

# Superior Hub Hybrid

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



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

## Product versions

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, supports ExternalAntenna for installation 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

## Synergy of communication technologies

Ajax systems use secure two-way communication based on proprietary protocols. Ajax devices have **up to 2,000 m (6,550 ft) of wired or wireless communication<sup>1</sup>** without requiring radio signal boosters or line extenders. All Ajax communication protocols use polling to display current device statuses and transmit alarms, events, and all the readings into the Ajax apps. Additionally, it supports block cipher encryption and device authentication on every session with the hub to prevent sabotage, spoofing, and data theft.

### FIBRA Wired protocol

The protocol transmits alarms, events, and photo verifications. Fibra lines are multifunctional and allow different types of devices to be connected to a single line.

### JEWELLER Wireless protocol

The protocol transmits alarms and events. It features automatic power adjustment for energy efficiency and uses low-noise frequencies for more stability. Radio hopping protects against signal interception, with the hub automatically switching frequencies and notifying of any jamming attempts.

### WINGS Wireless protocol

The protocol transmits photos and large data packages. In case of connection loss, Wings sends data backups from the detector to the hub once the connection is restored.

### Sabotage resistance

- Tamper alarm
- Short circuit detection
- Instant detection of line breakage
- Device authentication to prevent spoofing
- Ring topology: if the ring breaks, the connection splits into two lines that continue to operate as usual

### Quick installation and setup

- Pairing with the system via QR code
- On-site or remote configuration and testing
- Automatic line scanning adds up to 100 physically connected devices in 10 minutes
- Power consumption stress test
- Automatic synchronization with CMS

<p><b>Compliance with standards</b></p> <p>EN 50131 (Grade 3) PD 6662:2017 INCERT SSF NFA2P NIST (AES-128) VSÖ</p>	<p><b>Communication with Ajax devices</b></p> <p><b>Fibra communication technology</b></p> <p><b>Wired connection</b> 4×2×0.51 U/UTP cat.5 cable with a copper conductor</p> <p>4×0.22 signal cable with a copper conductor</p> <p><b>Communication range</b> up to 2,000 m up to 6,550 ft With 4×2×0.51 U/UTP cat.5 cable</p> <p><b>Jeweller and Wings communication technologies</b></p> <p><b>Communication range</b> up to 2,000 m up to 6,550 ft In an open space</p> <p><b>Frequency bands</b> 866.0–866.5 MHz 868.0–868.6 MHz 868.7–869.2 MHz 905.0–926.5 MHz 915.85–926.5 MHz 921.0–922.0 MHz Depends on the sales region</p> <p><b>Maximum effective radiated power (ERP)</b> ≤ 25 mW</p>	<p><b>Communication channels</b></p> <p><b>Ethernet</b> 8P8C socket Up to 100 Mb/s</p> <p><b>Cellular networks</b> 2 slots for micro-SIM</p> <p><b>For Superior Hub Hybrid (2G) 2G</b> GSM900/DCS1800 (B3/B8)</p> <p><b>For Superior Hub Hybrid (4G) 2G</b> GSM900/DCS1800 (B3/B8)</p> <p>3G WCDMA 850/900/2100 (B1/B5/B8)</p> <p>4G/LTE FDD B1/B3/B5/B7/B8/B20</p> <p><b>Automatic switching between communication channels</b></p> <ul style="list-style-type: none"> <li>• up to 4 minutes between SIMs</li> <li>• instantly between 4G, 3G, and 2G networks of one SIM</li> <li>• instantly between Ethernet and SIM</li> </ul>	<p><b>Capacity</b></p> <p><b>Ajax devices</b> up to 100</p> <ul style="list-style-type: none"> <li>• Wired and wireless devices in any proportion</li> <li>• 5 range extenders max</li> <li>• 10 sirens or keypads with a built-in siren max</li> </ul> <p><b>Fibra lines</b> 8 outputs Ajax wired devices can be connected with 8 lines (1 line uses 1 output) or 4 rings (1 ring uses 2 outputs)</p> <p><b>Cameras or DVRs</b></p> <ul style="list-style-type: none"> <li>• up to 36 Ajax NVRs</li> <li>• up to 224 Ajax cameras via Ajax NVRs</li> <li>• up to 492 standalone cameras</li> </ul> <p><b>Users</b> up to 50</p> <p><b>Automation scenarios</b> up to 32</p> <p><b>Security groups</b> up to 9</p> <p><b>Rooms</b> up to 50</p> <p><b>Event log</b> up to 1000 events Alarms and events are saved on the non-volatile onboard flash memory</p>
<p><b>Power supply</b></p> <p><b>Main power supply type</b> Type A</p> <p><b>Operating AC voltage</b> 100–240 V~, 50/60 Hz Up to 10 W of mains power consumption</p> <p><b>Fibra line</b> 24 V== The hub powers connected devices</p> <p><b>Operating DC voltage</b> 10.5–15 V== From the backup battery with a capacity of 4, 7, or 9 A·h (not included in the complete set)</p> <p><b>Autonomous operation</b> up to 60 hours 7 A·h backup battery can power a system of 30 wired devices for 60 hours, while wireless devices already operate on batteries</p>	<p><b>Hub with a standard casing</b></p> <p><b>Color</b> white, black</p> <p><b>Dimensions</b> 197 × 240 × 100 mm 7.75" × 9.44" × 3.94"</p> <p><b>Weight of the black device</b> 765 g 26.98 oz</p> <p><b>Weight of the white device</b> 837 g 29.52 oz</p> <p><b>Protection class</b> IP30, IK06</p> <p><b>Hub without casing</b></p> <p><b>Color</b> black</p> <p><b>Dimensions</b> 185 × 99 × 43 mm 7.28" × 3.89" × 1.69"</p> <p><b>Weight</b> 184 g 6.49 oz</p>	<p><b>Installation</b></p> <p><b>Operating temperature</b> –10 °C to +40 °C 14 °F to 104 °F</p> <p><b>Operating humidity</b> up to 75%</p> <p> Note that the hub version without casing installed inside Case D (430)</p>	<p><b>Complete set</b></p> <p><b>Superior Hub Hybrid (4G), Superior Hub Hybrid (2G)</b></p> <ul style="list-style-type: none"> <li>Hub board</li> <li>Casing</li> <li>Power cable</li> <li>Screw terminal block adapter<sup>2</sup></li> <li>12 V== battery connection cable</li> <li>Ethernet cable</li> <li>8 terminating resistors (120 Ω)</li> <li>Installation kit</li> <li>Quick start guide</li> </ul> <p><b>Superior Hub Hybrid (4G) (without casing)</b></p> <ul style="list-style-type: none"> <li>Hub board</li> <li>Power cable</li> <li>Screw terminal block adapter<sup>2</sup></li> <li>12 V== battery connection cable</li> <li>Ethernet cable</li> <li>8 terminating resistors (120 Ω)</li> <li>External LED board</li> <li>Cable for external LED board</li> <li>Installation kit</li> <li>Quick start guide</li> </ul>

<sup>1</sup> For wired communication, the value applies when using a 4×2×0.51 U/UTP cat.5 cable. For wireless communication, the value applies in open space conditions.

<sup>2</sup> Only for INCERT compliance.



For detailed information, scan the QR code or follow the link:

[ajax.systems/products/superior-hub-hybrid/manuals/](https://ajax.systems/products/superior-hub-hybrid/manuals/)

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