

Hub Hybrid

Hybrid security system control panel

Hub Hybrid (4G) Version with LTE cellular module	Hub Hybrid (2G) Version with GSM cellular module
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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.

Hardware

Maximum without expansion modules

- Tamperers 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 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	Jeweller
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	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,

topology or use 8 lines as zones in an iconic burglar alarm. In any configuration, you get an intelligent security system.	and encryption to protect the data. An energy-efficient protocol provides wireless devices with up to 7 years of battery life.
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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 100 wired devices for 60 hours. Wireless devices operate on batteries and do not require additional power supply.

Fibra devices consume less than 60 μ A, which is 100 times less than similar bus detectors from other manufacturers.

Anti-sabotage

The seven countermeasures

1. **Tampers to alert of demounting and case opening.** The hub board features two tampers that detect opening and demounting attempts.
2. **Connection loss notification in a minute.** 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.
3. **Authentication against 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.
4. **Jamming alert in 30 seconds.** The hub analyses 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.
5. **Encryption and frequency hopping to protect data.** 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.

6. **Lost device notification in 36 seconds.** Hub Hybrid polls devices at intervals of 12 seconds or more. An administrator determines the polling frequency for wireless devices, and for wired devices, the polling frequency is automatically adjusted to minimal by the hub. The control panel detects the device communication loss and notifies a monitoring station.
7. **Events delivery in 0.15 seconds.** 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, device name, 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.

Privacy first

The detector activates its camera when the security system is armed and motion is detected. Visual alarm verifications can only be seen by users with access to the hub's event feed and by security company employees if the security system is connected to a monitoring station.

If the Photo on Demand function is activated, the detectors can take a photo upon the command of a system user or PRO user with access rights. Requested photos are always recorded in the hub's events feed.

Photos are encrypted at every stage of transmission. While stored on the Ajax Cloud server, no pictures are processed or analysed.

[Learn more](#)

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.
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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
- 32 languages of the app interface are available

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

Instant cloud sync

Ajax's 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: x2 SIM, Ethernet
- Built-in power supply
- Rails for fixing the backup battery
- 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

1. **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.
2. **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.
3. **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.

100 wireless detectors in 10 minutes

1. **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.
2. **Synchronization with the security monitoring station.** The monitoring station engineer does not need to manually configure the loops. All information about the hub devices is automatically synchronized by the PRO Desktop monitoring panel.

* The functionality will not be available at the time the device is released. Ring topology support will become available with future OS Malevich updates.

* The cloud server uptime in 2021