Curtain Outdoor Jeweller

Wireless dual-technology curtain motion detector for outdoor and indoor use

The first line of defense

Curtain Outdoor Jeweller is a motion detector for covering the perimeter of a site with exceptional accuracy and a near-zero chance of false alarms. Featuring a unique optical system, the device looks over narrow sectors of up to 12 m long (39 ft). Dual motion detection technology engaging two PIR sensors and one K_a-band microwave sensor allows filtering out false alarms caused by thermal noise, animals, or plants. The detection range and pet immunity mode are configured via a slider on the detector's enclosure, and sensitivity is configured in Ajax apps to meet the specific needs of the site. Pre-installed batteries ensure stable performance for up to three years.

Vertical viewing angle[1]: 85°/15°	Hood to protect masking sensors from rain and snow	Dual motion detection technology to trigger the device only when both types of sensors detect motion	Software algorithm to distinguish human movement from pet and other non-human activities
Can be fixed to a third-party mount	Tamper	Up to 3 years of operation on pre-installed batteries	IP55 enclosure protection
Up to 1,700 m (5,500 ft) communication range with an Ajax hub or range extender[2]	Informative push notifications Critical Warehouse: Motion detected, Curtain Outdoor Jeweller in Storage area Office: Lid is closed, Curtain Outdoor Jeweller in Hall	Optional angle mount to install the detector sideways	EN 50131 (Grade 2)
Adjustable motion detection range	Horizontal viewing angle: 8°	Temperature compensation for effective detection in heat and cold	Pet immunity as an optional detection mode
Anti-masking system	Accelerometer	Over-the-air firmware updates	Jeweller and Wings radio communication Power adjustment Frequency hopping Encryption TDMA Two-way communication Power adjustment
Remote control and configuration	Holding screw	Hassle-free installation QR code SmartBracket App	

Superior, **Fibra**, and **Baseline** product lines are mutually compatible. This opens up numerous possibilities for building systems of any configuration.

Office	Manufacturing	Restaurant	Warehouse	Hangar	House

Two operating modes

Curtain Outdoor Jeweller operates in two modes: regular and with pet immunity on. In the regular mode, any motion within the covered area triggers an alarm. The pet immunity mode is designed to ignore the movement of animals up to 100 cm (3.28 ft) tall and minimize false alarms.

Without pet immunity	With pet immunity

Facility-specific motion detection

The device offers up to 12 m (39 ft) of detection range, which, however, can be adjusted to fit the peculiarities of a site. For example, the range can be set for the detector to cover doors and windows yet to ignore high-traffic zones like a walkway. Detection sensitivity levels are also essential to limit false patrol dispatches. Set the sensitivity to low in areas prone to false alarms, medium for most sites, and high in obstacle-free zones where immediate threat detection is crucial.

Flawless hardware

Fresnel lens	Two PIR sensors	K-band microwave sensor	Slider to change operating mode and detection range	Jeweller and Wings antennas	Tamper	Hood	Accelerometer	Masking sensors	SmartBracket mounting panel	Holding screw	Angle mount

Keep false alarms at bay

Two PIR sensors

Curtain Outdoor Jeweller has two PIR sensors to ensure accurate motion detection. The detector does not respond to a movement if only one sensor is triggered. When both sensors detect motion, proprietary digital algorithms come into play. In a fraction of a second, they perform a three-step signal analysis, filter out natural obstacles or animals, and decide whether an alarm should be raised.

K-band microwave sensor

The K-band microwave sensor verifies alarms triggered by PIR sensors. It performs a radio-wave scan of an area to minimize false alarms triggered by thermal interferences. Unlike traditional X-band sensors, the K_u-band sensor offers superior precision and energy efficiency, with significantly fewer false alarms and hardly noticeable impact on the battery life. Additionally, the sensor is completely safe and poses no threat to health.

SmartDetect

Thermal interferences filter

When the system is in armed mode, the detector constantly analyzes the thermal diagram from the PIR sensors, including the IR radiation intensity, thermal spot size, movement speed, time spent in the detection zone, and other parameters. The SmartDetect software algorithm identifies false alarm markers instantly and with high accuracy. As a result, the device accurately responds to human 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 ensures thermal diagram contrast even if the ambient temperature is close to the temperature of a human body. With each ambient temperature measurement, the detector corrects the PIR sensors data according to the coefficient table stored in its

memory. The device is effective throughout the entire operating temperature range.

Sensitivity level

Curtain Outdoor Jeweller has in-app sensitivity settings. Low sensitivity makes the detector less likely to respond to interferences, while high sensitivity ensures an alarm is raised in case of any movement in the detection zone. Set up the needed sensitivity level to avoid costly patrol dispatches to false alarms.

Professional installation

With the correct installation, the detector performs with high precision. The device should be perpendicular to the ground level, while the potential path of an intruder should be perpendicular to the axis of the detector's lens. When configured with the correct operating mode, sensitivity, and detection range, Curtain Outdoor Jeweller instantly responds to real threats and generates barely any false alarms.

Unique wireless technologies

Curtain Outdoor Jeweller uses Jeweller and Wings proprietary radio protocols for reliable communication.

- Up to 1,700 m (5,550 ft) of radio communication with a hub or range extender[2]
- Encrypted two-way radio communication
- Notifications of jamming and connection loss
- Over-the-air firmware updates

Scaled and comprehensive

ReX 2 Jeweller range extender 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 multistorey 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
- Sectional metal hangar
- Warehouse or industrial complex

System supervision

All Ajax devices perform automatic self-diagnosis and report their states to a 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 alarm receiving centers (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	Accelerometer
The enclosure is equipped with a tamper button, which notifies a security company and users once the detector is dismantled from the mounting panel.	When enabled, a built-in accelerometer alerts about sabotage. Sirens added to the system are activated when Curtain Outdoor Jeweller moves. The feature is crucial if a third-party mount is used. The accelerometer can detect if it is broken or if there are interferences with the detector's field of view.
Anti-masking system	**Device authentication against spoofing**

The device detects masking caused by obstacles at a distance of up to 5 cm (1.9 inches) from the lens depending on the masking method used. The system notifies users and the ARC of these attempts to interfere with the detector's operation.	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.
Data encryption 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.	**Regular polling** The device regularly exchanges data with the hub. The system controls each device state and reports if there is a malfunction.
Data-rich notifications The Ajax system instantly notifies of alarms and events with informative notifications: security companies and users know exactly which device triggered, when and where it happened.	**Connection loss detection** With minimal polling interval settings (3 data packages in 12 seconds), it takes 36 seconds to identify communication loss and notify the security company and users of the incident.

Effortless installation and setup

Curtain Outdoor Jeweller is ready to operate straight out of the box. There are three options for installing the detector: using the SmartBracket mounting panel, an angle mount, or a third-party mount. There is also an option to protect masking sensors from rain and snow with the hood. Ajax apps help quickly make the device a part of the system: simply pair the device with the hub by scanning a QR code. The detector can always be reconfigured remotely without the need for on-site visits.

Connection	Installation			Setup	Monitoring
Pairing with the security system via a QR code	To the SmartBracket mounting panel	To the angle mount	To the third-party mount	Configuring and testing in mobile and desktop apps	**PRO Desktop** app for macOS and Windows

[1] Depends on the installation height. The angle is 85° at 2.4 m (7.87 ft) and 15° at 1 m (3.28 ft).

[2] In an open space.