

Superior Hub Hybrid 2

Hybrid control panel for medium to large setups. Works with up to 250 Fibra and Jeweller devices. Connectable via Ethernet and two SIM cards (2G/3G/LTE).

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



Product versions

Superior Hub Hybrid 2	Superior Hub Hybrid 2 (without casing)
Shipped with a standard casing	Shipped as a board without a casing and designed for installation in Case D (430) ¹
Features two built-in tamper buttons	Features two built-in tamper buttons with support for external tamper board connection
Comes with built-in LED indicators	Comes with an external LED board

Built-in connectivity

Ajax systems use secure two-way communication based on proprietary protocols. All Ajax communication protocols support block encryption and device authentication on every session with the hub to prevent sabotage, spoofing, and data theft.



Communication with Ajax server and apps

- Internet connectivity via Ethernet and two SIM cards (2G/3G/LTE)
- Automatic switchover between communication channels
- Communication channel prioritization



Hybrid system design

Supports up to 250 intrusion protection, fire detection, and automation devices – wired and wireless – in any combination.



Wired protocol

The proprietary Fibra protocol ensures fast communication between the hub and connected wired devices.

- Provides communication range of up to 2,000 m (6,550 ft)² without an extra power supply or line extenders
- Supports any combination of Ajax wired devices connected to a single Fibra line
- Supports Beam (Radial wiring), Ring, and Tree topologies



Wireless protocols

- Superior Jeweller transmits commands, alarms, and events
- Wings (TurboWings) transmits photos, large data packets, and firmware updates
- VoRF ensures full-duplex audio communication

Support for photo verification

Up to 8 trigger types, depending on the device:

- by alarm
- by scenario
- on demand
- by schedule
- by arming/disarming
- by masking attempt
- by tamper alarm
- by magnetometer alarm

Sabotage resistance

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

Automation scenarios

Supports up to 64 automation scenarios triggered:

- by alarm
- by schedule
- by arming/disarming
- by pressing Ajax Button
- by temperature
- by humidity
- by CO₂ concentration

Quick installation and setup

- Adding to a system via QR code
- On-site or remote configuration and testing
- Automatic line scanning to add up to 100 physically connected devices in 10 minutes
- Power consumption stress test
- Automatic synchronization with a monitoring station

Compliance

EN 50131 (Grade 3)
PD 6662:2017

Compatibility

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



ajax.systems/tools/devices-compatibility/

Communication with Ajax devices

Fibra communication technology

Wired connection
U/UTP cat.5 4×2×0.51 mm
(24 AWG) cable, copper conductor

4×0.22 mm² signal cable
copper conductor

Communication range
up to 2,000 m
up to 6,550 ft

With U/UTP cat.5 4×2×0.51
(24 AWG) cable

Polling interval

12–300 s

Adjusted by a PRO or user
with admin rights in Ajax apps

Superior Jeweller communication technology

Communication range
up to 3,500 m
up to 11,450 ft
In open space

Frequency bands

865.0–868.0 MHz

868.0–868.6 MHz

868.7–869.2 MHz

869.4–869.65 MHz

Each device supports
these four bands

Wings, and VoRF communication technologies

Wings communication range
up to 3,000 m
up to 9,800 ft
In open space

VoRF communication range

up to 1,800 m

up to 5,900 ft

In open space

Frequency bands

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

Maximum effective radiated power (ERP)

≤ 25 mW

<p>Power supply</p> <p>Main power supply type Type A</p> <p>Operating AC voltage 100–240 V, 50/60 Hz Up to 10 W of mains power consumption</p> <p>Fibra line 24 V_{DC} The hub powers connected devices</p> <p>Operating DC voltage 10.5–15 V_{DC} From the backup battery with a capacity of 4, 7, or 9 Ah (not included in the complete set)</p> <p>Autonomous operation up to 60 hours The 7 Ah backup battery can power a system of 30 wired devices for 60 hours, while wireless devices already operate on batteries</p>	<p>Communication channels</p> <p>Ethernet 8P8C socket Up to 100 Mbps</p> <p>Cellular networks 2 slots for micro-SIM</p> <table border="0"> <tr> <td>2G GSM900/ DCS1800 (B3/B8)</td> <td>3G WCDMA 850/900/2100 (B1/B5/B8)</td> <td>4G/LTE FDD B1/B3/B5/ B7/B8/B20</td> </tr> </table> <p>Automatic switching between communication channels</p> <ul style="list-style-type: none"> • up to 4 min between SIM cards • instantly between 4G, 3G, and 2G networks within a SIM • instantly between Ethernet and SIM 	2G GSM900/ DCS1800 (B3/B8)	3G WCDMA 850/900/2100 (B1/B5/B8)	4G/LTE FDD B1/B3/B5/ B7/B8/B20	<p>Capacity</p> <p>Ajax devices up to 250</p> <ul style="list-style-type: none"> • Wired and wireless devices in any combination • 5 range extenders max <table border="0"> <tr> <td>Fibra lines 8 outputs Ajax wired devices can be connected with 8 lines (1 line uses 1 output) or 4 rings (1 ring uses 2 outputs)</td> <td>Ajax cameras or NVRs up to 36 NVRs up to 224 cameras via Ajax NVRs up to 492 standalone cameras</td> </tr> <tr> <td>Users up to 200</td> <td>Automation scenarios up to 64</td> </tr> <tr> <td>Security groups up to 25</td> <td>Rooms up to 200</td> </tr> </table> <p>Control and user authorization System supports up to 200 access codes</p> <p>Event log up to 1,000 events Alarms and events are saved on the non-volatile on-device flash memory</p>	Fibra lines 8 outputs Ajax wired devices can be connected with 8 lines (1 line uses 1 output) or 4 rings (1 ring uses 2 outputs)	Ajax cameras or NVRs up to 36 NVRs up to 224 cameras via Ajax NVRs up to 492 standalone cameras	Users up to 200	Automation scenarios up to 64	Security groups up to 25	Rooms up to 200
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<p>Installation</p> <p>Operating temperature –10 °C to +40 °C 14 °F to 104 °F</p> <p>Operating humidity up to 75%</p> <p>Note that Superior Hub Hybrid 2 (without casing) is installed inside Case D (430)¹</p>	<p>Product appearance</p> <p>Superior Hub Hybrid 2</p> <p>Color white, black</p> <p>Dimensions 197 × 240 × 100 mm 7.28" × 3.90" × 1.69"</p> <p>Weight for device in black 765 g 26.98 oz</p> <p>Weight for device in white 837 g 29.52 oz</p> <p>Casing protection class IP40, IK06</p> <p>Superior Hub Hybrid 2 (without casing)</p> <p>Color black</p> <p>Dimensions 185 × 99 × 43 mm 7.28" × 3.89" × 1.69"</p> <p>Weight 184 g 6.49 oz</p>	<p>Complete set</p> <p>Superior Hub Hybrid 2 Hub board Casing Power cable Screw terminal block adapter 12 V_{DC} battery connection cable Ethernet cable 8 terminating resistors (120 Ω) Installation kit Quick start guide</p> <p>Superior Hub Hybrid 2 (without casing) Hub board Power cable Screw terminal block adapter 12 V_{DC} battery connection cable Ethernet cable 8 terminating resistors (120 Ω) External LED board Cable for external LED board Installation kit Quick start guide</p>									

¹ Module Holder (type B) is needed to install Superior Hub Hybrid 2 (without casing) in Case D (430).

² For wired communication, the value applies when a U/UTP cat.5 4×2×0.51 mm (24 AWG) cable is used.



For detailed information, scan the QR code or follow the link:
ajax.systems/support/devices/superior-hub-hybrid-2/

✉ support@ajax.systems
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🌐 ajax.systems