# AJAX DoorProtect Plus Wireless Opening Detector User Manual



**AJAX DoorProtect Plus Wireless Opening Detector**

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## Introduction

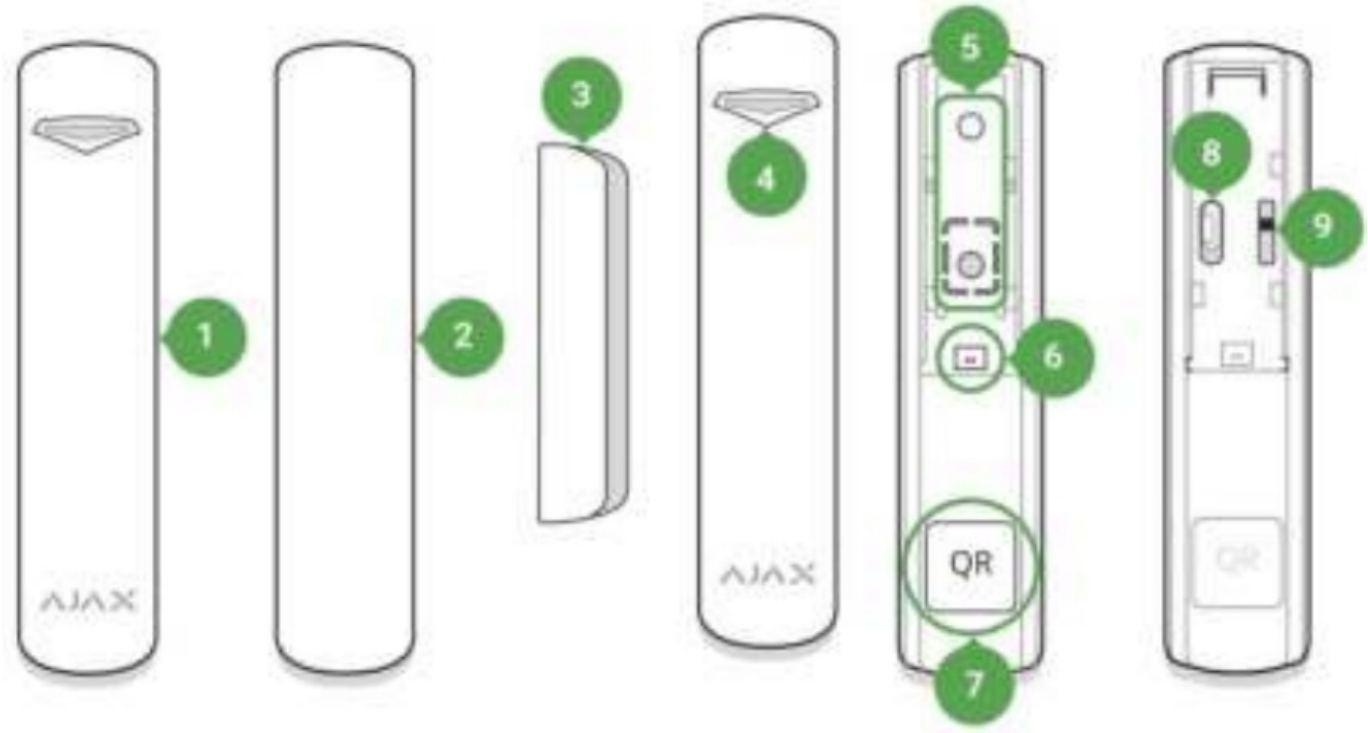
Door Protect Plus is a wireless security device which detects opening, shocks, and tilting. It has a socket for connecting an external detector.
Door Protect Plus is connected to the Ajax security system via the protected Jeweller protocol, with an effective communication range of up to 1,200 meters without obstacles. Can operate up to 5 years from a preinstalled battery and is furnished with a sealed contact reed relay
processing more than one million openings. It has a socket for connecting an external detector

Sealed contact reed relay is a device which forms a continuous circuit under the effect of a constant magnet. It consists of ferromagnetic contacts placed in a bulb.
The detector is set up via a mobile application for iOS and Android-based smartphones. The user is notified of all events through push notifications, SMS messages and calls (if activated).

Not compatible with the uartBridge or ocBridge Plus
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 with shock and tilt sensor Door Protect Plus

#### Functional Elements



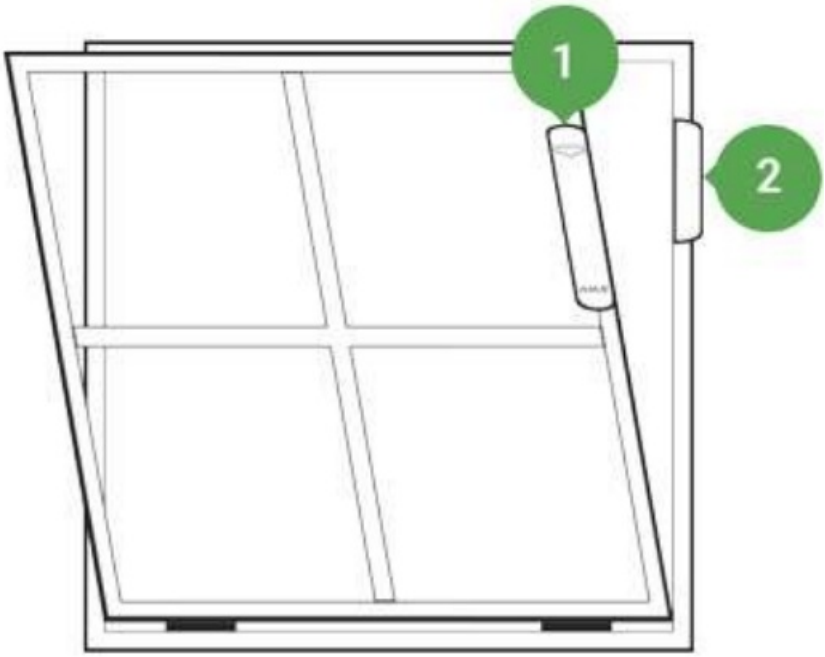

1. Door Protect Plus
2. Big magnet
3. Small magnet
4. Light indicator
5. Smart Bracket attachment panel (perforated part is required for actuating the tamper in case of any attempt to tear off the detector from the surface)
6. External detector connection socket
7. QR code
8. Device switch
9. Tamper button

### Door Protect Plus Operating Principle

Door Protect Plus consists of the detector with a sealed contact reed relay, and a constant magnet. The detector is equipped with two magnets – small and big, with the magnet operation ranges of 1 and 2 cm accordingly. The detector is attached to a moving wing or sliding part and the magnet – to a frame. If the sealed contact reed relay is within the coverage area of the magnetic field, it closes the circuit – the detector is closed. The opening of the wing distances the magnet from the sealed contact reed relay, resulting in the circuit opening, and the detector records opening.

The detector may be positioned horizontally. If there is no need to detect opening with the sealed contact reed relay, please use only an electronics unit (without magnets) and disable the magnetic sensor in the settings.

Tilt detector detects the vertical deviation of the device relative to the initial position of more than 5°. Door Protect Plus can be installed on windows including dormer windows, and the system can be armed, when they are in the airing mode (you should previously disable the magnetic sensor in the settings).




After actuation, the Door Protect Plus detector set in the intrusion detection mode immediately transmits an alarm signal to the Ajax hub, activating the sirens connected to the hub and notifying the user and private security company.

## Detector Connection to hub

#### Before starting connection

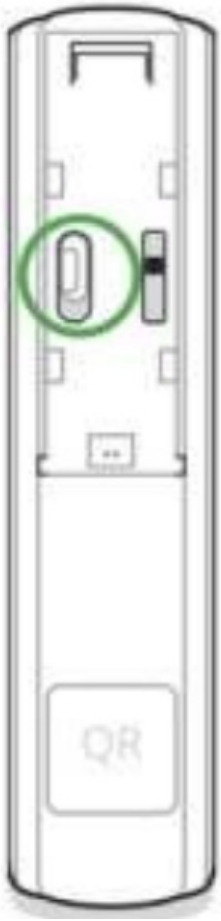
1. Following the hub instruction recommendations, install the Ajax application on your smartphone. Create an account, add the hub to the application, and create at least one room.
2. Go to the Ajax application.
3. Switch on the hub and check the internet connection (via Ethernet cable and/or GSM network).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

Only users with administrative privileges can add the device to the hub

#### How to connect the detector to the hub

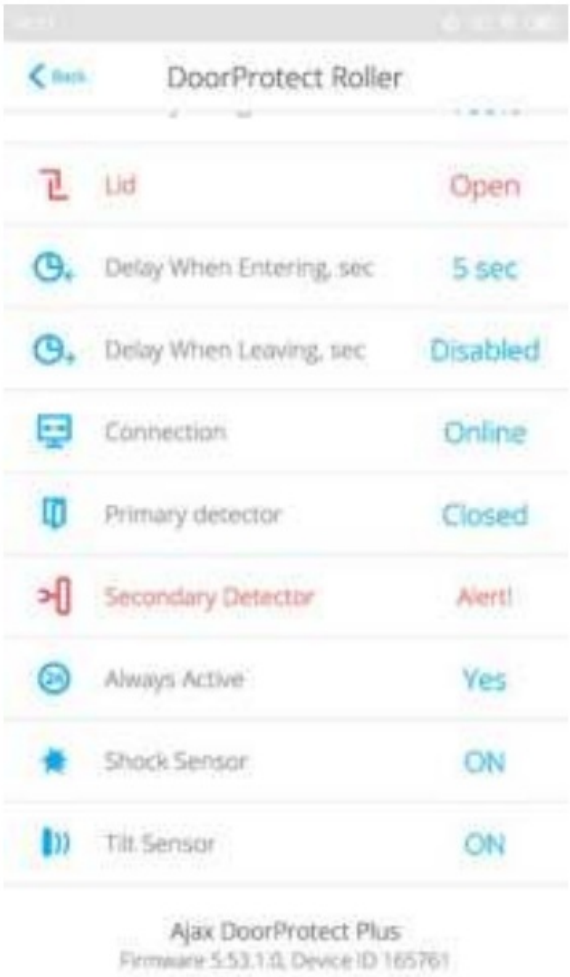
1. Select the Add Device option in the Ajax application.
2. Name the device, scan/write manually the QR Code (located on the body and packaging), and select the location room.

3. Select Add — the countdown will begin.
4. Switch on the device.




**States**

1. Devices
2. Door Protect Plus


Back
DoorProtect Roller
Lid
Open
Delay When Entering, sec
5 sec
Delay When Leaving, sec
Disabled
Connection
Online
Primary detector
Closed
Secondary Detector
Alert!
Always Active
Yes
Shock Sensor
ON
Tilt Sensor
ON
Ajax DoorProtect Plus
Firmware 5.53.1.0, Device ID 165761

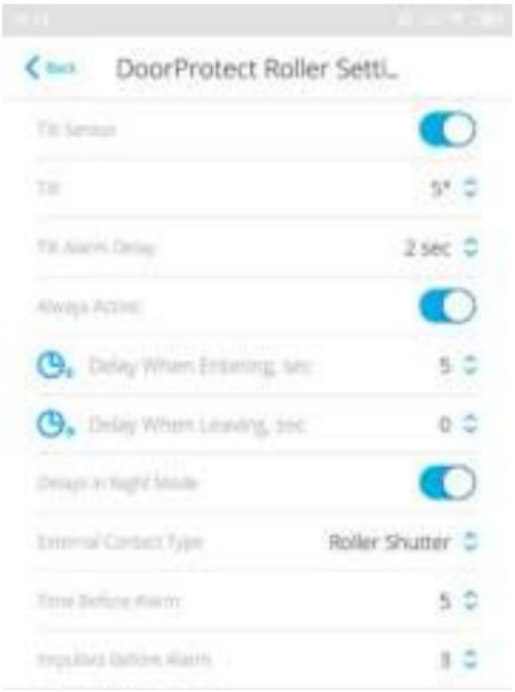
| Parameter | Value |
|---|---|
| Temperature | Temperature of the Detector. This is measured on the processor and changes gradually |
| Signal Strength | Signal strength between the hub and the detector |
| Battery Charge | Battery level of the detector, displayed in increments of 25% |
| Lid | The tamper mode of the detector, which reacts to the detachment of or damage to the body |
| Delay when entering, sec | Delay time when entering |
| Delay when leaving, sec | Delay time when exiting |
| Connection | Connection status between the hub and the detector |
| Primary Detector | Primary detector status |
| Secondary detector | Status of the external detector connected to Door Protect Plus |
| Always active | If active, the detector is always in the armed mode |
| Shock sensor | If active, Door Protect Plus will detect the shock |
| Tilt sensor | If active, Door Protect Plus will detect tilt angle changing |
| Firmware | Detector firmware version |
| Device ID | Device identifier |

### Setting Up the Detector

1. Devices
2. Door Protect Plus

3. Settings

DoorProtect Roller Setti..
DoorProtect Roller
Warehouse
Low
5°
2 sec
5


DoorProtect Roller Setti..
5°
2 sec
5
0
Roller Shutter
5

| **Setting** | **Value** |
|---|---|
| First field | Detector name, can be edited |
| Room | Selecting the virtual room to which the device is assigned |
| Arm in night mode | If active, the detector will switch to armed mode when using night mode |

| | |
|---|---|
| Primary Detector | If active, the Door Protect Plus primary detector reacts to opening/closing |
| External contact enabled | If active, the detector registers external detector alarms |
| Shock sensor | If active, shock-sensor will detect alarm after more than one impact |
| Sensitivity | Sensitivity level of the shock sensor |
| Ignore simple impact | If active, single impact will be ignored |
| Tilt sensor | If active, sensor will detect tilt |
| Tilt | Selecting the normal angle of the sensor. Above this limit, the sensor det ects an alarm |
| Tilt alarm delay | Selecting the tilt alarm delay |
| Always active | If active, the detector always registers opening/closing |
| Delay when entering, sec | Selecting delay time when entering |
| Delay when leaving, sec | Selecting delay time on exit |
| Delays in night mode | Delay turned on when using night mode |

| | |
|---|---|
| External Contact Type | Selecting the type of external wire detector |
| Time before 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 first impulse of 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, Home Siren and Street Siren are activated when opening detected |
| Alert with a siren if an external contact is open | If active, Home Siren and Street Siren are activated during an external detector alarm |
| Alert with a siren if shock detected | If active, Home Siren and Street Siren are activated during a shock alarm |
| Alert with a siren if tilt detected | If active, Home Siren and Street Siren are activated during a tilt alarm |
| Signal Strength Test | Switches the detector to the signal strength test mode |
| Detection Zone Test | Switches the detector to the detection area test |
| Attenuation test | Switches the detector to the signal fade test mode (available in detectors with firmware version 3.50 and later) |
| User Guide | Opens the detector User Guide |

| | |
|---|---|
| Unpair Device | Disconnects the detector from the hub and deletes its settings |

### Indication

| Event | Indication | Note |
|---|---|---|
| Turning on the detector | Lights up green for about one second | |
| Detector connection to the hub, Oxbridge and partridge | 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** paragraph |

### Performance testing

The Ajax security system allows conducting tests for checking the functionality of connected devices.

The tests do not start straight away but within a period of 36 seconds when using the standard settings. The test time start depends on the settings of the detector scanning period (the paragraph on “Jeweler” settings in hub settings).

Signal Strength Test

Detection Area Test

Attenuation Test

### Selection of the Detector Location

Location of the Door Protect Plus detector determines its remoteness from the hub and presence of any obstacles between the devices hindering the radio signal transmission: walls, interfloor bridgings, large-size objects located within the room.

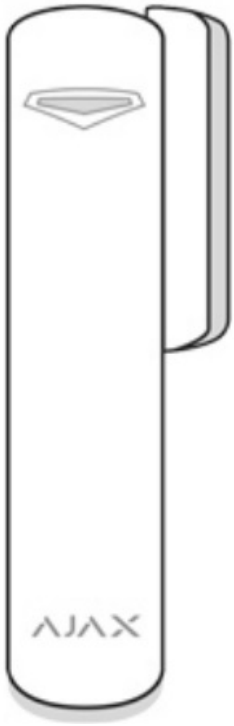
Check the signal strength at the installation site
If the signal strength reaches just one bar on the indicator, the stable operation of the security system can not be guaranteed. Take whatever action is necessary to improve the quality of the signal! At the very least, move the device — relocation even by 20 cm can significantly improve the reception quality.

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

**Do not install the detector:**

1. outside the room (outdoors);
2. nearby any metal objects or mirrors causing attenuation and screening of the signal;
3. within any premises with the temperature and humidity beyond the range of permissible limits;
4. closer than 1 m from the hub.

The magnet is attached to the right of the detector. The detector is located either inside or outside the door case (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 Door Protect Plus in the same plane, use the big magnet. Its actuation threshold – 2 cm.

## Detector Testing

Having defined the location, fix the detector and magnet with a double-sided adhesive tape and check the operation of the device using the detection zone test.

While in the test mode, the Door Protect light indicator lights continuously, however switching off for a second, if the detector is actuated. Check correct operation of the device by opening/closing the wing several times.

## Connection of external detector

An external wired detector with an NC type contact may be connected to the DoorProtect Plus using an outside-mounted terminal clamp.

We recommend to install the wire 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 the respective notice.

To make sure an alarm is raised when the roller shutter is opened, connect a wired roller shutter motion detector with an NC (normally closed) contact to Door Protect Plus.

How to connect the roller shutter motion detector to DoorProtect Plus

## Installation of the Detector

Before installing the detector, make sure that you have selected the optimal location and it is in compliance with the guidelines contained in this manual!

1. Fix the Smart Bracket attachment panels of the detector and magnet using bundled screws. If using any other attachment hardware, make sure that they do not damage or deform the panel.
   The double-sided adhesive tape may be only used for temporary attachment of the detector and magnet. The tape will run dry in course of time, which may result in falling of Door Protect Plus 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 Smart Bracket, it will blink with a LED – this will be a signal that the tamper on the detector is closed. If the light indicator of the detector is not actuated after installation in Smart Bracket, check the status of the tamper in the Ajax Security System application and then the fixing tightness of the panel.
   If the detector is torn off from the surface or removed from the attachment panel, you will receive the notification.
3. Put the magnet on the attachment panel.

## Detector Maintenance and Battery Replacement

Check the operational capability of the Door Protect Plus detector on a regular basis.

Clean the detector body from dust, spider web and other contaminations as they appear. Use soft dry napkin suitable for equipment maintenance.

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

The service life of the detector from the battery depends on battery quality, the actuation frequency of the detector and inquiry interval of the detectors by the hub.

If the door opens 10 times a day and the detector inquiry interval is set at 60 seconds, then Door Protect will operate 5 years from the pre-installed battery. You will reduce the service life of the device to 2 years by setting the inquiry interval at 12 seconds.

If the detector battery is discharged, the user will receive a notice, and the
LED will smoothly light up and go down if the detector or tamper is actuated.

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 Hub, Hub Plus, Hub 2 and ReX |
| 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 |
| Operating temperature range | From -10°C to +40°C |

| | |
|---|---|
| Operating humidity | Up to 75% |
| Dimensions | Ø 20 x 90 mm |
| Weight | 29 g |
| Certification | Security Grade 2, Environmental Class I in conformity with the requirements of EN 50131 and CLC/TS 50131 |

## Complete Set

1. Door Protect Plus
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!

## Customer Support

**The full text of the warranty**
**User Agreement**
**Technical support: support@ajax.systems**

## Documents / Resources

| | |
|---|---|
| | **AJAX DoorProtect Plus Wireless Opening Detector** [pdf] User Manual<br>DoorProtect Plus Wireless Opening Detector, DoorProtect Plus, Wireless Opening Detector, Opening Detector, Detector |

Manuals+,