

MotionCam Fibra User manual

Updated June 26, 2023



MotionCam Fibra is a wired motion detector featuring photo verification of alarms. The device is designed for indoor use only. Detects movement at a distance of up to 12 meters. Ignores pets when installed and configured correctly.

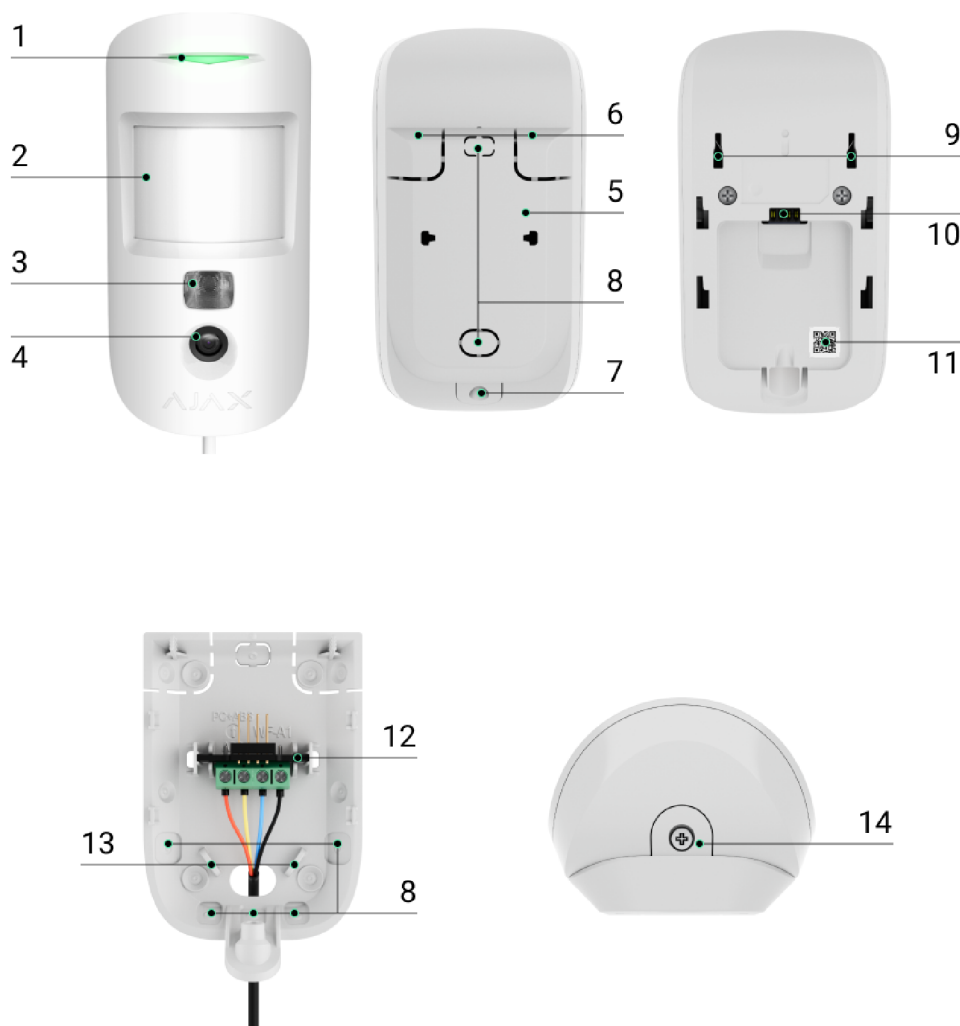


An Ajax hub is required for the detector to operate. MotionCam Fibra is compatible with [Hub Hybrid \(2G\)](#) and [Hub Hybrid \(4G\)](#) on [OS Malevich 2.15](#) or higher. Connection to other [hubs](#), [radio signal range extenders](#), [ocBridge Plus](#), and [uartBridge](#) is not provided.

MotionCam Fibra is part of an Ajax system and exchanges data with the hub using the secure Fibra wired communication protocol. Wired communication can be up to 2,000 meters long when connected using the U/UTP cat.5 twisted pair cable.

MotionCam Fibra relates to the Fibra product line of wired devices. Only accredited Ajax Systems partners can buy, install, and administer Fibra products.

Functional elements



1. LED indicator.

2. Motion detector lens.

3. Infrared (IR) backlight. Used to take photos in dark and low-light conditions.

4. Camera.

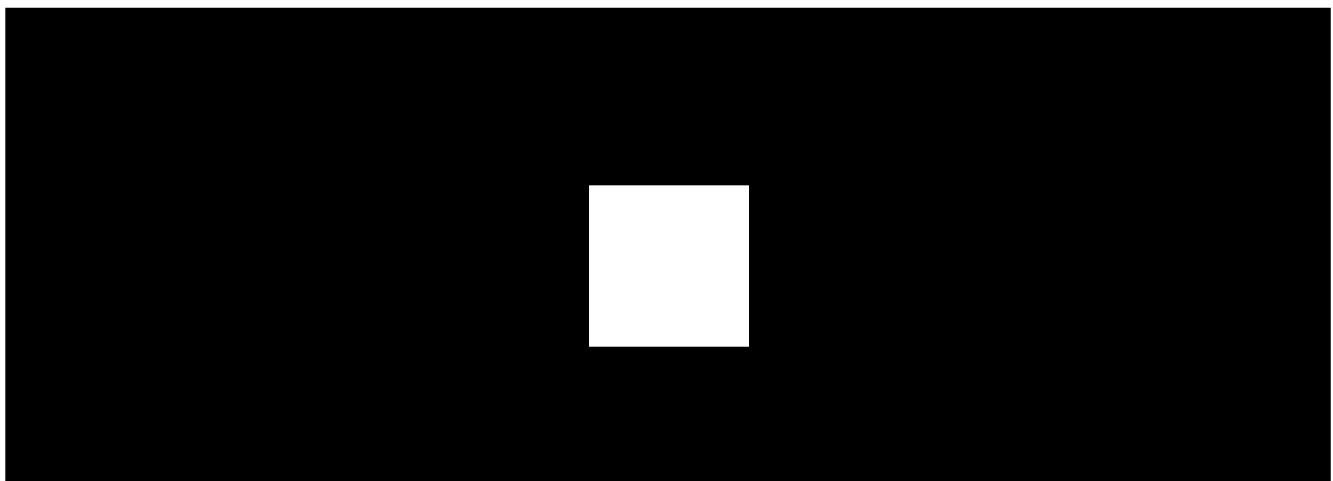
5. SmartBracket mounting panel. To remove the panel, slide it down.

6. Perforated parts of the mounting panel. Necessary to trigger a tamper in case of any attempt to detach the detector from the surface. Do not break them off!

7. The hole for attaching the SmartBracket mounting panel with a screw.

8. Places for the cables.
9. Tamper button. Triggers when an attempt is made to detach the detector from the surface or remove it from the mounting panel.
10. Terminal strip connection socket.
11. QR code with the device ID. It is used to pair the device with an Ajax hub.
12. Terminal strip for the detector connection.
13. The holes to secure the wires with wire ties.
14. Captive screw. It is used to fix the detector on the mounting panel.

Operating principle



00:00

00:12

MotionCam Fibra is a wired motion detector supporting photo verification. After detecting motion, it takes a series of images, which allows you to assess what is happening at the facility in dynamics. This relieves users of unnecessary anxiety and security companies of unnecessary patrol despatches.

When an armed detector identifies motion, it instantly sends an alarm to the hub. Control panel activates the sirens connected to the system, triggers scenarios, and notifies users and the security company. The Ajax app's log displays all the alarms and events. The notifications contain the hub's name, the device's name, and the virtual room to which the detector is assigned.

MotionCam Fibra is equipped with a tamper button and a battery. The tamper reacts if someone tries to break or open the lid of the enclosure. If it triggers, the notification is sent to the [Ajax apps](#). The battery is used when the detector takes a photo, activates an IR backlight, and transmits an alarm. This reduces the current consumption on the line to which the detector is connected and increases the autonomy of the detector and the system.

[How Ajax notifies of alerts](#)

[More about Ajax motion detectors](#)

[What is the tamper](#)

Fibra data transfer protocol

The detector uses Fibra technology to transmit alarms and events. It is a wired data transfer protocol for fast and reliable two-way communication between the hub and connected devices.

[Learn more about Fibra protocol](#)

Visual alarm verification

Visual alarm verification allows you to assess what is happening in the facility. MotionCam takes **Photo by Alarm** only if the motion is detected and only when the armed mode is on. By default, the **Photo by Alarm** feature is enabled for all detectors.



The detector does not switch to armed mode instantly. The switching time depends on two factors: the exit delay (specified in the detector settings) and the hub–detector ping interval. The ping interval specified in the hub settings , **Jeweller/Fibra** section, by default its meaning is 36 seconds.

In the first case, the delay is set by an administrator or a PRO user with admin rights. In the second case, the delay occurs because the hub takes one ping interval to notify the detector about the security mode change.

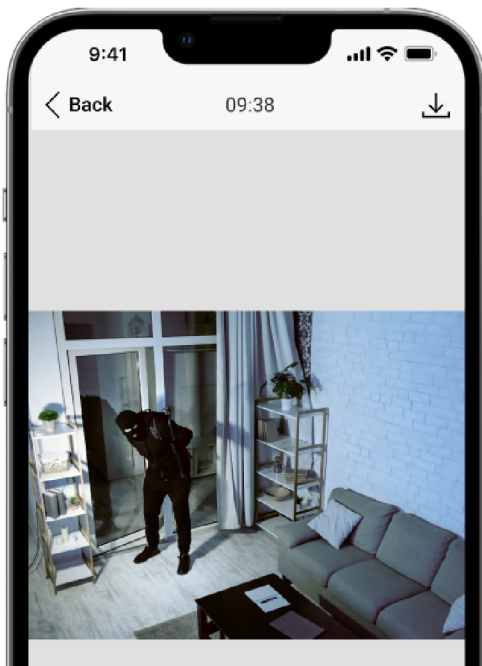
Features of alarm photo verification



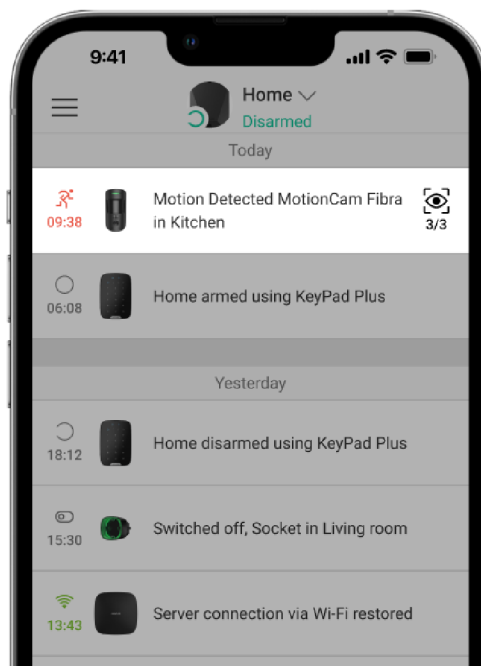
MotionCam series also includes [MotionCam \(PhOD\) Fibra](#) detector that supports [Photo on Demand](#) and [Photo by Scenario](#) functions. In addition to the photo by alarm, this detector can also take photos on user's demand as well as photos by alarm of other Ajax detectors and devices.

A built-in camera can take from 1 to 5 images with a resolution of 160×120 and 320×240 pixels, as well as up to 3 images with a resolution of 640×480 pixels.

The detector has an IR backlight for shooting in the dark, which activates with insufficient light. MotionCam takes black-and-white photos when shooting in these conditions.



Photos are played back in the application as a photo or animated series (if more than 1 photo is taken). The number of pictures is configured in [Ajax apps](#). To view the received photos, click on the MotionCam Fibra notification in the event feed.



You can view all the photos from the animated series individually by clicking on the icon at the bottom of the screen.



You can save photo verification as video or images by clicking the download icon.



Photo delivery time

The photo delivery time to Ajax apps depends on the image resolution, Fibra signal strength, and Internet connection speed. The alarm messages are delivered immediately, regardless of the settings.

The table shows the delivery time for one photo when the signal strength between the hub and MotionCam is 2–3 bars, and the hub is connected via Ethernet or 4G (LTE).

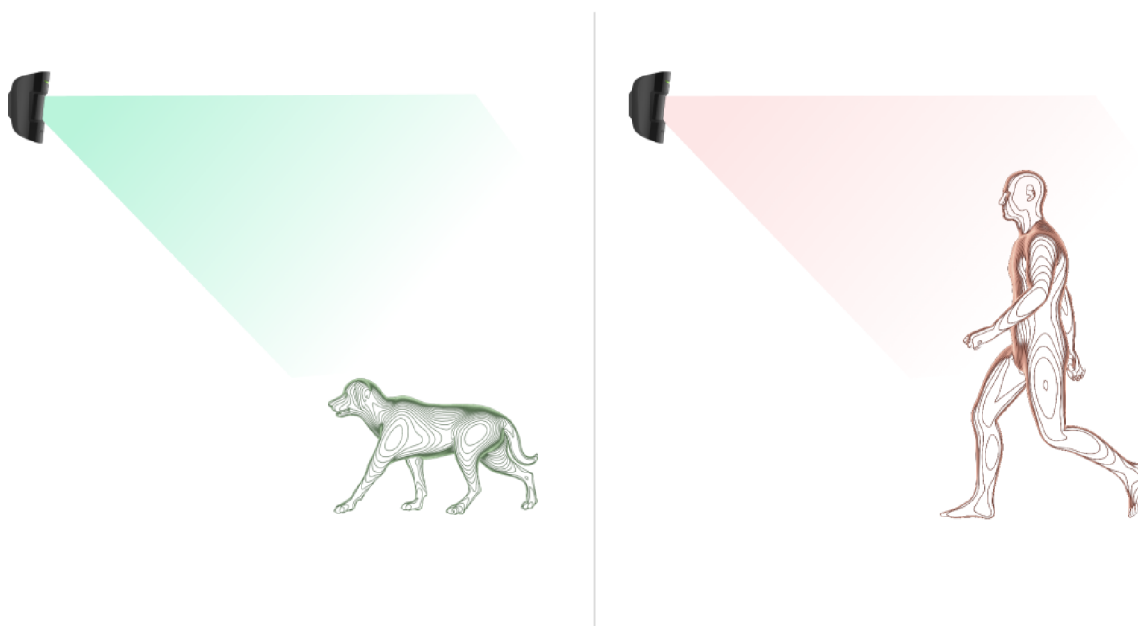
Photo resolution	Delivery time
160 × 120 pixels	up to 7 seconds
320 × 240 pixels (default)	up to 12 seconds
640 × 480 pixels	up to 21 seconds

Temperature compensation

Temperature compensation is necessary for the detector's response to movements, even if the room temperature is close to the human body temperature. Read more about temperature compensation in [this article](#).

Pet immunity

When properly installed and configured, MotionCam does not react to pets weighing up to 20 kg and below 50 cm in height. To [install](#) and [configure](#) the detector, follow our recommendations.



Why motion detectors react to animals and how to avoid it

Sending events to the monitoring station

The Ajax system can transmit alarms to the Ajax [PRO Desktop](#) monitoring app as well as the central monitoring station (CMS) in the formats of **SurGard (Contact ID)**, **SIA (DC-09)**, **ADEMCO 685**, and [other protocols](#).

Which CMS the Ajax system can be connected to

MotionCam Fibra can transmit the following events:

1. Motion alarm.

2. MotionCam Fibra alarm photo verifications.
3. Tamper alarm. Tamper recovery.
4. Loss of connection with the hub. Restoration of connection.
5. Deactivation / activation of the detector.
6. Alarm due to loss of the main power. Restoration of the main power.

The Ajax devices are addressable, meaning that PRO Desktop app and CMS receive events, device type, assigned name, and location (room, group). The list of transmitted parameters may differ depending on the type of CMS and the selected communication protocol.



You can find the device ID, loop (zone) number, and the line number in the device [States](#).

Photos are sent to the security company monitoring station if the CMS software supports photo verification. A list of such CMSs is [available here](#).



[PRO Desktop](#) supports receiving photo verification without additional setup.

Selecting the installation site

When choosing a spot to install MotionCam, consider the parameters that affect the operation of the device:



- Fibra signal strength.
- The length of the cable used to connect the detector to the hub.
- Motion detection zone.
- The camera's viewing angle and the presence of obstacles in front of it.

Follow [these recommendations](#) when designing the Ajax system project for an object. The security system should be designed and installed by professionals. The list of authorized Ajax partners is [available here](#).

MotionCam Fibra cannot be installed

1. Outdoors. This could damage the detector.
2. In places where objects and structures may obstruct the detector's and the camera's view. For example, behind a flower or a column.
3. In places where glass structures may obstruct the detector's view; it doesn't detect movement behind glass.
4. Facing the window to avoid direct sun rays hitting the detector lens. This can lead to false alarms of the motion detector on the armed mode.
5. Opposite any objects with rapidly changing temperature — for example, electric and gas heaters, air conditioners. This can lead to false alarms of the motion detector on the armed mode.
6. Opposite any moving objects with a temperature close to that of the human body — for example, opposite the swinging curtains above a radiator. This can lead to false alarms of the motion detector on the armed mode.
7. In places with fast air circulation — for example, near fans, air conditioners, open windows, or doors. This can lead to false alarms of the motion detector on the armed mode.
8. Inside premises with temperature and humidity values that do not correspond to the operating parameters. This could damage the detector.
9. In places with low or unstable Fibra signal strength.

Fibra signal strength

Fibra signal strength is determined by the ratio of the number of undelivered or corrupted data packages to those expected over a specific time. The icon  in the **Devices**  tab in Ajax apps indicates the signal strength: