

AXIS D1110 Video Decoder 4K

Table of Contents

Get started.....3
 Find the device on the network.....3
 Browser support.....3
 Open the device's web interface.....3
 Create an administrator account.....3
 Secure passwords.....4
 Make sure that no one has tampered with the device software4
 Web interface overview4
 Configure your device.....5
 Add a camera.....5
 Edit a camera source5
 Remove a camera.....5
 Add a media file.....5
 Set up a sequence5
 Use control board to navigate views and operate a camera6
 Control board keys reference6
 Set up rules for events7
 Trigger an action7
 Audio.....7
 Audio files7
 The web interface8
 Learn more.....9
 Streaming and storage.....9
 Video compression formats.....9
 External storage device9
 Cybersecurity.....9
 Signed OS.....9
 Secure boot9
 Axis Edge Vault10
 Axis device ID.....10
 Specifications.....11
 Product overview11
 11
 LED indicators.....11
 SD card slot.....11
 Buttons.....12
 Control button12
 Connectors.....12
 HDMI connector.....12
 Network connector.....12
 USB connector12
 Audio connector.....12
 Power connector12
 Troubleshooting.....14
 Reset to factory default settings.....14
 AXIS OS options.....14
 Check the current AXIS OS version14
 Upgrade AXIS OS.....14
 Technical problems and possible solutions15
 Performance considerations16
 Contact support17

Get started

Find the device on the network

To find Axis devices on the network and assign them IP addresses in Windows®, use AXIS IP Utility or AXIS Device Manager. Both applications are free and can be downloaded from axis.com/support.

For more information about how to find and assign IP addresses, go to *How to assign an IP address and access your device*.

Browser support

You can use the device with the following browsers:

	Chrome™	Edge™	Firefox®	Safari®
Windows®	✓	✓	*	*
macOS®	✓	✓	*	*
Linux®	✓	✓	*	*
Other operating systems	*	*	*	*

✓: Recommended

*: Supported with limitations

Open the device's web interface

1. Open a browser and type the IP address or host name of the Axis device. If you don't know the IP address, use AXIS IP Utility or AXIS Device Manager to find the device on the network.
2. Type the username and password. If you access the device for the first time, you must create an administrator account. See *Create an administrator account, on page 3*.

For descriptions of all features and settings in the web interface of devices with AXIS OS, see *AXIS OS web interface help*.

Create an administrator account

The first time you log in to your device, you must create an administrator account.

1. Enter a username.
2. Enter a password. See *Secure passwords, on page 4*.
3. Re-enter the password.
4. Accept the license agreement.
5. Click **Add account**.

Important

The device has no default account. If you lose the password for your administrator account, you must reset the device. See *Reset to factory default settings, on page 14*.

Secure passwords

Important

Use HTTPS (which is enabled by default) to set your password or other sensitive configurations over the network. HTTPS enables secure and encrypted network connections, thereby protecting sensitive data, such as passwords.

The device password is the primary protection for your data and services. Axis devices do not impose a password policy as they may be used in various types of installations.

To protect your data we strongly recommend that you:

- Use a password with at least 8 characters, preferably created by a password generator.
- Don't expose the password.
- Change the password at a recurring interval, at least once a year.

Make sure that no one has tampered with the device software

To make sure that the device has its original AXIS OS, or to take full control of the device after a security attack:

1. Reset to factory default settings. See *Reset to factory default settings, on page 14*.
After the reset, secure boot guarantees the state of the device.
2. Configure and install the device.

Web interface overview


This video gives you an overview of the device's web interface.



Axis device web interface


Configure your device

Add a camera


1. Go to **Video sources > Camera sources**.
2. Click  **Add camera source**:
 - To add a predefined camera from a list, select **Network discovery**.
 - To add a camera manually, select **Manual**.
 - For Axis cameras: enter name, IP address, streaming protocol, port, camera username and password.
 - For third-party cameras: enter name, IP address, camera username and password.
3. Click **Add**.

Edit a camera source


After you've added a camera, you can edit the settings from the **Edit** view.

1. Go to **Video sources > Camera sources**.
2. Select the camera source and click .
3. Click **Edit** and do your changes.
4. Click **Save**.



Remove a camera

1. Go to **Video sources > Camera sources**.
2. Select the camera source and click .
3. Click **Delete** and confirm.




Add a media file

1. Go to **Video sources > Media sources**.
2. Click  **Add media source**.
3. Upload the media file to the device and select the location to put it.
4. Click **Add**.

Set up a sequence

1. Go to **Sequences > Sequences**.
2. Click  **Add sequence**.
3. Enter a name of the new sequence.
4. Click  and select a layout for the view.
5. In the view window, Click to select camera source or media for this segment.
6. Select **Camera** or **Media** and select a source from the list.

Note

- To enable low latency mode, select only the H.264 video codec. The latency from camera streams is reduced by disabling B frames which increases network traffic.
 - For third-party cameras, add the URI obtained from the manufacturer of the camera.
7. Click **Add** and continue adding sources until the view window is full.
 8. To add more view windows to the sequence, click  .
 9. Click **Save**.
 10. Click  to play the sequence.
 11. To set the sequence as the default and have it play when no other is active, click  and select **Set as default sequence**.



Use control board to navigate views and operate a camera

1. Add a camera to the decoder. See *Add a camera, on page 5*.
2. Make sure to turn on PTZ for your Axis camera.
3. Connect AXIS TU9001 Control Board to the decoder.
4. In the decoder's web interface, go to **Sequences > Joystick controls** and turn on **Joystick**.

Control board keys reference

Note

Selecting a pane will pause the automatic view change.

Description	AXIS TU9001
Turn on PTZ on camera in a single view.	F1
Turn on PTZ on camera on pane <P> in a split view.	<P> + F1
Set camera on pane <P> in a split view to full screen and turn on PTZ.	<P> + 
Turn off PTZ and go back to previous sequence from full screen.	
Pan the selected camera.	Move joystick left or right
Tilt the selected camera.	Move joystick up or down
Zoom the selected camera.	Move joystick head left or right
Go to PTZ preset <N> in a single view and turn on PTZ.	J<N>
Set PTZ preset <N> in a single view and turn on PTZ.	ALT + J<N>
Go to PTZ preset <N> on pane <P> in a split view and turn on PTZ.	<P> + J<N>
Set PTZ preset <N> on pane <P> in a split view and turn on PTZ.	<P> + ALT + J<N>

Example:

- If you press **2** on AXIS TU9003 and then **J1** on AXIS TU9002, the camera will go to PTZ preset 1 on pane 2 in the current split view.
- If you press **5** and then **F1** on AXIS TU9003, you will turn on PTZ on camera on pane 5 in the current split view.

For more information about the control board, see the *user manual*.

Set up rules for events

You can create rules to make your device perform an action when certain events occur. A rule consists of conditions and actions. The conditions can be used to trigger the actions. For example, the device can start a recording or send an email when it detects motion, or show an overlay text while the device is recording.

To learn more, see *Get started with rules for events*.

Trigger an action

1. Go to **System > Events** and add a rule. The rule defines when the device will perform certain actions. You can set up rules as scheduled, recurring, or manually triggered.
2. Enter a **Name**.
3. Select the **Condition** that must be met to trigger the action. If you specify more than one condition for the rule, all of the conditions must be met to trigger the action.
4. Select which **Action** to perform when the conditions are met.

Audio

Audio files

The device doesn't support audio-only files.

The web interface

To read about all the features and settings available in the web interface of devices with AXIS OS, go to *AXIS OS web interface help*.

Learn more

Streaming and storage

Video compression formats

Decide which compression method to use based on your viewing requirements, and on the properties of your network. The available options are:

H.264 or MPEG-4 Part 10/AVC

Note

H.264 is a licensed technology. The Axis product includes one H.264 viewing client license. To install additional unlicensed copies of the client is prohibited. To purchase additional licenses, contact your Axis reseller.

H.264 can, without compromising image quality, reduce the size of a digital video file by more than 80% compared to the Motion JPEG format and by as much as 50% compared to older MPEG formats. This means that less network bandwidth and storage space are required for a video file. Or seen another way, higher video quality can be achieved for a given bitrate.

H.265 or MPEG-H Part 2/HEVC

H.265 can, without compromising image quality, reduce the size of a digital video file by more than 25% compared to H.264.

Note

- H.265 is licensed technology. The Axis product includes one H.265 viewing client license. Installing additional unlicensed copies of the client is prohibited. To purchase additional licenses, contact your Axis reseller.
- Most web browsers don't support H.265 decoding and because of this the camera doesn't support it in its web interface. Instead you can use a video management system or application supporting H.265 decoding.

External storage device

To be recognized by the video decoder, the first partition of your external storage device must use an exFAT or ext4 file system.

Cybersecurity

For product-specific information about cybersecurity, see the product's datasheet at axis.com.

For in-depth information about cybersecurity in AXIS OS, read the *AXIS OS Hardening guide*.

Signed OS

Signed OS is implemented by the software vendor signing the AXIS OS image with a private key. When the signature is attached to the operating system, the device will validate the software before installing it. If the device detects that the integrity of the software is compromised, the AXIS OS upgrade will be rejected.

Secure boot

Secure boot is a boot process that consists of an unbroken chain of cryptographically validated software, starting in immutable memory (boot ROM). Being based on the use of signed OS, secure boot ensures that a device can boot only with authorized software.

Axis Edge Vault

Axis Edge Vault provides a hardware-based cybersecurity platform that safeguards the Axis device. It offers features to guarantee the device's identity and integrity and to protect your sensitive information from unauthorized access. It builds on a strong foundation of cryptographic computing modules (secure element and TPM) and SoC security (TEE and secure boot), combined with expertise in edge device security.

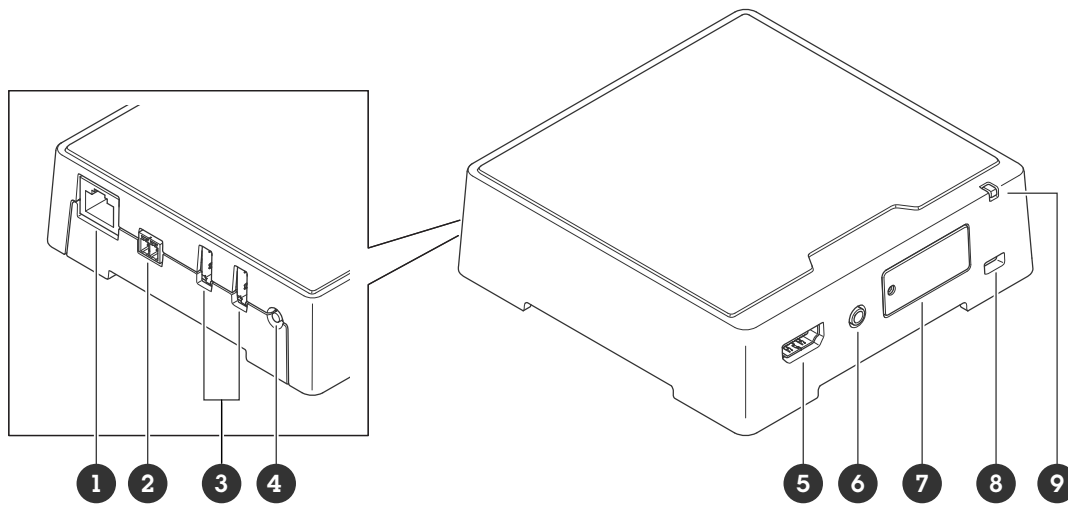
Axis device ID

Being able to verify the origin of the device is key to establishing trust in the device identity. During production, devices with Axis Edge Vault are assigned a unique, factory-provisioned, and IEEE 802.1AR-compliant Axis device ID certificate. This works like a passport to prove the origin of the device. The device ID is securely and permanently stored in the secure keystore as a certificate signed by Axis root certificate. The device ID can be leveraged by the customer's IT infrastructure for automated secure device onboarding and secure device identification

To learn more about the cybersecurity features in Axis devices, go to axis.com/learning/white-papers and search for cybersecurity.

Specifications

Product overview



- 1 Network connector PoE
- 2 Power connector
- 3 2x USB ports
- 4 Control button
- 5 HDMI type A connector
- 6 Audio out
- 7 MicroSD card slot
- 8 Security slot
- 9 Status LED

LED indicators

Status LED	Indication
Amber	Steady during startup, during reset to factory default or when restoring settings.
Amber/Red	Flashes during startup, and if network connection is unavailable or lost.
Green	Shows steady green for 10 seconds for normal operation after startup completed. When the LED turns off after being green, the device is running.
Green/Red	Flashes for identification purposes.


SD card slot

NOTICE

- Risk of damage to SD card. Don't use sharp tools, metal objects, or excessive force when inserting or removing the SD card. Use your fingers to insert and remove the card.
- Risk of data loss and corrupted recordings. Unmount the SD card from the device's web interface before removing it. Don't remove the SD card while the product is running.

This device supports microSD/microSDHC/microSDXC cards.

For SD card recommendations, see axis.com.

 microSD, microSDHC, and microSDXC Logos are trademarks of SD-3C LLC. microSD, microSDHC, microSDXC are trademarks or registered trademarks of SD-3C, LLC in the United States, other countries or both.

Buttons

Control button

The control button is used for:

- Resetting the product to factory default settings. See *Reset to factory default settings, on page 14*.
- Connecting to a one-click cloud connection (O3C) service over the internet. To connect, press and release the button, then wait for the status LED to flash green three times.

Connectors

HDMI connector

Use the HDMI™ connector to connect a display or public view monitor.

Network connector

RJ45 Ethernet connector with Power over Ethernet (PoE).

USB connector

Use the USB connector to connect external accessories. Supported accessories that you can connect are:

- AXIS TU9001 Control Board
- AXIS TU9002 Joystick
- AXIS TU9003 Keypad
- USB storage
- Touch screen
- Mouse

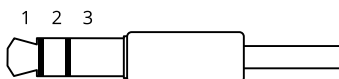
Important

Only one USB storage is supported at a time.

Turn off the device before removing the USB storage.

Audio connector

- **Audio out** – 3.5 mm output for audio (line level) that can be connected to a public address (PA) system or an active speaker with a built-in amplifier. A stereo connector must be used for audio out.



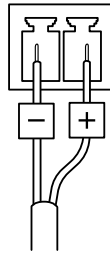
Audio output

1 Tip	2 Ring	3 Sleeve
Channel 1, unbalanced line, mono	Channel 1, unbalanced line, mono	Ground

Power connector

AC/DC connector. Use the supplied adapter.

2-pin terminal block for DC power input. Use a Safety Extra Low Voltage (SELV) compliant limited power source (LPS) with either a rated output power limited to ≤100 W or a rated output current limited to ≤5 A.



Note

When DC is available, it takes priority over PoE.

Troubleshooting

Reset to factory default settings

Important

Reset to factory default should be used with caution. A reset to factory default resets all settings, including the IP address, to the factory default values.

To reset the product to the factory default settings:

1. Disconnect power from the product.
2. Press and hold the control button while reconnecting power. See *Product overview, on page 11*.
3. Keep the control button pressed for 15–30 seconds until the status LED indicator flashes amber.
4. Release the control button. The process is complete when the status LED indicator turns green. If no DHCP server is available on the network, the device IP address will default to one of the following:
 - **Devices with AXIS OS 12.0 and later:** Obtained from the link-local address subnet (169.254.0.0/16)
 - **Devices with AXIS OS 11.11 and earlier:** 192.168.0.90/24
5. Use the installation and management software tools to assign an IP address, set the password, and access the device.
The installation and management software tools are available from the support pages on axis.com/support.

You can also reset parameters to factory default through the device's web interface. Go to **Maintenance > Factory default** and click **Default**.

AXIS OS options

Axis offers device software management according to either the active track or the long-term support (LTS) tracks. Being on the active track means continuously getting access to all the latest product features, while the LTS tracks provide a fixed platform with periodic releases focused mainly on bug fixes and security updates.

Using AXIS OS from the active track is recommended if you want to access the newest features, or if you use Axis end-to-end system offerings. The LTS tracks are recommended if you use third-party integrations, which are not continuously validated against the latest active track. With LTS, the products can maintain cybersecurity without introducing any significant functional changes or affecting any existing integrations. For more detailed information about Axis device software strategy, go to axis.com/support/device-software.

Check the current AXIS OS version

AXIS OS determines the functionality of our devices. When you troubleshoot a problem, we recommend that you to start by checking the current AXIS OS version. The latest version might contain a correction that fixes your particular problem.

To check the current AXIS OS version:

1. Go to the device's web interface > **Status**.
2. Under **Device info**, see the AXIS OS version.

Upgrade AXIS OS

Important

- When you upgrade the device software, your preconfigured and customized settings are saved. Axis Communications AB can't guarantee that the settings are saved, even if the features are available in the new AXIS OS version.
- Starting from AXIS OS 12.6, you must install every LTS version between your device's current version and the target version. For example, if the currently installed device software version is AXIS OS 11.2, you

have to install the LTS version AXIS OS 11.11 before you can upgrade the device to AXIS OS 12.6. For more information, see *AXIS OS Lifecycle guide: Upgrade path*.

- Make sure the device remains connected to the power source throughout the upgrade process.

Note

- When you upgrade the device with the latest AXIS OS version in the active track, the product receives the latest functionality available. Always read the upgrade instructions and release notes available with each new release before you upgrade. To find the latest AXIS OS version and the release notes, go to axis.com/support/device-software.
1. Download the AXIS OS file to your computer, available free of charge at axis.com/support/device-software.
 2. Log in to the device as an administrator.
 3. Go to **Maintenance > AXIS OS upgrade** and click **Upgrade**.

When the upgrade has finished, the product restarts automatically.

You can use AXIS Device Manager to upgrade multiple devices at the same time. Find out more at axis.com/products/axis-device-manager.

Technical problems and possible solutions

Problems upgrading AXIS OS

AXIS OS upgrade failed

If the upgrade fails, the device reloads the previous version. The most common reason is that the wrong AXIS OS file has been uploaded. Check that the name of the AXIS OS file corresponds to your device and try again.

Problems after AXIS OS upgrade

If you experience problems after the upgrade, roll back to the previously installed version from the **Maintenance** page.

Problems setting the IP address

Can't set the IP address

- If the IP address intended for the device and the IP address of the computer used to access the device are located on different subnets, you can't set the IP address. Contact your network administrator to obtain an IP address.
- The IP address could be in use by another device. To check:
 1. Disconnect the Axis device from the network.
 2. In a Command/DOS window, type `ping` and the IP address of the device.
 3. If you receive: `Reply from <IP address>: bytes=32; time=10...` this means that the IP address might already be in use by another device on the network. Obtain a new IP address from the network administrator and reinstall the device.
 4. If you receive: `Request timed out`, this means that the IP address is available for use with the Axis device. Check all cabling and reinstall the device.
- There could be a possible IP address conflict with another device on the same subnet. The static IP address in the Axis device is used before the DHCP server sets a dynamic address. This means that if the same default static IP address is also used by another device, there could be problems accessing the device.

Problems accessing the device

Can't log in when accessing the device from a browser

When HTTPS is enabled, make sure that you use the correct protocol (HTTP or HTTPS) when you try to log in. You might need to manually type `http` or `https` in the browser's address field.

If you've lost the password for the root account, you must reset the device to the factory default settings. For instructions, see *Reset to factory default settings, on page 14*.

The IP address has been changed by DHCP

IP addresses obtained from a DHCP server are dynamic and could change. If the IP address has been changed, use AXIS IP Utility or AXIS Device Manager to locate the device on the network. Identify the device using its model or serial number, or by the DNS name (if the name has been configured).

If required, you can assign a static IP address manually. For instructions, go to axis.com/support.

Certificate error when using IEEE 802.1X

For authentication to work properly, the date and time settings in the Axis device must be synchronized with an NTP server. Go to **System > Date and time**.

The browser isn't supported

For a list of recommended browsers, see *Browser support, on page 3*.

Can't access the device externally

To access the device externally, we recommend you to use one of the following applications for Windows®:

- AXIS Camera Station Edge: free of charge, ideal for small systems with basic surveillance needs.
- AXIS Camera Station Pro: 90-day trial version free of charge, ideal for small to mid-size systems.

For instructions and download, go to axis.com/vms.

Problems with MQTT

Can't connect over port 8883 with MQTT over SSL

The firewall blocks traffic that uses port 8883 since it's regarded insecure.

In some cases the server/broker might not provide a specific port for MQTT communication. It might still be possible to use MQTT over a port normally used for HTTP/HTTPS traffic.

- If the server/broker supports WebSocket/WebSocket Secure (WS/WSS), typically on port 443, use this protocol instead. Check with the server/broker provider to see if WS/WSS is supported and which port and basepath to use.
- If the server/broker supports ALPN, the use of MQTT can be negotiated over an open port, such as 443. Check with your server/broker provider to see if ALPN is supported and which ALPN protocol and port to use.

If you can't find what you're looking for here, try the troubleshooting section at axis.com/support.

Performance considerations

- Using HTTPS may reduce frame rate.
- Heavy network utilization due to poor infrastructure affects the bandwidth.

- A non-correlation between the input and output of the video stream can affect the performance of the video decoder.

Contact support

If you need more help, go to axis.com/support.

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