CombiProtect User Manual

Updated October 17, 2019

CombiProtect is a device combining a wireless motion detector with the viewing angle of 88.5° and distance up to 12 meters, as well as a glass break detector with the distance up to 9 meters. It can ignore animals and detects a person within the protected zone from the first step. It can operate for up to 5 years from a pre-installed battery and is used inside premises.

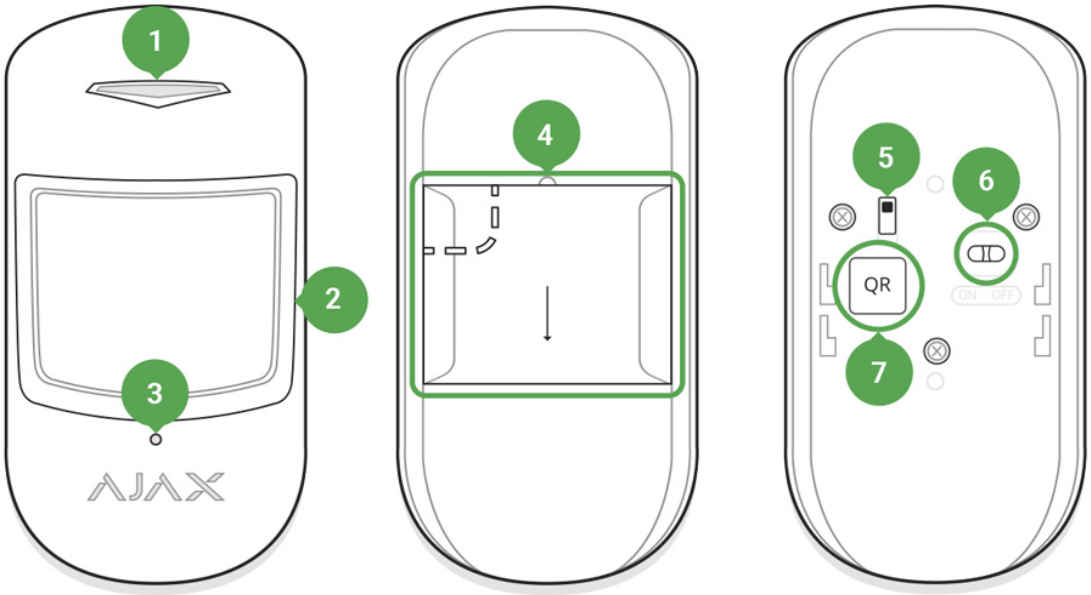
CombiProtect operates within the Ajax security system, by connecting via the protected Jeweller protocol to the hub. The communication range is up to 1,200 meters if there are no obstacles. In addition, the detector can be used as part of third-party security central units due to the uartBridge or ocBridge Plus integration module.

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).

The Ajax security system is self-sustaining, but the user can connect it to the central monitoring station of a private security company.

Buy motion and glass break detector CombiProtect

Functional Elements



1. Light indicator
2. Motion detector lens
3. Microphone hole
4. SmartBracket attachment panel (perforated part is required for actuating the tamper in case of any attempt to tear off the detector from the surface)
5. Tamper button
6. Device switch
7. QR code

CombiProtect Operating Principle

CombiProtect combines two types of security devices – motion detector and glass break detector.

Thermal PIR sensor detects intrusion into a protected room by detecting moving objects with a temperature close to the temperature of the human

body. At that, the detector can ignore domestic animals – you only need to set up the suitable sensitivity in the settings.

The electret microphone is responsible for glass break detection. The intelligent event registration system requires a sequence of sounds of a specific nature – first dull blow, then ringing sound of falling chips, which prevents accidental actuation.

CombiProtect detector will not react to breaking if a film has been applied the glass: shockproof, sunscreen, decorative or other. In order to detect the breaking of this type glass, we recommend using a DoorProtect Plus wireless opening detector with shock and tilt sensor.

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

To arm Ajax security system (including Ajax CombiProtect detector) you can use Ajax Security System app, SpaceControl key fob or KeyPad.

If before setting the system in the intrusion detection mode the detector has detected motion, it will not set in the intrusion detection mode immediately, but during the next inquiry by the hub.

Connecting the Detector to the Ajax Security System

The detector is connected to the hub and set up via the Ajax Security system mobile application. To establish connection please locate the detector and the hub within the communication range and follow the device adding procedure.

Detector Connection to hub

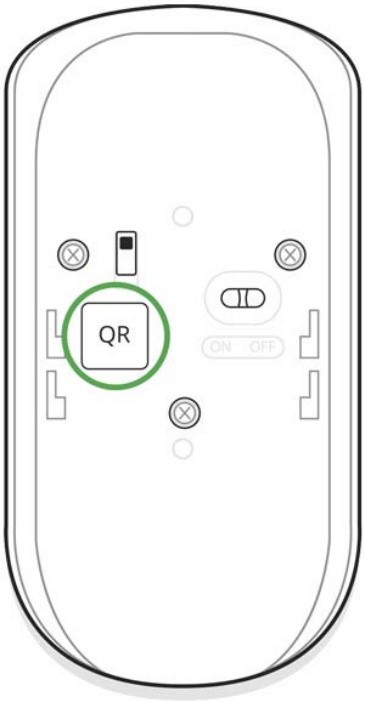
Before starting connection:

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

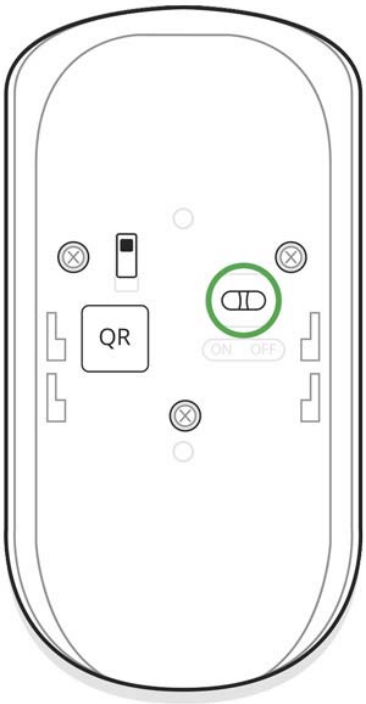
How to connect the detector to the hub:

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.



For the detection and interfacing to occur, the detector should be located within the coverage area of the wireless network of the hub (at a single protected object).

Request for connection to the hub is transmitted for a short time at the time of switching on the device.

If the connection to the Ajax hub failed, switch off the detector for 5 seconds and repeat the attempt.

The detector connected to the hub will appear in the list of devices of the hub in the application. Update of the detector statuses in the list depends on the device inquiry time set in the hub settings, with the default value – 36 seconds.

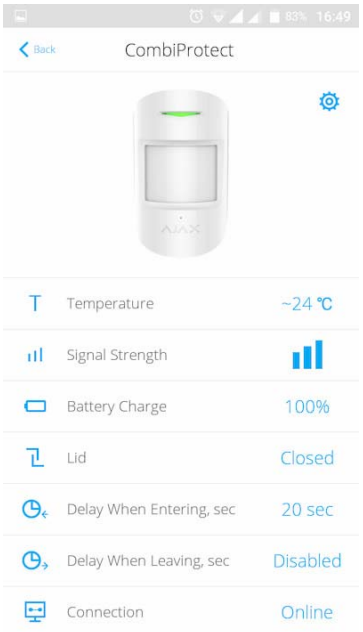
Connecting the Detector to Third Party Security Systems

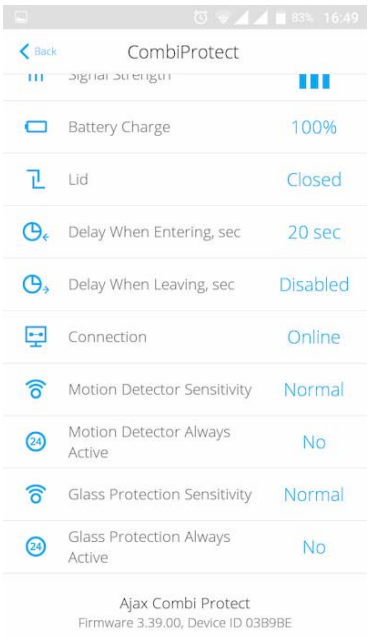
To connect the detector to a third party security central unit using the uartBridge or ocBridge Plus integration module, follow the recommendations in the manual of the respective device.

States

1. Devices

2. CombiProtect

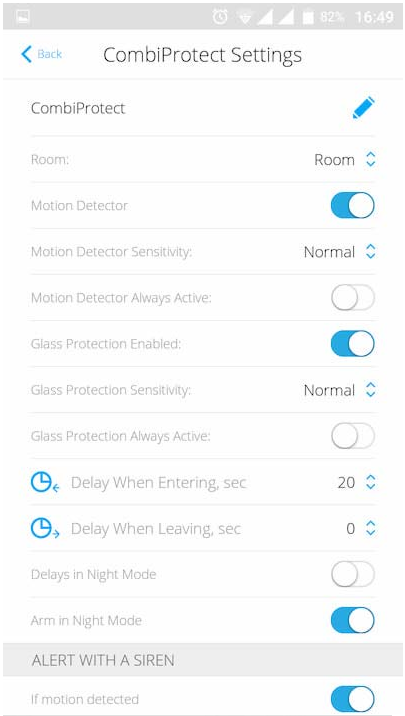


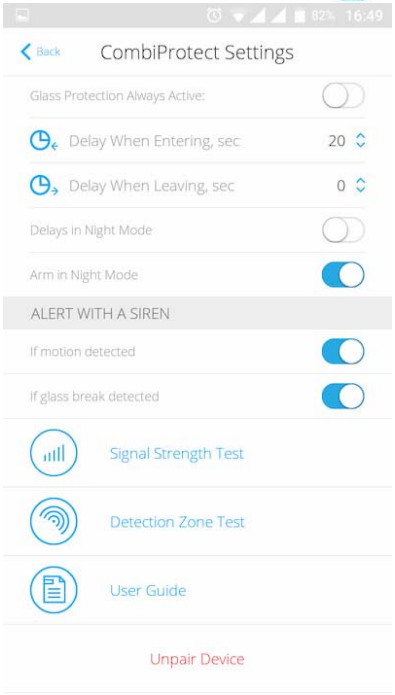


Parameter	Value
Temperature	Temperature of the Detector. Measured on the processor and changes gradually
Signal Strength	Signal strength between the hub and the detector
Battery Charge	Battery level of the detector, displayed in increments of 25%
Lid	The tamper mode of the detector, which reacts to the 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
Motion Detector Sensitivity	Sensitivity level of the motion detector
Motion Detector Always Active	When turned on, the motion detector is always in the armed mode
Glass Protection Sensitivity	Sensitivity level of the glass detector
Glass Protection Always Active	If active, the glass detector is always in the armed mode
Firmware	Detector firmware version
Device ID	Device identifier

Setting Up the Detector

1. Devices
2. CombiProtect
3. Settings


82% 16:49
Back
CombiProtect Settings
CombiProtect
Room:
Room
Motion Detector
Motion Detector Sensitivity:
Normal
Motion Detector Always Active:
Glass Protection Enabled:
Glass Protection Sensitivity:
Normal
Glass Protection Always Active:
Delay When Entering, sec
20
Delay When Leaving, sec
0
Delays in Night Mode
Arm in Night Mode
ALERT WITH A SIREN
If motion detected


82% 16:49
Back
CombiProtect Settings
Glass Protection Always Active:
Delay When Entering, sec
20
Delay When Leaving, sec
0
Delays in Night Mode
Arm in Night Mode
ALERT WITH A SIREN
If motion detected
If glass break detected
Signal Strength Test
Detection Zone Test
User Guide
Unpair Device

Setting	Value
First field	Detector name, can be edited
Room	Selecting the virtual room to which the device is assigned
Motion Detector	If active, motion detector will be active
Motion Detector Sensitivity	Choosing the sensitivity level of the motion detector: High Normal Low
Motion Detector Always active	If active, the detector always registers motion
Glass Protection Enabled	If active, glass breaking detector will be active
Glass Protection Sensitivity	Choosing the sensitivity level of the glass detector: High Normal Low
Glass Protection Always Active	If active, the detector always registers glass breaking
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
Arm in night mode	If active, the detector will switch to armed mode when using night mode
Alert with a siren if motion detected	If active, HomeSiren and StreetSiren are activated when the motion detected
Alert with a siren if glass break detected	If active, HomeSiren and StreetSiren are activated when the glass break detected
Signal Strength Test	Switches the detector to the signal strength test mode
Detection Zone Test	Switches the detector to the detection area test
Signal Fade 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, ocBridge and uartBridge	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 “Jeweller” settings in hub settings).

Signal Strength Test

Detection Zone Test

- Glass break Detection Zone Test
- Motion Detection Zone Test

Attenuation Test

Installing the detector

Selection of the installation site

The area of the controlled territory and, consequently, the efficiency of the security system depends on the location of the detector.

Location of the CombiProtect detector determines its remoteness from the hub and presence of any obstacles between the devices hindering the radio signal transmission: walls, inserted floors, large-size objects located within the room.

Check the signal level at the installation location

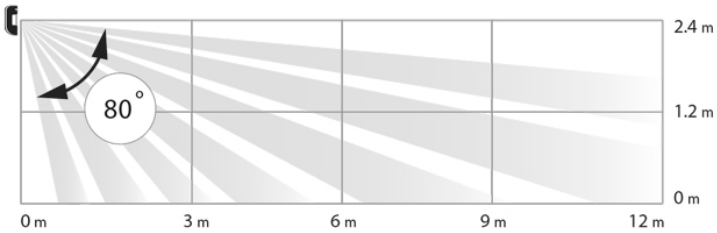
If the signal level is one division, we cannot guarantee stable operation of the security system. Take possible measures to improve the quality of the signal! As a minimum, move the device – even 20 cm shift can significantly improve the quality of reception.

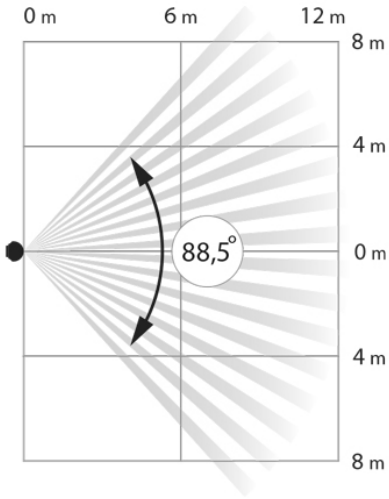
If, after moving, the device still has a low or unstable signal strength, use a radio signal range extender ReX.

It is advisable that the direction of the detector lens sight is perpendicular to the probable way of breaking into the room. The detector microphone should be positioned at the angle of no more than 90 degrees relative to the window.

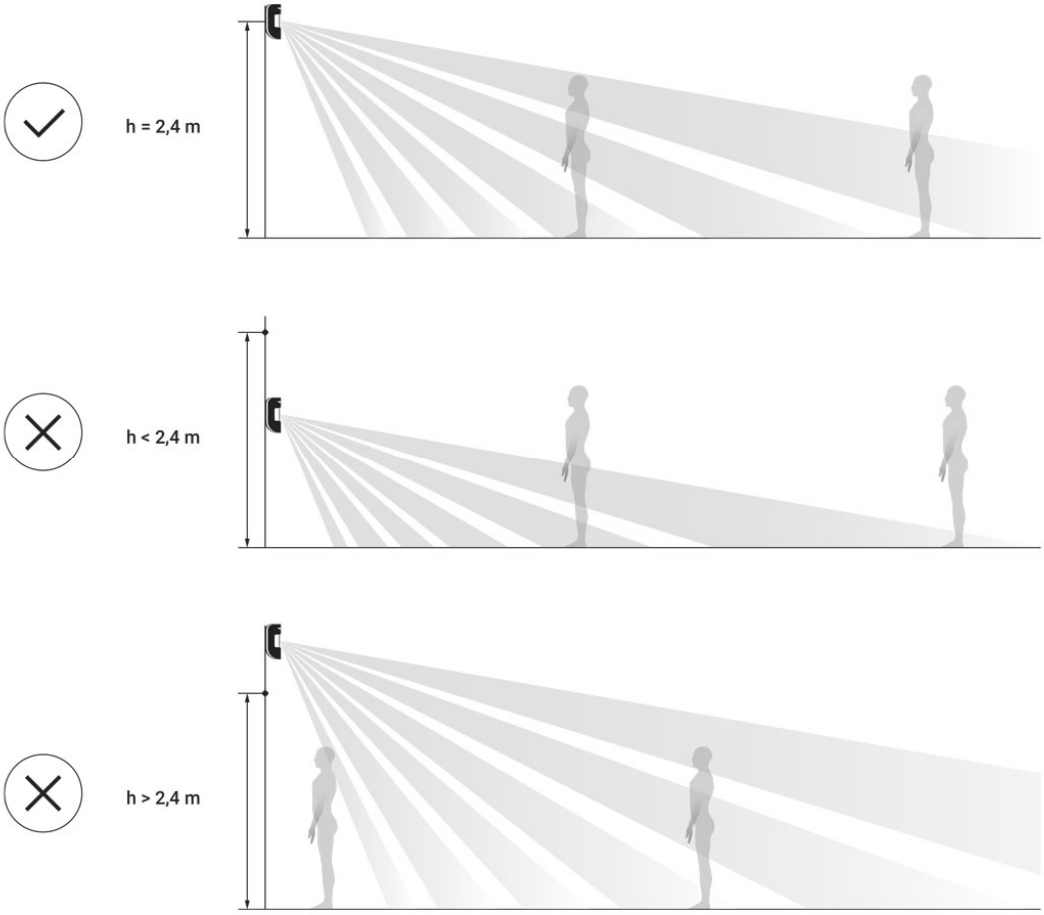
Make sure that any furniture, domestic plants, vases, decorative or glass structures do not block the field of view of the detector.

We recommend installing the detector at the height of 2.4 meters.





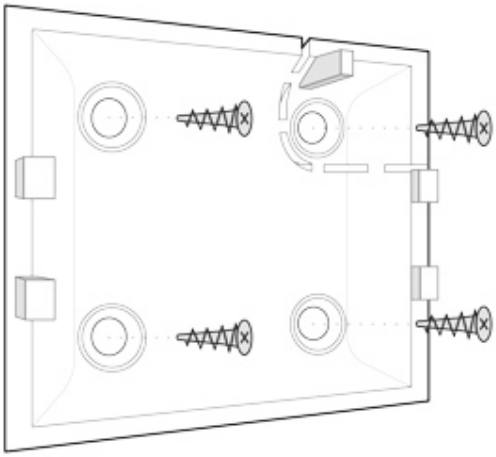
If the detector is not installed at the recommended height, this will reduce the area of the motion detection zone and impair the operation of the function of ignoring animals.

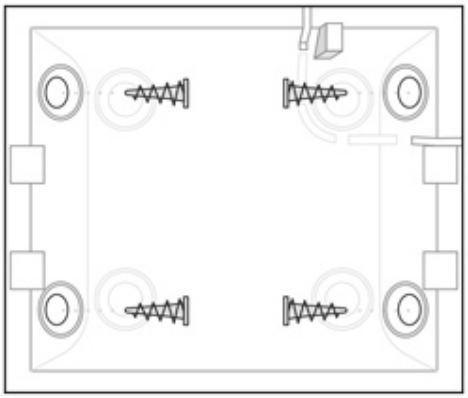


Installation of the detector

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

The CombiProtect detector should be attached to a vertical surface or in a corner.





1. Attach the SmartBracket panel to the surface using bundled screws, using at least two fixing points (one of them – above the tamper). After selecting other attachment hardware, make sure that they do not damage or deform the panel.

   The double-sided adhesive tape may only be used for temporary attachment of the detector. The tape will run dry in the course of time, which may result in the falling of the detector and actuation of the security system. Furthermore, the device may fail from a hit (as a result of an impact).

2. Put the detector on the attachment panel. As soon as the detector is fixed in SmartBracket, it will blink with an 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 SmartBracket, 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.

   Do not install the detector:

1. outside the premises (outdoors)

2. in the direction of the window, when the detector lens is exposed to direct sunlight
3. opposite any object with the rapidly changing temperature (e.g., electrical and gas heaters)
4. opposite any moving objects with the temperature close to that of the human body (oscillating curtains above the radiator)
5. opposite any reflective surfaces (mirrors)
6. at any places with fast air circulation (air fans, open windows or doors)
7. nearby any metal objects or mirrors causing attenuation and screening of the signal
8. within any premises with the temperature and humidity beyond the range of permissible limits
9. closer than 1 m from the hub.

Detector Maintenance and Battery Replacement

Check the operational capability of the CombiProtect 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. Wipe the lens very carefully and gently – any scratches on the plastic may cause reduction of the detector sensitivity.

The battery installed in the detector ensures up to 5 years of autonomous operation (with the inquiry frequency by the hub of 3 minutes). If the detector battery is discharged, the security system will send respective notices and the LED will smoothly light up and go out, if the detector detects any motion or if the tamper is actuated.

Battery Replacement

Tech Specs

Sensitive element	PIR sensor (motion) electret microphone (glass break)
Motion detection distance	Up to 12 m
Motion detector viewing angles (H/V)	88.5° / 80°
Animal ignoring option	Weight up to 20 kg, height up to 50 cm
Glass break detection distance	Up to 9 m
Microphone coverage angle	180°
Tamper protection	Yes
Frequency band	868.0 – 868.6 MHz or 868.7 – 869.2 MHz depending on the region of sale
Compatibility	Operates with Hub, Hub Plus, Hub 2, ReX, ocBridge Plus, uartBridge
Maximum RF output power	Up to 20 mW
Radio signal modulation	GFSK
Radio signal range	Up to 1,200 m (any obstacles absent)
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%
Overall dimensions	110 x 65 x 50 mm
Weight	92 g
Certification	Security Grade 2, Environmental Class I in conformity with the requirements of EN 50131

Complete Set

1. CombiProtect
2. SmartBracket mounting panel
3. Battery CR123A (pre-installed)
4. Installation kit
5. 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

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