Superior MotionCam HD (PhOD) Jeweller

Wireless PIR motion detector that takes on-demand photos and photos by alarm, schedule, and scenario. Support for HD photo.

Lightning-fast alarms. Verified in HD.

Superior MotionCam HD (PhOD) Jeweller is a next-generation motion detector designed to provide high-quality alarm photo verification with support for both HD and HDR. Thanks to the HD technology[1], details such as faces or text become more clear and recognizable. In turn, HDR further enhances the image by improving colors and contrast, ensuring that photos look more lifelike and are free from overexposed or underexposed areas. But there's more: Superior MotionCam HD (PhOD) Jeweller captures and delivers photos at incredible speeds. Thus, security teams can quickly confirm real threats and respond effectively. Users can take on-demand photos anytime with a single tap in an Ajax app. The device can also be configured to take photos automatically when triggered by other devices or according to a set schedule.

Key features

Four types of photo verification ● Photo by alarm ● Photo by scenario ● Photo on demand ● Photo by schedule	IR illumination for low-light conditions	Horizontal viewing angle	HDR technology
The first photo is delivered in 4.5 seconds thanks to TurboWings radio protocol[2]	Vertical viewing angle	HD support photos with a resolution of 960 × 720 pixels are delivered in 16 seconds	Up to 12 m 39 ft movement detection distance
Software algorithm to prevent false alarms	Photo privacy protection	Informative push notifications ⚠️ CRITICAL **Ajax** Warehouse: Motion detected, Superior MotionCam HD (PhOD) in Storage area **Ajax** Office: Lid is closed, Superior MotionCam HD (PhOD)	Up to 1,700 m 5,550 ft of wireless communication with an Ajax hub or range extender[4]
Up to 4 years of operation[3] on pre-installed enhanced batteries	Temperature compensation for effective detection in heat and cold	Pet immunity	Holding screw to secure the detector on a mounting pane
Jeweller and TurboWings radio communication Power adjustment Frequency hopping Encryption TDMA Two-way communication Power adjustment	Two colors of matte enclosure ——————————— Remote control and configuration	Hassle-free installation QR code → SmartBracket → App	EN 50131 (Grade 2) PD 6662:2017 SSF (in progress)

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.

Wherever there is a risk of intrusion

Office or coworking	Store	Warehouse or manufacturing site	Restaurant or cafe	Educational institution	Museum or exhibition center	Motorhome	Private residence or apartment

Instant awareness on demand

Superior MotionCam HD (PhOD) Jeweller takes just 4.5 seconds to send a photo in default resolution and 16 seconds for an HD photo. In either case, this allows users to promptly access the actual situation at the scene. It takes a simple tap in an Ajax app to take a photo on demand. Additionally, the device can be configured to automatically take photos either by schedule or when another detector in the system is triggered.

- Photo by alarm
- Photo on demand
- Photo by scenario
- Photo by schedule

Privacy first

Detailed event log	Strict permission distribution	Encryption and GDPR
The event log records the last 500 events in the system, providing clear data on the device, time, and event description. On-demand photos are linked to the user who requested them. Security companies do not receive these photos.	The **Privacy** menu in Ajax apps helps precisely configure access to visual data for users and security company operators. Only authorized users can request a photo and view received images.	Photos are encrypted at every stage of transmission. Only authorized system users can access the virtual Ajax Cloud storage and view photos. Once stored, the photos are neither processed nor analyzed. The Ajax Cloud server is located in several geographically dispersed data centers, which meets the General Data Protection Regulation (GDPR) requirements.

Discover future-proof hardware

- IR illumination for low-light conditions
- Optical system with HD camera
- HDR processor
- CMOS sensor
- Fresnel lens
- PIR sensor
- Tamper
- Jeweller and Wings antennas
- Pre-installed enhanced batteries
- SmartBracket mounting panel
- Holding screw to secure the detector on SmartBracket

No intruder goes unnoticed

PIR sensor

All Ajax motion detectors use PIR sensors by **Excelitas Technologies**, a field-leading American manufacturer specializing in designing and producing optronic components since 1931. Ajax Systems constantly proves the sensor's superior quality at the production stage: **we test 100% of manufactured devices**. This approach ensures the utmost accuracy of intrusion detection.

Fresnel lens

The pattern of the Fresnel lens sections is designed to differentiate between the IR signatures of people, animals, and thermal noise. Large lens sections capture radiation at the level of an adult's head and torso, while smaller sections make the diagram more detailed. The lens equips the detector with accurate data about the thermal objects in the detection zone and the nature of their movement.

Thermal interference filter

We processed thousands of thermal patterns caused by people and the environment to develop the SmartDetect software algorithm. In armed mode, the detector constantly analyzes the thermal diagram from the PIR sensor, including the IR radiation intensity, thermal spot size, movement speed, time spent in the detection zone, and other parameters. The algorithm filters out potential false triggers such as headlights, lighting devices, and heat flows instantly and with high accuracy. As a result, the detector accurately responds to movement without false alarms.

Thermal spot size		Movement speed		IR radiation intensity	
False alarm	Real alarm	False alarm	Real alarm	False alarm	Real alarm

Temperature compensation

Temperature compensation is a software mechanism that maintains the contrast of the thermal diagram even if the ambient temperature is close to the temperature of the human body. With each ambient temperature measurement, the detector corrects the PIR sensors' data according to the coefficient table stored in its memory. The detector is effective over the entire operating temperature range.

Sensitivity level

The detector features four sensitivity levels that can be adjusted through an Ajax app. The optimal sensitivity level depends on the facility type, the presence of potential sources of false alarms, and the specifics of the protected area. A low sensitivity level is suitable for areas prone to false alarms; normal sensitivity is ideal for most facilities, and high sensitivity is recommended for areas with no obstacles.

Professional installation

Superior MotionCam HD (PhOD) Jeweller is a device of the Superior product line. Only accredited Ajax Systems partners can sell, install, and administer Superior products. When installed correctly at a height of 2.4 m 8 ft with the lens facing directly toward a potential intrusion path, the detector delivers an accurate thermal image and is immune to pets. It quickly detects real threats while minimizing false alarms from animals that weigh up to 20 kg 44lbs and are under 50 cm 1.6 ft tall, as well as other potential sources of thermal interference.

Stable performance in heat and cold

The Superior devices are equipped with high-quality batteries from proven manufacturers only. In addition to real-time testing during the battery production stage, Ajax Systems inspects every unit to ensure the accuracy of the batteries' characteristics. The temperature range does not affect capacity, as the batteries provide stable performance in temperatures from −10 °C to +40 °C from 14 °F to 104 °F.

- Minimal impact of threshold temperatures on battery life
- High quality proven by regular tests
- Up to 4 years of operation[3]

Unique wireless technologies

Superior MotionCam HD (PhOD) Jeweller uses Jeweller and TurboWings proprietary radio protocols for reliable communication.

Up to 1,700 m 5,550 ft of radio communication	Encrypted two-way radio communication

with a hub or range extender[4]	
Notifications of jamming and connection loss	Fast photo delivery

Scaled and comprehensive

ReX 2 Jeweller range extender boosts the radio range of all Ajax devices via Jeweller and ensures stable communication even through steel and concrete via Ethernet using the wire as the additional communication channel. Up to 5 range extenders can operate within one Ajax system to expand the network twice as big, covering multistory buildings with underground parking and basements.

- Up to 5 range extenders within one system
- Ethernet as an alternative communication channel

- Big estate and large facilities
- Business center with underground parking
- Warehouse or industrial complex
- Metal hangar

System supervision

All Ajax devices perform automatic self-diagnosis and report their states to the hub. Essential parameters, including tamper, communication, power supply, and sensor states, are continuously monitored. The Ajax Cloud server controls communication between the hub and Ajax apps, ensuring instant notifications for security companies and users. If there is any malfunction or communication failure, an engineer will be immediately informed to provide the necessary services.

Automatic device self-diagnosis with status report
Regular polling to display the current device state on apps
Instant maintenance notifications

Sabotage resistance

Tamper alarm	Data encryption	Informative notifications
The detector contains a tamper that activates an alarm if the device is detached from the surface or if its enclosure is opened. The system instantly notifies the security company and users of any intrusion attempts.	All data the system stores and transmits is protected by block encryption featuring a dynamic key. This encryption deters intentional sabotage attempts on the detector.	An Ajax system instantly delivers informative notifications of alarms and events. Security companies and users receive precise details about the incident, including the triggered device, along with the time and location.
Device authentication against spoofing The hub checks the detector's unique parameters for authentication during each communication session. If any parameter fails the check, the hub ignores device commands.	**Regular polling** The device regularly exchanges data with the hub. The system controls each device state and reports if there is a malfunction or connection loss.	**Connection loss detection** With the minimum polling interval settings (3 data packages every 12 seconds), it takes only 36 seconds to detect connection loss and notify the security company and users of the incident.

Effortless installation and setup

Superior MotionCam HD (PhOD) Jeweller is ready to operate straight out of the box. Using the SmartBracket panel, an installer can effortlessly mount the device on the wall, eliminating the need to disassemble the enclosure. Ajax apps help quickly make the device a part of the ecosystem: simply pair the device with the hub by scanning the QR code. It can always be reconfigured remotely without the need for on-site visits.

Connection	Installation	Setup	Monitoring

Pairing with the hub via QR code	SmartBracket panel — no need to disassemble the enclosure	Configuring and testing in mobile and desktop apps	**PRO Desktop** app for macOS and Windows

[1] The first photo is delivered in 16 seconds.

[2] The first photo has a default photo resolution (640 × 480 pixels). If it is an HD photo, delivery takes up to 16 seconds.

[3] With the Photo on demand feature disabled. If the Photo on demand feature is enabled, the battery life can last up to 3 years.

[4] In an open space.