Ajax Superior MegaHub

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

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

3 GRADE EN 50131

PD 6662 2017

The core of enterprise-level security

Superior MegaHub is the flagship of the Ajax ecosystem, designed for projects where conventional systems reach their limits. It combines wired and wireless technologies into one hybrid powerhouse, supporting up to 999[1] devices and 100 security groups to deliver true enterprise-scale protection. The hub comes fully equipped out of the box with a built-in power supply, Ethernet, Wi-Fi, cellular, and radio modules. Certified to Grade 3, it forms a solid foundation for complex security setups, integrating intrusion protection, automation, and video surveillance into a single reliable solution.

Product versions

Ajax Superior MegaHub	Ajax Superior MegaHub (without casing)
Shipped in Ajax Case E (395)	Shipped as a board designed for installation in a compatible Ajax Case
Features a built-in tamper button	Supports external tamper board connection
Equipped with built-in LED indicators	Comes with an external LED board

Built-in connectivity

The hub comes fully equipped with all necessary communicators — no additional equipment is required. Built-in radio modules provide seamless connectivity between the hub and system devices. Alarms and events are sent to Ajax apps and the monitoring station via Ethernet, Wi-Fi, or cellular communication channels.

Communication with Ajax server and apps

Ethernet, Wi-Fi, and two 2G/4G (LTE) SIM cards to access the internet

- Support for simultaneous connection of up to 4 providers
- Instant automatic switch between communication channels
- Communication channel prioritization

Wired communication with system devices

Fibra communication protocol

- Communication range[2] of up to 2,000 m (6,550 ft) without additional power supply or line extenders
- Range extension with Fibra accessories
- 8 lines to connect devices
- Support for different device types on a single line
- 3 Fibra line topologies: Beam (Radial wiring), Ring, and Tree[3]

Wireless communication with system devices

Superior Jeweller, TurboWings, and VoRF radio protocols

- Communication range[4] of up to 2,000 m (6,550 ft) in open space
- Visual data transmission for alarm verification
- Firmware update transmission
- Data packet reload in case of transmission errors
- Full-duplex audio communication

Photo verification

The hub is compatible with Ajax MotionCam detectors and supports the following types of photo verification:

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

Automation scenarios

The hub supports up to 100 automation scenarios. A user or PRO can create a scenario of any type:

by alarm | by schedule | by arming/disarming | by pressing Ajax Button | by pressing Ajax LightSwitch | by temperature | by humidity level | by CO_2 concentration

Sabotage resistance

- Tamper alarm
- Short circuit detection
- Instant detection of the Fibra line being broken
- Jamming detection and frequency hopping
- Device authentication to prevent spoofing
- Ring topology: if the line breaks, the ring splits into two independent beams, allowing connected devices to continue operating normally

Quick installation and setup

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

Compliance with standards

EN 50131 (Grade 3)
PD 6662:2017

Communication channels

Ethernet
8P8C socket
Up to 100 Mbps

Cellular networks
2 slots for micro SIM

2G
GSM900/DCS1800 (B3/B8)

4G (LTE)
FDD B1/B3/B5/B7/B8/B20

Automatic switching between communication channels

- up to 4 minutes between SIM cards
- instantly between 4G (LTE), and 2G networks on one SIM card
- instantly between Ethernet, Wi-Fi, and a SIM card

Communication with Ajax devices

Fibra communication technology

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

4×0.22 mm² signal cable with a copper conductor

Communication range
up to 2,000 m
up to 6,550 ft
When U/UTP cat.5 4×2×0.51 mm (24 AWG) cable is used

TurboWings communication technology

Communication range
up to 1,700 m
up to 5,550 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
The device supports all listed bands

Superior Jeweller communication technology

Communication range
up to 2,000 m
up to 6,550 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
The device supports all listed bands

VoRF communication technology

Communication range
up to 1,700 m
up to 5,550 ft
In open space

Frequency bands
863.0–865.0 MHz

Capacity

Ajax devices
up to 999[1]

- wired and wireless devices in any combination
- up to 10 range extenders

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 Ajax NVRs
up to 224 Ajax cameras via Ajax NVRs
up to 492 standalone cameras

Users
up to 1,000

Automation scenarios
up to 100

Security groups
up to 100

Rooms
up to 500

Event log
up to 1,000 events
Alarms and events are saved in non-volatile on-board flash memory

Compatibility with hubs and range extenders

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

ajax.systems/tools/devices-compatibility/

Installation

Operating temperature
–25 °C to +55 °C
–13 °F to 131 °F

Operating humidity
up to 95%
Non-condensing

Power supply

Main power supply type
Type A

Operating AC voltage
100–240 V, 50/60 Hz
Up to 10 W of mains power consumption

Fibra line
24 V⎓
The hub powers connected devices

Autonomous operation
up to 60 hours on a 12 V⎓, 18 Ah backup battery
The backup battery is not included in the complete set

Product appearance

Ajax Superior MegaHub

Color
white, black

Dimensions
395 × 300 × 110 mm
15.55" × 11.81" × 4.33"

Weight
TBC

Protection class
IP40, IK06

Ajax Superior MegaHub (without casing)

Color
black

Dimensions
130 × 270 × 60 mm
5.12" × 10.63" × 2.36"

Weight
410 g
14.5 oz

Complete set

Ajax Superior MegaHub
Hub board
Case E (395)
Power cable
12 V⎓ battery connection cable
Ethernet cable
8 terminating resistors (120 Ω)
Installation kit
Quick start guide

Ajax Superior MegaHub (without casing)
Hub board
Power cable
12 V⎓ battery connection cable
Ethernet cable
8 terminating resistors (120 Ω)
External LED board
Cable for external LED board connection
Installation kit
Quick start guide

[1] The hub supports only up to 250 Ajax devices with legacy firmware. To reach a capacity of 999 devices, use Ajax devices with 999-ready firmware. Such devices have a "999-ready" mark on the packaging.
[2] For wired communication, the value applies when a U/UTP cat.5 4×2×0.51 mm (24 AWG) cable is used. For wireless communication, the value applies in open space.
[3] The Tree topology is built using Fibra accessories: Superior LineSplit Fibra and Superior LineSupply (75 W) Fibra.
[4] Superior Jeweller has a communication range of up to 2,000 m (6,550 ft), while TurboWings and VoRF radio protocols provide up to 1,700 m (5,550 ft).

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

ajax.systems/products/superior-megahub/manuals/

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