BulletCam HLVF user manual

Updated September 15, 2026



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BulletCam HLVF is a wired AI-powered security IP camera with a 2.8–12 mm motorized varifocal lens that provides clear and detailed images at any focal length. The camera supports the True WDR technology for accurate color reproduction in scenes with high-contrast lighting. Also, the device features hybrid illumination that combines infrared (IR) and white light to enhance nighttime visibility.

The camera features a built-in microphone, as well as audio and alarm inputs/outputs, which expand integration capabilities with other security devices. The camera supports PoE and 12 V⎓ power supply options.

The camera is connected to the system via Ethernet. The recorded videos can be stored on an Ajax NVR added to the same network, or on a memory card installed in the camera.

The camera is available in two versions:

- BulletCam HLVF (5 Mp);
- BulletCam HLVF (8 Mp).

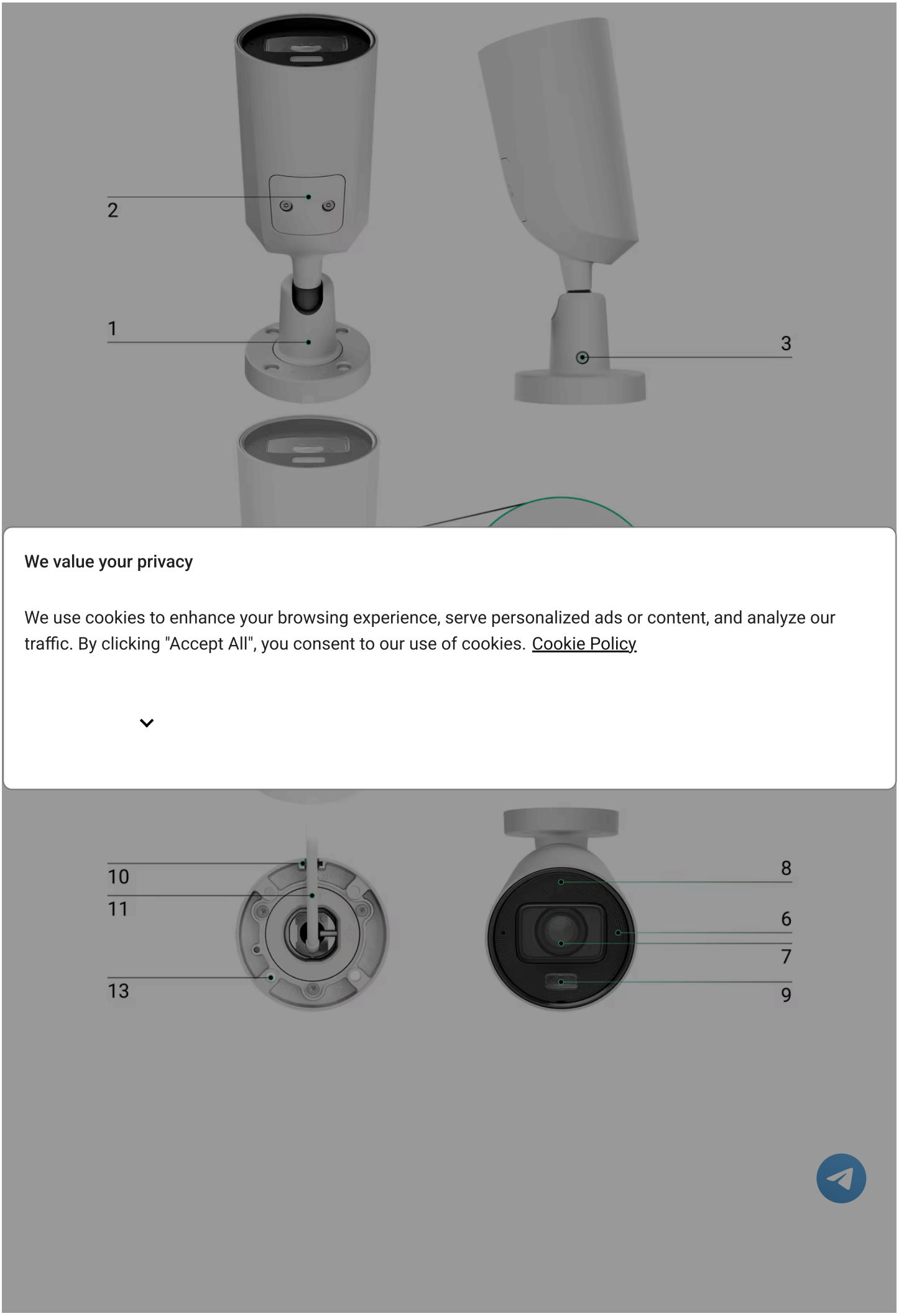
Buy BulletCam HLVF

Camera versions with other enclosures are also available. All Ajax cameras are available here.

Functional elements

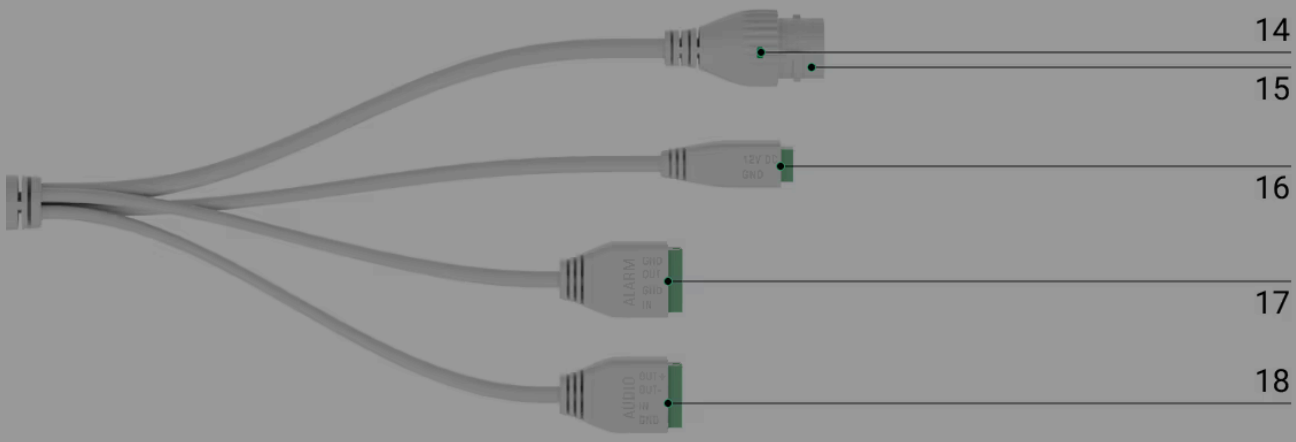
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1. Swivel mounting bracket.
2. Protective cover.
3. Screw for fixing the camera position.
4. Slot for microSD card.
5. Reset button.

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12. QR code with the device ID. Used to add the camera to an Ajax system.
13. Holes for attaching the camera to a surface.
14. LED indicator.
15. Ethernet connector.
16. Power supply connector.
17. Alarm input/output connector.
18. Audio input/output connector.

Operating principle

BulletCam HLVF 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 camera is equipped with a 2.8–12 mm motorized varifocal lens that allows remote adjustment of the focal length. Motorized zoom and focus enable precise framing of the protected area without physical access to the camera. The audio and alarm inputs/outputs expand integration capabilities with third-party devices.

The device features hybrid illumination, combining infrared and white light to ensure high-quality images in any lighting conditions. BulletCam HLVF automatically switches between IR and white light depending on the scene, delivering clear black-and-white images in low light and providing color pictures when motion is detected or additional illumination is required. The camera also adjusts the light intensity in real time to prevent overexposure, ensuring clear visibility of both near and distant objects.

You can install a microSD card with a memory capacity of 32 to 256 GB (not included in the camera complete set). The memory card should be V30 or faster. Additionally, the device can operate without a memory card or via NVR.

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optimal framing of the monitored area.

- 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).
- Configure motion detection zones and adjust the sensitivity level.
- View the **Video wall** that combines images from all connected cameras.
- Quickly access automation device control from the cameras' video player menu.
- Create video scenarios that send a short video from the selected camera to the Ajax app when the security detector is triggered.
- Download the required segments of video recordings from the archive to smartphones or PCs (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).
- Configure connection via ONVIF to integrate the device with video management systems (VMS) such as Milestone, Genetec, and Digifort.

The video recording segments downloaded from BulletCam HLVF have the **Ajax digital signature** that verifies the integrity of the exported video. To verify the authenticity of the downloaded video recordings, use the **Ajax Media Player** tool.

Learn more about Ajax Media Player

How to download videos from the archive in Ajax apps

How to configure temporary camera video access

How to configure privacy settings in the Ajax system

An admin or PRO with rights to configure the system can set up a connection via ONVIF in Ajax apps.

How to configure ONVIF authorization

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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

You can also configure the sirens to activate when motion or a specific AI-recognised object is detected. When video devices detect motion or a specific AI-recognised object, the system automatically activates sirens added to the hub to sound an alarm.

Learn more

Video wall in Ajax apps

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

In mobile Ajax apps, you can:

1. Control the camera's zoom and focus.
2. Switch between cameras.
3. View recorded footage together with other cameras.
4. Search for the desired camera by name.
5. Manage a PTZ camera.

In desktop Ajax apps, you can:

1. Control the camera's zoom and focus.
2. Switch between cameras.

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How to use the video wall widget in Ajax PRO Desktop

What keyboard shortcuts are available in Ajax PRO Desktop

How to configure privacy settings in the Ajax system

You can stream video from the cameras directly to your smart TV using the **Ajax TV** app. With **Ajax TV,** you can monitor multiple cameras simultaneously, switch between devices, and open any camera in full-screen mode on smart TVs or TVs connected to smart TV set-top boxes.

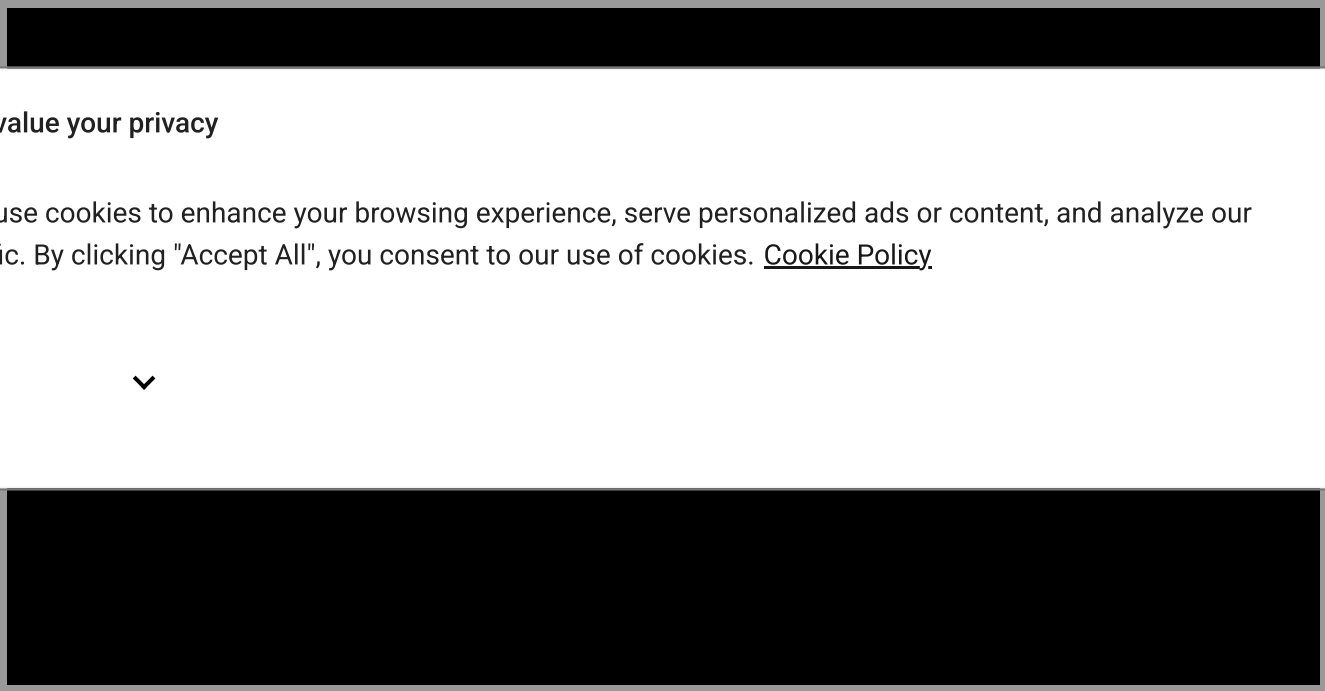
Learn more about the Ajax TV app

Privacy zones

The system allows hiding parts of the frame. For instance, if a sensitive area or object is in view, activity around it can be recorded without revealing its contents by setting up the right zone. No motion or object will be detected and recorded in the privacy zone.

To do this, in Ajax apps:

1. Go to the **Devices** tab.
2. Select the camera from the list. Optionally, if the camera is connected to the video recorder, find **NVR**, tap **Cameras**, and select the camera.
3. Go to the device states by tapping the gear icon.
4. Tap the gear icon again to open **Settings**.
5. Select the **Privacy zones** menu.
6. Open the **Configure privacy zones** menu and select the required area.



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7. Tap on the ✓ icon and return to the camera settings.

The user can create up to four private zones.

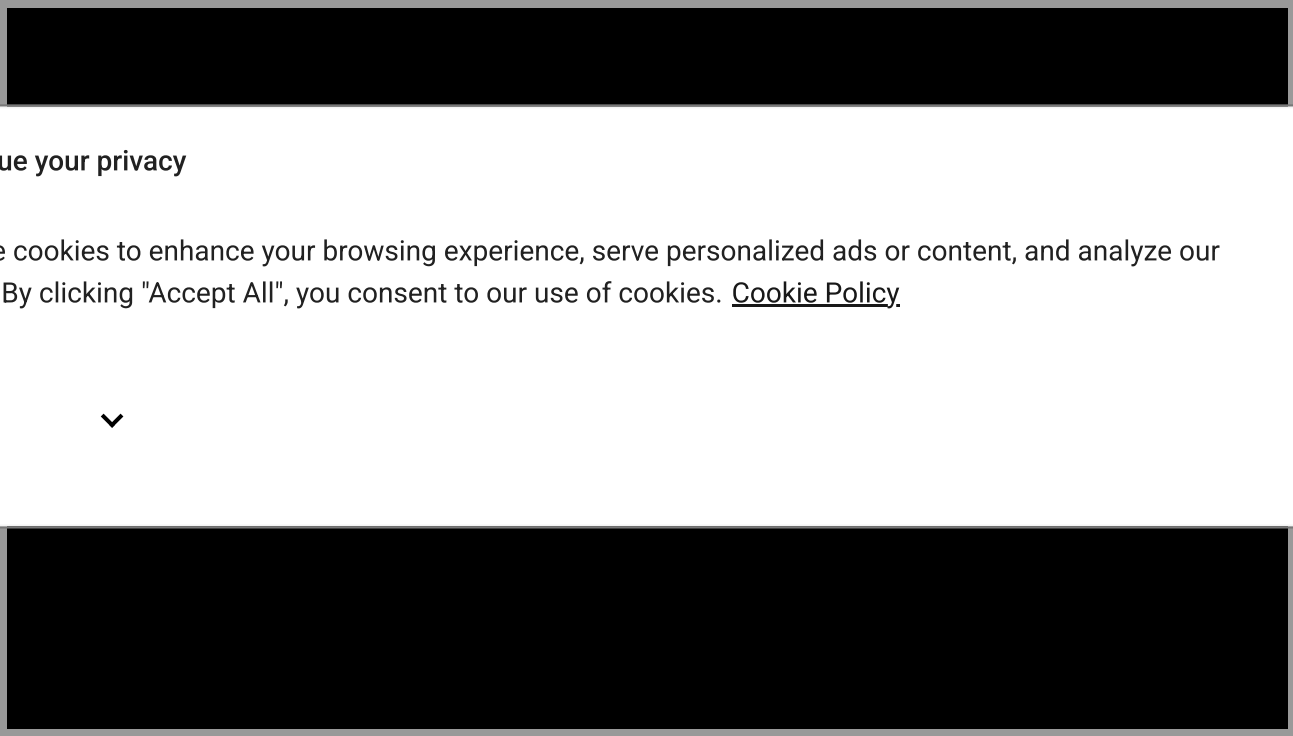
Line crossing detection

Line crossing detection is a feature that enables video surveillance cameras to respond when a specified object — such as a person, pet, or vehicle — crosses a virtual line drawn in the camera frame. When the line is crossed, the system can send a notification or an alarm and record the crossing footage in the archive.

To add a line in an Ajax app:

1. Select the required space.
2. Go to the **Devices** tab.
3. Select the camera from the list. If it is connected to a network video recorder, find **NVR** and tap **Cameras**.
4. Open the camera **settings** by tapping the gear icon twice.
5. Go to the **Detection** menu.
6. Open the **Line crossing detection** settings.
7. Tap **Add** or ┼ in the upper-right corner.
8. In the menu that opens, configure the following:

   a. **Set line crossing rule**. Adjust the line position and crossing direction.



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   b. Enter a name for the line in the **Title** field.

   c. Select the required triggers.

9. Tap **Save** to add the line.

After adding a line, it is strongly recommended to test how the camera detects line crossings. For guidance on fine-tuning the line for accurate detection, refer to the Recommendations and best practices section.

You can add **up to 4 lines** per camera.

Line crossing detection in Ajax video surveillance

On-screen display (OSD)

On-screen display (OSD) allows you to overlay additional information on the camera video. You can display the current date, time, date and time, or custom text. OSD elements are shown on live video and recordings. You can add up to four OSD elements to a single video stream.

For the **Custom text** element, you can enter up to 48 characters, including Latin and Cyrillic letters, numbers, and special characters.

To add an OSD element:

1. In the device list, select the required camera.
2. Open the camera settings.
3. Go to **On-screen display (OSD)**.
4. Tap **Add element** and select the required element type.
5. Select the required position on the screen: top left, top right, bottom left, or bottom

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7. Select the required overlay text size.
8. Tap **Save**.

If needed, you can edit or delete an OSD element.

Firmware update

If a new firmware version for BulletCam HLVF is available, the icon appears in Ajax apps in the **Devices** tab. An admin or a PRO with access to the system settings can launch an update via device states or settings. The on-screen instructions help to update the firmware successfully.

You can also update the firmware of all video devices that require an update simultaneously using the **Video update center**.

To update device firmware using the **Video update center**:

1. Open an Ajax app and go to the **Control** tab.
2. Open the space settings.
3. Go to **Video update center**. A list of devices with available firmware updates is displayed.
4. To update the firmware:
   - For a single device: tap **Update firmware** next to the required device.
   - For all devices simultaneously: tap **Update all**.

JetSparrow data transfer protocol

JetSparrow is Ajax proprietary video transmission technology that provides encrypted real-time video streaming for users who are watching live video and archive

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Selecting the installation site



When choosing where to place BulletCam HLVF, consider the camera's viewing angle

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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.

Where not to install the camera

1. Indoors or outdoors, 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.
3. Too close to reflective surfaces, such as walls or glass, where IR or white light may reflect into the lens, reducing image quality.

Installation

⚠ Avoid direct eye exposure to the camera's LED illumination when active. The LEDs may cause temporary glare or visual impairment.

Before installing BulletCam HLVF, ensure that you have chosen the optimal location that complies with this manual's requirements.

When connecting an external power supply and using BulletCam HLVF, follow the general electrical safety regulations for using electrical appliances, as well as the requirements of regulatory legal acts on electrical safety.

To install the camera:

1. Using the bundled hexagon key (Ø 2.5 mm), remove the screws securing the

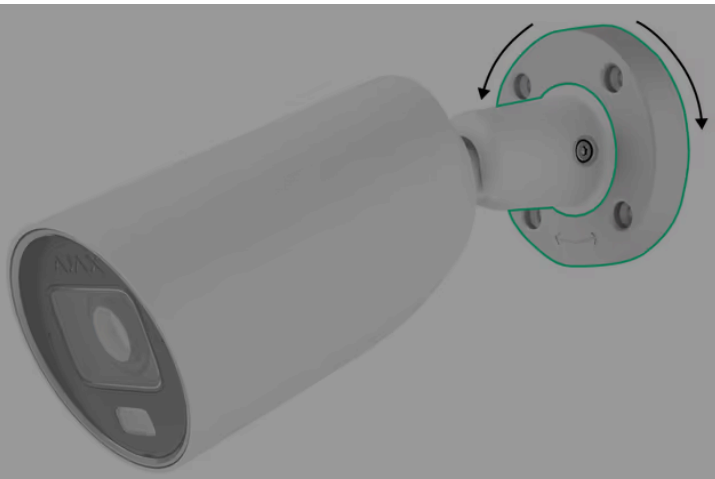
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where you plan to mount the camera. Secure the template to the chosen installation location with tape, and drill four holes as shown on the template.

ⓘ When drilling, consider the camera's orientation, the positions of the built-in microphone and an external speaker, and potential obstacles.

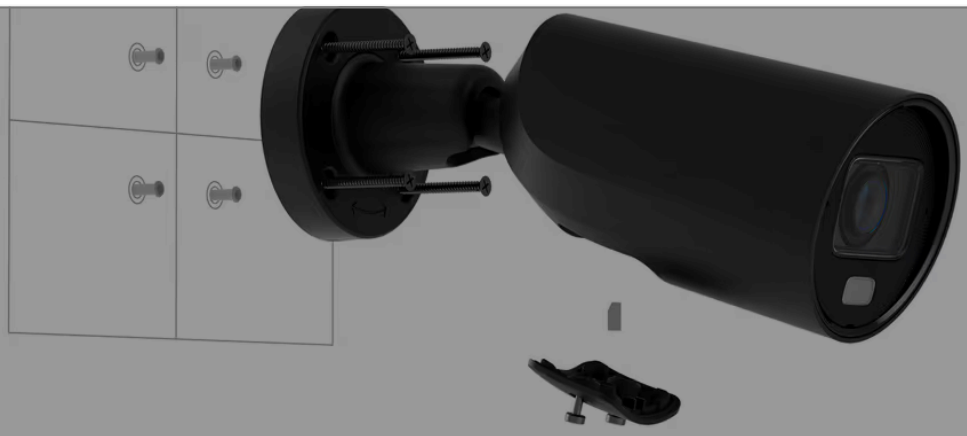
3. Loosen the screw on the swivel mounting bracket using the bundled hexagon key (Ø 2.5 mm) and rotate the bracket if you need to change the cable duct position. Tighten the screw.



4. If the camera is not PoE-powered, connect the power cable to the terminal block included in the complete set.
5. If required, connect the alarm and audio cables to the terminal blocks included in the complete set.
6. Connect the Ethernet cable to the camera. If the camera is PoE-powered, no

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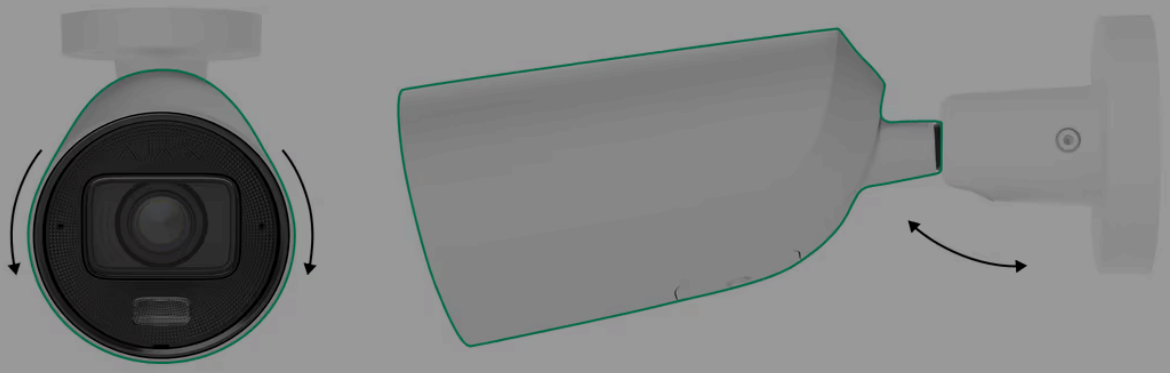
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9. Use a waterproof connector if the camera is installed indoors with humidity levels exceeding the operating parameters, or outdoors.

Recommended electrical parameters for the power supply are 12 V⎓ and 1 A.

10. Turn on the camera power. The LED indicator on the cable connector lights up green.
11. Add the camera to the system.
12. Loosen the screw on the swivel mounting bracket to adjust the camera tilt and rotation angles. The focal length can be configured remotely in an Ajax app.



13. Ensure the camera lens faces the area to be monitored. Secure it by tightening the

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Before adding the device

1. Install an Ajax app.
2. Log in to your account or create a new one.
3. Select a space or create a new one.
4. Add at least one virtual room.
5. Ensure the space is disarmed.

⚠ Only a PRO or a space admin with the rights to configure the system can add the device to the space.

Types of accounts and their rights

Adding to the space

Adding as a standalone device:

1. Open the Ajax app. Select a space to which you want to add the device.
2. Go to the **Devices** tab and tap **Add device**.
3. Scan the QR code or enter the device ID manually. A QR code with an ID is placed on the device enclosure. Also, it is duplicated on the device packaging.
4. Assign a name to the device.
5. Select a virtual room and a security group (if Group mode is enabled).
6. Tap **Add device** to proceed.
7. Wait for BulletCam HLVF to establish the connection. Once connected, you will see the live image from the device.
8. Tap **Finish** to add the device.

The connected device will now appear in the list of devices in an Ajax app.

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5. Select a virtual room and a security group (if Group mode is enabled).
6. Tap **Add device** to proceed.
7. Wait for BulletCam HLVF to establish the connection. Once connected, you will see the live image from the device.
8. Tap **Confirm** to proceed.
9. Select **NVR** to which BulletCam HLVF should be connected.
10. Once the connection is established, tap **Done** to finish.

The connected device will now appear in the list of NVR cameras in an Ajax app.

Note that BulletCam HLVF is compatible with only one space. To connect the device to the new space, remove it from the device list of the old one. This removal process needs to be done manually in an Ajax app.

You can calculate the number of cameras and NVRs that can be added to the space using the video device calculator.

Pairing with an Ajax NVR

If BulletCam HLVF has already been added to the space as a standalone device, you can easily pair it with an Ajax NVR. If not, refer to the Adding to the space section to know how to add BulletCam HLVF to the NVR or as a standalone device.

To pair BulletCam HLVF with the NVR, in an Ajax app:

1. Go to the **Devices** tab.
2. Select **NVR** from the list and tap **Cameras**.
3. Tap **Add camera** and wait until the network scan is complete and the available

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If the required camera is not found automatically:

I. Tap **Add manually**.
II. Tap **Native video device**.
III. Select the required camera from the list of cameras available in the space.

5. Tap **Confirm**.
6. Wait for the system to add the device, then tap **Close**.

The device will now appear in the list of NVR cameras in an Ajax app.

Note that one camera can be paired with several video recorders in one space at th same time.

Configuring the alarm input/output port connection

The camera supports connecting external devices via the alarm input and output terminals. This allows the camera to receive signals from wired detectors and control external equipment in response to configured events.

The **alarm input** terminal enables the camera to receive signals from external devices, including wired detectors or buttons. When the input state changes, the camera can trigger configured actions, such as starting video recording or activating a device connected to the alarm output.

The **alarm output** terminal allows the camera to control external devices when a configured event occurs. It can activate a siren or lighting via an external relay, an electric lock, or a control relay.

Alarm OUT operating range is 24 V⎓, 300 mA. The **alarm output** terminal does not

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2. Open the Alarm IN/OUT contacts settings in an Ajax app and configure the required parameters.

Configuring the audio input/output port connection

The camera supports two-way audio communication via the audio input and output terminals. This allows connecting external audio devices with more powerful microphones and speakers for audio recording and playback.

The **audio input** terminal is used to connect an external microphone for recording audio. It supports active microphones with a built-in preamplifier.

The **audio output** terminal allows connecting an external audio playback device. It can be connected to an external preamplifier and a speaker or loudspeaker to enable

sound playback or two-way audio communication. In the Audio settings, you can select whether the connected speaker is active or passive (by default).

You can connect an external active speaker with a minimum power of 3 W and an impedance of ≥ 4 Ω to the audio output terminal.

To connect external devices via the audio input/output terminals:

1. Connect the audio cables to the terminal blocks provided with the camera. For wiring details, refer to the Installation section.
2. Open the Audio settings in an Ajax app. Select the **Connected external microphone** option for the **Audio input** setting and configure the required parameters.

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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

Icons in an Ajax app display some of BulletCam HLVF's states. You can check icons in the **Devices** – tab.

Icon	Meaning
	The device operates in **Night mode**. Learn more
	The microSD card is not installed.
	The microSD card is installed.
	A malfunction of the microSD card is detected. Formatting the microSD card is recommended.
	The microSD card is being formatted.
	Firmware update is available. Go to the device states or settings to find the description and launch an update.
Updating	Firmware update is in progress: downloading/installing the latest version.
	The new firmware installation has failed.

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States

The states include information about the device and its operating parameters. You can find BulletCam HLVF states in Ajax apps:

1. Go to the **Devices** tab.
2. Select **BulletCam HLVF** in the list. Optionally, if the camera is connected to the video recorder, find **NVR**, tap **Cameras**, and select **BulletCam HLVF**.
3. Tap on the gear icon.

Parameter	Meaning
Malfunction	Tapping on opens the list of device malfunctions. The field is displayed only if a malfunction is detected.

Firmware update	The field is displayed when the firmware update is available: • **New firmware version available** — the new firmware is available for download and installation. • **Downloading…** — firmware downloading is in progress. It is displayed as a percentage. • **Installing…** — the firmware is being installed. • **Failed to update firmware** — the new firmware could not be installed. Tapping on ⓘ opens more information about the device's firmware update.
Connection	Status of the device's internet connection 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. Tapping on ⓘ displays the network parameters.
Storage location	Displays the list of storage devices connected to the camera: • **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. Tapping on ⓘ displays the recording mode and storage settings.
Memory card	Status of the memory card connection 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 tapping the ⓘ icon. Follow the instructions provi 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

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	permanently deleted. • **Works with errors** — the memory card has issues. Press the reset camera button or format the memory card. • **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** feature status: • **On** • **Off**

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Permissions to view	Displays the number of users who have access to view video from the device. Tapping on ⓘ displays the list of users, installers, and companies with access under certain conditions. The state is not available in Ajax PRO apps. You can configure privacy permissions for individual users or manage access for multiple users, installers, and companies simultaneously. For details, refer to the Privacy settings in an Ajax system article.
Uptime	The camera's operating time since the last reboot.
Alarm response	
Operating mode	Shows how the device reacts to alarms: • **Independent alarm** — the device reacts to a threat according to its settings and doesn't trigger other devices.

	• **Instant alarm** — the armed device immediately reacts to a threat and raises the alarm. • **Entry/Exit** — when a delay is set, the armed device starts the countdown and doesn't raise the alarm even if triggered until the countdown ends. • **Follower** — the device inherits the delays from **Entry/Exit** devices. However, when the **Follower** is triggered individually, it immediately raises the alarm.
Delay when entering	Delay when entering (alarm activation delay) is the time the user has to disarm the security system after entering the premises. Learn more
Delay when leaving	Delay when leaving (arming delay) is the time the user has to leave the premises after arming. Learn more
Arm in Night mode	When this option is enabled, the device will enter the armed mode when the system is set to **Night mode**.
	Learn more
Firmware	Device firmware version.
Device ID	Device ID. It is also available on the QR code on the device enclosure and its package box.

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Settings

To change camera settings, in an Ajax PRO app:

1. Go to the **Devices** tab.
2. Select **BulletCam HLVF** in the list. Optionally, if the camera is connected to the video recorder, find **NVR**, tap **Cameras**, and select **BulletCam HLVF**.
3. Go to the device states by tapping the gear icon.

4. Tap the gear icon again to open **Settings**.
5. Set the required parameters.
6. Tap **Back** to save the new settings.

An Ajax system enables PROs to apply multiple preconfigured settings to multiple video devices simultaneously via setting templates.

Learn more about settings templates

Settings	Value
Name	Device name. It is displayed in the list of space devices, text of SMS and notifications in the event feed. To change the device name, tap on the text field.
	• **Continuous** • **Never** Selection of the armed mode when the camera records video: • **When armed** • **Always**
Notifications from camera detectors	Opens a menu with **Notifications from camera detectors** settings. Learn more
Detection	Opens a menu with **Detection** settings. Learn more
Alarm IN/OUT contacts	Opens a menu with **Alarm IN/OUT contacts** settings. Learn more
Video stream	Opens a menu with **Video stream** settings.

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	Learn more
Image	Opens a menu with **Image** settings. Learn more
On-screen display (OSD)	Allows overlaying additional information on the camera video, such as date, time, date and time, or custom text. You can also configure the position and font size of OSD elements and add up to four elements to the video.
Audio	Settings for audio capture and playback. Learn more
Privacy zones	Allows the user to select zones that are not displayed on the camera video. Instead, the user sees a black rectangle. Learn more
Alarm response	Opens a menu with **Alarm response** settings.

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	• **DHCP** • **Static**
Archive	Selection of the maximum archive depth. It can be set in the range of 1 to 360 days or can be unlimited.
Service	Opens a menu with **Service** settings. Learn more
Monitoring	This setting is available only in Ajax PRO apps. Allows a PRO with rights to configure the system to set up: • **Zone number for CMS events** — unique identifier of the device in events it reports to CMS;

	• **Send events on detections to CMS** — whether the device will send notifications on motion or object detection to CMS.
Report a problem	Allows the user to describe a problem and send a report.
User manual	Opens the BulletCam HLVF user manual in an Ajax app.
Unpair from NVR	Unpairs the device from the NVR to which it was paired. The option is available if the device is paired with the NVR.
Delete device	Erases all device settings and deletes the device from the space. Also, it unpairs the device from the NVR if such connection is set up.

Notifications from camera detectors

Settings	Meaning
	options: **Regular notification** or **Alarm**. The selected option determines the event color in the notifications feed and the alert type on the phone. Note that the corresponding types of object or motion should be enabled in the **Detection** settings. To specify whether motion detection should activate the sirens, tap on the required type of object or motion and enable the **Activate sirens upon detection** option. ⚠ The feature is available when the camera and at least one siren are added to an Ajax hub with OS Malevich 2.31 and later versions. Note that the camera and the hub must be online at the moment of motion detection so the system can activate the sirens.

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	Learn more
When to notify	Selection of the mode when the camera sends notifications: • **When camera armed** • **Always**
Notification delay and interval	
Interval in reporting similar events	Selecting the time interval in reporting similar events: from **30 seconds** to **8 hours**. The default interval is **3 minutes**. Selected time applies for each detection type separately and helps to avoid repeated informing of the same triggering reason.
Duration of object detection for notification	Selecting how long an object should remain in the camera's field of view so the system sends a notification about the detected object. The available values are **Notify instantly** or **2**, **3**, **4**, or **5 seconds**.

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	in software.
Analyze image	The software algorithm of image analysis that is used for motion detection. The option is available when **Motion detection** is enabled.
Motion detection settings	Opens a menu with motion detection settings: • **Adjust activity zone** — defines the specific area within the field of view where the camera should detect motion. • **Sensitivity threshold** — defines the device's sensitivity to the motion in the activity zone. • **Area occupied by detectable objects** — specifies the size of the area in the camera's field of view that a moving object should occupy for the device to be triggered. The option is available when **Motion detection** is enabled.
Object detection	When the option is enabled, the camera identifies the type of moving objects using a built-in algorithm. In the video, people, pets, and

	vehicles are highlighted with colored rectangles.
Object detection settings	Opens the menu with object detection settings: • **Adjust object detection zone** — defines the specific area within the field of view where the camera should identify the type of moving objects. • **Human detection** — enables detection of people in the video. • **Pet detection** — enables detection of pets in the video. • **Vehicle detection** — enables detection of vehicles in the video. • **Sensitivity** — defines the accuracy of the object recognition. The setting is available for each object type. The option is available when **Object detection** is enabled.
Line crossing detection	Enables detection of objects that cross a virtual line in the camera's field of view.

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	• Disabled
Title	Wired sensor name.
Default state	Selecting the normal contact state of the connected device: • **Normally open** • **Normally closed**
Output (controlled device)	
Operation status	Selecting the state of the connected device: • **Enabled** • **Disabled**
Title	Wired sensor name.
Default state	Selecting the normal contact state of the connected device: • **Normally open**

	• **Normally closed**
Pulse duration	Pulse time of the device. If the pulse from the device lasts longer than specified in this setting, an alarm will be activated. This option can be used to filter out false alarms.
Send test impulse	Runs a test of the connected Alarm OUT output. Events are not generated when this button is tapped in the settings. The **alarm output** terminal does not provide continuity when checked with a tester.

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	• H.265 • H.264 • MJPEG
Resolution	Selecting the mainstream resolution (depending on the camera's version): • 3840 × 2160 • 3072 × 1728 • 2944 × 1656 • 2880 × 1620 • 2592 × 1944 • 2560 × 1440 • 2304 × 1296 • 1920 × 1080 • 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.
Substream	
Video codec	Selecting the video compression standard: • H.265 • H.264
Resolution	Selecting the substream resolution:

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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	Meaning
Image settings	Selecting image settings mode: • **General** — applies a single set of image parameters to all lighting conditions.

	• **Scene-specific** — allows configuration of image parameters separately for specific lighting conditions. Learn more
Capturing mode	Selecting specific settings for each scene and video capturing conditions: • **Day** • **Night (IR light)** • **Night (white light)** You can configure the image brightness, color saturation, sharpness, and contrast for each video capturing condition. For the **Scene-specific** image settings only.
Vivid mode: Color intensity style	Turning display settings for a warmer, brighter, and richer image beyond the natural tone.
	• **Default view** — the camera image is displayed as captured by the lens, without rotation. Use this option if the camera is installed in the standard upright position. • **90°**— the camera image is rotated by 90° clockwise. • **180°** — the camera image is rotated by 180 degrees. Use this option if the camera is installed upside down (e.g., on a ceiling). • **270°**— the camera image is rotated by 270° clockwise.
Wide dynamic range (WDR)	Enabling or disabling the WDR. When WDR is enabled, it helps to enhance the camera images, with too dark or too 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.

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Day/Night mode	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 **Mode switching conditions** settings.
Mode switching conditions	Selecting the conditions for switching between the day and night modes: • **Later to Night / Earlier to Day** • **Medium** • **Earlier to Night / Later to Day** This setting is available if **Day/Night mode** is set to **Auto**.
Scene illumination	Selecting the scene illumination mode: • **Disabled** — the camera does not use any built-in illumination. The mode is suitable for well-lit areas or when external lighting is
Triggers for light switching	Selecting which activity in the camera's field of view will activate the white light mode: • **Human** • **Pet** • **Vehicle** • **Any motion** • **Line crossing** This setting is available if **Scene illumination** is set to **Hybrid light**.
Infrared illumination (IR) mode	Adjusting the intensity of the IR backlight: • **Auto** • **Custom**

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	The setting is used to capture clear black-and-white images at night or in low light and ensures visibility using IR LEDs when conventional lighting is ineffective. This setting is available if **Scene illumination** is set to **Infrared light**.
IR intensity	Adjusting the IR light intensity. This setting is available if **Infrared illumination (IR) mode** is set to **Custom**.
White LED illumination mode	Adjusting the white LED illumination intensity: • **Auto** • **Custom** The setting is used to capture clear color images at night or in low light and ensures visibility using white LEDs when normal lighting is ineffective. This setting is available if **Scene illumination** is set to **White LED**.

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	• **Frame's bottom** • **Frame's left** • **Frame's center**
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**.
Exposure compensation	Ability to override automatic exposure settings to manually control image brightness. 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**.
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.

Audio settings

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Test volume	Testing the volume of the audio output device's speaker.
Audio input	Selecting the state of the connected device: • **Disabled** • **Built-in microphone** • **Connected external microphone**
Audio codec	Selecting the audio codec. This option is available if **Connected external microphone** is selected.
Bit rate	Setting the bit rate in kbps. This option is available if **Connected external microphone** is selected.
Sample rate	Setting the sample rate in kHz. This option is available if **Connected external microphone** is selected.
Microphone gain	Adjusting the microphone sensitivity level.

	This option is available if **Connected external microphone** is selected.

Alarm response settings

Settings	Meaning
Operating mode	Specify how this device will react to alarms: • **Independent alarm** — the device reacts to a threat according to its settings and doesn't trigger other devices. • **Instant alarm** — the armed device immediately reacts to a threat and raises the alarm. • **Entry/Exit** — when a delay is set, the armed device starts the countdown and doesn't raise the alarm even if triggered until the countdown ends. • **Follower** — the device inherits the delays from **Entry/Exit** devices. However, when the **Follower** is triggered individually, it
	Delay when leaving (arming delay) is the time the user has to leave the premises after arming. Learn more
Arm in Night mode	When enabled, the device switches to the armed mode when the system is set to **Night mode**. Learn more
Night mode delay when entering	Delay time when entering in **Night mode**. Delay when entering (alarm activation delay) is the time the user has to disarm the security system after entering the premises. Learn more
Night mode delay when leaving	Delay time when leaving in **Night mode**. Delay when leaving (arming delay) is the time the user has to leave the premises after arming.

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	Learn more
Night mode delay	Delay time in **Night mode**: 5 to 255 seconds. It is the time the user has to disable **Night mode** (alarm activation delay) after the Entry/Exit detector is triggered. The setting is displayed if the device is set to the **Follower** operating mode and the **Arm in Night mode** option is enabled. Learn more

Service settings

Settings	Meaning
Time zone	Time zone selection.

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Delay of cloud connection loss alarm, sec	The delay helps reduce the risk of a false server connection loss event. The delay can be set in the range of 30 to 600 seconds.
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.
Get notified of server connection loss without alarm	When the toggle is enabled, the system notifies users about server connection loss using a standard notification sound instead of a siren alert.

Indication

The green LED indicator is placed on the camera Ethernet connector.

Event	Indication
The network connection is established.	Lights up green.

Malfunction

When the device detects a malfunction, a malfunction counter is displayed in the Ajax app in the upper left corner of the device icon. All malfunctions can be seen in the device states. Fields with malfunctions will be highlighted in red.

Malfunction is displayed if:

- The camera has lost connection with the server.
- The camera's storage device is malfunctioning. Press the camera's reset button or format the storage device in the camera settings.

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the camera optical surface with a clean, soft, slightly damp lint-free microfiber cloth. Remove dust and other solid particles from the surface before wiping it. Do not use paper towels, abrasive materials, or rough fabrics, and do not apply excessive pressure. Do not apply liquid directly to the camera — dampen the cloth instead.

Do not use substances that contain alcohol, acetone, petrol, or other active solvents to clean the device. Wipe the lens carefully, as scratches can result in poor-quality images and camera failure.

Technical specifications

Technical specifications for BulletCam HLVF (5 Mp)

Technical specifications for BulletCam HLVF (8 Mp)

Compliance with standards

Warranty

The warranty for the products of the Limited Liability Company “Ajax Systems Manufacturing” is valid for 2 years after purchase.

If the device does not operate properly, we recommend contacting support service first, as most technical issues can be resolved remotely.

Warranty obligations

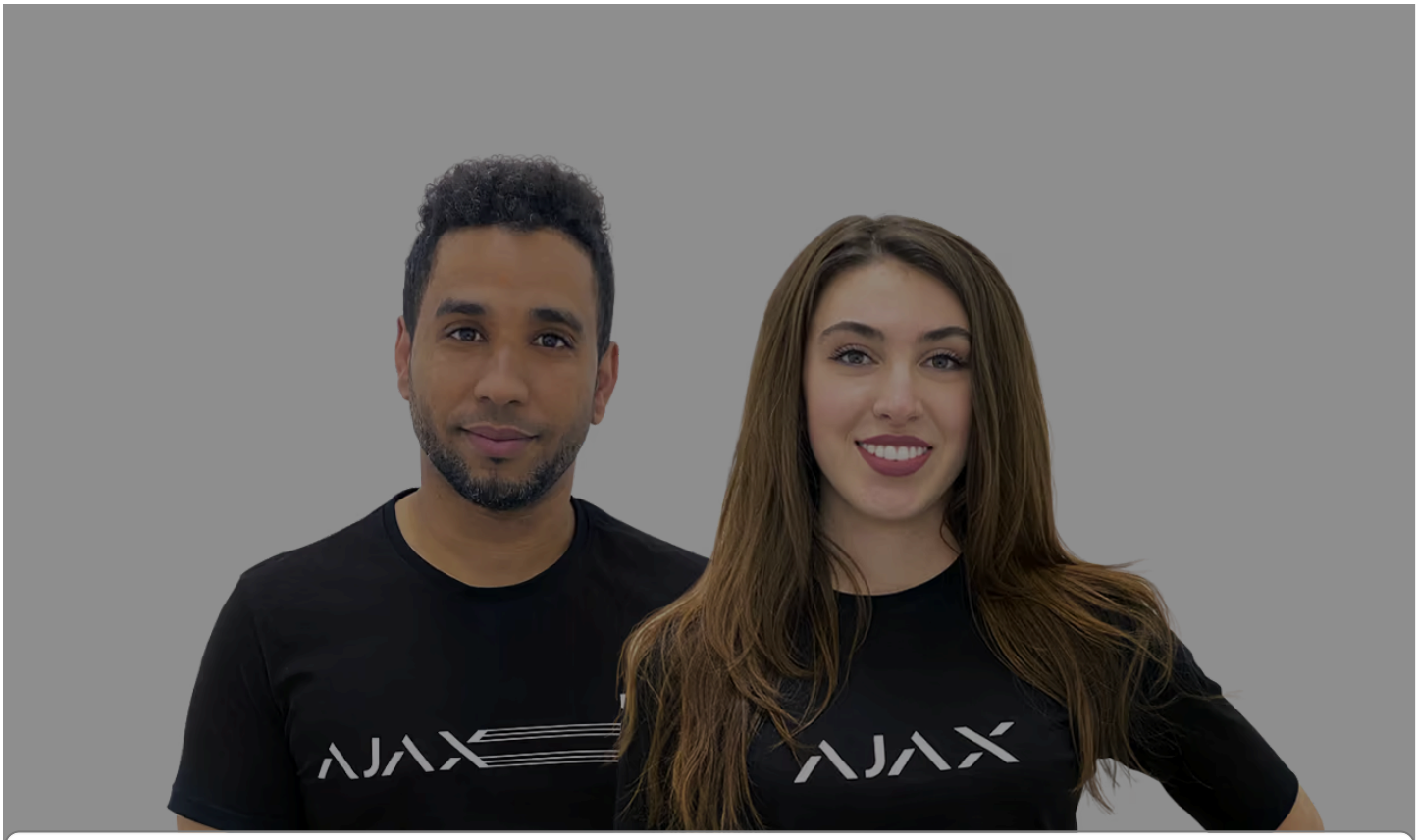
User Agreement

Contact Technical Support:

- email

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Rating 4.8

4,500,000

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Comfort and automation

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System integrations

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Fibra wired protocol

Ajax radio protocols

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Ajax Response

Ajax TV

Ajax Translator PRO

Ajax Cloud Signaling

Ajax Media Player

Scenarios

Available on App Store

Available on Google Play

Solutions

Support

Customer stories

Solutions by facility type

Commercial fire detection and alarm system

Wireless Grade 3 solution

Wired Grade 3 solution

Outdoor intrusion protection

Video surveillance solution

Integration with Yale smart locks

Water damage prevention

Upgrades and retrofits

Why Ajax

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Ajax compatibility with monitoring software

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Events

Career

Ajax Next

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