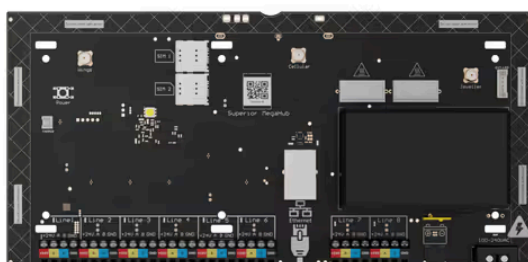


Tech specs

SUPERIOR

Superior MegaHub (without casing)

Hybrid control panel for the biggest projects. Designed for installation in a compatible Ajax casing. Works with up to 999 Fibra and Jeweller devices. Connectable via Ethernet, Wi-Fi, and two SIM cards (2G/LTE).



Capacity

Ajax devices

up to 999¹

Specifically, up to 5 range extenders.

¹ The hub supports both devices with the new firmware version (i.e., with the “999-ready” label) and devices with the legacy firmware version. However, no more than 250 devices with the legacy firmware can be added to the hub. The remaining devices within the 999 limit must have the new firmware version.

The hub running OS Malevich 2.37 **supports up to 250 Jeweller devices**, including those with upgraded and legacy firmware. This is a temporary limit that will be removed in future updates.

Learn more ➤

Ajax NVRs

up to 36

Learn more ➤

Ajax cameras

up to 224 via Ajax NVRs and up to 492 standalone

Learn more ➤

Third-party IP cameras

up to 100 when using RTSP via SDK

up to 224 when using ONVIF via Ajax NVRs

Learn more ➤

Users

up to 1,000

- Any number of admin users within the hub limit.
- PRO accounts for installers.
- PRO accounts for installation and monitoring companies.

Access codes

up to 1,000

Users

up to 1,000 Tag key fobs and Pass cards

Access control devices

up to 100

- By alarm.
- By schedule.
- By arming/disarming.
- By temperature, humidity, CO₂ concentration.
- By pressing Ajax Button.
- By actuating Ajax LightSwitch.

Learn more 

Security groups

up to 100

Learn more 

Rooms

up to 500

Event log

up to 1,000 events

Events are saved in non-volatile embedded flash memory.

Wired communication

💎 Fibra communication technology

Proprietary wired communication technology to transmit commands, alarms, and events.

Key features:

- Two-way communication.
- Advanced sabotage protection.
- Instant notifications.
- Remote control and configuration via Ajax apps.

Learn more 

Line connection

4-core cable

Input

8 Fibra lines

Compatible with Fibra devices only.

Fibra line length

up to 2,000 m

When the U/UTP cat.5 4×2×0.51 mm (24 AWG) cable with copper conductor is used.

Calculate the line length at the facility 

Power supply of devices

up to 1.2 A per one Fibra line

up to 1.6 A in total for all Fibra lines

For all connected wired devices.

Calculate the power supply of devices >

Output voltage range

22–25 V_{DC}

Topologies

- Beam (Radial wiring)
- Ring
- Tree

If the line breaks, the ring splits into two independent beams, allowing connected devices to continue operating normally, and the system notifies a monitoring company and users of the incident.

Learn more >

Device polling interval

12 to 300 s

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

Encrypted communication

All stored and transmitted data is protected by block encryption featuring a dynamic key.

Wireless communication

Superior Jeweller communication technology

Proprietary wireless technology for transmitting commands, alarms, and events. Superior Jeweller is an upgraded version of the Jeweller radio protocol for Superior devices, ensuring compliance with EN 50131 (Grade 3).

Key features:

- Two-way communication.
- Advanced sabotage protection.
- Enhanced block encryption featuring a dynamic key.
- Instant notifications.
- Remote control and configuration in Ajax apps.

Learn more 

Frequency bands

865.0–868.0 MHz

868.0–868.6 MHz

868.7–869.2 MHz

869.4–869.65 MHz

Maximum effective radiated power (ERP)

up to 25 mW

Automatic power control to reduce power consumption and radio interference.

Radio signal modulation

GFSK

Radio communication range

up to 2,000 m

Between a hub and connected devices (in open space). The maximum range depends on the connected device.

[Learn more](#) ➤

Device polling interval

12 s to 300 s

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

Encrypted communication

All stored and transmitted data is protected with advanced encryption, ensuring both confidentiality and integrity.

Frequency hopping

To prevent radio interference and jamming.

[Learn more](#) ➤

💎 Wings communication technology

Proprietary wireless communication technology to transmit large data packets.

Key features:

- Two-way communication.
- Advanced sabotage protection.
- Block encryption featuring a dynamic key.
- Data packet reload in case of transmission errors.
- Photo delivery check.

Frequency bands

865.0–868.0 MHz

868.0–868.6 MHz

868.7–869.2 MHz

869.4–869.65 MHz

Maximum effective radiated power (ERP)

up to 25 mW

Automatic power control to reduce power consumption and radio interference.

Radio communication range

up to 2,000 m

Between a hub and connected devices (in open space). The maximum range depends on the connected device.

[Learn more](#) ➤

Encrypted communication

All stored and transmitted data is protected with advanced encryption, ensuring both confidentiality and integrity.

Frequency hopping

To prevent radio interference and jamming.

[Learn more](#) ➤

Recommendations

The hub board can be installed in [Case E \(395\)](#) (coming soon) or [Case D \(430\)](#), which are sold separately. Case E (395) is designed for indoor and outdoor use, while Case D (430) is intended for indoor use only.

[How to install devices in Ajax Case](#) ➤

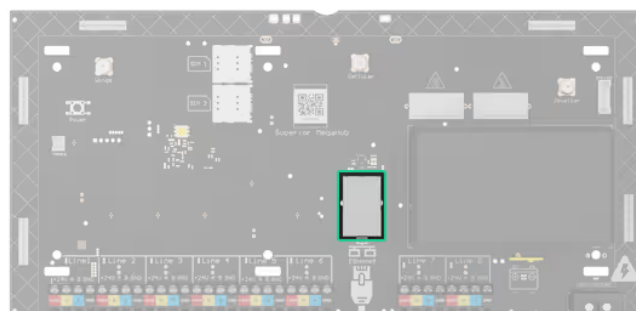
[Case configurator](#) ➤

Communication channels

Ethernet

1 × 8P8C socket

Up to 100 Mbps.



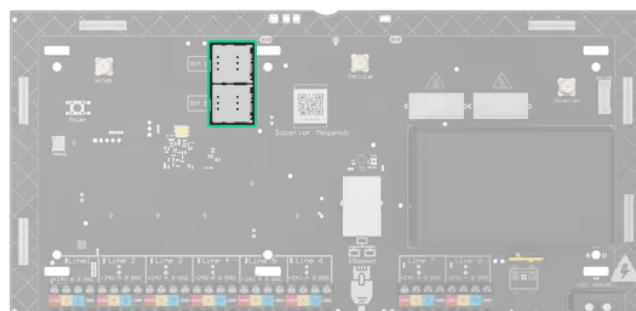
Cellular

2 × micro SIM slot

Cellular bands

2G

GSM900/DCS1800 (B3/B8)



4G (LTE)

FDD B1/B3/B5/B7/B8/B20

Wi-Fi

802.11 b/g/n module

Up to 72 Mbps.

Automatic switching between communication channels

- Switching between SIM cards — up to 4 minutes.
- Switching between 4G and 2G networks on one SIM card — instantly.
- Switching between Ethernet, Wi-Fi, and a SIM card — instantly.

Communication channels prioritization

1. Ethernet
2. Wi-Fi
3. Cellular connection

Communication channels work in parallel to increase system reliability. Most of the data is transmitted via Ethernet.

External antenna connector

Jeweller

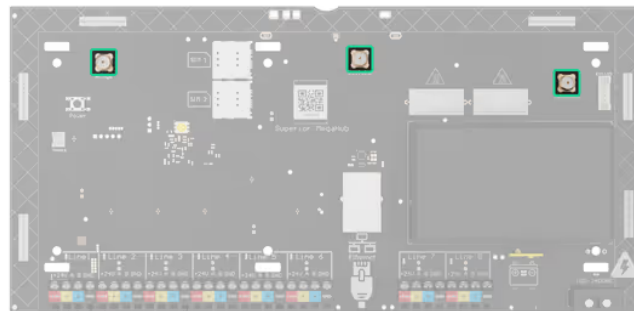
Wings

4G (LTE)

The system will notify users if

ExternalAntenna is damaged.

ExternalAntenna is sold separately.



Alarm transmission system categories

SP2, SP5, DP3

Control panel operation method

pass-through

Signaling security

S2

Substitution security.

Information security

I2

Encryption algorithm

AES 128

Notifications

Notification types

- Push notifications
- SMS
- Calls

Learn more 

Event types

- Alarms
- Video detections
- Malfunctions
- Armed modes
- System events
- Non-security alerts
- Automation devices
- Smart lock events
- Doorbell ringing

Notification types are configured individually for each user. Notifications can be customized for A–F schemes according to EN 50131 requirements.

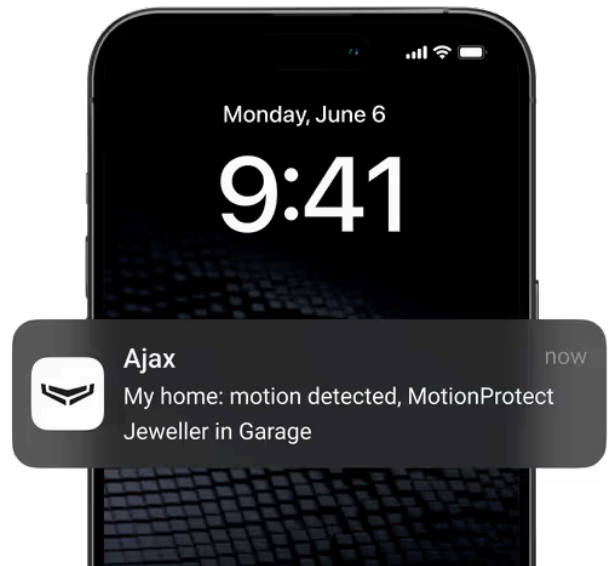


Photo verification

Photo verification types

- By alarm
- By scenario
- On demand

- By schedule
- By arming/disarming
- By masking attempt
- By tamper alarm
- By magnetometer alarm

Photo delivery time

up to 9 s

By default.

Learn more 

Photo resolution

up to 960 × 720 pixels

Depends on the detector type.

Number of photos in a series

1 to 5

Monitoring

Supported protocols

- SIA DC-09 (SIA-DCS)
- SurGard (Contact ID)
- ADEMCO 685
- Other proprietary protocols

[Learn more](#) >

Event types

- System alarms and events
- Panic button coordinates
- Photo verification

[Learn more](#) >

Sabotage protection

Tamper alarm

The board has a connector for attaching a tamper board. The tamper board detects when the Ajax Case lid is opened and notifies of attempts to detach Ajax Case with the installed hub from the surface.

[Learn more](#) >

Protection against spoofing

device authentication

Frequency hopping

The hub sends notifications of jamming or connection loss with the devices to all users and the monitoring company.

[Learn more](#) >

Jamming detection

The hub analyzes the noise level in the channel and the communication quality with added devices and sends a notification within 30 seconds.

Power supply

Main power supply type

type A

Device operating AC voltage range

100–240 V, 50/60 Hz

From the main power supply. Maximum current consumption is up to 1.8 A.

Device operating DC voltage range

10.5–15 V $\equiv$

Autonomous operation

up to 60 hours

Superior MegaHub with an 18 Ah backup battery can power a system with XXX wired devices for 60 hours. Wireless devices operate on batteries and do not require an additional power supply.

The **Battery power saver** feature allows extending the backup battery life.

Learn more 

Low battery voltage

11.7 V $\equiv$

Low battery recovery voltage

12.7 V⁼⁼

End-of-life battery voltage

10.5 V⁼⁼

Superior MegaHub switches off.

Maximum output peak-to-peak ripple voltage

1.2 V⁼⁼

Minimum backup battery energy level in the charged state

100%

Current consumption

Maximum at nominal voltage

220 mA

Quiescent at nominal voltage²

up to 178 mA

When GSM and Ethernet are enabled.

up to 170 mA

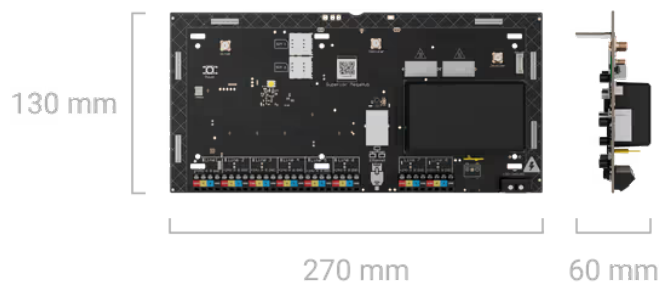
When Ethernet is disabled.

² From the backup battery if the main power supply is lost.

Board

Dimensions

130 × 270 × 60 mm



Weight

410 g

Operating temperature range

from -25 °C to +55 °C

Operating humidity

up to 95% without condensation

Complete set

Superior MegaHub (without casing)

Power cable

Battery connection cable

LED board

LED board connection cable

Ethernet cable

8 terminating resistors (120 Ω)

Quick start guide

Additional information

Compliance with standards

Learn more >

User manual

Learn more >

Warranty

24 months

Learn more >

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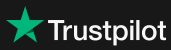
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Rating 4.8

4,000,000

people worldwide under Ajax protection

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Ajax Ready products

Fibra wired protocol

Ajax radio protocols

Software

Ajax Security System

Ajax PRO: Tool for Engineers

Ajax Desktop

Ajax PRO Desktop

Ajax TV

Ajax Translator PRO

Ajax Cloud Signaling

Scenarios



Available on
App Store



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Google Play

Solutions

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Why Ajax

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CMS software compatibility

Ajax Services availability

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Switches and outlets configurator

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