

Superior Hub Hybrid

Hybrid control panel supporting photo verification. Works with Fibra and Jeweller devices. Connectable via Ethernet and two SIM cards.

Superior Hub Hybrid is NFA2P certified, meeting stringent technical and operational requirements for intrusion protection devices. This certificate confirms that the product underwent real-world testing and has proven its reliable long-term performance at any facility.

Product versions

Superior Hub Hybrid (2G) Version with a GSM cellular module.	Superior Hub Hybrid (4G) Version with an LTE cellular module.
Superior Hub Hybrid (4G) (without casing) Version with an LTE cellular module. Shipped as a board without casing.	

Explore version's differences

Superior Hub Hybrid difference

Superior Hub Hybrid (2G)	Superior Hub Hybrid (4G)	Superior Hub Hybrid (4G) (without casing)
Shipped with a standard casing	Shipped with a standard casing	Shipped as a board without casing for installation in Case D (430)
2G support	2G, 3G, and 4G/LTE support	2G, 3G, and 4G/LTE support
Built-in internal antennas for radio and cellular communication	Built-in internal antennas for radio and cellular communication	Built-in internal antennas for radio and cellular communication. Support for ExternalAntenna as an option in challenging environments
Built-in internal tamper	Built-in internal tamper	Built-in internal tamper with support for external tamper

		connection
Built-in internal LED	Built-in internal LED	Comes with an external LED board
Compliance with Grade 3 (EN 50131), PD 6662:2017, INCERT, NIST, and NFA2P	Compliance with Grade 3 (EN 50131), PD 6662:2017, INCERT, NIST, SSF, and NFA2P standards	Compliance with Grade 3 (EN 50131), PD 6662:2017, and NIST

The synergy of wired and wireless technologies

Superior Hub Hybrid is a game-changer among professional security systems. It is the first Ajax hybrid control panel supporting Superior and Baseline devices altogether. Wired and wireless technologies are combined to build complex protection regardless of site size. Informative notifications, visual alarm verification, real-time system control from the app, and automation scenarios – all to enhance security.

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	Up to 3.5 days of system operation on a backup battery
Ring connection topology	Scenario <ul style="list-style-type: none"> • by alarm • by schedule • by arming / disarming • by pressing the Button • by temperature • by humidity • by CO₂ concentration 	Grade 3 EN 50131 PD 6662 2017 INCERT SSF NIST (AES-128) Verband der Sicherheitsunternehmen Österreichs

In an Ajax system, you can combine devices of all product categories: **Intrusion protection** (both Superior and Baseline), **Video surveillance**, **Fire and life safety**, or **Comfort and automation**. Create the system to suit your needs and manage it in a single interface.

This is the device of the **Superior product line**. Only accredited Ajax Systems partners can sell, install, and administer Superior products.

Ready to withstand in any setting

Warehouse	Manufacturing	Construction	School	Office
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Discover future-proof hardware

Superior Hub Hybrid comes with its original casing or as a board to install in **Ajax Case D (430)**, combining with other devices within a single casing. When installed in the original casing, the hub's current status is always visible via LED indication. If purchased without casing, an external LED can be connected to the hub's board and mounted outside Case D (430). This setup allows installers to combine the integration module with other devices and arrange them efficiently within a single casing.

Superior Hub Hybrid in an original casing	Superior Hub Hybrid without a casing
Light guides for the hub status indication LED indicators 8 lines to connect wired Superior devices Jeweller and Wings antennas Two tampers Built-in 110-240 V~ power supply Connector for a 12 V= backup battery Space for a 12 V= backup battery Perforated parts for cable output Fasteners to secure cables Fixing points for quick installation	8 lines to connect wired Superior devices Jeweller and Wings antennas Built-in 110-240 V~ power supply LED indicators Connector for a built-in Ajax Case tamper Connector for an external LED Connector for ExternalAntenna Connector for a 12 V= backup battery

Communication through steel and concrete

Fibra

Fibra communication technology allows the installer to wire lines up to 2,000 m 6,550 ft long². One Superior Hub Hybrid can run 8 lines. Ajax modules that split, protect, and power the line can extend the connection length to tens of kilometers. Additionally, Fibra supports Ring and Tree topologies to protect connected devices from sabotage attempts. The line can be branched to wire the cables unexpectedly for the intruder or make a ring, forming two fully operational lines in case of breakage.

Fibra lines are multifunctional and support connecting different types of devices to one line: sirens, keypads, and detectors with photo verification. All alarms, events, and photo verification are delivered over the same line as other connected devices without interference. Fibra also features encryption and device authentication to prevent sabotage, spoofing, or data theft.

Jeweller

Jeweller wireless technology has a radio signal communication range of up to 2,000 m 6,550 ft in an open space. It transmits alarms, events, and readings into the Ajax apps in just 0.15 seconds. The protocol uses polling to display current device statuses, allowing remote system control in real time.

Automatic power adjustment makes Jeweller energy efficient by not using the maximum power of radio transmitters in system devices on a regular basis. This feature ensures the long-lasting operation of wireless devices on pre-installed batteries for 2 to 7 years. Additionally, Jeweller is more stable by using less noisy radio frequencies. The technology also features encryption and authentication to prevent spoofing.

Wings

Wings is a wireless technology designed for photo verification transmission at a distance of up to 1,700 m 5,600 ft in an open space. It is also used as a backup communication channel that transmits large data packages in case of connection loss and sends data backups from the detector to the hub after restoring the connection. All the data is encrypted at every stage of transmission.

Always online via Ethernet and cellular networks

Superior Hub Hybrid can be connected to three internet providers simultaneously. It uses an Ethernet connection as the primary channel and has two SIM cards that support 2G/3G/4G(LTE) as backups. If the primary channel is lost, the hub automatically selects the SIM with the strongest signal. Switching between channels takes seconds.

The hub is available in two versions: Superior Hub Hybrid (2G), which supports only 2G, and Superior Hub Hybrid (4G), which supports 2G, 3G, and 4G/LTE networks.

More than two days on a backup battery

Wired Ajax detectors consume tens of times less energy than similar detectors from other manufacturers. Superior Hub Hybrid with a backup battery can power 30 wired Superior devices for up to 60 hours¹. And if **Battery Power Saver** is enabled, the system can operate for 200 hours straight³. At the same time, wireless Ajax devices do not require additional power supply, as they are battery-operated.

Use the **Fibra power supply calculator** to check the system project and estimate the power consumption of wired devices.

Reliable communication through any barrier

When the hub is installed in a cellar or a metal-enclosed vault, [ExternalAntenna](#) helps to overcome interference for cellular signal. The 3-meter cable provides sufficient length to place the antenna optimally to achieve the best signal possible. If the antenna’s cable is cut or severed, the security company and users will receive an instant alert.

- Cellular communication boost
- External antenna breakage detection
- Cable length of 3 m 9 ft

ExternalAntenna

ExternalAntenna helps to get a more reliable and stable connection when the hub is installed in challenging environments. It improves the signal strength of Jeweller, Wings, and cellular channels.

Sabotage resistance

Tamper alarm The hub's board has two tamper buttons to alert when the hub is detached from the surface, or the front lid is removed. Superior Hub Hybrid (4G) (without casing) additionally features connecting an external tamper of Case D (430).	Device authentication against spoofing The hub checks each system device's unique parameters for authentication during each communication session. If any parameter fails the check, the hub ignores commands from the device.
Communication failure detection in 36 s Each system device regularly exchanges data with the hub. With maximum ping interval settings available (3 data packages once in 12 seconds), it takes only 36 seconds to identify communication loss and notify the security company and users about the incident.	Data encryption All data stored and transmitted by the system is protected by a proprietary NIST-certified cipher based on AES-128. This encryption makes it extremely difficult to reprogram the device and replace or steal the data, and the NIST certification proves that user and device data is inaccessible to attackers.

<p>Jamming detection and frequency hopping</p> <p>The hub constantly analyzes the quality of wireless communication with system devices. If some data packages are lost, the hub uses radio hopping and automatically changes frequency within a band, notifying the security company and users about the jamming.</p>	<p>Informative push notifications</p> <p>The system instantly notifies users about alarms with critical alerts via Ajax apps. Notifications include alarm type, device name, facility name, and device room. Each detector's alarm also has a code for the CMS to identify its type. Ajax transmits alarms to the PRO Desktop monitoring app or third-party CMS using proprietary protocols. Upon receiving an alarm, the operator knows exactly where to dispatch the rapid response unit.</p>
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Physical protection of the line against break

Superior Hub Hybrid can support **up to 8 lines**. Ajax modules that split, protect, and provide additional power to the line can extend the connection length to tens of kilometers. Additionally, the hub supports both **Ring and Tree topologies**⁴, which help protect connected devices from sabotage attempts. The line can be branched to wire the cables unexpectedly for the intruder or make a ring. In case of breakage, the ring will form two fully operational lines without losing any connected device. The system instantly alerts both the security company and users about any breakage.

Alarm photo verification in less than 5 seconds

Superior Hub Hybrid is compatible with MotionCam detectors. When these detectors are triggered, they capture a series of photos. The first photo is sent to Ajax apps in just 4.5 seconds⁵. It helps quickly assess the situation, saving users from concerns and security companies from unnecessary dispatches.

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

Privacy first

Ajax is designed to control security, not privacy. All data are protected from prying eyes at the detector, system, and software levels.

Strict permission distribution The Privacy menu in Ajax apps helps accurately adjust access to visual data for users and security company operators: who and when can request a photo, which MotionCam (PhOD) detector can take on-demand photos, and who can view the received pictures or streams from Ajax cameras.	Encryption and GDPR Photos and videos are encrypted at every stage of transmission. Only system users can access and view them in the virtual Ajax Cloud Storage. While stored, no data is processed or analyzed. The Ajax Cloud service is hosted on geographically distributed servers that meet the General Data Protection Regulation (GDPR) requirements.	Detailed event log The event log records 500 recent events within the system. The data is explicit with the device, time, and event description. Any action is linked to the user who performed it.
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Automation for greater safety

Superior Hub Hybrid supports up to 32 automation scenarios, offering flexibility in setting up various security configurations to meet the specific needs of each site. The hub can arm or disarm the system based on a schedule. Additionally, the system can instantly activate a smoke machine when someone enters the premises, shut off the water in case of a leak, or activate ventilation if the CO₂ level increases. Control lights, electric locks, roller shutters, and garage doors by arming/disarming, schedule, button press, or a detector's alarm.

Complete set of business tools

Ajax PRO: Tool for Engineers Connect and configure devices remotely and on-site	PRO Desktop Administer security systems and monitor alarms with photo verification		
Installation and maintenance	Alarm monitoring	Installation and maintenance	Security services
<ul style="list-style-type: none"> Fast device connection and setup Remote device configuration Instant reports on system performance Permanent and temporary access for installers 	<ul style="list-style-type: none"> Easy and convenient security system administration Informative alarm 	<ul style="list-style-type: none"> Remote device configuration Seamless sync with mobile Ajax apps 	<ul style="list-style-type: none"> Comprehensive and detailed event log Instant switching between company and personal accounts Multi-subscription to control the service

	<div>monitoring interface</div> <ul style="list-style-type: none">• Fast visual alarm verification without privacy violations• Cloud-signaling for seamless integration with third-party software	<ul style="list-style-type: none">• Instant reports on system performance• Permanent and temporary access rights for installers	<div>quality of contractors</div> <ul style="list-style-type: none">• Support of in-app panic button with user coordinates sharing
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Security control via smartphone

Control the security modes, lights, water supply, and other Ajax automation devices with a single tap in the Ajax app. It's accessible on-site and remotely, whenever internet is available.

- Security management
- Automation control

Notifications with the highest priority

Ajax apps notify users about alarms with critical push notifications. Such notifications feature a loud sound even when the smartphone is in silent mode, so there is no chance of missing an alarm.

Instant cloud sync

Ajax hubs communicate with Ajax apps through the Ajax Cloud server. The server uses a proprietary binary protocol and automatic load balancing to process millions of data packages per minute without interruptions. The server is physically located in several data centers. Such infrastructure provides server availability of 99.995%.

Immune to lags, freezing, and viruses

Superior Hub Hybrid runs on OS Malevich, a real-time operating system developed by Ajax

Systems. The system is immune to viruses, resistant to cyber-attacks, and extremely reliable. Loading and executing actions takes less than a second from tapping on a smartphone. Each automation scenario is executed within the same rapid timeframe.

The hub features auto-updates via the internet, which take less than a minute. Each update enhances the system and adds new features, so Superior Hub Hybrid evolves and remains relevant for years.

PRO is king

The myth about wired systems being difficult to install is busted. Ajax minimized an expensive, long, and dusty experience for PROs by developing an ultimate set of tools to make the process easy and flexible, from project design to client support and system maintenance. There is no need to disassemble the device for installation. Intuitive Ajax apps help quickly make the device a part of the system, and each device can be reconfigured remotely at any moment. No programming required – everything is available out of the box.

Fibra power supply calculator

The online tool provides security engineers with detailed data on device power consumption, enabling easy pre-installation assessment of the wired system project. It helps design the project in real time, highlights problem spots, and offers solutions. Upon completion, results can be downloaded as a PDF file.

Installation

Superior Hub Hybrid is available for order in its original casing or as a board installed in Case D (430). The installation kit includes all the necessary fasteners so an installer can effortlessly mount the device on the wall. The hub board is removable, which makes the wire connection nice and easy.

- Removable terminal board
- All the necessary fasteners included in the installation kit
- Thought-out cable management

Setup

The hub is paired with the system by scanning a QR code or entering its ID manually. Once paired, the hub receives a default name and settings suitable for most cases.

- Pairing by scanning a QR code
- Optimal default settings to cover major requests

Configuration

Intuitive Ajax apps provide remote setup and testing from anywhere the internet is available, on a smartphone or PC. An installer can remotely change the settings and provide services promptly without visiting the object.

- Configuration and testing remotely or on-site
- iOS, Android, macOS, and Windows apps
- Accounts for companies and installers

Monitoring

An Ajax system transmits alarms to the **PRO Desktop** monitoring app or any third-party CMS. The security company receives an alarm notification in less than a second. Notifications include all the necessary information: name of the device, time of the event, and the exact room where the device is located. The security company also receives photo or video verification, capturing the reason for the alarm.

- Full addressability of connected devices
- Instant in-app notifications
- Alarm and event monitoring through the PRO Desktop app or third-party CMS

Power consumption stress test

Superior 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 Ajax PRO app and simulates the maximum possible power consumption to check the system's response. If the system passes the test, it will operate smoothly without any problems.

Pairing 100 devices in 10 minutes

Ajax wired devices

Line scanning

The pairing process of all wired devices is automatic. The hub scans the lines and shows all physically connected devices. Set names, arrange security groups, add devices to virtual rooms, and the system is ready to protect the site.

Device identification

There are two ways to determine which device is in front of you: by device LED indication and by triggering. These methods allow pointwise pairing and testing device operation.

Sync with CMS

A monitoring station engineer does not need to configure zones manually. The PRO Desktop monitoring app automatically synchronizes all information about paired devices.

Ajax wireless devices

QR scanning

Use the Ajax apps to scan the QR code on the device enclosure for pairing with the system. After that, assign a name, choose a virtual room, and add the device to the security group.

Sync with CMS

A monitoring station engineer does not need to manually configure zones. The PRO Desktop monitoring app automatically synchronizes all information about paired devices.

¹ When using a SIM with inactive Ethernet. **Learn more**

² With U/UTP cat.5, 4 × 2 × 0.51 mm (24 AWG) cable. Other cable types may have different values. Please use our **Fibra power supply calculator** to check the wired system project before installation.

³ When using a 12 V= battery with a 7 A·h capacity.

⁴ Ring topology is available with OS Malevich 2.16 and higher. Tree topology is applicable using **Superior LineSplit Fibra** and **Superior LineSupply (75 W) Fibra** modules.

⁵ With TurboWings protocol and photo resolution of 320×x240 pixels. The firmware version confirmation is required. Up to 9 seconds with Wings protocol at the same photo resolution.