Manuale utente TurretCam

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TorretCam è una fotocamera IP con una retroilluminazione a infrarossi intelligente (IR) e una funzione di riconoscimento degli oggetti. L'utente può visualizzare video archiviati e live nelle app Ajax. Per archiviare i dati acquisiti, installare una scheda microSD o collegare la fotocamera a **NVR** con un disco rigido installato.

La fotocamera è collegata alla rete tramite Ethernet, utilizzando il connettore appropriato.

La fotocamera è disponibile in diverse versioni:

- TorretCam (5 MP/2,8 mm);
- TorretCam (8 MP/2,8 mm);
- TorretCam (5 mp/4 mm);
- Torretcam (8 mp/4 mm).

Acquista TorretCam

Sono inoltre disponibili versioni della fotocamera con altri involucri. Tutte le telecamere Ajax sono **disponibili qui** .

Elementi funzionali

1. Porta della fotocamera.

2. Accendio per videocamera.

3. Lente della fotocamera.

4. Retroilluminazione ir. Utilizzato per registrare video in condizioni scure e in condizioni di scarsa illuminazione.
5. Lente sfaccettato. Copre i LED a infrarossi e diffonde i raggi.
6. Microfono.
7. Fori per attaccare la fotocamera alla superficie.
8. Slot per scheda microSD.
9. Pulsante di ripristino.
10. Codice QR con ID dispositivo. Utilizzato per aggiungere TorretCam a un sistema AJAX.
11. Connettore del cavo.

Principio operativo

TorretCam è una fotocamera IP che utilizza l'intelligenza artificiale (AI) per il riconoscimento degli oggetti. I suoi algoritmi possono identificare oggetti in movimento, distinguendo tra esseri umani, animali o veicoli.

Il dispositivo presenta una retroilluminazione IR intelligente, garantendo la cattura di immagini di alta qualità anche in condizioni di scarsa illuminazione. La fotocamera regola automaticamente l'intensità della retroilluminazione in tempo reale per prevenire la sovraesposizione, consentendo una chiara visibilità degli oggetti che sono lontani o troppo vicini alla fotocamera in condizioni di scarsa illuminazione.

> TorretCam ha una lezione di protezione IP65, che lo rende adatto per l'installazione esterna. Il suo robusto contenitore metallico protegge il dispositivo dal sabotaggio.

È possibile installare una scheda microSD con una capacità di memoria da 32 GB a 256 GB (non incluso nel set completo della fotocamera). La scheda di memoria dovrebbe essere di classe 30 o più veloce. Inoltre, il dispositivo può funzionare senza una scheda di memoria o tramite NVR.

Utilizzando il **calcolatore di archiviazione video** , è possibile calcolare la capacità di archiviazione richiesta NVR o la fotocamera e il tempo di registrazione stimato in base alle impostazioni del flusso video.

TorretCam ti consente di:

1. Guarda il video in tempo reale con la possibilità di ingrandire per uno sguardo più attento.
2. Accesso ai video archiviati, navigando attraverso di essi in base alla registrazione di cronologia e calendario (questa funzione è disponibile se una scheda di memoria microSD è installata nella fotocamera o è collegata a NVR con un disco rigido installato).
3. Configurare le zone di rilevamento del movimento e regolare il livello di sensibilità.
4. Visualizza il **muro video** che combina immagini di tutte le telecamere connesse.
5. **Crea scenari video** che inviano un breve video dalla fotocamera selezionata all'app AJAX quando viene attivato il rilevatore di sicurezza.
6. Scarica i segmenti richiesti delle registrazioni video dall'archivio a smartphone o PC (questa funzione è disponibile se una scheda di memoria microSD è installata nella fotocamera o è collegata a NVR con un disco rigido installato).

I segmenti di registrazione video scaricati da TurretCam con **firmware 2.309** e successivamente hanno la **firma digitale AJAX** che verifica l'integrità del video esportato. Per verificare l'autenticità delle registrazioni video scaricate, utilizzare il **software AJAX Media Player** .

Ulteriori informazioni su Ajax Media Player

Come scaricare video dall'archivio nelle app Ajax

Come configurare l'accesso temporaneo alla fotocamera

Come configurare l'accesso temporaneo alla fotocamera

Scenari video

Il sistema AJAX offre la capacità di utilizzare le telecamere IP per la verifica degli allarmi. Gli scenari video consentono la sostanza dei trigger di allarme con il video corrispondente dalle telecamere installate nella struttura.

Le telecamere possono essere configurate per rispondere agli allarmi da un singolo dispositivo, più dispositivi o tutti i dispositivi connessi. I rilevatori combinati possono registrare vari tipi di allarmi, consentendo di configurare le risposte a una vasta gamma di tipi di allarme, che si tratti solo di uno, diversi o tutti.

Saperne di più

Parete video

L'utente può gestire i video sul **muro video** Scheda, accessibile una volta aggiunta almeno una fotocamera. Questa funzione garantisce un rapido accesso a tutte le telecamere connesse, visualizzate in conformità con le impostazioni sulla privacy.

Nelle app mobili ajax, puoi:

1. Passa tra le telecamere.
2. Cerca la fotocamera desiderata per nome.
3. Gestisci una fotocamera PTZ.

In Pro Desktop, puoi:

1. Passa tra le telecamere.
2. Cerca la fotocamera desiderata per nome.
3. Organizzare telecamere per stanza, NVR o gruppo.

4. Gestisci una fotocamera PTZ.
5. Salva layout personalizzato per la visualizzazione di video dalle telecamere.
6. Modifica l'ordine in cui viene visualizzato il video della fotocamera.
7. Crea modelli per la visualizzazione di video in una presentazione .

Come utilizzare il widget della parete video in Pro Desktop

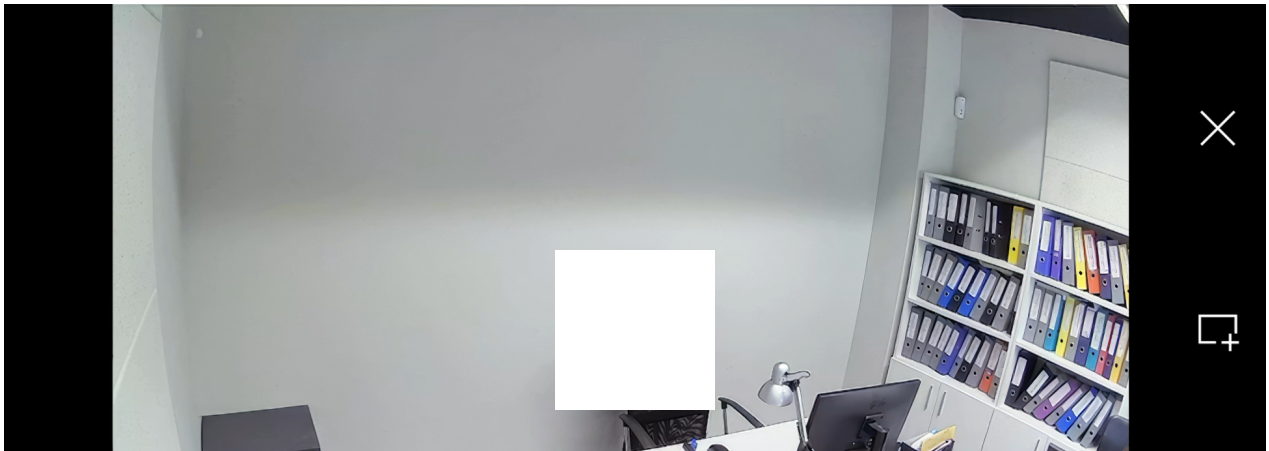
Quali scorciatoie da tastiera sono disponibili in Pro Desktop

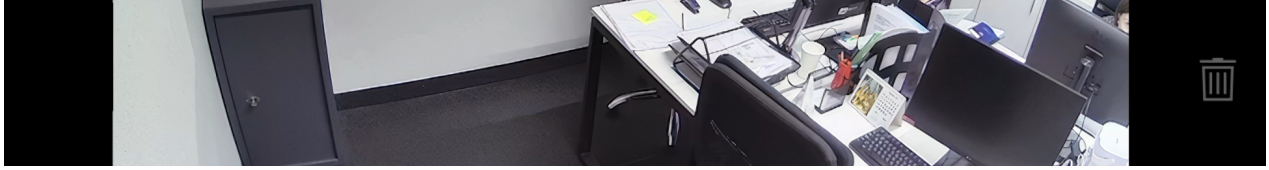
Zone di privacy

Il sistema consente di nascondere parti del telaio. Ad esempio, se è in vista una cassaforte, l'attività intorno a essa può essere registrata senza rivelarne il contenuto impostando la zona giusta. Nessun movimento o oggetto verrà rilevato e registrato nella zona della privacy.

Per fare questo, nelle app Ajax :

1. Vai ai **dispositivi** scheda.
2. Seleziona la fotocamera dall'elenco. Se è collegato al videoregistratore di rete, selezionare **NVR** e toccare le **telecamere** .
3. Vai alle **impostazioni** toccando l'icona degli ingranaggi due volte.
4. Seleziona il **menu delle zone privacy** .
5. Vai al **menu Configura Privacy Zones** . Seleziona l'area richiesta.





6. Tocca il ⨯ icona. Torna alle impostazioni della fotocamera.

L'utente può creare fino a quattro zone private.

Selezione del sito di installazione

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

> **How to install an Ajax camera for better AI recognition**

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

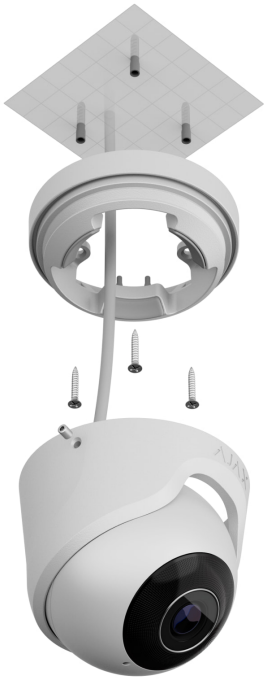
1. In indoor or outdoor locations where the temperature and humidity levels do not align with the specified **operating parameters**.
2. In locations where objects or structures might obstruct the camera's view.

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.

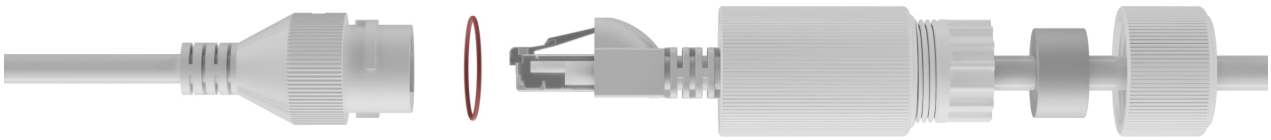
3. Use the installation template to mark the locations for the drill holes on the surface where you plan to mount the camera. Secure the template to the chosen installation location with tape and drill three holes as indicated on the template.

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.

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 later:
>
> 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 earlier, 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:

Resetting to the default settings

To reset the camera to the default settings:

1. Turn off the camera by disconnecting the external power supply or Ethernet cable (if it is powered by PoE).
2. Press and hold the reset button.
3. Power the camera while the reset button is pressed, and wait until the button's LED indicator lights up violet. This will take about 50 seconds.

The button's LED indicator lights up blue for 20 seconds after powering the camera with a pressed reset button. Then it turns off for 30 seconds and lights up violet. This means that the camera has been restored to the default settings.

4. Release the button.

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.

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**.

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 ⓘ 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 ⓘ displays the network parameters.
	Displays the list of storage devices connected to the camera: • **Cloud** (in progress);

Storage location	• **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.
	The setting allows you to select the object type, upon recognition of which the user receives a notification with video footage. Available options:

Notifications from camera detectors	• Human; • Pet; • Vehicle; • Any motion. You can also configure **Interval in reporting similar events** and select the armed mode that triggers the notifications. Available options: • When camera armed; • Always. The **Notifications from camera detectors** feature is available if the **Video alerts** option is enabled in the space settings.
Camera settings	
Detection	When the **Motion detector** 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 **an 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. Learn more
	Settings for camera image quality.

Image	**Learn more**
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	Settings for audio capture and playback. • Audio capture and playback — turn on to watch and record videos with audio. • Audio codec. • Bit rate. • Sample rate. • Microphone gain — configure the microphone sensitivity level based on the installation location.
Privacy zones	Allows the user to select zones that are not displayed on the camera video. Instead, the user sees a black rectangle.
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	Opens the camera user manual.
Delete device	Unpairs TurretCam from the space.

Video stream settings

Settings for mainstream and substream parameters.

Settings	Value
Mainstream	
	Selecting the video compression standard:

Video codec	• H.264; • H.265.
Resolution	Selecting the mainstream resolution: • 1024 × 576; • 1920 × 1080; • 2304 × 1296; • 2560 × 1440; • 2592 × 1944; • 2880 × 1620; • 2944 × 1656; • 3072 × 1728; • 3840 × 2160.
Frame rate	Selecting the frame rate: from 3 to 25 with an increment of 1 frame/s.
Bit rate type	Selecting the bit rate type: • **Variable (VBR)**; • **Constant (CBR)**.
Bit rate	Setting the bit rate in kbit/s.
GOP length	Selecting the GOP length: from 1 to 250 with an increment of 1 frame.
VBR quality / CBR quality	Selecting the compression quality: from 0 to 100 with an increment of 1.
Substream	

Video codec	Selecting the video compression standard: • H.264; • H.265.
Resolution	Selecting the substream resolution: • 720 × 480; • 720 × 576; • 1024 × 576.
Frame rate	Selecting the frame rate: from 3 to 25 with an increment of 1 frame/s.
Bit rate type	Selecting the bit rate type: • **Variable (VBR);** • **Constant (CBR).**
Bit rate	Setting the bit rate in kbit/s.
GOP length	Selecting the GOP length: from 1 to 250 with an increment of 1 frame.
VBR quality / CBR quality	Selecting the compression quality: from 0 to 100 with an increment of 1.

Image settings

Settings for camera image quality.

Settings	Value
Brightness	Adjusting the image brightness.
Color saturation	Adjusting the image color saturation.
Sharpness	Adjusting the image sharpness.
Contrast	Adjusting the image contrast.

Image rotation	Selecting whether to rotate the image: • **Default view** — the image is not rotated; • **180°** — the image is rotated by 180°. This parameter is recommended for devices that have an inverted or upside-down image due to installation specifics.
Wide dynamic range (WDR)	Enabling or disabling the WDR. When WDR is enabled, it helps to enhance the camera images, with too dark or bright areas.
Lighting stabilization	Adjusting the exposure: • **1–2.9** — adjusting WDR levels; • **3–5** — activating and adjusting HDR levels. This setting is available if **Wide dynamic range (WDR)** is enabled.
Day/Night mode (IR-cut filter)	Selecting the camera vision mode depending on the light conditions: • **Day** — IR backlight is always off; • **Night** — IR backlight is always on; • **Auto** — IR backlight automatically switches according to the **Lighting threshold for mode switching** settings.
Lighting threshold for mode switching	Selecting the lighting threshold for switching between the day and night mode: • **Early**; • **Medium**; • **Late**. This setting is available if **Day/Night mode (IR-cut filter)** is set to **Auto**.

Infrared illumination (IR)	Adjusting the intensity of the IR backlight: • **Auto**; • **Custom**; • **Off**. The setting is used for capturing clear images at night or in low light and ensures visibility using IR LEDs when conventional lighting is ineffective.
IR intensity	Adjusting the IR backlight intensity. This setting is available if **Infrared illumination (IR)** is set to **Custom**.
Set exposure based on	Selecting the frame area on which the exposure is based on: • **Entire frame**; • **Frame's center**; • **Frame's top**; • **Frame's right**; • **Frame's bottom**; • **Frame's left**.
Exposure mode	Selecting the exposure mode: • **Auto**; • **Manual setup**.
Image preferences	Adjusting the shutter speed for less motion blur or for less noise in the image. This setting is available if **Exposure mode** is set to **Auto**.

Shutter speed	Selecting the shutter speed to ensure correct exposure for the image. This setting is available if **Exposure mode** is set to **Manual setup**.
Exposure compensation	Ability to override automatic exposure settings to manually control the image brightness.
Noise reduction	Enabling or disabling the noise reduction.
Parameter value	Adjusting the noise reduction level. This setting is available if **Noise reduction** is enabled.
Anti-flicker (Power frequency)	Selecting the power grid frequency to reduce the image flickering. This setting is used if the camera is capturing the video in low-light conditions and lamps are flickering on the camera image with the power grid frequency. Available parameters: • **50 Hz**; • **60 Hz**; • **Disabled** — anti-flicker is off.

Indication

The green LED indicator is placed on the cable connector.

Event	Indication	Note
The camera has power.	Lights up green.	

Malfunction

When the camera has a malfunction, such as a loss of internet connection, you

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)

Compliance with standards

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

Subscribe to the newsletter about safe life. No spam

Email

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