Hub Hybrid
Hybrid security system control panel

The synergy of wired and wireless technologies

Hub Hybrid is a game-changer among professional security systems. It is the first Ajax control panel supporting Jeweller devices and the all-new Fibra product line. Wired and wireless technologies are combined to build complex protection regardless of facility size, steel or concrete obstructions. Security is enhanced by informative notifications, photo verification of alarms, real-time system control in the app, and automation scenarios.

8 lines to connect wired Fibra devices	Alarm photo verification in 9 seconds without privacy concerns	3 independent communication channels out of the box
Remote control and configuration	Security automation Scenario ● by alarm ● by schedule ● by arming / disarming ● by pressing the Button ● by temperature ● by humidity ● by CO_2 concentration	Up to 3.5 days of system operation on a backup battery
Ring connection topology		Grade 3 EN 50131 PD 6662 2017 INCERT SSF NIST (AES-128)

This is the device of the Fibra wired product line. To purchase, install and administer such devices, you need to be an accredited partner, undergo training and gain access. Check with your Ajax manager for details.

Maximum without expansion modules

- **Tampers** to alert of case opening and demounting
- **8 independent lines** supporting the ring connection topology
- **Jeweller antennas** for robust transmission of commands and events
- **Wings antennas** for stable reception of photo verifications
- **Built-in power supply** for a 110-240 V grid
- **Space for a backup battery** 12 DC with a capacity of 4 or 7 Ah

Communication through steel and concrete

Fibra

Fibra communication technology allows you to wire independent lines up to 2 km long. Eight lines in one system run by Hub Hybrid minimize potential damage. Even a completely broken line leaves the security system at 87% operational. And with wireless sensors, this percentage will be even higher.

With Fibra, you get the flexibility to build a star topology or use 8 lines as zones in an iconic burglar alarm. In any configuration, you get an intelligent security system.

Jeweller

Jeweller radio protocol provides two-way communication between the hub and wireless devices at a distance of up to 2,000 meters, allowing remote system control and alarm transmission in 0.15 seconds.
Jeweller applies time frames to synchronize devices communication, authentication to prevent forgery, and encryption to protect the data. An energy-efficient protocol provides wireless devices with up to 7 years of battery life.

Up to 5 range extenders with a communication range of up to 1,800 meters can be connected to Hub Hybrid by radio or cable via Ethernet.

Always online via Ethernet and cellular networks

Hub Hybrid can be connected to three Internet providers at a time via Ethernet cable and 2G, 3G, and LTE SIM cards. Automatic switching between channels takes seconds.

Hub is available in two versions: Hub Hybrid (2G) supporting 2G cellular networks and Hub Hybrid (4G) supporting 2G, 3G, and 4G/LTE networks.

Three days on a backup battery

Hub Hybrid with a backup battery can power a system of 30 wired devices for 60 hours. Wireless devices operate on batteries and do not require additional power supply.

Fibra detectors consume tens of times less energy than similar bus detectors from other manufacturers

Anti-sabotage

The six countermeasures

Tampers to alert of demounting and case opening	**Demounting and case opening detection** The hub board features two **tampers** that detect opening and demounting attempts.
Connection loss notification in **a minute**	**Hub communication loss detection** Ajax Cloud server **polls the hub** at intervals of 10 seconds or more. In case of mobile frequencies jamming and disconnection of the wired internet, the server can inform a monitoring station about the complete isolation of the object in just 1 minute.
Authentication against forgery	**Protection against device forgery** To authenticate devices, unique tokens and properties are used. The hub checks them for each communication session. If any parameter fails the check, the hub ignores the device commands. The procedure excludes the possibility of system control by a third-party device: key fob, smart button, or keypad.
Jamming alert in **30 seconds**	**Jamming detection** The hub analyzes the quality of communication with system devices. If some of the data packages are lost, the hub will change the transmission frequencies and inform the monitoring station of interference detection.
Encryption and frequency hopping to protect data	**Data protection** All the data stored and transmitted are protected by block **encryption** with a dynamic key. Radio communication uses **frequency hopping**, which makes interception and jamming more difficult.
Events delivery in **0.15 seconds**	**Event transmission and delivery** The monitoring station is notified about alarms and system events in **0.15 seconds**. Due to the

	addressability of devices, the message includes the time, device model, devicename, event type, and room.

Physical protection of the line against break

Hub Hybrid features 8 lines and supports ring connection topology — up to four rings in a hybrid security system. In the event of a line breakage, the ring splits into two working segments, devices continue to operate, and the system notifies a security company and users about the incident.

Features

Alarm photo verification in 9 seconds

Hub Hybrid supports both MotionCam and MotionCam Outdoor wireless motion detectors. When triggered, detectors take a series of photos, helping to evaluate the situation at the facility. Visual verification helps you instantly assess the situation, saving users from concerns, and security companies — from unnecessary dispatches.

1. Motion detected
2. Alarm raised
3. Evidence captured

Privacy as a top priority

MotionCam detectors are designed to control security, not privacy. Photos are protected from prying eyes at the detector, system, and software levels.

Strict permission distribution	Encryption and GDPR	Detailed event log
The special menu in the Ajax app helps accurately adjust access to visual data for users and security company operators: who and when can send a request for a photo, who can view the received pictures and streams from integrated surveillance cameras.	Graphic data is securely protected by encryption at each step of transmission and storage. Only hub users can access its virtual storage on Ajax Cloud and view photos taken by MotionCam detectors. The Ajax Cloud is located on geographically distributed servers in compliance with the General Data Protection Regulation (GDPR) requirements.	Only users with access rights can view the photos in the system event log. The event log stores the last 500 system events.

Automates security

Hub Hybrid allows creating up to 32 scenarios and minimizing the impact of human factor impact on security. The hub can arm and disarm a facility or part of it by schedule. Instantly activate a smoke machine if someone enters the premises. Blackout the premises and turn on emergency lighting in case of fire. Or shut off water in case of a leak. Control lights, electric locks, roller shutters, and garage doors — by arming/disarming, button press, or a detector alarm.

- Flood prevention system
- Automatic doors and roller shutters
- Alarm-triggered site illumination

Software

A complete set of business tools

- **Ajax PRO: Tool for Engineers.** Connect and configure devices remotely or on-site.
- **Ajax PRO Desktop.** Administer security systems and monitor alarms with photo verifications.

App data is protected by encryption and automatic backups. With cloud synchronization, starting work on a new smartphone or computer takes a few minutes — just install the program and log into your account.

Security control via smartphone

The Ajax app allows you to control security, smart plugs, and relays. On-site and remotely

Facility security management	Security group management	Manual relay control

Alarms of the highest priority

The Ajax app supports **critical notifications** — events with a loud siren sound ignoring the silent mode of the smartphone.

32 languages of the app interface are available

Instant cloud sync

Ajax apps and security systems communicate through the Ajax Cloud server. The server uses a proprietary binary protocol and automatic load balancing for uninterrupted processing of millions of data packages per minute. The server is physically located in several data centres. This infrastructure provides server availability of 99.995%.

Progress in the core

Hub Hybrid runs on OS Malevich — a real-time operating system developed by Ajax Systems. The system is immune to viruses, protected from cyber-attacks, and extremely reliable. The hardware configuration allows Hub Hybrid to evolve and remain relevant for years.

New features are ready to use

The hub is updated over the air (OTA), automatically or by engineer's command. The process starts when the system is disarmed and takes less than a minute. Each update improves the system and adds new features.

Installation

Convenience in the details

Pre-installed communication modules	Built-in power supply	Rails for fixing the backup battery

×2 SIM Ethernet		
5 perforated zones for cable routing	20 fasteners for fixing cables	Screw-type terminal blocks

More freedom with the Fibra technology

With Hub Hybrid, you don't have to wire extra meters of cable. The control panel features 8 independent terminals compatible with all Fibra devices regardless of the type. Security detectors, keypads, or sirens connect to the same line and ensure security of a certain zone. The physical cable connection and the distribution of devices by rooms and groups in the app are not related.

No programming

Hub Hybrid is connected and configured via a smartphone or desktop app — forget about command-line programming. The interface increases the installation speed and minimizes errors.

1. Adding a device with QR scan
2. Managing the system users
3. Changing hub settings
4. Creating automation scenarios
5. Connecting to the monitoring station

32 languages of the app interface are available

Power supply stress test

Hub Hybrid features a unique testing mechanism to check the power supply of all wired devices in the system. The test is launched in the app and simulates the maximum possible power consumption: sensors give alarms, keypads are activated, sirens are turned on. If the system passes the test, you can be sure that all its devices will have enough power in any case.

100 wired detectors in 10 minutes

For Fibra:

Line scanning	We have made the pairing process automatic. The line scanning function shows all devices connected to the hub, allowing you to quickly set names, separate security groups and virtual rooms.
Device identification	There are two ways to determine which device is in front of you: switching on the LED and by triggering. They allow pointwise bind and test the operation of devices.
Synchronization with the security monitoring station	A monitoring station engineer does not need to manually configure zones. All information about the hub devices is automatically synchronized by the PRO Desktop monitoring panel.

For Jeweller:

QR scanning	To add a device, all you have to do is scan the QR code on the body using the Ajax app. Then set a name, select a room and a security group.
Synchronization with the security monitoring station	The monitoring station engineer does not need to manually configure the zones. All information about the hub devices is automatically synchronized by the PRO Desktop monitoring panel.