only a tilt sensor)
Alarm LED indication	Allows you to disable the indicator during an alarm. Available for devices with version 5.55.0.0 or higher How to e-version or the ID of the detector or device?
Primary Detector	If the setting is active, the DoorProtect Plus primary detector reacts to opening/closing
External Contact	If a setting is active, the detector registers external detector alarms
Shock Sensor	If active, the shock-sensor will detect alarm after more than one impact
Sensitivity	Sensitivity level of the shock sensor

Ignore Simple Impact	If active, the detector ignores a single hit
Tilt Sensor	If active, the sensor will detect tilt
Tilt	Selecting the normal angle of the sensor. Above this limit, the sensor detects an alarm
Tilt Alarm Delay	The number of seconds from the moment the sensor is tilted to the alarm
Always Active	When turned on, the detector is always armed
External Contact Enabled	Selecting the type of external wired detector
Time before the alarm, sec (available for roller shutter motion detector only)	The time in seconds during which a given number of impulses should be counted. This time is counted after the detector.
Impulses before alarm (available for roller shutter motion detector only)	Number of detector impulses required to raise an alarm
Alert with a siren if opening detected	If active, added to the system are sirens activated when opening detected
Alert with a siren if an external contact is opened	If active, added to the system are sirens activated during an external detector alarm
Alert with a siren if shock detected	If active, added to the system are sirens activated during a shock alarm
Alert with a siren if tilt detected	If active, added to the system are sirens activated during a tilt alarm
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 e version 3.50 and later)
Temporary 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 participates in automation scenarios and the system will ignore device alarms and other noti • Lid only — the system will ignore only the noti device tamper button Learn more about temporary deactivation of devices The system can also automatically activate devices when the set number of alarms is exceeded or when the recovery timer expires. 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

Event	Indication	Note
Switching on the detector	Lights up green for about one second	
Detector connection to the **hub**	Lights up continuously for a few seconds	
Alarm / tamper activation	Lights up green for about one second	Alarm is sent once in 5 seconds
Battery needs replacing	During the alarm, it slowly lights up green and slowly goes out	Replacement of the detector battery is described in the **Battery Replacement** manual

Performance 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 **"Jeweller"** settings in hub settings).
Jeweller Signal Strength Test
Detection Area Test
Attenuation Test

Installing the Detector
The location of DoorProtect Plus depends on its remoteness from the hub, and obstacles hindering the radio signal transmission: walls, ge objects inside the room.

⚠️ The device developed only for indoor use.

⚠️ Check the Jeweller signal level at the installation location
If the signal level is low (one bar), we cannot guarantee the stable operation of the detector. Take all possible measures to improve the quality of the signal. At least, move the detector: even a 20 cm shift can signiove the quality of signal reception.
If the detector has low or unstable signal strength even after moving, use a. **ReX radio signal range extender**

Do not install the detector:

1. outside the premises (outdoors);

2. nearby any metal objects or mirrors causing attenuation or screening of the signal;

3. at any places with fast air circulation (air fans, open windows or doors);

4. inside premises with the temperature and humidity beyond the range of permissible limits;

5. closer than 1 m to the hub.

Attach the magnet 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. The detector is located either inside or outside the doorcase (window frame).
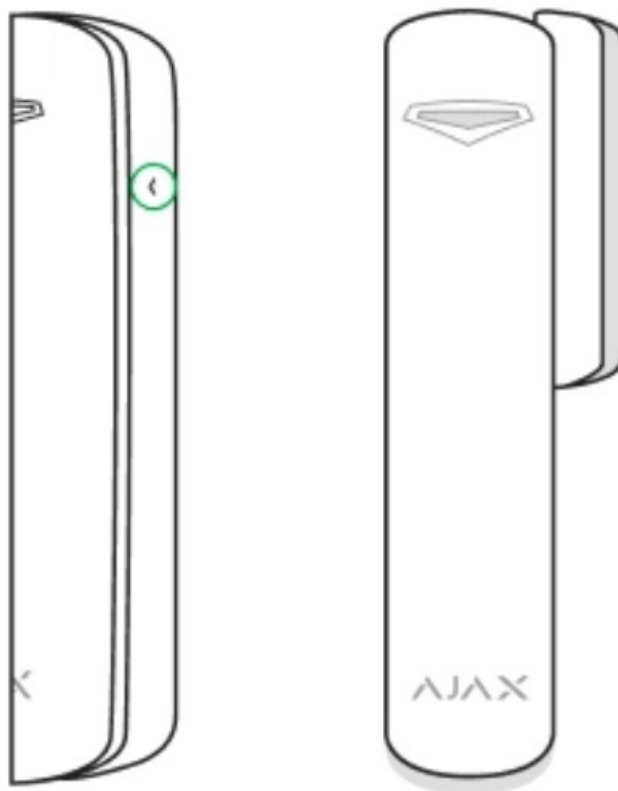
When installing the detector in the perpendicular planes (inside the case/frame), use the small magnet from the set. The distance between the magnet and detector should not exceed 1 cm.

When positioning the parts of DoorProtect Plus in the same plane, use the big magnet. Its actuation threshold is 2 cm.

Detector Testing

Having door and magnet with the double-sided adhesive tape and check its operation of using the Detection Zone test.

In the test mode, the DoorProtect Plus LED lights continuously, switching off for a second, if the detector is triggered. Check the correct operation of the device by opening/closing the door several times.

Connecting a Third-Party Wired Detector

A wired detector with an NC (normally closed) contact type can be connected to DoorProtect Plus using the in-built terminal clamp.

We recommend installing the wired detector at a distance no longer than 1 meter to DoorProtect Plus. Longer wire length increases the risk of its damage and reduces the quality of communication between the detectors.
To put out the wire from the detector body, break out the plug:

If the connected wired detector is triggered, you receive the notice

To make sure the alarm is raised when the roller shutter is opened, connect the wired roller shutter motion detector with the NC (normally closed) contact to DoorProtect Plus. The function is available for devices with eversion 5.53.1.0 and higher.

How to e-version or the ID of the sensor or device?

How to connect the roller shutter motion detector to DoorProtect Plus

Installation

Before installing the detector, make sure that you have selected the optimal location that follows the guidelines of this manual!

1. Fix the SmartBracket attachment panel using bundled screws. If you use any other attachment tools, make sure that they do not damage or deform the attachment panel.

   ⚠ Use double-side adhesive tape only for temporary attachment of the detector. The tape runs dry with time, which can cause falling, false triggering, and detector malfunction.

2. Put the detector on the attachment panel. When the detector is ed in SmartBracket, it blinks with LED, signaling that the tamper is closed. If LED doesn't blink after bracket, check the status of the tamper in the Ajax app and then the fixing tightness of the panel.

   ⓘ If someone detaches the detector from the surface or takes it off the attachment panel, the security system notion.

3. Put the magnet on the attachment panel.

Maintenance

Check the operational capability of the detector regularly. Clean the detector body from dust, spider web, and other contaminants as they appear. Use a soft dry napkin suitable for tech equipment.

Do not use any substances containing alcohol, acetone, gasoline, and other active solvents to clean the detector.

The battery life depends on its quality, detector triggering frequency, and ping interval by the hub.

If the door opens 10 times a day and the detector ping interval is 60 seconds, then DoorProtect Plus operates 7 years from the pre-installed battery. For instance, a 12-seconds ping interval reduces the battery life to 2 years.

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

If the detector battery is low, the system noti, and the LED indicator smoothly lights up and goes off if a glass break is detected or the tamper is triggered.

Battery Replacement

Tech specs

Detector actuation threshold	1 cm (small magnet) 2 cm (big magnet)
Tilt sensor activation threshold	5° or more (customizable)
Shock sensitivity	3 levels
Ignore first shock option	Yes
Tamper protection	Yes
Frequency band	868.0 – 868.6 MHz or 868.7 – 869.2 MHz depending on the region of sale
Compatibility	**Operates only with all Ajax hubs, and range extenders**
Maximum RF output power	Up to 20 mW
Modulation of the radio signal	GFSK
Radio signal range	Up to 1,200 m (any obstacles absent)
Socket for connecting wire detectors	Yes, NC
Power supply	1 battery CR123A, 3 V
Battery life	Up to 5 years
Installation method	Indoors

Protection class	
Operating temperature range	
Operating humidity	
Dimensions	
Weight	
Certification	

Complete Set

1. DoorProtect Plus
2. SmartBracket 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 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 Plus Wireless Opening, Shock and Tilt Detector [pdf] User Manual DoorProtect Plus, Wireless Opening Shock and Tilt Detector, DoorProtect Plus Wireless Opening Shock and Tilt Detector
	AJAX DoorProtect Plus Wireless Opening Shock and Tilt Detector [pdf] User Manual DoorProtect Plus, Wireless Opening Shock and Tilt Detector, DoorProtect Plus Wireless Opening Shock and Tilt Detector
	AJAX DoorProtect Plus Wireless Opening Shock and Tilt Detector [pdf] User Manual DoorProtect Plus, Wireless Opening Shock and Tilt Detector, DoorProtect Plus Wireless Opening Shock and Tilt Detector, Shock and Tilt Detector, Tilt Detector
	AJAX DoorProtect Plus Wireless Opening Shock and Tilt Detector [pdf] User Manual DoorProtect Plus, Wireless Opening Shock and Tilt Detector, Wireless Opening Shock, Opening Shock, Tilt Detector, DoorProtect Plus, Detector
	AJAX DoorProtect Plus Wireless Opening Shock and Tilt Detector [pdf] User Manual DoorProtect Plus, Wireless Opening Shock and Tilt Detector, DoorProtect Plus Wireless Opening Shock and Tilt Detector, Opening Shock and Tilt Detector, Tilt Detector, Detector

References

- ᔊ **End user agreement - Ajax Systems**
- ᔊ **Jeweller radio technology | Ajax Systems**
- ᔊ **Current product lines of the Ajax security system**
- ᔊ **Current product lines of the Ajax security system**
- ᔊ **Current product lines of the Ajax security system**
- ᔊ **DoorProtect Plus — Opening detector with shock and tilt sensor**
- ᔊ **Security system control panels | Ajax Systems**
- ᔊ **ocBridge Plus — Module for Ajax devices integration with wired systems**
- ᔊ **Signal range extenders in the security system | Ajax Systems**
- ᔊ **ReX — Intelligent radio signal range extender | Ajax Systems**
- ᔊ **Alarm sirens for Ajax security systems**
- ᔊ **uartBridge — Module for Ajax devices integration with third-party wireless alarms systems**
- ᔊ **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](#)**
- ▧ **[How long Ajax devices operate on batteries, and what affects this | Ajax Systems Support](#)**
- ▧ **[How to temporarily deactivate a device without removing it from the system | Ajax Systems Support](#)**
- ▧ **[How to change the batteries in the DoorProtect Plus | Ajax Systems Support](#)**
- ▧ **[Jeweller radio protocol: technology and capabilities | Ajax Systems Support](#)**
- ▧ **[How to connect the roller shutter motion detector to DoorProtect Plus | 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](#)**
- ▧ **[What is Night Mode and how does it work? | Ajax Systems Support](#)**
- ▧ **[What is Chime, and how does this function work | Ajax Systems Support](#)**
- ▧ **[What is Chime, and how does this function work | Ajax Systems Support](#)**
- ▧ **[What is Jeweller Signal Strength Test | Ajax Systems Support](#)**