TurretCam user manual

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TurretCam is an IP camera with a smart infrared (IR) backlight and an object recognition function. The user can view archived and live videos in the Ajax apps. To store the captured data, install a microSD card or connect the camera to **NVR** with an installed hard disk.

The camera is connected to the network via Ethernet, using the appropriate connector.

The camera is available in several versions:

- TurretCam (5 Mp/2.8 mm);

- TurretCam (8 Mp/2.8 mm);

- TurretCam (5 Mp/4 mm);

- TurretCam (8 Mp/4 mm).

Buy TurretCam

Functional elements

1. Camera holder.

2. Camera enclosure.

3. Camera lens.

4. IR backlight. Used to record videos in dark and low-light conditions.

5. Faceted lens. Covers the infrared LEDs and diffuses the rays.

6. Microphone.

7. Holes for attaching the camera to the surface.

8. Slot for microSD card.

9. Reset button.

10. QR code with the device ID. Used to add TurretCam to an Ajax system.

11. Cable connector.

Operating principle

TurretCam is an IP camera that uses artificial intelligence (AI) for object recognition. Its algorithms can identify moving objects, distinguishing between humans, animals, or vehicles.

The device features a smart IR backlight, ensuring the capture of high-quality images even in low-light conditions. The camera automatically adjusts the backlight intensity in real time to prevent overexposure, enabling clear visibility of objects that are either far away or too close to the camera in low-light conditions.

> ℹ️ TurretCam has an IP65 protection class, making it suitable for outdoor installation. Its robust metal enclosure protects the device against sabotage.

You can install a microSD card with a memory capacity from 8 GB to 256 GB (not included in the complete set of the camera). The memory card should be Class 10 or faster. Additionally, the device can operate without a memory card or via NVR.

TurretCam enables you to:

1. Watch video in real time with the ability to zoom in for a closer look.

2. Access archived videos, navigating through them based on recording chronology and calendar (this feature is available if a microSD memory card is installed in the camera, or it is connected to NVR with an installed hard disk).

3. Configure motion detection zones and adjust sensitivity level.

4. View the **Videowall** that combines images from all connected cameras.

5. Create video scenarios that send a short video from the selected camera to the Ajax app when the security detector is triggered.

How to export video in PRO Desktop

Video scenarios

The Ajax system offers the capability to use IP cameras for alarm verification. Video scenarios enable the substantiation of alarm triggers with corresponding video from cameras installed at the facility.

Cameras can be configured to respond to alarms from a single device, multiple devices, or all connected devices. Combined detectors can register various types of alarms, allowing you to configure responses to a wide range of alarm types, whether it's just one, several, or all of them.

Learn more

Videowall

The user can manage videos on the **Videowall** tab, accessible once at least one camera has been added. This feature ensures quick access to all connected cameras, displayed in accordance with privacy settings.

The user can:

1. Switch between cameras.

2. Search for the desired camera by name.

3. Receive updates on camera previews.

4. Change the display order (in progress).

Selecting the installation site

When choosing the optimal location to install TurretCam, consider the camera's viewing angle and any potential obstacles that might obstruct its view.

Consider the placement recommendations when designing the security system project for your object. The security system should be designed and installed by professionals. A list of recommended partners is **available here**.

The camera should not be installed

1. In indoor or outdoor locations where the temperature and humidity levels do not align with the specified **operating parameters**.

2. In locations where objects or structures might obstruct the camera's view.

Installation and connection

1. Using the bundled hexagon key (Ø 2 mm), loosen the two screws and detach the camera enclosure from the holder. Ensure to support the enclosure to prevent the camera from falling.

2. Remove the screws holding the QR code cover. Insert a microSD card (not included) into the appropriate slot. Replace the QR code cover and tighten the screws.

3. Use the mounting template to mark the locations for the drill holes on the surface where you plan to mount the camera. Secure the template to the chosen installation location with tape and drill three holes as indicated on the template.

4. Route the cable through the camera holder and secure the holder to the surface using the bundled screws.

5. Place the camera enclosure in the holder, ensuring that the camera lens faces the protected area. Secure it in place by tightening the two screws in the holder using the bundled hexagon key (Ø 2 mm).

6. Connect the Ethernet cable to the camera. If it is powered by PoE, no external power supply is needed; otherwise, connect both the external power supply and the Ethernet cable. Install a waterproof connector if the camera will be used in indoor areas with humidity levels outside the **operating parameters**, or outdoors.

7. Turn on the power supply of the camera. The LED indicator on the cable connector lights up green, indicating a successful connection to Ajax Cloud.

Adding to the system

Before adding a device

1. Install the **Ajax app** and log in to your account.

2. Create a **space**, configure its settings, and create at least one **virtual room**.

> ⓘ The space functionality is available for apps of such versions and higher:
>
> Ajax Security System 3.0 for iOS;
> Ajax Security System 3.0 for Android;
> Ajax PRO: Tool for Engineers 2.0 for iOS;
> Ajax PRO: Tool for Engineers 2.0 for Android;
> Ajax PRO Desktop 4.0 for macOS;
> Ajax PRO Desktop 4.0 for Windows.

3. If the app's version is lower, add an **Ajax hub** to the app. A hub is only required for adding the device to the Ajax system.

> ⚠ The device is compatible with all hubs. Connection to radio signal range extenders, ocBridge Plus, and uartBridge is not supported.

4. Ensure the space is disarmed.

How to add TurretCam

Without NVR in the system: ⌄

With NVR in the system: ⌄

Icons

The icons in the app display some device states. To access them:

1. Select a **space** in the Ajax app.

2. Go to the **Devices** ➖ tab.

3. Find **TurretCam** in the list.

Icon	Value
👁	Live view is available.
👁‍🗨	Live view is not available.
👥	Other users have access to view camera video. **Learn more**
🗄	The camera has an archive.
▭	The microSD card is not installed.
▥	The microSD card is installed.
▥	Malfunction of the microSD card is detected. Formatting the microSD card is recommended.
▥	The microSD card is being formatted.
🔄	The new firmware version is available.
🔄	An error was detected during the firmware update.
➡	The device was not transferred to the new hub. **Learn more**

States

The states display information about the device and its operating parameters. You can find out about the states of the camera in Ajax apps:

1. Select a space in the Ajax app.

2. Go to the **Devices** ➖ tab.

3. Select **TurretCam** from the list of devices. If TurretCam is connected to the video recorder, select **NVR** and then click **Cameras**.

Parameter	Value
Firmware Update	Displayed when the firmware update is available: • **Downloading...** — the firmware downloading is in progress. Shown in percentages. • **Installing...** — the firmware installation is in progress.
Connection	The camera connection status to the internet via Ethernet: • **Online** — the camera is connected to the network. Normal state. • **Offline** — the camera is not connected to the network. Please check your wired internet connection. Clicking the icon (i) displays the network parameters.
Connection to NVR	Displayed when the camera is connected to NVR. The camera connection status to NVR: • **Online** — the camera is connected to the network via NVR. Normal state. • **Offline** — the camera is not connected to the network via NVR. Please check your wired internet connection. Clicking the icon (i) displays the network parameters.
Storage Location	Displays the list of storage devices connected to the camera: • **Cloud** (in progress); • **Memory card** — data is recorded on a memory card (not included) installed in the camera.

	• **NVR hard drive** — data is recorded on the NVR hard disk. Clicking the icon ⓘ displays the network parameters.
Memory Card	The memory card connection status to the camera: • **OK** — the memory card is communicating with the camera. Normal state. • **Error** — there is an error in the memory card operation. Check details by clicking icon ⓘ. Follow the instructions provided in the app. • **Not installed** — the memory card is not installed in the camera. • **Requires formatting** — the memory card formatting is recommended. If the memory card contains data, it will be permanently deleted. • **Formatting…** — the memory card is being formatted.
Resolution	The current camera resolution.
Frame Rate	The current camera frame rate.
Bit Rate	The current camera bit rate.
Video Codec	The current video codec: • H.265; • H.264.
Motion Detection	The **Motion Detection** function status: • On; • Off.
Object Detection	The **Object Detection** function status:

	- On; - Off.
Uptime	The camera's operating time since the last reboot.
Camera Access Available to (in progress)	Displays the number of users who have access to view video from the camera. Clicking the icon ⓘ displays the list of users, installers, and companies with access under certain conditions. **Learn more**
Firmware	Firmware version of the camera.
ID	TurretCam ID/Serial Number. Also available on the back part of the casing and the packaging.

Settings

To change camera settings, in an Ajax app:

1. Go to the **Devices** ▬ tab.

2. Select **TurretCam** from the list. If TurretCam is connected to the video recorder, select **NVR** and click **Cameras**.

3. Go to **Settings** by clicking on the gear icon ⚙.

4. Set the required parameters.

5. Click **Back** to save the new settings.

Settings	Value
Name	Camera name. Displayed in the list of devices, SMS text, and notifications in the events feed. To change the camera name, click on the text field.

	The name can contain up to 12 Cyrillic characters or up to 24 Latin characters.
Room	Selection of the camera virtual room. The room name is displayed in SMS text and notifications in the events feed.
Arm in Night Mode	When this option is enabled, the camera will switch to the armed mode whenever the system is set to **Night Mode**. **Learn more**
Recording Preferences	Selection of the **Recording Mode** for each storage device: • On Detection or Scenario; • Continuous; • Never. Selection of the armed mode when the camera records video: • When Armed; • Always.
Notifications by camera detectors (in progress)	When the **Notify When Camera Detects Motion** toggle is enabled, the user receives a notification upon any detected motion by the camera. When the **Notify When Camera Detects Object** toggle is enabled, the user receives a notification upon specific object motion detection by the camera: • If a human is detected; • If a pet is detected; • If a vehicle is detected.

	The setting also allows the user to specify the duration of the movement and select the armed mode that triggers the notifications.
Camera settings	
Detectors	When the **Motion Detection** toggle is enabled, the camera detects motion using its built-in software. When the **Object Detection** toggle (in progress) is enabled, the camera distinguishes between specific objects. In the camera video, a human, a pet, and a vehicle are highlighted with colored rectangles. The setting also allows the user to define **Activity Zone** where the camera detects motion. When triggered, the system sends a notification to the user.
Video Stream	Settings for mainstream and substream parameters.
Image Preferences	Settings for camera image quality.
On-Screen Display (OSD) (in progress)	Allows the user to customize the display of additional information on the camera image: • Camera name; • Timestamp; • Parameters of the displayed text.
Audio	When the **Audio Capture and Playback** toggle is enabled, the camera records sound.
Privacy Zones (in progress)	Allows the user to select zones that are not displayed on the camera video. Instead, the user sees a black rectangle.
Image Rotation (in progress)	Allows the user to rotate the camera video.
Firmware Update	Allows the user to check for a new firmware version and download it.
Connection	
Connection Type	The setting for selecting the camera's connection type to Ajax Cloud service via

	Ethernet.
	Available connection types:
	- DHCP; - Static.
Memory Card	Selection of the maximum archive depth. It can be set in the range of 1 to 360 days or can be unlimited.
	Allows the user to format the memory card.
Service	
Time Zone	Time zone selection.
	Set by the user and is displayed when viewing video from IP cameras.
Server Connection	
Delay of Cloud Connection Loss Alarm, sec	The delay helps to reduce the risk of a false event about the lost connection with the server.
	The delay can be set in the range of 30 to 600 seconds.
NVR-Cloud Polling Interval, sec	The frequency of polling the Ajax Cloud server is set in the range of 30 to 300 seconds.
	The shorter the interval, the faster the cloud connection loss will be detected.
Report a Problem	Allows the user to describe a problem and send a report.
User Guide (in progress)	Opens the camera user manual.
Delete Device	Unpairs TurretCam from the space.

Indication

The green LED indicator is placed on the cable connector.

Event	Indication	Note
The camera has power and is connected to the internet.	Lights up green.	

Malfunction

When the camera has a malfunction, such as a loss of internet connection, you can see it in the **Devices** ⊟ tab in the Ajax app. The malfunction counter is displayed to the left of the camera icon (a white number on a red background).

All malfunctions can be seen in the camera States. Fields with malfunctions will be highlighted in red.

Maintenance

Regularly check the functioning of the camera. If you notice any image degradation, loss of clarity, or darkening, check the camera for dirt. Clean the device's enclosure to remove dust, cobwebs, and other contaminants as they emerge. Use soft, dry wipes suitable for cleaning electronic equipment.

Avoid using substances that contain alcohol, acetone, petrol, and other aggressive solvents when cleaning the camera. Wipe the lens gently: scratches can result in poor-quality images and camera failure.

Technical specifications

Technical specifications for TurretCam (5 Mp/2.8 mm)

Technical specifications for TurretCam (5 Mp/4 mm)

Technical specifications for TurretCam (8 Mp/2.8 mm)

Technical specifications for TurretCam (8 Mp/4 mm)

Warranty

Warranty for the Limited Liability Company "Ajax Systems Manufacturing" products is valid for 2 years after the date of purchase.

If you encounter any issues with the device's functionality, we recommend contacting Ajax Technical Support first. In most cases, technical issues can be resolved remotely.

Warranty obligations

User Agreement

Contact Technical Support:

- e-mail
- Telegram

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