FireProtect / FireProtect Plus User Manual

Updated March 16, 2020

FireProtect (**FireProtect Plus**) is a wireless indoor fire detector with an in-built buzzer and a battery, ensuring up to 4 years of autonomous operation. FireProtect can detect smoke and rapid temperature increase.

Aside from these functions, **FireProtect Plus** additionally can alert of dangerous CO level. Both detectors can function independently from the hub.

Connecting to the Ajax security system via a secured Jeweller radio protocol, FireProtect (FireProtect Plus) communicates with the hub at a distance of up to 1,300 m in line of sight.

The detector can be a part of third-party security systems, connecting to them via the Ajax uartBridge or Ajax ocBridge Plus integration module.

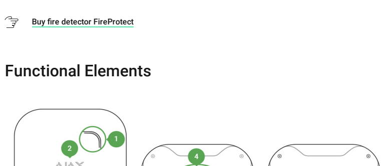
Buy fire detector with carbon monoxide sensor FireProtect Plus

The detector is set up via the Ajax apps for iOS, Android, macOS, and Windows. The system notifies the user of all events through push notifications, SMS, and calls (if activated).

The Ajax security system can be connected to a central monitoring station of a security company.

Buy fire detector FireProtect

Functional Elements



1. Siren hole
2. Light indicator (acts as the sensor and Test button)
3. Smoke chamber hole with the temperature detector behind the net
4. SmartBracket attachment panel
5. Power button
6. Tamper button
7. QR code

Operating Principle

When smoke penetrates the detector chamber, it distorts infrared light between the emitter and photoelectric receiver. This distortion triggers a smoke alarm. When the temperature exceeds 60°C or rises by 30°C during 30 minutes (not necessary to reach 60°C), the detector registers temperature increase, which triggers a fire alarm.

FireProtectPlus has an additional sensor to detect a dangerous CO level. If the concentration of CO in the air exceeds a certain level, the detector generates an alarm.

The detector is triggered:

- within 60–90 min at carbon oxide concentration 50 ppm / 0.005%
- within 10–40 min at CO concentration 100 ppm / 0.01%
- within 3 min at carbon oxide concentration 300 ppm / 0.03%.

In case of alarm, the detector activates the built-in buzzer (the siren sound can be heard from afar) and blinks with the light indicator. When connected to a security system, both the user and the security company are notified of the alarm.

The siren can be turned off by pressing the touch button (the center of the light indicator) or in the Ajax app. If smoke and temperature levels do not restore to normal values, in 10 minutes, the detector turns on the siren again.

Connecting the Detector to the Ajax Security System

Connecting to the hub

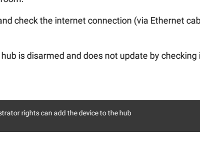
Before starting connection:

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.

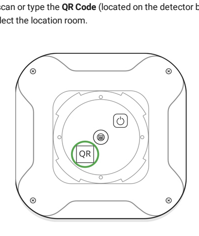
Only users with administrator rights can add the device to the hub

Pairing the detector with 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.



To make sure that the detector is on, press the on/off button — the logo will light up red for a second.

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 pairing with the hub fails, the detector operates autonomously; switch off the detector for 5 seconds and retry.

The detector connected to the hub is displayed in the list of devices in the app. The update of the detector status in the list depends on the device inquiry time set in the hub settings (the default value is 36 seconds).

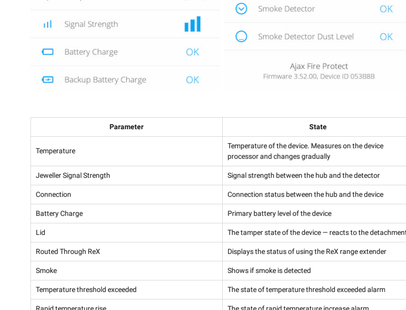
Connecting to Third Party Security Systems

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

The smoke detector always operates in the active mode. When connecting FireProtect to third party security systems, it is appropriate to place it in a permanently active protection zone.

States

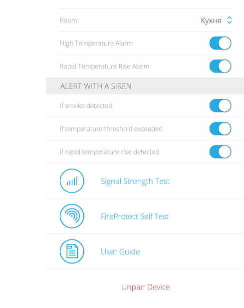
1. Devices
2. FireProtect | FireProtect Plus



Parameter	State
Temperature	Temperature of the device. Measures on the device processor and changes gradually
Jeweller Signal Strength	Signal strength between the hub and the detector
Connection	Connection status between the hub and the device
Battery Charge	Primary battery level of the device
Lid	The tamper state of the device — reacts to the detachment
Routed Through ReX	Displays the status of using the ReX range extender
Smoke	Shows if smoke is detected
Temperature threshold exceeded	The state of temperature threshold exceeded alarm
Rapid temperature rise	The state of rapid temperature increase alarm
High CO Level (FireProtect Plus only)	The state of dangerous CO level alarm
Backup Battery Charge	Backup battery level of the device
Smoke sensor	The state of the smoke detector
Smoke sensor dust level	The dust level in the smoke chamber
Firmware	Detector firmware version
Device ID	Device identifier

Setting

1. Devices
2. FireProtect | FireProtect Plus
3. Settings



Setting	Value
First field	Device name, can be edited
Room	Selecting the virtual room to which the device is assigned
Dangerous CO Level Alarm (FireProtect Plus only)	If active, the detector alerts of exceeding the limits of carbon monoxide concentration
High temperature alarm	If active, the detector reacts when the temperature is 60°C and higher
Rapid temperature rise alarm	If active, the detector reacts to rapid temperature increase (30°C for 30 minutes or less)
Alert with a siren if smoke is detected	If active, HomeSiren and StreetSiren are activated in case of smoke alarm
Alert with a siren if temperature threshold exceeded	If active, HomeSiren and StreetSiren are activated in case if temperature threshold exceeded
Alert with a siren if rapid temperature rise detected	If active, HomeSiren and StreetSiren are activated in case if rapid temperature rise detected
Alert with a siren if CO detected (FireProtect Plus only)	When turned on, HomeSiren and StreetSiren are activated in case if CO concentration is dangerous
Jeweller Signal Strength Test	Switches the device to the signal strength test mode
FireProtect Self Test	Starts FireProtect selftest
User Guide	Opens the detector User Guide
Unpair Device	Disconnects the sensor from the hub and deletes its settings

Indication

Event	Indication
Detector switching on	The logo lights up green for 1 second
Detector switching off	The logo blinks red three times and the device switches off
Registration failed	The logo blinks green for a minute, then the device switches to the autonomous mode
Smoke or temperature increase detected	The siren switches on, the logo lights red during the fire/smoke alarm
Battery low	• One short sound signal per 90 sec — main batteries low (CR2) • Two short sound signals per 90 sec — backup battery low (CR2032) • Three short sound signals per 90 sec — both batteries low

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).

Jeweller Signal Strength Test

FireProtect Self Test

Attenuation Test

According to the requirements of EN50131 standard, the level of the radio signal sent by wireless devices is decreased during the test mode.

Detector Testing

Before installing the detector, check the smoke sensor. To test it, switch on the detector and press the sensor button (the logo center) for a few seconds – the detector will test the smoke chamber with electronic simulation of smoke generation and then will switch on the siren for 6 seconds.

You will receive the notification in the Ajax app regarding the test result and detector status.

Installation

Selecting the Location

The location of the detector depends on its remoteness from the hub, and obstacles hindering the radio signal transmission: walls, floors, large objects inside the room.

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 significantly improve the quality of signal reception.

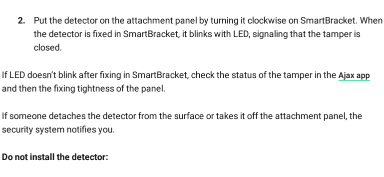
If the detector has low or unstable signal strength even after moving, use a ReX radio signal range extender.

Install the detector at the ceiling in the highest point where hot air and smoke are concentrated in case of fire.

If there are any beams at the ceiling, protruding by 30 or more centimeters from the ceiling level, install the detector between every two beams.

Installation procedure

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



1. Fix the SmartBracket panel on the ceiling 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 by turning it clockwise on SmartBracket. When the detector is fixed in SmartBracket, it blinks with LED, signaling that the tamper is closed.

If LED doesn't blink after fixing in SmartBracket, 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 notifies you.

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. closer than a meter to the cooking surface;
5. inside premises with the temperature and humidity beyond the range of permissible limits;
6. closer than 1 m to the hub.

Autonomous Use of the Detector

The detector can be used autonomously, without connecting to a security system.

1. Switch on the detector by pressing the on/off button for 3 seconds (the logo will light up green for 1 second) and conduct the smoke test.
2. Select the optimal location of the detector following the recommendations in the second part of the section Selecting the location of this manual.
3. Install the detector as described in the section Installation procedure.

In case of autonomous use, the detector notifies of the detected fire/smoke with the siren sound and light of the logo. To switch off the siren, press the logo (there is a sensor button) or eliminate the cause of the actuated alarm.

Maintenance and Battery Replacement

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

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

To a certain level, the detector ignores the dust in the smoke chamber. When the chamber becomes too dusty, the detector notifies the user of the need to clean it via the app (and beeps every minute and a half). Such maintenance is compulsory for the detector to operate correctly.

How to clean up the smoke chamber

Pre-installed batteries ensure up to 4 years of autonomous operation. If the batteries are discharged, the security system sends the respective notifications and the detector signal with a sound every 90 seconds:

- if the main batteries are low — a single short signal;
- if the backup battery is low — two short signals;
- if both batteries are low — three short signals.

Battery Replacement

Tech Specs

Smoke-sensitive element	Photoelectric sensor
Temperature sensitive element	Thermocouple
Sound notification volume	85 dB at a distance of 3 m
Alarm threshold at the temperature	+59°C ±2°C
Tamper protection	Yes
Frequency band	868.0 – 868.6 MHz or 868.7 – 869.2 MHz depending on the region of sale
Compatibility	Operates independently or 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 1,300 m (any obstacles absent)
Power supply	2 × CR2 (main batteries), CR2032 (backup battery), 3 V
Battery life	Up to 4 years
Operating temperature range	From 0°C to +65°C
Operating humidity	Up to 80%
Overall dimensions	132 × 132 × 31 mm
Weight	220 g

Complete Set

1. FireProtect (**FireProtect Plus**)
2. SmartBracket mounting panel
3. Batteries CR2 (pre-installed) — 2 pcs
4. Battery CR2032 (pre-installed) — 1 pcs
5. Installation kit
6. 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