

AXIS P3245 Network Camera Series

AXIS P3245-LV Network Camera

AXIS P3245-LVE Network Camera

AXIS P3245 Network Camera Series

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AXIS P3245 Network Camera Series

About this manual

About this manual

This user manual describes several products. This means you may find instructions that aren't applicable to your product.

AXIS P3245 Network Camera Series

Solution overview

Solution overview



- 1 *AXIS P3245-LV*
- 2 *AXIS P3245-LVE*
- 3 *Surveillance center*

AXIS P3245 Network Camera Series

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™	Firefox®	Edge®	Safari®
Windows®	recommended	x	x	
macOS®	recommended			x
Other operating systems	x	x		

If you need more information about recommended browsers, go to axis.com/browser-support.

Access the device

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 5*.
3. The live view page opens in your browser.

Set a new password for the root account

Important

The default administrator username is root. If the password for root is lost, reset the device to factory default settings.



To watch this video, go to the web version of this document.
www.axis.com/products/online-manual/46823#t10098905

Support tip: Password security confirmation check

1. Type a password. Follow the instructions about secure passwords. See *Secure passwords on page 6*.
2. Retype the password to confirm the spelling.
3. Click **Create login**. The password has now been configured.

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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.

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.

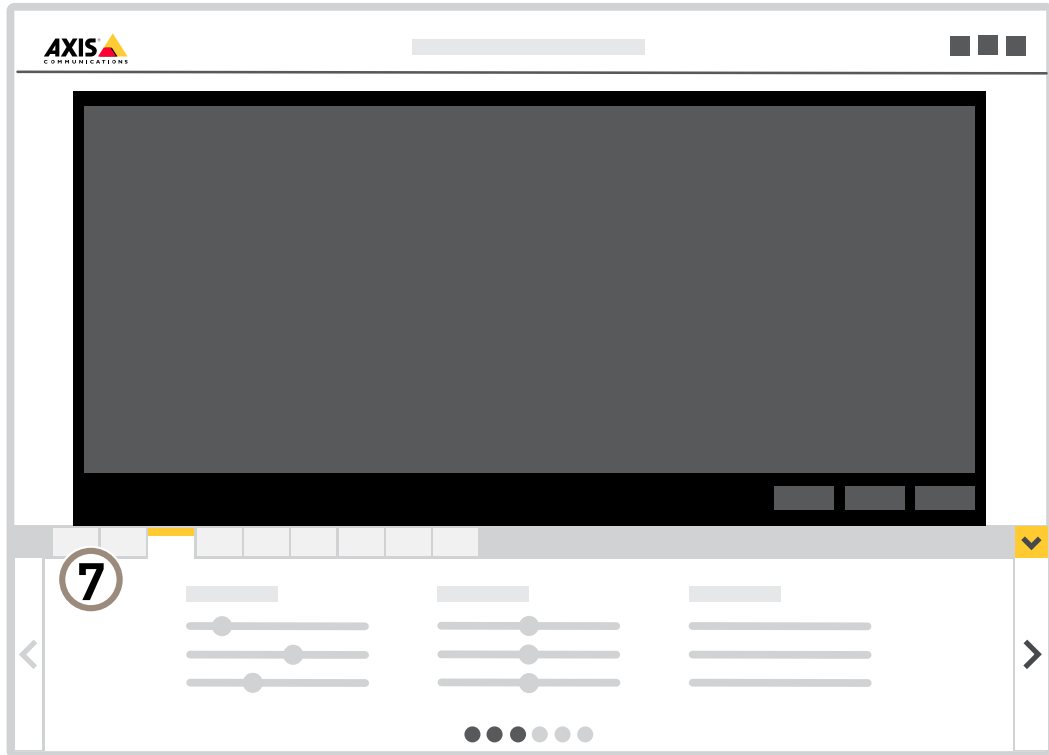
Webpage overview



- 1 Live view control bar
- 2 Live view
- 3 Product name
- 4 User information, color themes, and help
- 5 Video control bar
- 6 Settings toggle

AXIS P3245 Network Camera Series

Get started



7 Settings tabs

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Additional settings

Additional settings

Adjust the image

This section includes instructions about how to configure your device. If you want to learn more about how certain features function, go to *Learn more on page 20*.

Select exposure mode

There are different exposure mode options in the camera that adjusts aperture, shutter speed, and gain to improve image quality for specific surveillance scenes. Go to **Settings > 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**.

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

Your camera uses visible light to deliver color images during the day. As the available light diminishes, you can set the camera to automatically shift to night mode, in which the camera uses both visible light and near-infrared light to deliver black-and-white images. Since the camera uses more of the available light it can deliver brighter, more detailed, images.

1. Go to **Settings > Image > Day and night**, and make sure that the **IR cut filter** is set to **Auto**.
2. To determine at what light level you want the camera to shift to night mode, move the **Threshold** slider toward **Bright** or **Dark**.
3. Enable **Allow IR illumination** and **Synchronize IR illumination** to use the camera's IR light when night mode is activated.

Note

If you set the shift to night mode to occur when it's brighter, the image remains sharper as there will be less low-light noise. If you set the shift to occur when it's darker, the image colors are maintained for longer, but there will be 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 **Settings > 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.
- Reduce sharpness in the image.

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Additional settings

Note

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

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

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.



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 **Settings > Image > Wide dynamic range**.
 2. Turn on WDR.
 3. Use the **Local contrast** slider to adjust the amount of WDR.
 4. 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.

Compensate for barrel distortion

Barrel distortion is a phenomenon where straight lines appear increasingly bent closer to the edges of the frame. A wide field of view often creates barrel distortion in an image. Barrel distortion correction compensates for this distortion.

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Additional settings

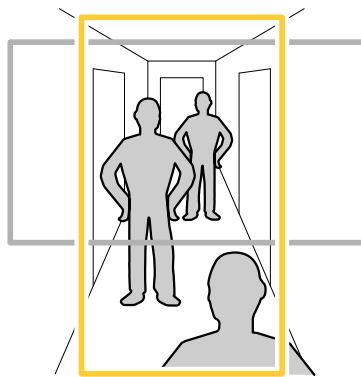
Note

Barrel distortion correction affects the image resolution and field of view.

1. Go to **Settings > Image > Image correction**.
2. Turn on **Barrel distortion correction (BDC)**.
3. Use the slider to improve the image.

Monitor long and narrow areas


Use corridor format to better utilize the full field of view in a long and narrow area, for example a staircase, hallway, road, or tunnel.



1. Depending on your device, turn the camera or the 3-axis lens in the camera 90° or 270°.

Note

Make sure to aim IR LEDs away from walls or weathershields.

2. If the device doesn't have automatic rotation of the view, log in to the webpage and go to **Settings > System > Orientation**.
3. Click .
4. Rotate the view 90° or 270°.

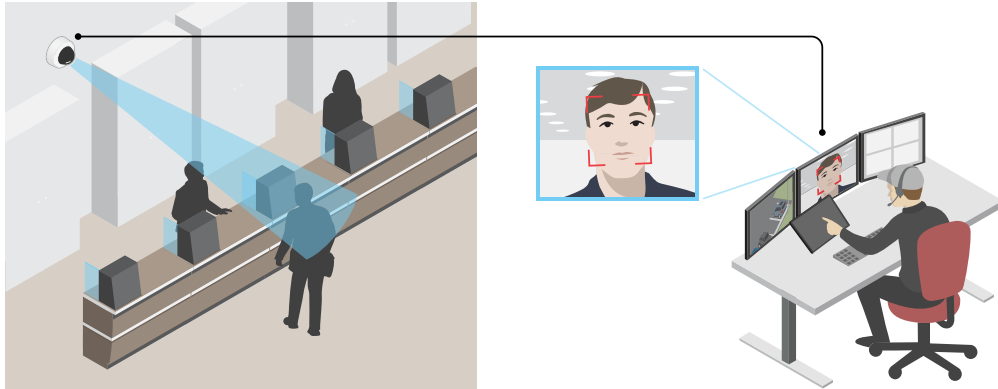
Find out more at axis.com/axis-corridor-format.

Verify the pixel resolution

To verify that a defined part of the image contains enough pixels to, for example, recognize the face of a person, you can use the pixel counter.

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Additional settings



1. Go to **Settings > System > Orientation**.

2. Click .

3. In the camera's live view, adjust the size and position of the rectangle around the area of interest, for example where you expect faces to appear.

You can see the number of pixels for each of the rectangle's sides (X and Y), and decide if the values are enough for your needs.

Hide parts of the image with privacy masks

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



How to create a privacy mask

1. Go to **Settings > Privacy mask**.
2. Click **New**.
3. Adjust the size, color, and name of the privacy mask according to your needs.

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Additional settings



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

www.axis.com/products/online-manual/46823#t10106902

How to change the appearance of the mask

Show an image overlay

You can add an image as an overlay in the video stream.

1. Go to **Settings > Overlay**.
2. Click **Image list**.
3. Upload an image and click **Done**.
4. Click **Create overlay**.
5. Select **Image** and click **Create**.
6. Select the image from the drop-down list.
7. To position the image overlay, choose **Custom** or one of the presets.
8. Click **Create**.

View and record video

This section includes instructions about how to configure your device. To learn more about how streaming and storage works, go to *Streaming and storage on page 21*.

Reduce bandwidth and storage

Important

If you reduce the bandwidth it can result in loss of details in the picture.

1. Go to live view and select **H.264**.
2. Go to **Settings > Stream**.
3. Do one or more of the following:

Note

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

- Turn on dynamic GOP and set a high GOP length value.
- Increase the compression.
- Turn on dynamic FPS.

Note

Web browsers do not support H.265 decoding. Use a video management system or application supporting H.265 decoding.

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Additional settings

Set up network storage

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

1. Go to **Settings > System > Storage**.
2. Click **Setup** under **Network storage**.
3. Enter the IP address of the host server.
4. Enter the name of the shared location on the host server.
5. Move the switch if the share requires a login, and enter username and password.
6. Click **Connect**.

Record and watch video

To record video you must first set up network storage, see *Set up network storage on page 13*, or have an SD card installed.

Record video

1. Go to the live view.
2. To start a recording, click **Record**. Click again to stop the recording.

Watch video

1. Click **Storage > Go to recordings**.
2. Select your recording in the list and it will play automatically.

Set up rules and alerts

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.

Record video when the camera detects motion

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



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

www.axis.com/products/online-manual/46823#t10106619

How to record a video stream when the camera detects motion

Make sure that AXIS Video Motion Detection is running:

1. Go to **Settings > Apps > AXIS Video Motion Detection**.

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Additional settings

2. Start the application if it is not already running.
3. Make sure you have set up the application according to your needs. If you need help, see the *user manual for AXIS Video Motion Detection 4*.

Create a rule:

1. Go to **Settings > System > Events** and add a rule.
2. Type a name for the rule.
3. In the list of conditions, under **Application**, select **AXIS Video Motion Detection (VMD)**.
4. In the list of actions, under **Recordings**, select **Record video while the rule is active**.
5. Select an existing stream profile or create a new one.
6. Set the prebuffer time to 5 seconds.
7. Set the postbuffer time to 60 seconds.
8. In the list of storage options, select **SD card**.
9. Click **Save**.

Show a text overlay in the video stream when the device detects motion

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



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

www.axis.com/products/online-manual/46823#t10103832

How to show text overlay when the camera detects motion

Make sure that AXIS Video Motion Detection is running:

1. Go to **Settings > Apps > AXIS Video Motion Detection**.
2. Start the application if it is not already running.
3. Make sure you have set up the application according to your needs.

Add the overlay text:

4. Go to **Settings > Overlay**.
5. Select **Create overlay** and select **Text overlay**.
6. Enter #D in the text field.
7. Choose text size and appearance.
8. To position the text overlay, choose **Custom** or one of the presets.

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Additional settings

Create a rule:

9. Go to **System > Events > Rules** and add a rule.
10. Type a name for the rule.
11. In the list of conditions, select **AXIS Video Motion Detection**.
12. In the list of actions, select **Use overlay text**.
13. Select a view area.
14. Type "Motion detected".
15. Set the duration.
16. Click **Save**.

Note

If you update the overlay text it will be automatically updated on all video streams dynamically.

Send live video and audio to a mobile phone

In this example, we set up the camera to make a SIP call to a mobile phone when the camera detects motion. The SIP call transmits the live video and audio stream from the camera to the mobile phone.

Before you start

- Install a SIP client on a mobile phone.
- Register with a SIP server or PBX.
- Set up **AXIS Video Motion Detection** in the camera.

Make basic SIP settings

1. Go to **Settings > System > SIP**.
2. Select **Allow SIP**.
3. Click **NAT traversal** and enable **STUN**.
4. Type the server address.
5. Click **Save**.

Set up a registered SIP account on the camera

1. Go to **Settings > System > SIP** and click **+** under **Accounts**.
2. Click **Registered**.
3. Type a name for the account, for example "Registered".
4. Type a user id, domain, password, and registrar.
5. Click **Save**.

Create a recipient

1. Go to **Settings > System > Events > Recipients** and add a recipient.
2. Type a name for the recipient, for example "SIP client".
3. In **Type**, select **SIP**.

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Additional settings

4. In **To SIP address**, type the SIP address.
5. In **From SIP account**, select **Registered**.
6. To test the connection, click **Test**.
7. Click **Save**.

Set up the camera to make a SIP call when it detects movement

1. Go to **Settings > System > Events > Rules** and add a rule.
2. Type a name for the rule, for example "VMD triggers SIP call".
3. In the list of conditions, under **Applications**, select **VMD 4**.
4. In the list of actions, under **Calls**, select **Make SIP calls**.
5. In the list of recipients, select **SIP client**.
6. Click **Save**.

Record video when the camera detects loud noises

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

Turn on audio:

1. Set up the stream profile to include audio, see *Add audio to your recording on page 19*.

Turn on audio detection:

1. Go to **Settings > System > Detectors > Audio detection**.
2. Adjust the alarm level according to your needs.

Create a rule:

1. Go to **Settings > System > Events** and add a rule.
2. Type a name for the rule.
3. In the list of conditions, under **Audio**, select **Audio Detection**.
4. In the list of actions, under **Recordings**, select **Record video**.
5. Select the stream profile where audio has been turned on.
6. Set the prebuffer time to 5 seconds.
7. Set the postbuffer time to 60 seconds.
8. In the list of storage options, select **SD card**.
9. Click **Save**.

Detect tampering with input signal

This example explains how to trigger an alarm when the input signal has been cut or short-circuited. For more information about the I/O connector, see *page 32*.

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Additional settings



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



www.axis.com/products/online-manual/46823#t10110432

How to send an email notification when someone tampers with the input signal

1. Go to **Settings > System > I/O Ports** and turn on **Supervised I/O**.

Create a rule:

1. Go to **Settings > System > Events** and add a rule.
2. Type a name for the rule.
3. In the list of conditions, select **Digital input** and then select a port.
4. In the list of actions, select **Send notification to email** and then select a recipient from the list. Go to **Recipients** to create a new recipient.

To create a new recipient, click  . To copy an existing recipient, click  .

5. Type a subject and a message for the email.
6. Click **Save**.

Send an email automatically if someone spray paints the lens



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

www.axis.com/products/online-manual/46823#t10106687

How to send an email notification if someone spray paint the lens

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



Create a rule:

1. Go to **Settings > System > Events > Rules** and add a rule.
2. Type a name for the rule.

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Additional settings

3. In the list of conditions, select **Tampering**.
4. In the list of actions, select **Send notification to email**.
5. Select a recipient from the list or go to **Recipients** to create a new recipient.

To create a new recipient, click  . To copy an existing recipient, click  .

6. Type a subject and a message for the email.
7. Click **Save**.

Set up the intrusion alarm

Important

To set up an intrusion alarm you need the AXIS Dome Intrusion Switch C.


With a dome intrusion switch mounted inside the camera, you can receive a notification if someone removes the camera dome.

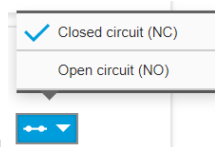
Before you start

- Connect the intrusion alarm switch to pin 1 (ground) and pin 3 (digital input) of the camera's I/O connector.

Configure the input port



1. Go to **Settings > System > I/O ports**.
2. For Port 1:

- 2.1 Select **Closed circuit (NC)** in the drop-down menu  .



Create a rule

1. Go to **Settings > System > Events** and add a rule.
2. Type a name for the rule.
3. In the list of conditions, under **I/O**, select **Digital input**.
4. In the list of ports, select **Input 1**.
5. In the list of actions, under **Notifications**, select **Send notification to email**.
6. Select a recipient from the list or go to **Recipients** to create a new recipient.

To create a new recipient, click  . To copy an existing recipient, click  .

7. Type a subject and a message for the email.
8. Click **Save**.

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Additional settings

Audio

Add audio to your recording

Turn on audio:

1. Go to **Settings > Audio** and turn on **Allow audio**.
2. Go to **Input > Type** and select your audio source.

Edit the stream profile which is used for the recording:

3. Go to **Settings > Stream** and click **Stream profiles**.
4. Select the stream profile and click **Audio**.
5. Select the checkbox and select **Include**.
6. Click **Save**.
7. Click **Close**.

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Learn more

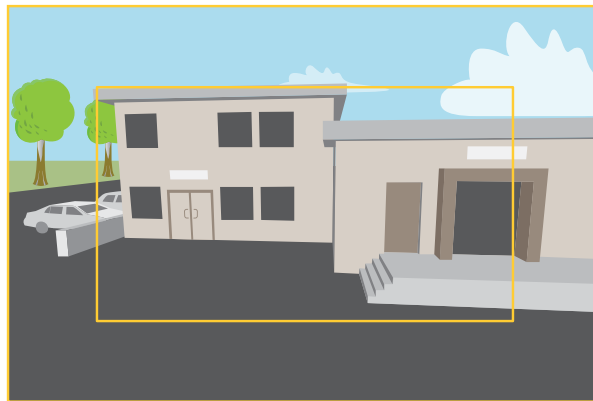
Learn more

Capture modes

Capture mode defines the maximum frame rate available in the Axis product. Depending on which capture mode you select, you may not be able to use WDR.

Capture mode defines the maximum resolution and maximum frame rate available in the Axis product. If using a capture mode with a smaller resolution than the maximum resolution, the angle of view is reduced. The capture mode also affects light sensitivity. A capture mode with a high maximum frame rate has reduced light sensitivity and vice versa.

The lower resolution capture mode is cropped out from the highest resolution.



The image shows how the field of view and aspect ratio can change between two different capture modes.

Which capture mode to choose depends on the requirements of frame rate and resolution for the specific surveillance setup. For specifications about available capture modes, see the product's datasheet at [axis.com](https://www.axis.com).

View area

A view area is a cropped part of the full view. You can stream and store view areas instead of the full view to minimize bandwidth and storage needs. If you enable PTZ for a view area, you can pan, tilt and zoom within it. By using view areas you can remove parts of the full view, for example, the sky.

When you set up a view area, we recommend you to set the video stream resolution to the same size as or smaller than the view area size. If you set the video stream resolution larger than the view area size it implies digitally scaled up video after sensor capture, which requires more bandwidth without adding image information.

Remote focus and zoom

The remote focus and zoom functionality allows you to make focus and zoom adjustments to your camera from a computer. It is a convenient way to ensure that the scene's focus, viewing angle and resolution are optimized without having to visit the camera's installation location.

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.

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Learn more

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.

Important

Set the zoom and focus before you create a privacy mask.

Overlays

Note

Overlays are not included in the video stream when using SIP calls.

Overlays are superimposed over the video stream. They are used to provide extra information during recordings, such as a timestamp, or during product installation and configuration. You can add either text or an image.

The video streaming indicator is another type of overlay. It shows you that the live view video stream is live.

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:

Motion JPEG

Note

To ensure support for the Opus audio codec, the Motion JPEG stream is always sent over RTP.

Motion JPEG, or MJPEG, is a digital video sequence that is made up of a series of individual JPEG images. These images are then displayed and updated at a rate sufficient to create a stream that shows constantly updated motion. For the viewer to perceive motion video the rate must be at least 16 image frames per second. Full motion video is perceived at 30 (NTSC) or 25 (PAL) frames per second.

The Motion JPEG stream uses considerable amounts of bandwidth, but provides excellent image quality and access to every image contained in the stream.

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 the MPEG-4 standard. 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

Note

H.265 is licensed technology. The Axis product includes one H.265 viewing client license. To install additional unlicensed copies of the client is prohibited. To purchase additional licenses, contact your Axis reseller.

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.

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Learn more

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.

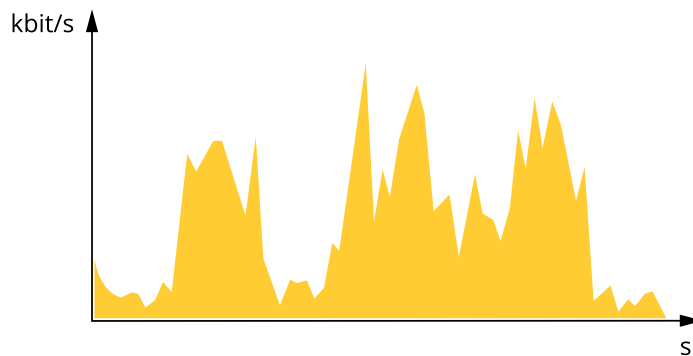
The **Stream profiles** settings override the settings from the **Stream** tab. If you request a stream with a specific stream profile, the stream contains the settings of that profile. If you request a stream without specifying a stream profile, or request a stream profile that doesn't exist in the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

Bitrate control

With bitrate control, you can manage the bandwidth consumption of your video stream.

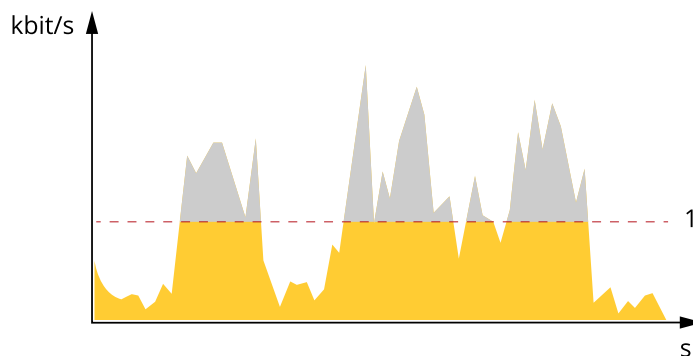
Variable bitrate (VBR)

With variable bitrate, the bandwidth consumption varies based on the level of activity in the scene. The more activity in the scene, the more bandwidth you need. You are guaranteed constant image quality but it requires storage margins.



Maximum bitrate (MBR)

With maximum bitrate, you can set a target bitrate to handle bitrate limitations in your system. You may see a decline in image quality or frame rate when the instantaneous bitrate is kept below the specified target bitrate. You can choose to either prioritize 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 for additional complexity that needs to be captured.



1 Target bitrate

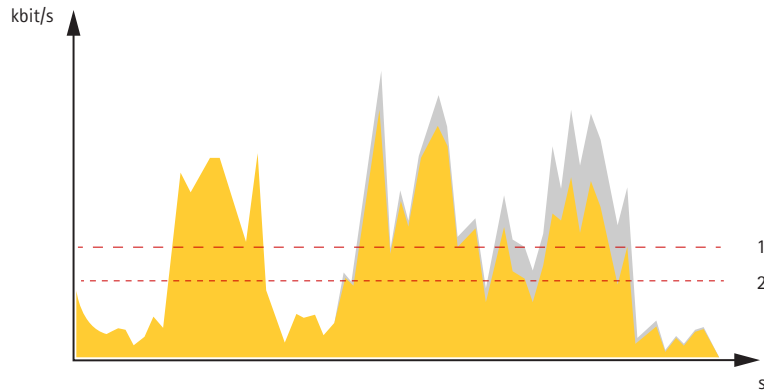
Average bitrate (ABR)

With average bitrate, the bitrate is automatically adjusted over a longer timescale. 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 needed when using 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:

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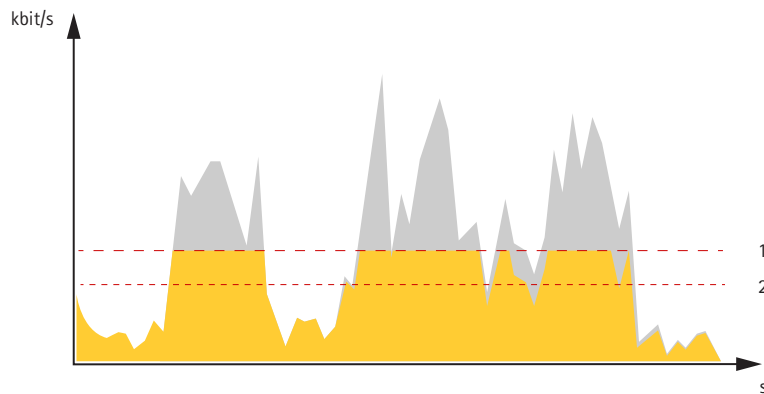
Learn more

- 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.



- 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.

Note

- Several applications can run at the same time but some applications might not be compatible with each other. Certain combinations of applications might require too much processing power or memory resources when run in parallel. Verify that the applications work together before deployment.

AXIS P3245 Network Camera Series

Learn more



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

www.axis.com/products/online-manual/46823#t10001688

How to download and install an application



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

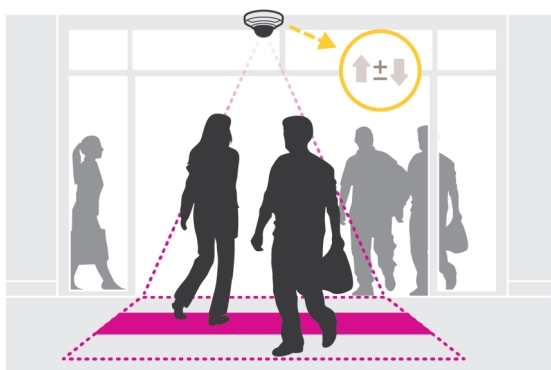
www.axis.com/products/online-manual/46823#t10001688

How to activate an application licence code on a device

AXIS People Counter

AXIS People Counter is an analytic application that can be installed on a network camera.

The counter is embedded in the camera which means you do not need a dedicated computer to run the application. AXIS People Counter is intended for retail environments, like stores or shopping malls, or other environments where you want to count people.




AXIS P3245 Network Camera Series

Troubleshooting

Troubleshooting

Reset to factory default settings

⚠WARNING

 IR emitted from this product. Do not look at operating lamp.

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 29*.
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. 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.
5. Use the installation and management software tools to assign an IP address, set the password, and access the video stream.


The installation and management software tools are available from the support pages on axis.com/support.

It is also possible to reset parameters to factory default through the web interface. Go to **Settings > System > Maintenance** and click **Default**.

Check the current firmware

Firmware is the software that determines the functionality of network devices. One of your first actions when troubleshooting a problem should be to check the current firmware version. The latest version may contain a correction that fixes your particular problem.

To check the current firmware:

1. Go to the product's webpage.
2. Click on the help menu .
3. Click **About**.

Upgrade the firmware

Important

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

Important

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

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Note

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

AXIS Device Manager can be used for multiple upgrades. Find out more at axis.com/products/axis-device-manager.



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

www.axis.com/products/online-manual/46823#t10095327

How to upgrade the firmware

1. Download the firmware file to your computer, available free of charge at axis.com/support/firmware.
2. Log in to the product as an administrator.
3. Go to **Settings > System > Maintenance**. Follow the instructions on the page. When the upgrade has finished, the product restarts automatically.

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 upgrade failure	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.
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Problems setting the IP address

The device is located on a 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.
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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 <code>ping</code> and the IP address of the device): <ul style="list-style-type: none">• If you receive: <code>Reply from <IP address>: bytes=32; time=10...</code> 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: <code>Request timed out</code>, this means that the IP address is available for use with the Axis device. Check all cabling and reinstall the device.
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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.
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The device cannot be accessed from a browser

Cannot log in	<p>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 <code>http</code> or <code>https</code> in the browser's address field.</p> <p>If the password for the user <code>root</code> is lost, the device must be reset to the factory default settings. See <i>Reset to factory default settings on page 25</i>.</p>
The IP address has been changed by DHCP	<p>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).</p> <p>If required, a static IP address can be assigned manually. For instructions, go to axis.com/support.</p>

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	<p>Check with your network administrator that the multicast addresses used by the Axis device are valid for your network.</p> <p>Check with your network administrator to see if there is a firewall preventing viewing.</p>
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 style="list-style-type: none">• See <i>Performance considerations on page 27</i>.• Reduce the number of applications running on the client computer.• Limit the number of simultaneous viewers.• Check with the network administrator that there is enough bandwidth available.• Lower the image resolution.• 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.
Can't select H.265 encoding in live view	Web browsers do not support H.265 decoding. Use a video management system or application supporting H.265 decoding.

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:

- 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.

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Troubleshooting

- Access by large numbers of Motion JPEG or unicast H.264 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.
- 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.

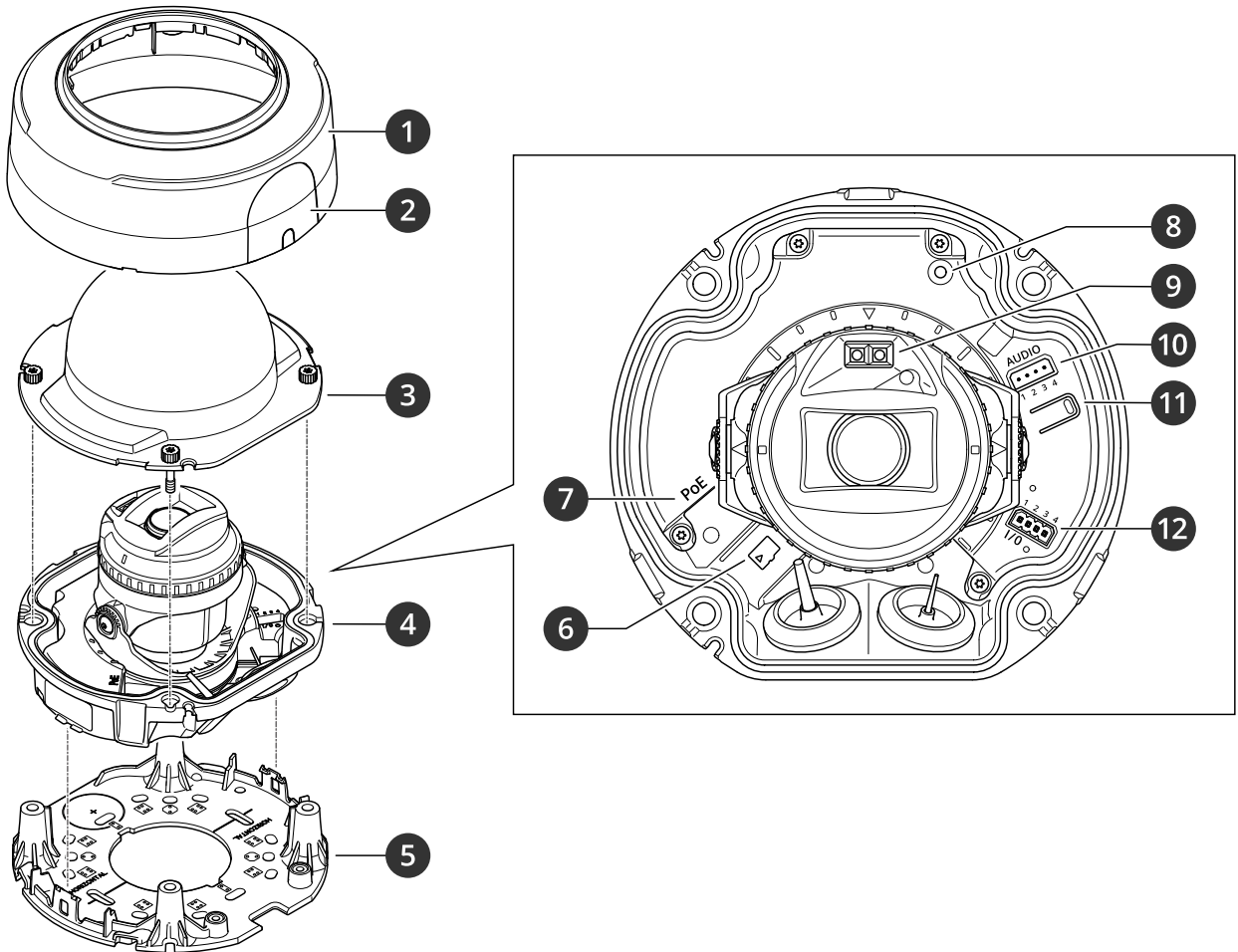
AXIS P3245 Network Camera Series

Specifications

Specifications

Product overview

AXIS P3245-LV

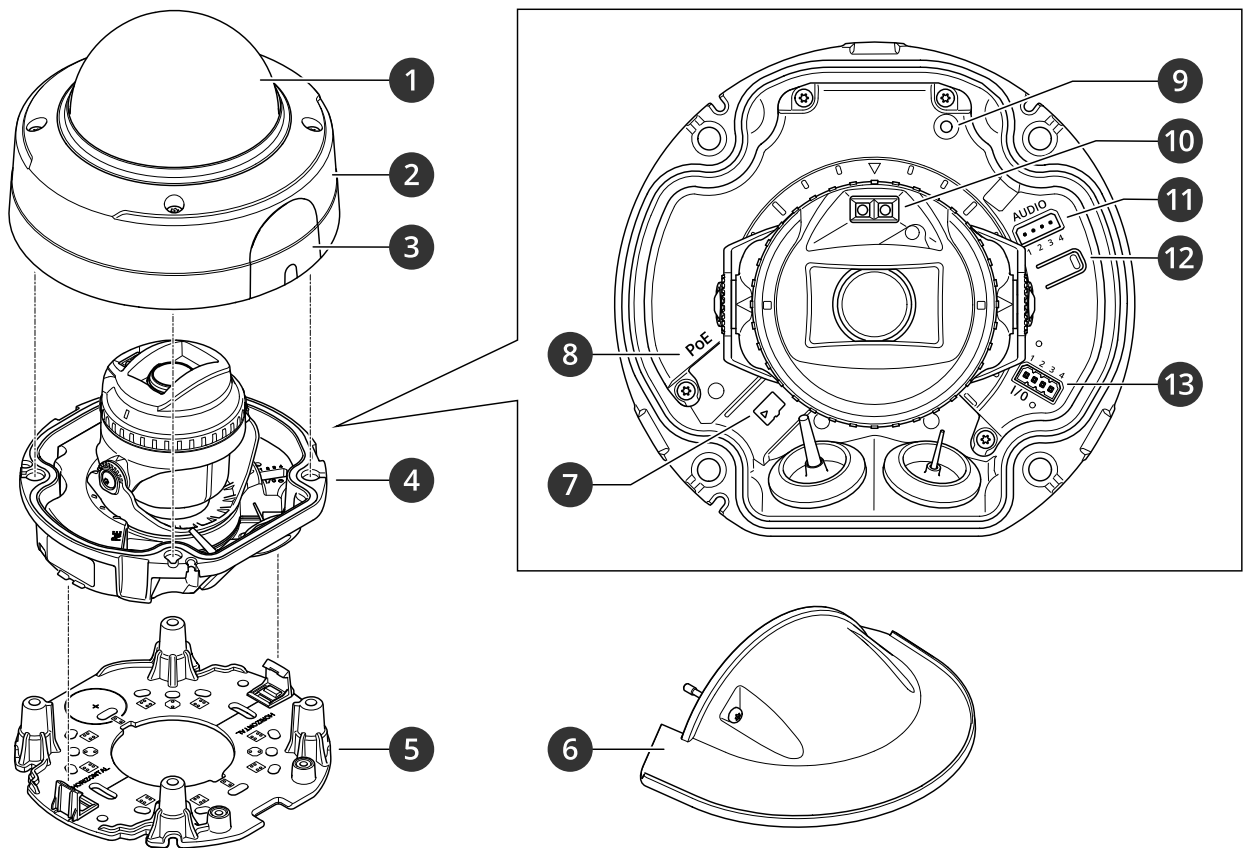


- 1 Dome cover
- 2 Lid
- 3 Dome
- 4 Camera unit
- 5 Mounting bracket
- 6 SD memory card slot
- 7 Network connector (PoE)
- 8 Status LED indicator
- 9 IR LED
- 10 Audio connector
- 11 Control button
- 12 I/O connector

AXIS P3245-LVE 9 mm

AXIS P3245 Network Camera Series

Specifications

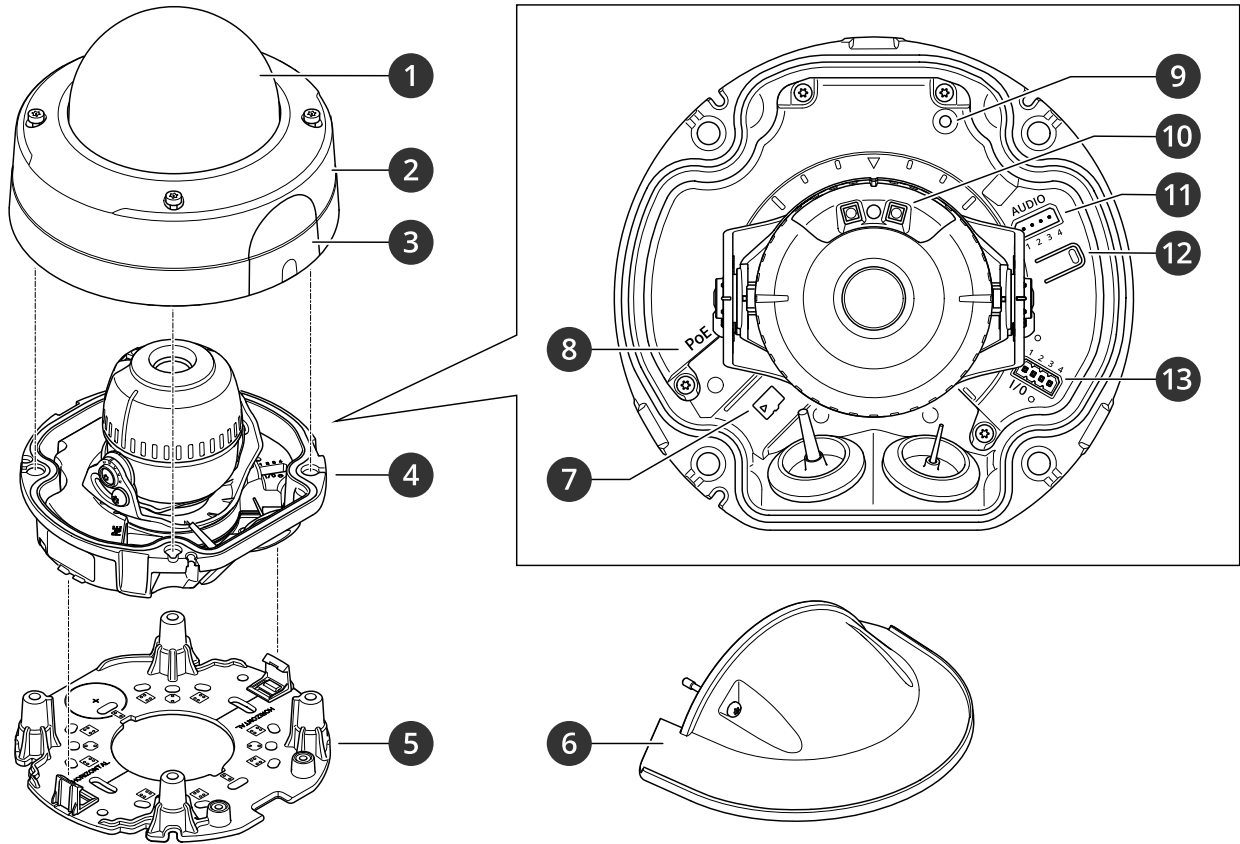


- 1 Dome
- 2 Dome cover
- 3 Lid
- 4 Camera unit
- 5 Mounting bracket
- 6 Weathershield
- 7 SD memory card slot
- 8 Network connector (PoE)
- 9 Status LED indicator
- 10 IR LED
- 11 Audio connector
- 12 Control button
- 13 I/O connector

AXIS P3245-LVE 22 mm

AXIS P3245 Network Camera Series

Specifications



- 1 Dome
- 2 Dome cover
- 3 Lid
- 4 Camera unit
- 5 Mounting bracket
- 6 Weathershield
- 7 SD memory card slot
- 8 Network connector (PoE)
- 9 Status LED indicator
- 10 IR LED
- 11 Audio connector
- 12 Control button
- 13 I/O connector

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.

AXIS P3245 Network Camera Series

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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 microSD/microSDHC/microSDXC 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 25.

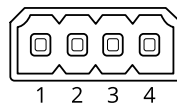
Connectors

Network connector

RJ45 Ethernet connector with Power over Ethernet (PoE).

Audio connector

4-pin terminal block for audio input and output.



Function	Pin	Notes
GND	1	Ground
Ring power	2	12 V for external source
Microphone/Line in	3	Microphone (analog or digital) or line in (mono). 5 V microphone bias is available.
Line out	4	Line level audio output (mono). Can be connected to a public address (PA) system or an active speaker with a built-in amplifier.

I/O connector

Use the I/O connector with external devices in combination with, for example, motion detection, event triggering, and alarm notifications. In addition to the 0 V DC reference point and power (DC output), the I/O connector provides the interface to:

Digital input – For connecting devices that can toggle between an open and closed circuit, for example PIR sensors, door/window contacts, and glass break detectors.

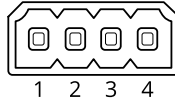
AXIS P3245 Network Camera Series

Specifications

Supervised input – Enables possibility to detect tampering on a digital input.

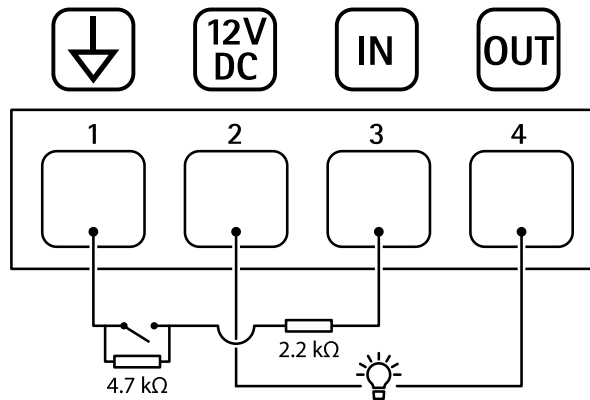
Digital output – For connecting external devices such as relays and LEDs. Connected devices can be activated by the VAPIX® Application Programming Interface, through an event or from the product's webpage.

4-pin terminal block



Function	Pin	Notes	Specifications
DC ground	1		0 V DC
DC output	2	Can be used to power auxiliary equipment. Note: This pin can only be used as power out.	12 V DC Max load = 25 mA
Digital Input or Supervised Input	3	Connect to pin 1 to activate, or leave floating (unconnected) to deactivate. To use supervised input, install end-of-line resistors. See connection diagram for information about how to connect the resistors.	0 to max 30 V DC
Digital Output	4	Internally connected to pin 1 (DC ground) when active, and floating (unconnected) when inactive. If used with an inductive load, e.g., a relay, connect a diode in parallel with the load, to protect against voltage transients.	0 to max 30 V DC, open drain, 100 mA

Example



- 1 DC ground
- 2 DC output 12 V, max 25 mA
- 3 Supervised input
- 4 Digital output

