AXIS Body Worn Live

User manual
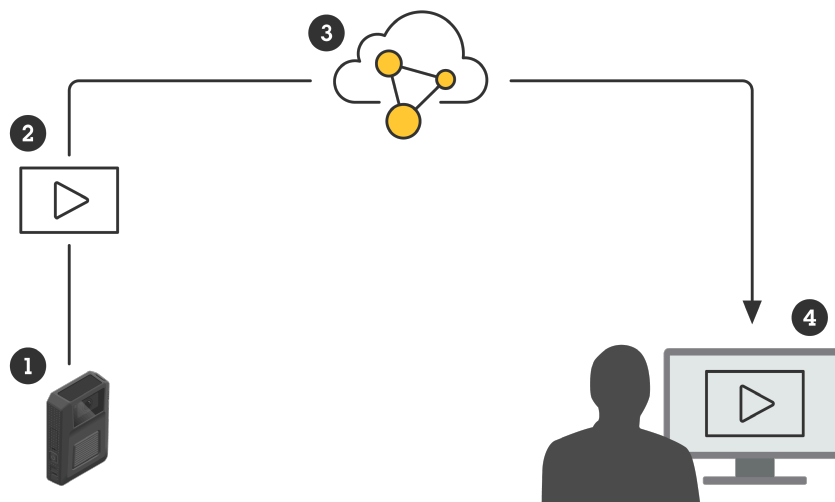
AXIS Body Worn Live

This is AXIS Body Worn Live

With AXIS Body Worn Live, body worn camera users can stream live video over Wi-Fi® or mobile networks. Operators can view the live video, and let the camera users know that they are watching it. In a map view, operators can also view the location of cameras that are currently streaming live video.

Solution overview

1   Body worn camera
2   Live streaming (end-to-end encrypted)
3   Cloud hosted by Axis
4   Web client

When you use AXIS Body Worn Live, the body worn camera (1) streams live video (2) through the cloud (3) to a web client (4).

Get started

To be able to live stream to AXIS Body Worn Live you must go through all the steps below:

1.

2.

3.

4.

5.

6. If you use Wi-Fi for streaming:

7. If you use AXIS Body Worn Live in an embedded browser in Genetec™Security Center:

Synchronize time

Important

- Browsers used for viewing AXIS Body Worn Live streams must have the same time, give or take a few seconds, as the body worn system.
- AXIS Body Worn Live prevents video streaming if the time between the system and the client isn't synchronized.
- We recommend using the same NTP server and time settings on the computers used for viewing AXIS Body Worn Live streams, as in the body worn system.

To check the date and time settings in AXIS Body Worn Manager, go to **Settings > System > Date and time**.

Create a My Axis account

A My Axis account gives access to My Systems, where you find our cloud-based systems and services, such as AXIS Body Worn Live. You can skip this step if you already have a My Axis account.

1. Go to *My Axis – Create Account*.

2. Enter your information and click **CREATE ACCOUNT**.

Connect your body worn system to AXIS Body Worn Live

Note

If your body worn system contains AXIS W100 or AXIS W101 Body Worn Cameras and is located outside North America, all wireless network channels in the cameras need to be turned on for live streaming to work optimally. Contact Axis support at bodywornlive.support@axis.com and provide your system ID and the country the system is located in before you connect to AXIS Body Worn Live. Axis support will enable required wireless channels for the body worn cameras.

1. In AXIS Body Worn Manager, go to **Add-on services** > **AXIS Body Worn Live**.

2. Click **Cloud**.

3. Click **Install**.

4. Accept the end user license agreement.

5. Log in to your My Axis account.

6. Under **Organization**, select **+ Create new organization**. You will become the organization owner for the whole organization. You will also get the admin role. See and .

7. Under **Storage location**, select the country where you want to store evidence data. For more information about evidence data, see .

8. Go to AXIS Body Worn Manager and copy the authorization code.

9. Go back to the authorization step and paste the code.

10. Click **Finish**.

    A 30-day trial license for AXIS Body Worn Live is automatically activated.

Enable end-to-end encryption

End-to-end encryption ensures secure communication between the body worn cameras and AXIS Body Worn Live. In you can read more about how it works, the different options, and get a concrete example.

1. On the computer and browser to be used for AXIS Body Worn Live, go to *AXIS Body Worn Live* and sign in using your My Axis account credentials.

2. Select the correct organization.

3. Go to **Settings**.

4. Click **Generate keys**.

5. If you want to reuse the private key on several computers or browsers, click **Download**. Read more about reuse of keys in .

6. Click **Copy public key**. The key is copied to your clipboard.

7. In AXIS Body Worn Manager, go to **Add-on services** ⊞ > **AXIS Body Worn Live**.

8. Under **Public keys**, click **Add**.

9. Type a name that helps you remember what this key is used for.

10. Paste the public key from your clipboard.

AXIS Body Worn Manager distributes the public key to the cameras when they're docked.

Reuse private key in several clients

If you have operators that use different computers for viewing AXIS Body Worn Live streams, you can minimize administration related to end-to-end encryption by reusing private keys. For more information and an example, see .

Note

> If you already generated keys, click 🗑 before you import keys.

1. On the computer and browser to be used for AXIS Body Worn Live, go to *AXIS Body Worn Live* and sign in using your My Axis account credentials.

2. Go to **Settings**.

3. Click **Import keys**.

4. Browse to the key that was generated and downloaded when you enabled end-to-end encryption and select it.

Verify end-to-end encryption (optional)

The public key has a public key thumbprint, which you can use to verify the end-to-end-encryption. You can find the public key thumbprint in both AXIS Body Worn Manager and in AXIS Body Worn Live. To verify the end-to-end encryption, compare these two thumbprints and make sure they're the same.

In AXIS Body Worn Manager, you find the public key thumbprint in the list of public keys in **Add-on services** > **AXIS Body Worn Live**.

In AXIS Body Worn Live, you find the public key thumbprint in **Settings > End-to-end encryption**.

Enable live streaming

We recommend dedicating a camera profile for live streaming to minimize the number of licenses used. See

1. Open AXIS Body Worn Manager.

2. Go to **Camera profiles** .

3. Under **AXIS Body Worn Live**, turn on **Streaming**.

Add Wi-Fi networks

> Note
>
> If the camera has a SIM card and uses only mobile networks, you don't have to add and assign Wi-Fi networks.

The body worn camera must be connected to a Wi-Fi or mobile network to stream video. For Wi-Fi networks, the body worn camera uses networks assigned to the camera user. You can assign a Wi-Fi network to the camera user either through camera profiles or directly to the camera user.

Option 1: Assign Wi-Fi network through camera profile in AXIS Body Worn Manager – You can add one or more Wi-Fi networks in AXIS Body Worn Manager and assign them to different camera profiles. For instructions, see .

Option 2a: Assign Wi-Fi network directly to the camera user in AXIS Body Worn Manager – You can assign a Wi-Fi network directly to a camera user in AXIS Body Worn Manager. This network overrides any network assigned through the camera profile. For instructions, see .

Option 2b: Assign Wi-Fi network directly to the camera user in AXIS Body Worn Assistant – You can assign a Wi-Fi network directly to a camera user in AXIS Body Worn Assistant. The camera users can add Wi-Fi networks on their own. This is especially useful if you have many camera users, and want to use many individual Wi-Fi networks. When you assign a Wi-Fi network directly to the user in AXIS Body Worn Assistant, it overrides any other assigned network. For instructions, see .

> Note
>
> AXIS W100 and AXIS W101 Body Worn Cameras support the 2.4 GHz frequency band only.

Option 1: Assign Wi-Fi network through camera profile in AXIS Body Worn Manager

1. Open AXIS Body Worn Manager.

2. Go to **Settings** > **Camera**.

3. Under **Wi-Fi networks**, click **Add**.

4. Enter the **Name (SSID)** and **Password** for the Wi-Fi network.

5. Click **Add**.

6. Go to **Camera profiles** .

7. Select the camera profile you want to assign the Wi-Fi network to.

8. Expand the **Wireless connection** panel.

9. Select a Wi-Fi network to assign it to the camera profile.

10. Go to **Users** and select the camera user you want to assign the Wi-Fi network to.

11. Select the camera profile that has the appropriate Wi-Fi network.

Option 2a: Assign Wi-Fi network directly to the camera user in AXIS Body Worn Manager

Note

Before you can assign a Wi-Fi network directly to the camera user, you must enable streaming, see .

1. Open AXIS Body Worn Manager.

2. Go to **Users** and select the user you want to add a Wi-Fi network to.

3. In **Network**, click .

4. Enter the **Name (SSID)** and **Password** for the Wi-Fi network.

5. Click **Add**.

Option 2b: Assign Wi-Fi network directly to the camera user in AXIS Body Worn Assistant

1. Open AXIS Body Worn Assistant.

2. Go to **Camera**.

3. Tap the pen icon .

4. Enter the Wi-Fi network name and password, and tap **OK**.

Note

When you add a Wi-Fi network this way it overrides any networks added in the camera profile, or directly to the user in AXIS Body Worn Manager.

Change default browser in Genetec™Security Center

If you use Genetec™Security Center, you have to change the default browser to avoid issues with the live stream. Genetec™ Security Center uses the Google Chrome™ browser by default. Change it to Microsoft Edge® by editing a config file:

1. On your computer, go to **Program Files (x86) > Genetec Security Center 5.11 > ConfigurationFiles > App.SecurityDesk.config**.

2. In **Presentation**, add or change **WebBrowserType** to **Edge**.

Ready to start streaming

You have now finalized the required steps for setting up the system. Go to to find out how to start streaming.

Configure your system

Add users

Admins can add users to AXIS Body Worn Live.

1. You invite the users to your organization in *My Systems*. For instructions, see *My Systems user manual*.

2. The users accept the invitation. All users must have My Axis accounts.

3. You assign a user role to each user. For instructions, see *My Systems user manual*. For information about what each role can do in AXIS Body Worn Live, see .

Make it possible to view cameras on a map

Operators can view the geographical position of cameras that are currently streaming live video. To make that possible, you must enable **Location** in AXIS Body Worn Manager.

Note

It's only possible to view the geographical position for some camera models.

1. Open AXIS Body Worn Manager.

2. Go to **Camera profiles** .

3. Select the camera profile that you enabled live streaming for.

4. For each camera model, turn on **Location**.

Set up automatic notifications to SOC

To make sure the operators in the security operating center (SOC) get notified when a new live stream starts, you can set up the system to send notifications automatically. You set up a connection between your organization and the security operating center.

1. Go to **Settings**.

2. Click **+ New SOC integration**.

3. Enter the URL for the security operating center.

4. Optionally, click **Sign messages** and enter a payload signature. This is used on the receiving end to verify that the notification comes from the correct source.

5. Click **Add**.

For instructions on how to set up the integration on the receiving end, download the *SOC integration* document.

Learn more

Organizations

The organization is a virtual representation of your Axis system installations, and it's at the center of your body worn cloud services.

- The organization connects your body worn system to your AXIS Body Worn Live licenses.

- The organization connects your body worn system to the AXIS Body Worn Live users.

You can learn more about organizations in *My Systems user manual*.

User roles

Note

- AXIS Body Worn Live users are separate from the camera users in AXIS Body Worn Manager
- AXIS Body Worn Live users need a My Axis account to sign in.

In AXIS Body Worn Live, there are three user roles:

Viewer – Views and acknowledges incoming live streams.

Operator – Views and acknowledges incoming live streams.

Admin – Manages the AXIS Body Worn Live settings. The administrator connects the body worn system to AXIS Body Worn Live, invites users, and assigns user roles. Administrators can also view and acknowledge incoming live streams.

Licenses

The number of cameras assigned to users with a live streaming-enabled camera profile during a 24-hour period, averaged over the last week, determines how many AXIS Body Worn Live licenses you need.

The license model is the same whether you use fixed or self-assign camera assignment.

We recommend that you dedicate a camera profile for live streaming to minimize the number of licenses used.

To learn more about licenses for Axis products and services, see *My Systems user manual*.

End-to-end encryption

End-to-end encryption is a secure communication process between a sender and a recipient. With end-to-end encryption, only the intended recipients can access the video streams from AXIS Body Worn Live. End-to-end encryption is implemented through two matching keys, a public one in the body worn camera and a private one in the browser that runs AXIS Body Worn Live. You generate the keys in AXIS Body Worn Live and add the public key into AXIS Body Worn Manager. AXIS Body Worn Manager distributes the public key to the cameras when they're docked.

Important

- End-to-end encryption is mandatory.
- When you download a private key, you can encrypt it with a passphrase for increased security. Each operator has to enter the passphrase when they import the key .
- The browser removes the private key if you remove cookies and other site data. This can happen when you clear your browsing history. One way to avoid this is to make an exception for AXIS Body Worn Live in the browser.
- If you lose the private key and you haven't downloaded and saved it, you have to generate a new key pair. We recommend that you remove the corresponding public key from AXIS Body Worn Manager before you generate new keys.

Reuse of encryption keys

If you view live streams on several computers or browsers, or if you have several body worn systems, you can reuse one key pair in all browsers and systems to minimize administration related to end-to-end encryption. By reusing the keys, you reduce the total number of public keys that you need to add to AXIS Body Worn Manager.

We recommend that you reuse the private key:

- If you view live streams on several computers or browsers.

- If browser cookies are cleared regularly.

Example:

Your organization has 3 body worn systems and 5 operators who view live streams on different computers.
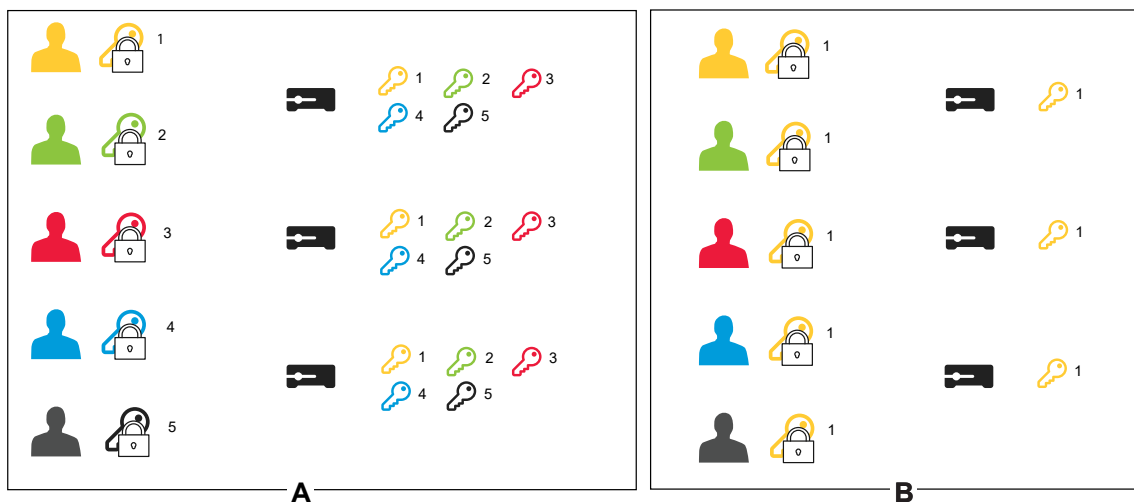
- **Option A – one key pair per browser**: 5 operators generate 1 key pair each in AXIS Body Worn Live. The admin of AXIS Body Worn Manager adds 5 public keys to the 3 systems.

- **Option B – reuse one key pair**: 1 operator generates 1 key pair in AXIS Body Worn Live. They distribute the private key to the other 4 operators. The admin of AXIS Body Worn Manager adds 1 public key to the 3 systems.

Evidence data and metadata

When a body worn camera streams live video, both evidence data and metadata are produced. When you connect you body worn system to AXIS Body Worn Live, you can choose between several countries for storing evidence data.

Evidence data:

- Encrypted video and audio streams

- Encrypted incident positioning data

Metadata:

- User-related, such as user ID, username, stream ID, and organization ID.

- Stream-related, such as start time, end time, and duration.

Daily use

> **Important**
>
> For security reasons, AXIS Body Worn Live requires that the camera is docked at least once every six days. Live streaming only works if you dock the camera within the six-day interval.

Open AXIS Body Worn Live

1. Go to *AXIS Body Worn Live*.

2. Sign in using your My Axis account credentials.

> **Note**
>
> - You'll stay logged in as long as you keep your web browser open, even if you close the AXIS Body Worn Live tab.
> - You'll be logged out if you close the web browser and don't open it again within seven days.

Start a live stream

To start a live stream:

1. Double-press the function button on the body worn camera. The recording LED turns red, and depending on your camera model:

    - The Wi-Fi® connectivity LED starts pulsing amber.

    - turns white.

2. When the camera has established a connection and started streaming to AXIS Body Worn Live, depending on your camera model:

    - The Wi-Fi connectivity LED turns green.

    - turns green.

3. The camera provides feedback when the SOC (security operating center) operator acknowledges the stream, see .

> **Note**
>
> You can start a live stream whether you're already recording or not. If you're not already recording, a recording starts at the same time as the live stream.

Stop a live stream

To stop the live stream and the recording, press and hold the recording button. Check the *camera's user manual* for information about how long you need to keep the button pressed.

View and acknowledge a live stream

When a camera user starts a live stream, their body worn user name appears under **Active streams**. To view a live stream:

1. Go to streams .

2. Click the camera user whose video stream you want to view.

3. To switch between map view and live stream view, click ▷ and ⧀

4. To let the camera user know that you have opened the live stream, click ⧂)) . The camera vibrates to notify the camera user.

View several live streams at the same time

You can view live streams from up to four camera users next to each other. To create a group of camera users and view their live streams simultaneously:

1. Go to streams ⧈ .

2. Click ⧂⊕ .

3. Type a name for the group.

4. Click ⌄ and select up to four camera users.

5. Click **Create**.

6. To view the live streams, click the group name.

You can also drag-and-drop camera users to create a new group or to add a user to an existing group.

View recent streams

AXIS Body Worn Live saves all streams for 24 hours. To view recent streams:

1. Go to recordings ⧂ .

2. Click the camera user whose video stream you want to view.

3. Click the stream you want to view.

View cameras on a map

If you want to find out where a camera user who is currently streaming live video is located and how they are moving, you can view the camera's geographical position on a map.

Important

- You need to turn on **Location** in AXIS Body Worn Manager before you can view camera positions. See .
- You can't view camera movements if the camera can't receive GPS signals. If a camera stopped receiving GPS signals, it's indicated by ⓛ in the map. When you hover the icon you see when the position was last updated.
- A camera user that started streaming but didn't yet get a position, isn't visible in the map.

To view the camera users' positions in a map:

1. Open AXIS Body Worn Live.

2. Go to streams ⧈ .

3. Click ⬔ .

Note

- If you want to see how camera users have moved in the last 20–30 seconds, you can click ⬦ to turn on trails.
- If several camera users are close to each other, they are clustered on the map and a number lets you know how many cameras are included in the cluster.
- In the list of camera users, hover a user and click ⬔ to center the map around that user.

General issues

Problem or symptom	Cause	Solution
I can't turn on cloud extensions in AXIS Body Worn Manager.	There is an issue with the network configuration.	In AXIS Body Worn Manager, go to **Settings** ⚙ > **Network** and check the network configuration, including IP address, DNS settings, proxy server, and firewall rules to make sure the body worn system can establish a connection
The body worn camera doesn't react when I try to start a live stream.	Streaming isn't turned on in the user's camera profile.	See .
	Your AXIS Body Worn Live license has expired.	In AXIS Body Worn Live, go to **Settings** and check the license information.
The body worn camera won't connect to the Wi-Fi® network. The Wi-Fi connectivity LED turns red/I get a Wi-Fi warning:	A wireless network hasn't been assigned to the user using the camera.	See
	The camera hasn't been docked for over six days. For security reasons, AXIS Body Worn Live requires docking the camera at least every six days, and live streaming only works if you dock the camera within the six-day interval.	Dock the camera to renew the certificate.
	The network name or password is wrong.	Make sure the network name and password are correct.
	AXIS W100 and AXIS W101 Body Worn Cameras only support 2.4 GHz wireless networks.	Make sure the wireless network uses the 2.4 GHz frequency band. Many phones use the 5 GHz frequency band by default. So if you're connecting to a mobile hotspot you need to go into your phone's settings and enable the 2.4 GHz frequency band.
	The SSID for the Wi-Fi network is wrong or missing.	Enter the correct SSID for the Wi-Fi network.
Can't stream video through mobile network/I get a mobile network warning:	The SIM card PIN is wrong or missing.	In AXIS Body Worn Manager, go to **Cameras** 📷 and click the camera. Enter the correct PIN.
	The SIM card has been replaced while the camera was turned on and undocked.	Dock the camera.
	The gateway between the mobile network and the internet, the access point name (APN), is required by the operator.	Add the APN in AXIS Body Worn Manager: 1. Go to **Settings** ⚙ > **Camera** > **Mobile networks**. 2. Click **Show advanced**. 3. Enter the access point name used by your network provider.

Troubleshooting

Problem or symptom	Cause	Solution
	The camera isn't enabled for use by the network provider.	1. In AXIS Body Worn Manager, go to **Cameras** and click the camera to find the camera's international mobile equipment identity (IMEI) number. 2. Check if the IMEI is blocked, for example at *imeicheck.com*. 3. If the IMEI is blocked, contact the operator to allow it.
	The SIM card is broken.	Replace the SIM card.
I get an AXIS Body Worn Live error:	The camera hasn't been docked for more than 6 days.	Dock the camera. Make sure the body worn system has access to the hostnames listed in .
I don't see an image in the live stream player.	The time in the body worn system is different from the time on the computer used for AXIS Body Worn Live.	Use an NTP server to set the date and time both in the body worn system and on the computer used for AXIS Body Worn Live.
Live streaming doesn't work optimally.	Your system is located in Europe, your system contains AXIS W100 or W101 cameras, and your Wi-Fi router uses channel 12 or 13.	Contact `bodywornlive.support@axis.com` and provide your system ID and the country the system is located in.
I experience issues with the live stream in the embedded browser in Genetec™ Security Center.	Genetec™ Security Center uses the Google Chrome™ browser by default.	Change the default browser to Microsoft Edge® by editing a config file. For example, go to **Program Files (x86) > Genetec Security Center 5.11 > ConfigurationFiles > App.SecurityDesk.config**. In **Presentation**, add or change **WebBrowserType** to **Edge**.
I experience issues with the live stream in the embedded browser in AXIS Camera Station.	The AXIS Camera Station version is too old.	Upgrade to version 5.50 or later.
	The Microsoft® Windows version is too old.	Upgrade to the latest version.

Hostnames

These are the hostnames that the body worn system must have access to when you set up and use AXIS Body Worn Live. The port is always 443.

Global

Domain	Information	Device type
*.mysystems.axis.com	Web applications.	Clients (web browser)
*.bodyworn.axis.com	Bodyworn specific APIs.	Clients (web browser), body worn cameras, system controllers
*.bodyworn.axis.cloud	Bodyworn specific APIs.	System controllers
*.axis.com	Common Axis APIs.	Clients (web browser), system controllers

axisbwsprod.webpubsub.azure.com	Websocket for application data.	Clients (web browser)
axisbws-prod.azure-devices.net	Application communication between devices and cloud.	Body worn cameras, system controllers

Regional streaming storage

Domain	Region	Device type
axislive31517ebf9edd88f9.blob.core.windows.net	East US	Clients (web browser), body worn cameras
axislive1c7751f2e2c4df77.blob.core.windows.net	West US	
axislivee6dc2820e149af9f.blob.core.windows.net	EU	
axislive980d6ba8adbbf223.blob.core.windows.net	Australia	
axis-live9280c1821b19cd35.blob.core.windows.net	Canada	
axis-live5894d7bc3cd547d1.blob.core.windows.net	India	
axislive09082556af5ba7de.blob.core.windows.net	France	
axislive8adf5397b85a521e.blob.core.windows.net	Germany	
axis-live7411d120eb3dc484.blob.core.windows.net	Switzerland	
axislive39b4a3a4e44aa1f5.blob.core.windows.net	UK	
axislivef1c7db59e587d874.blob.core.windows.net	Japan	