

## Table of Contents

Get started 3
Find the device on the network
Open the device's webpage
Webpage overview 4
Configure your device 5
Adjust the image 5
View and record video 7
Set up rules for events 9 Cleaning recommendations 12
Cleaning recommendations
Learn more
Privacy masks
Streaming and storage
Applications
Troubleshooting 18
Reset to factory default settings
Firmware options
Check the current firmware version
Upgrade the firmware
Technical issues, clues and solutions
Performance considerations
Contact support
Specifications
Product overview
LED indicators
SD card slot
Buttons
Connectors

#### Get started

#### 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 <sup>TM</sup>	Firefox®	Edge <sup>TM</sup>	Safari <sup>®</sup>
Windows <sup>®</sup>	recommended	recommended	✓	
macOS®	recommended	recommended	✓	✓
Linux®	recommended	recommended	✓	
Other operating systems	✓	✓	<b>√</b>	<b>√</b> *

<sup>\*</sup>To use AXIS OS web interface with iOS 15 or iPadOS 15, go to **Settings > Safari > Advanced > Experimental Features** and disable NSURLSession Websocket.

If you need more information about recommended browsers, go to AXIS OS Portal.

## Open the device's webpage

- 1. Open a browser and enter the IP address or host name of the Axis device.
  - If you do not know the IP address, use AXIS IP Utility or AXIS Device Manager to find the device on the network.
- 2. Enter the username and password. If you access the device for the first time, you must set the root password. See Set a new password for the root account on page 3.

### Set a new password for the root account

The default administrator username is root. There's no default password for the root account. You set a password the first time you log in to the device.

- 1. Type a password. Follow the instructions about secure passwords. See Secure passwords on page 3.
- 2. Retype the password to confirm the spelling.
- 3. Click Add user.

#### Important

If you lose the password for the root account, go to Reset to factory default settings on page 18 and follow the instructions.

#### Secure passwords

#### Important

Axis devices send the initially set password in clear text over the network. To protect your device after the first login, set up a secure and encrypted HTTPS connection and then change the password.

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.

## Get started

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.

## Webpage overview

This video gives you an overview of the device interface.



To watch this video, go to the web version of this document.

www.axis.com/products/online-manual/59061#t10157625

Axis device web interface

## Configure your device

## Configure your device

## Adjust the image

This section includes instructions about configuring your device. If you want to learn more about how certain features work, go to *Learn more on page 13*.

#### Replace the lens

- 1. Stop all recordings and disconnect power from the product.
- 2. Remove the lens.
- 3. Attach the new lens.
- 4. Reconnect the power.
- 5. Log in to the product's webpage, go to Settings > System > Orientation > Camera X > Lens selection and select the new lens.
- 6. Adjust the focus.
- 7. Do a positioning calibration of the camera.

#### Adjust the focus

To adjust the zoom:

1. Go to Video > Installation and use the zoom slider to adjust.

To adjust the focus:

- 1. Go to Video > Installation and click to show the autofocus area.
- 2. Adjust the autofocus area to cover the part of the image that you want to be in focus.

If you don't select an autofocus area, the camera focuses on the entire scene. We recommend that you focus on a static object.

- 3. Click Autofocus.
- 4. To fine tune the focus, use the focus slider.

#### Select exposure mode

To improve image quality for specific surveillance scenes, use exposure modes. Exposure modes lets you control aperture, shutter speed, and gain. Go to Video > Image > Exposure and select between the following exposure modes:

- For most use cases, select Automatic exposure.
- For environments with certain artificial lighting, for example fluorescent lighting, select Flicker-free.
  - Select the same frequency as the power line frequency.
- For environments with certain artificial light and bright light, for example outdoors with fluorescent lighting at night and sun during daytime, select Flicker-reduced.
  - Select the same frequency as the power line frequency.
- To lock the current exposure settings, select Hold current.

## Configure your device

#### Benefit from IR light in low-light conditions by using night mode

Your camera uses visible light to deliver color images during the day. But as the visible light diminishes, color images become less bright and clear. If you switch to night mode when this happens, the camera uses both visible and near-infrared light to deliver bright and detailed black-and-white images instead. You can set the camera to switch to night mode automatically.

- 1. Go to Video > Image > Day-night mode, and make sure that the IR-cut filter is set to Auto.
- 2. To set at what light level you want the camera to switch to night mode, move the Threshold slider toward Bright or Dark.

#### Note

If you set the switch to night mode to occur when it's brighter, the image remains sharper as there is less low-light noise. If you set the switch to occur when it's darker, the image colors are maintained for longer, but there is more image blur due to low-light noise.

### Reduce noise in low-light conditions

To reduce noise in low-light conditions, you can adjust one or more of the following settings:

- Adjust the trade-off between noise and motion blur. Go to Video > Image > Exposure and move the Blur-noise trade-off slider toward Low noise.
- Set the exposure mode to automatic.

#### Note

A high max shutter value can result in motion blur.

• To slow down the shutter speed, set max shutter to the highest possible value.

#### Note

When you reduce the max gain, the image can become darker.

- Set the max gain to a lower value.
- · Open the aperture.

#### Reduce motion blur in low-light conditions

To reduce motion blur in low-light conditions, adjust one or more of the following settings in Video > Image > Exposure:

• Move the Blur-noise trade-off slider toward Low motion blur.

#### Note

When you increase the gain, image noise also increases.

• Set Max shutter to a shorter time, and Max gain to a higher value.

If you still have problems with motion blur:

- Increase the light level in the scene.
- Mount the camera so that objects move toward it or away from it rather than sideways.

#### Handle scenes with strong backlight

Dynamic range is the difference in light levels in an image. In some cases the difference between the darkest and the brightest areas can be significant. The result is often an image where either the dark or the bright areas are visible. Wide dynamic range (WDR) makes both dark and bright areas of the image visible.

## Configure your device



Image without WDR.



Image with WDR.

### Note

- WDR can cause artifacts in the image.
- WDR may not be available for all capture modes.
- 1. Go to Video > Image > Wide dynamic range.
- 2. Turn on WDR.
- 3. If you still have problems, go to Exposure and adjust the Exposure zone to cover the area of interest.

Find out more about WDR and how to use it at axis.com/web-articles/wdr.

### Hide parts of the image with privacy masks

You can create one or several privacy masks to hide parts of the image.

- 1. Go to Video > Privacy masks.
- 2. Click +
- 3. Click the new mask and type a name.
- 4. Adjust the size and placement of the privacy mask according to your needs.
- 5. To change the color for all privacy masks, expand **Privacy masks** and select a color.

See also

## Configure your device

#### View and record video

This section includes instructions about configuring your device. To learn more about how streaming and storage works, go to *Streaming and storage on page 13*.

#### Reduce bandwidth and storage

#### Important

Reducing the bandwidth can result in loss of details in the image.

- 1. Go to Video > Stream.
- 2. Click in the live view.
- 3. Select Video format H.264.
- 4. Go to Video > Stream > General and increase Compression.
- 5. Go to Video > Stream > H.264 and H.265 encoding and do one or more of the following:
  - Select the **Zipstream** level that you want to use.

#### Note

The Zipstream settings are used for both H.264 and H.265.

- Turn on Dynamic FPS.
- Turn on Dynamic GOP and set a high Upper limit GOP length value.

#### Note

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 that supports H.265 decoding.

#### Set up network storage

To store recordings on the network, you need to set up your network storage.

- 1. Go to System > Storage.
- 2. Click Add network storage under Network storage.
- 3. Type the IP address of the host server.
- 4. Type the name of the shared location on the host server under Network share.
- 5. Type the username and password.
- 6. Select the SMB version or leave it on Auto.
- 7. Select Add share even if connection fails if you experience temporary connection issues, or if the share is not yet configured.
- 8. Click Add.

#### Record and watch video

Record video directly from the camera

1. Go to Video > Image.

## Configure your device

2. To start a recording, click .

If you haven't set up any storage, click and . For instructions on how to set up network storage, see *Set up network storage on page 8* 

3. To stop recording, click again

#### Watch video

- 1. Go to Recordings.
- 2. Click for your recording in the list.

## 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, check out our guide 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 the device should perform when the conditions are met.

#### Note

If you make changes to an active rule, the rule must be turned on again for the changes to take effect.

## Record video when the camera detects an object

This example explains how to set up the camera to start recording to the SD card five seconds before it detects an object and to stop one minute after.

- 1. Start the application if it is not already running.
- 2. Make sure you have set up the application according to your needs.

#### Create a rule:

- 1. Go to System > Events and add a rule.
- 2. Type a name for the rule.
- 3. In the list of actions, under Recordings, select Record video while the rule is active.
- 4. In the list of storage options, select SD\_DISK.
- 5. Select a camera and a stream profile.
- 6. Set the prebuffer time to 5 seconds.

## Configure your device

- 7. Set the postbuffer time to 1 minute.
- 8. Click Save.

#### Show a text overlay in the video stream when the device detects an object

This example explains how to display the text "Motion detected" when the device detects an object.

- 1. Start the application if it is not already running.
- 2. Make sure you have set up the application according to your needs.

Add the overlay text:

- 1. Go to Video > Overlays.
- 2. Under Overlays, select Text and click
- 3. Enter #D in the text field.
- 4. Choose text size and appearance.
- 5. To position the text overlay, click and select an option.

#### Create a rule:

- 1. Go to System > Events and add a rule.
- 2. Type a name for the rule.
- 3. In the list of actions, under Overlay text, select Use overlay text.
- 4. Select a video channel.
- 5. In Text, type "Motion detected".
- 6. Set the duration.
- 7. Click Save.

### Send an email automatically if someone spray paints the lens

Activate the tampering detection:

- 1. Go to System > Detectors > Camera tampering.
- 2. Set a duration for Trigger after. The value indicates the time that must pass before an email is sent.
- 3. Turn on Trigger on dark images to detect if the lens is sprayed, covered, or rendered severely out of focus.

Add an email recipient:

- 4. Go to System > Events > Recipients and add a recipient.
- 5. Type a name for the recipient.
- 6. Select Email.
- 7. Type an email address to send the email to.
- 8. The camera doesn't have it's own email server, so it has to log into another email server to send mails. Fill in the rest of the information according to your email provider.

## Configure your device

- 9. To send a test email, click Test.
- 10. Click Save.

#### Create a rule:

- 11. Go to System > Events > Rules and add a rule.
- 12. Type a name for the rule.
- 13. In the list of conditions, under Video, select Tampering.
- 14. In the list of actions, under Notifications, select Send notification to email and then select the recipient from the list.
- 15. Type a subject and a message for the email.
- 16. Click Save.

## Cleaning recommendations

## Cleaning recommendations

If the device gets grease stains or becomes heavily soiled, you can clean it with mild, solvent-free soap or detergent.

### NOTICE

Never use harsh detergent, for example gasoline, benzene, or acetone.

- 1. Use a can of compressed air to remove any dust or loose dirt from the device.
- 2. Clean the device with a soft cloth dampened with mild detergent and lukewarm water.
- 3. Wipe carefully with a dry cloth.

#### Note

Avoid cleaning in direct sunlight or at elevated temperatures, as this may cause stains when the water droplets dry.

#### Learn more

#### Learn more

## Privacy masks

A privacy mask is a user-defined area that prevents users from viewing a part of the monitored area. In the video stream, privacy masks appear as blocks of solid color.

You'll see the privacy mask on all snapshots, recorded video, and live streams.

You can use the VAPIX® application programming interface (API) to turn off the privacy masks.

#### Important

If you use multiple privacy masks it may affect the product's performance.

### 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.

#### How do Image, Stream, and Stream profile settings relate to each other?

The Image tab contains camera settings that affect all video streams from the product. If you change something in this tab, it immediately affects all video streams and recordings.

The **Stream** tab contains settings for video streams. You get these settings if you request a video stream from the product and don't specify for example resolution, or frame rate. When you change the settings in the **Stream** tab, it doesn't affect ongoing streams, but it will take effect when you start a new stream.

The **Stream profiles** settings override the settings from the **Stream** tab. If you request a stream with a specific stream profile, the stream contains the settings of that profile. If you request a stream without specifying a stream profile, or request a stream profile that doesn't exist in the product, the stream contains the settings from the **Stream** tab.

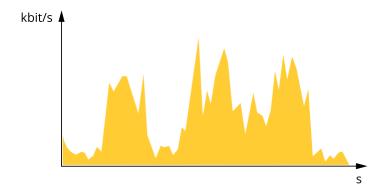
#### Bitrate control

Bitrate control helps you to manage the bandwidth consumption of your video stream.

#### Learn more

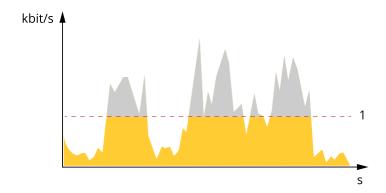
#### Variable bitrate (VBR)

Variable bitrate allows the bandwidth consumption to vary depending on the level of activity in the scene. The more activity, the more bandwidth you need. With variable bitrate you are guaranteed constant image quality, but you need to make sure you have storage margins.



#### Maximum bitrate (MBR)

Maximum bitrate lets you set a target bitrate to handle bitrate limitations in your system. You might see a decline in image quality or frame rate as the instantaneous bitrate is kept below the specified target bitrate. You can choose to prioritize either image quality or frame rate. We recommend that you configure the target bitrate to a higher value than the expected bitrate. This gives you a margin in case there is a high level of activity in the scene.



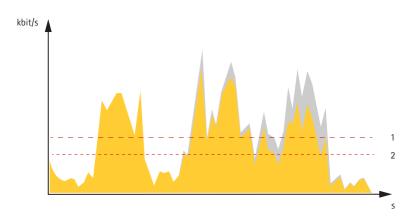
#### 1 Target bitrate

#### Average bitrate (ABR)

With average bitrate, the bitrate is automatically adjusted over a longer period of time. This is so you can meet the specified target and provide the best video quality based on your available storage. Bitrate is higher in scenes with a lot of activity, compared to static scenes. You are more likely to get better image quality when in scenes with a lot of activity if you use the average bitrate option. You can define the total storage required to store the video stream for a specified amount of time (retention time) when image quality is adjusted to meet the specified target bitrate. Specify the average bitrate settings in one of the following ways:

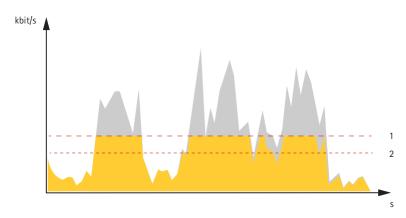
- To calculate the estimated storage need, set the target bitrate and the retention time.
- To calculate the average bitrate, based on available storage and required retention time, use the target bitrate calculator.

### Learn more



- 1 Target bitrate
- 2 Actual average bitrate

You can also turn on maximum bitrate and specify a target bitrate within the average bitrate option.



- 1 Target bitrate
- 2 Actual average bitrate

## **Applications**

AXIS Camera Application Platform (ACAP) is an open platform that enables third parties to develop analytics and other applications for Axis products. To find out more about available applications, downloads, trials and licenses, go to axis.com/applications.

To find the user manuals for Axis applications, go to axis.com.



 $How\ to\ download\ and\ install\ an\ application$ 

#### Learn more



To watch this video, go to the web version of this document. www.axis.com/products/online-manual/59061#t10001688

How to activate an application licence code on a device

#### **Autopilot**

Autopilot is an application that monitors an area of interest. Events on the device can be set to trigger an alarm or to start recording a video if a person, vehicle or other objects are moving in the area.

To use the application on multichannel devices, configure and run the application on at least one device.

#### Record video when the camera detects moving objects in an area of interest

This example explains how to set up the camera to detect moving objects in an area of interest and start recording it.

#### Before you start:

- 1. Connect the PTZ camera to the multisensor camera.
- 2. Create a stream profile in the PTZ camera.
- 3. Set up network storage or onboard storage to the PTZ camera.
- 4. Check that all sensors are set and calibrated.

Configure the autopilot application on the multisensor camera:

- 1. Go to Settings > Apps > Autopilot.
- 2. Start and open the application.
- 3. Go to the video control bar and select the camera on which you want to view the area of interest.
- 4. Click to create a new profile.
- 5. Click Profile properties and name your profile.
- 6. Adjust the configuration to the area of interest.
- 7. To reduce false alarms, set **Ignore filters** for small, short lived, or swaying objects.
- 8. Set Profile priority if you have more than one area of interest to detect.
- 9. Go to the Autopilot settings tab and turn on Object tracking.

#### Create a rule in the PTZ camera:

- 1. Go to Settings > System > Events and add a rule.
- 2. Type a name for the rule.
- 3. In the list of conditions, under PTZ, select PTZ movement: Camera 1.
- 4. In the list of actions, under Recordings, select Record video while the rule is active.

## Learn more

- 5. Select a stream profile.
- 6. Select a storage option.
- 7. Click Save.

## Troubleshooting

## **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. Press and hold the control button and the restart button at the same time.
- 2. Release the restart button but continue to hold down the control button for 15–30 seconds until the status LED indicator flashes amber.
- 3. Release the control button. The process is complete when the status LED indicator turns green. The product has been reset to the factory default settings. If no DHCP server is available on the network, the default IP address is 192.168.0.90.
- 4. Use the installation and management software tools to assign an IP address, set the password and access the video stream.

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

### Firmware options

Axis offers product firmware 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 firmware 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 product firmware strategy, go to axis.com/support/firmware.

#### Check the current firmware version

Firmware is the software that determines the functionality of network devices. When you troubleshoot a problem, we recommend you to start by checking the current firmware version. The latest firmware version might contain a correction that fixes your particular problem.

To check the current firmware:

- 1. Go to the device interface > Status.
- 2. See the firmware version under Device info.

### Upgrade the firmware

#### Important

Preconfigured and customized settings are saved when you upgrade the firmware (provided that the features are available in the new firmware) although this is not guaranteed by Axis Communications AB.

#### Important

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

## **Troubleshooting**

#### Note

When you upgrade the device with the latest firmware 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 the firmware. To find the latest firmware and the release notes, go to axis.com/support/firmware.

- 1. Download the firmware file to your computer, available free of charge at axis.com/support/firmware.
- 2. Log in to the device as an administrator.
- 3. Go to Maintenance > Firmware 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 issues, clues and solutions

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

#### Problems upgrading the firmware

Firmware	upurau	ıc	ıaı	ıuı	c

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

#### Problems setting the IP address

The device is located	on	
different subnet		

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 cannot set the IP address. Contact your network administrator to obtain an IP address.

# The IP address is being used by another device

Disconnect the Axis device from the network. Run the ping command (in a Command/DOS window, type ping and the IP address of the device):

- If you receive: Reply from <IP address>: bytes=32; time=10... this means that the IP address may already be in use by another device on the network. Obtain a new IP address from the network administrator and reinstall the device.
- 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.

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 may be problems accessing the device.

#### The device cannot be accessed from a browser

Cannot	log	in

When HTTPS is enabled, ensure that the correct protocol (HTTP or HTTPS) is used when attempting to log in. You may need to manually type http or https in the browser's address field.

If the password for the user root is lost, the device must be reset to the factory default settings. See *Reset to factory default settings on page 18*.

# The IP address has been changed by DHCP

IP addresses obtained from a DHCP server are dynamic and may 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, a static IP address can be assigned manually. For instructions, go to axis.com/support.

## **Troubleshooting**

#### The device is accessible locally but not externally

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

- AXIS Companion: free of charge, ideal for small systems with basic surveillance needs.
- AXIS Camera Station: 30-day trial version free of charge, ideal for small to mid-size systems.

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

#### Problems with streaming

-	
Multicast H.264 only accessible by local clients	Check if your router supports multicasting, or if the router settings between the client and the device need to be configured. The TTL (Time To Live) value may need to be increased.
No multicast H.264 displayed in the client	Check with your network administrator that the multicast addresses used by the Axis device are valid for your network.
	Check with your network administrator to see if there is a firewall preventing viewing.
Poor rendering of H.264 images	Ensure that your graphics card is using the latest driver. The latest drivers can usually be downloaded from the manufacturer's website.
Color saturation is different in H.264 and Motion JPEG	Modify the settings for your graphics adapter. Go to the adapter's documentation for more information.
Lower frame rate than expected	<ul> <li>See Performance considerations on page 20.</li> <li>Reduce the number of applications running on the client computer.</li> <li>Limit the number of simultaneous viewers.</li> <li>Check with the network administrator that there is enough bandwidth available.</li> <li>Lower the image resolution.</li> <li>Log in to the device's webpage and set a capture mode that prioritizes frame rate. Changing the capture mode to prioritize frame rate might lower the maximum resolution depending on the device used and capture modes available.</li> <li>The maximum frames per second is dependent on the utility frequency (60/50 Hz) of the Axis device.</li> </ul>
Can't select H.265 encoding	Web browsers do not support H.265 decoding. Use a video management system or application

## in live view

supporting H.265 decoding.

#### One-click PTZ control is not working properly

Check focus on all four lenses	Go to Settings > Apps > AXIS Installation wizard, and open the application. Go to Camera X > Lens selection, and select the lens. Do an Installation focus.
Check the PTZ remote connection status	Go to Settings > Apps > AXIS Installation wizard, and open the application. Go to General > PTZ remote connection, and make sure that the status is set to Connected. If it's not, click Configure and do a PTZ remote connection. Enter the correct IP address and password.
Check the PTZ positioning calibration status	Go to Settings > Apps > AXIS Installation wizard and open the application. Go to General > PTZ positioning calibration, and make sure that the status is set to Calibrated. If it's not, do an auto calibration or a manual calibration.

### Quad view is not working properly

Problems displaying all	Quad view doesn't work if any of the camera lenses are rotated
camera views on one screen.	

## Performance considerations

When setting up your system, it is important to consider how various settings and situations affect the performance. Some factors affect the amount of bandwidth (the bitrate) required, others can affect the frame rate, and some affect both. If the load on the CPU reaches its maximum, this also affects the frame rate.

The following factors are the most important to consider:

## **Troubleshooting**

- High image resolution or lower compression levels result in images containing more data which in turn affects the bandwidth.
- Rotating the image in the GUI will increase the product's CPU load.
- Access by large numbers of Motion JPEG or unicast H.264 clients affects the bandwidth.
- Access by large numbers of Motion JPEG or unicast H.265 clients affects the bandwidth.
- Simultaneous viewing of different streams (resolution, compression) by different clients affects both frame rate and bandwidth.

Use identical streams wherever possible to maintain a high frame rate. Stream profiles can be used to ensure that streams are identical.

- · Accessing Motion JPEG and H.264 video streams simultaneously affects both frame rate and bandwidth.
- · Accessing Motion JPEG and H.265 video streams simultaneously affects both frame rate and bandwidth.
- Heavy usage of event settings affects the product's CPU load which in turn affects the frame rate.
- Using HTTPS may reduce frame rate, in particular if streaming Motion JPEG.
- Heavy network utilization due to poor infrastructure affects the bandwidth.
- Viewing on poorly performing client computers lowers perceived performance and affects frame rate.
- Running multiple AXIS Camera Application Platform (ACAP) applications simultaneously may affect the frame rate and the general performance.

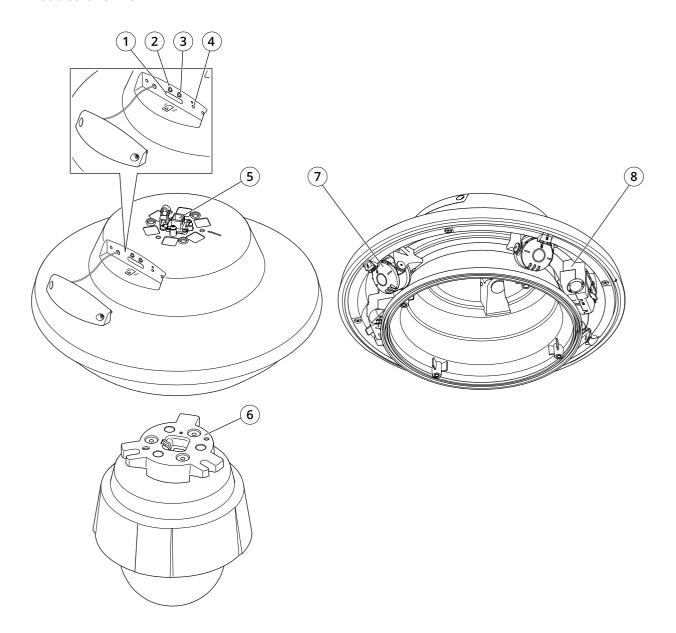
## Contact support

Contact support at axis.com/support.

# Specifications

## Specifications

## **Product overview**



- 1 SD card slot
- 2 Control button
- 3 Restart button
- 4 LED indicator
- 5 Network connector
- 6 PTZ camera adapter
- 7 Camera heads
- 8 Heater

## Specifications

#### LED indicators

Status LED	Indication
Unlit	Connection and normal operation.
Green	Shows steady green for 10 seconds for normal operation after startup completed.
Amber	Steady during startup. Flashes during firmware upgrade or reset to factory default.
Amber/Red	Flashes amber/red if network connection is unavailable or lost.

## SD card slot

#### NOTICE

- Risk of damage to SD card. Do not 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. Do not remove the SD card while the product is running. Unmount the SD card from the product's webpage before removal.

This product supports SD/SDHC/SDXC cards.

For SD card recommendations, see axis.com.

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## **Buttons**

## **Control button**

The control button is used for:

• Resetting the product to factory default settings. See Reset to factory default settings on page 18.

#### Restart button

Press the restart button to restart the product.

### **Connectors**

### **Network connector**

RJ45 Push-pull Connector (IP66) with High Power over Ethernet (High PoE).

### NOTICE

To comply with the IP66-rated design of the camera and maintain the IP66 protection, the supplied RJ45 Push-pull Connector (IP66) shall be used. Alternatively, use the RJ45 IP66-rated cable with premounted connector which is available from your Axis reseller. Do not remove the plastic network connector shield from the camera.

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