MotionCam (PhOD) Jeweller

Wireless IR motion detector supporting photo by alarm, photo on demand, photo by schedule, and photo by scenario features

Lightning-fast alarms. Verified.

MotionCam (PhOD) Jeweller has a built-in camera that takes photos once the detector is triggered. It needs just 9 seconds to show the actual situation on the scene. With visual evidence available in Ajax apps, the security company can quickly verify the threat and respond accordingly. Photo verification relieves users of unnecessary anxiety and prevents security companies from false patrol calls. Users can take an on-demand photo with a single tap to monitor their house's state at any time. The detector can also automatically take photos by an alarm of another device in the system and by a specific schedule.

Key features

Up to 12 m motion detection distance	Vertical viewing angle	4 types of photo verification	Two colors
		Photo by Alarm	Remote control and configuration
		Photo on Demand	
		Photo by Scenario	
		Photo by Schedule	
Horizontal viewing angle	9 seconds to deliver the first photo[1]	Software algorithm to prevent false alarms SmartDetect	Pet immunity
Up to 5 years with pre-installed batteries	Photo privacy protection	Up to 1,700 m communication range with an Ajax hub or range extender[2]	Grade 2 (EN 50131) PD 6662:2017 UL® Listed
Informative push notifications Critical Warehouse: Motion detected, MotionCam (PhOD) in Storage area	Jeweller and Wings radio communication Power adjustment Frequency hopping Encryption TDMA Two-way communication Power adjustment	Temperature compensation for effective detection in heat and cold IR backlight for low-light conditions	Hassle-free installation QR code ↓ SmartBracket ↓ App

Office: Lid is closed, MotionCam (PhOD) in Hall			

Wherever there is a risk of intrusion

Office	Store	Cafe	Museum	Apartment

Peace of mind on demand

The detector needs just a few seconds to show the actual situation on the scene and dispel the user's doubts in case of an alarm. It takes a click in the Ajax app to take an on-demand photo. Also, it can automatically take photos by schedule and 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 500 recent events within the system. The data is explicit with the device, time, and event description. On-demand photos are linked to the user who requested them. Photos can be received only by users with the **Photo on Demand** access. Security companies do not receive the photos.	The Privacy menu in Ajax apps helps accurately adjust access to visual data for users and security company operators: who and when can request a photo, which detector can take on-demand photos, and who can view the received pictures or streams from integrated surveillance cameras.	Photos are encrypted at every stage of transmission. Only system users can access the virtual Ajax Cloud storage and view photos. While stored, no photos are processed or analyzed. The Ajax Cloud service is hosted on geographically distributed servers that meet the General Data Protection Regulation (GDPR) requirements.

Discover future-proof hardware

- IR backlight for low light conditions
- Fresnel lens
- Camera
- PIR sensor
- Tamper
- Jeweller and Wings antennas
- SmartBracket mounting panel

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. Wrapped into Ajax technologies, it brings the utmost accuracy of intrusion detection.

Special lens

The pattern of the Fresnel lens sections is designed to differentiate between the IR diagrams of a human, animal, and thermal noise. Large lens sections capture radiation at an adult's head and torso level. Smaller sections make the diagram more detailed. The lens provides the detector with accurate information about the thermal object in the detection zone and the nature of its movement.

Thermal interferences filter

We processed thousands of thermal patterns caused by humans, animals, 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 identifies false alarm markers instantly and with high accuracy. As a result — the detector accurately responds to human motion 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 keeping the thermal diagram contrast even if the ambient temperature is close to the temperature of the human body. With each ambient temperature measurement, the detector corrects the PIR sensor data according to the coefficient table stored in its memory. The detector is effective over the entire operating temperature range.

Sensitivity level

The detector can adapt to the conditions of a particular facility, considering possible thermal interference or pets. The sensitivity setting changes the set of markers by which false alarms are filtered. Low sensitivity makes the detector less likely to respond to an active pet. A high sensitivity will raise the alarm in case of any motion in the detection zone.

Professional installation

With the correct installation at the height of 2.4 m and lens direction perpendicular to an alleged intrusion path, the detector provides an accurate thermal diagram and pet immunity. It instantly responds to a real threat, minimizing false alarms caused by animals weighing up to 20 kg and below 50 cm in height.

Stable operation with pre-installed batteries

MotionCam (PhOD) Jeweller comes equipped with pre-installed batteries, boasting a remarkable 5-year lifespan. Ajax apps proactively notify both the monitoring company and users of a low battery level a couple of months in advance. The batteries are replaceable, allowing the installer to simply swap them out after five years. Thanks to the batteries, MotionCam (PhOD) Jeweller functions independently of the facility's power grid.

- Up to 5 years of operation from pre-installed batteries
- Low battery level warning
- Replaceable CR123A batteries

Unique wireless technologies

MotionCam (PhOD) uses Jeweller and Wings proprietary radio protocols for reliable communication

- Up to 1,700 m of radio communication[2] with a hub or range extender
- Encrypted two-way radio communication
- Notifications about jamming and connection loss
- 9 seconds[1] to deliver the first photo

Scaled and comprehensive

ReX 2 boosts the radio range of all Ajax devices via Jeweller and assures 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 underground parking, basement, or metal hangar.

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

- Business center with underground parking
- Warehouse or industrial complex

- Sectional 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 statuses, are continuously monitored. The Ajax Cloud server controls communication between the hub and Ajax apps, ensuring instant notifications for ARCs, security companies, and users. In case of any malfunction or communication failure, an engineer is informed immediately to provide 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	Data-rich notifications
The enclosure has a tamper button, which notifies the security company and users once the device is dismantled from the mount.	All data the system stores and transmits is protected by a block cipher with a dynamic key. Encryption makes it extremely difficult to reprogram the device, replace or steal the data.	The Ajax system instantly notifies about alarms and events with informative notifications: security companies and users know exactly which device triggered, when and where it happened.
Device authentication against spoofing The hub checks the device'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.	Communication failure detection The device regularly exchanges data with the hub. With maximum ping interval settings available (3 data packages once in 12 seconds), it takes only 36 seconds to identify communication loss and notify the security company and users about the incident.

Effortless installation and setup

MotionCam (PhOD) 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 With default settings (photo resolution is 320 × 240 px).

² In an open space.