

AXIS M3044-WV Network Camera

User Manual

AXIS M3044-WV Network Camera

Table of Contents

Installation	3
Get started	4
Connect the camera to a wireless network	4
Find the device on the network	4
Access the device	5
Webpage overview	6
Additional settings	8
Adjust the image	8
View and record video	11
Set up rules and alerts	12
Learn more	15
View area	15
Capture modes	15
Overlays	15
Streaming and storage	15
Applications	16
Advanced wireless settings	18
Troubleshooting	20
Reset to factory default settings	20
Firmware options	20
Check the current firmware	20
Upgrade the firmware	20
Technical issues, clues and solutions	21
Performance considerations	23
Specifications	24
Product overview	24
LED Indicators	24
SD card slot	25
Buttons	25
Connectors	25

AXIS M3044-WV Network Camera

Installation

Installation



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

www.axis.com/products/online-manual/22449#t10170566

Installation video for the product.

AXIS M3044-WV Network Camera

Get started

Get started

Connect the camera to a wireless network

1. Press and very quickly release the WLAN pairing button on the camera.
2. Press the WLAN pairing button on the wireless access point within 120 seconds from pushing the button on the camera.
3. Make sure the LED indicator shows steady green for 10 seconds, this means that the camera is connected.
4. Go to **Settings > System > Wireless** and turn the WLAN pairing button off to prevent unauthorized WLAN pairing.

If the wireless access point does not support push-button configuration, you have to configure the wireless network manually, see *Configure the wireless network manually on page 4*.

Configure the wireless network manually

1. Use a network cable to connect the camera to the network.
2. Make sure the access point is up and running.
3. Log in to the product's webpages, see *Find the device on the network on page 4*.
4. Go to **Settings > System > Wireless**.
5. In the list, select the wireless network or go to **Add another network** and add it manually with the SSID.
6. Enter the password for the access point.
7. Click **Save**.
8. Disconnect the network cable from the camera.
9. Make sure the LED indicator shows steady green for 10 seconds, this means that the camera is connected.

If the network is set up with another security method than WPA2-PSK, see *Advanced wireless settings on page 18*.

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	recommended	x	
macOS®	recommended	recommended	x	x
Linux®	recommended	recommended	x	
Other operating systems	x	x	x	x*

*Supported in iOS and iPadOS

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

AXIS M3044-WV Network Camera

Get started

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. See *Reset to factory default settings on page 20*



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

www.axis.com/products/online-manual/22449#t10098905

Support tip: Password security confirmation check

1. Type a password. Follow the instructions about secure passwords. See *Secure passwords on page 5*.
2. Retype the password to confirm the spelling.
3. Click **Create login**. The password has now been configured.

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.

AXIS M3044-WV Network Camera

Get started

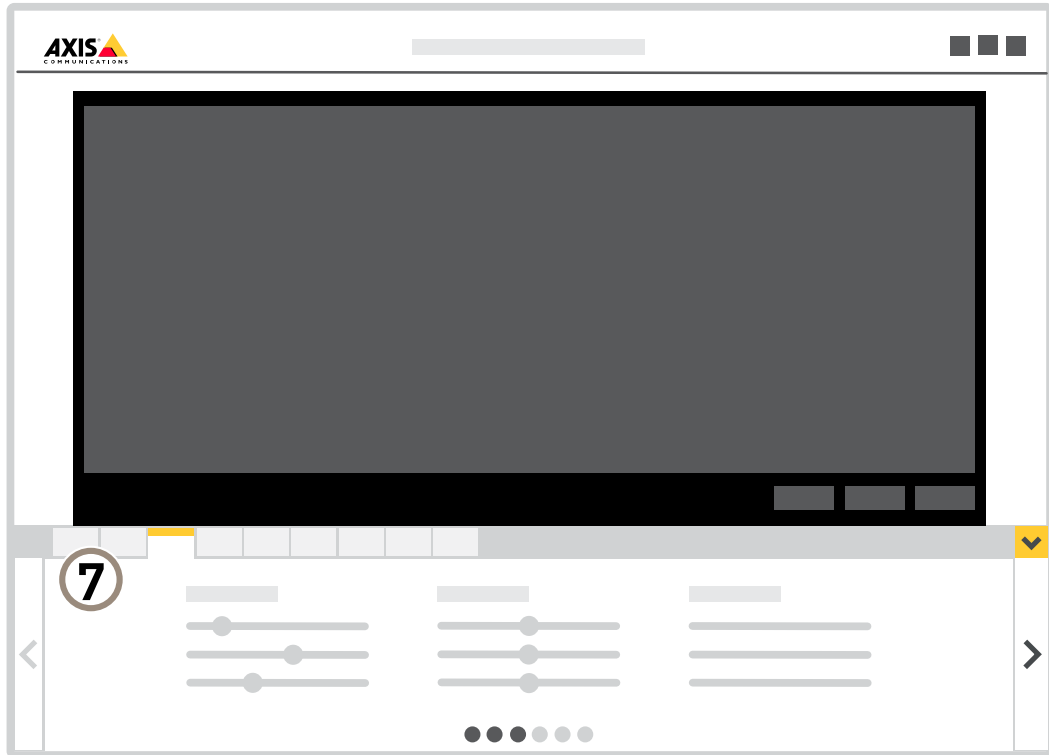
Webpage overview



- 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 M3044-WV Network Camera

Get started



7 Settings tabs

AXIS M3044-WV Network Camera

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 15*.

Select capture mode

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. To find the latest version of the datasheet, go to *axis.com*.

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**.
- For environments with certain artificial light and bright light, for example outdoors with fluorescent lighting at night and sun during daytime, select **Flicker-reduced**.
- To lock the current exposure settings, select **Hold current**.

Hide parts of the image with privacy masks

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



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

www.axis.com/products/online-manual/22449#t10106902

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.

AXIS M3044-WV Network Camera

Additional settings



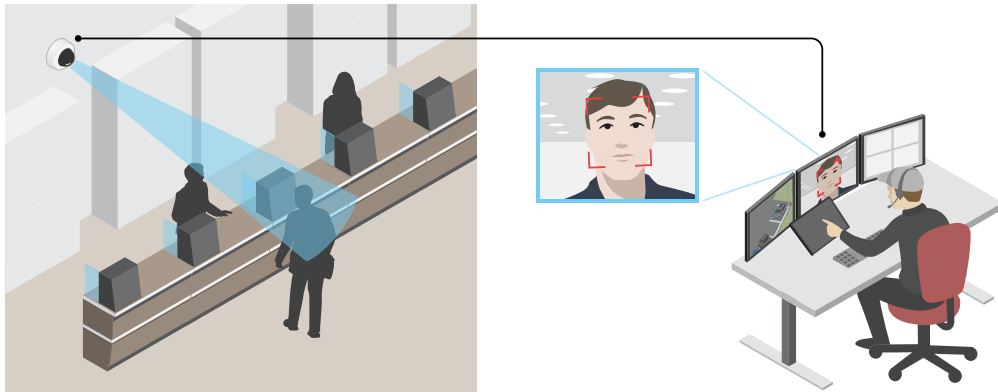
To watch this video, go to the web version of this document.

www.axis.com/products/online-manual/22449#t10106902

How to change the appearance of the mask

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.



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.

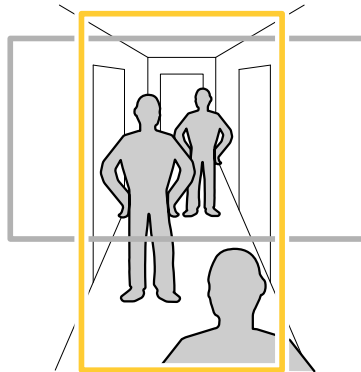
You can see the number of pixels for each of the rectangle's sides (**X** and **Y**), and decide if the values are enough for your needs.


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.

AXIS M3044-WV Network Camera

Additional settings



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

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.
- 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.

AXIS M3044-WV Network Camera

Additional settings



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. 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.

Maximize the details in an image

Important

If you maximize the details in an image, the bitrate will probably increase and you might get a reduced frame rate.

- Make sure to select the capture mode that has the highest resolution.
- Set the compression as low as possible.
- Select MJPEG streaming.
- Turn off Zipstream functionality.

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 15.

AXIS M3044-WV Network Camera

Additional settings

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:
 - Turn on the Zipstream functionality and select the desired level.
 - Turn on dynamic GOP and set a high GOP length value.
 - Increase the compression.
 - Turn on dynamic FPS.

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 12*, 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.

Trigger an action

1. Go to **Settings > System > Events** to set up a rule. The rule defines when the device will perform certain actions. Rules can be setup as scheduled, recurring, or for example, triggered by motion detection.

AXIS M3044-WV Network Camera

Additional settings

2. 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.
3. Select which **Action** the device should perform when the conditions are met.

Note

If you make changes to an active rule, you have to restart the rule for the changes to take effect.

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/22449#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**.
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.

AXIS M3044-WV Network Camera

Additional settings



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

www.axis.com/products/online-manual/22449#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. Enter #D in the text field.
6. Choose text size and appearance.

Create a rule:

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

AXIS M3044-WV Network Camera

[Learn more](#)

[Learn more](#)

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.

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.

Overlays

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.

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

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.

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.

AXIS M3044-WV Network Camera

Learn more

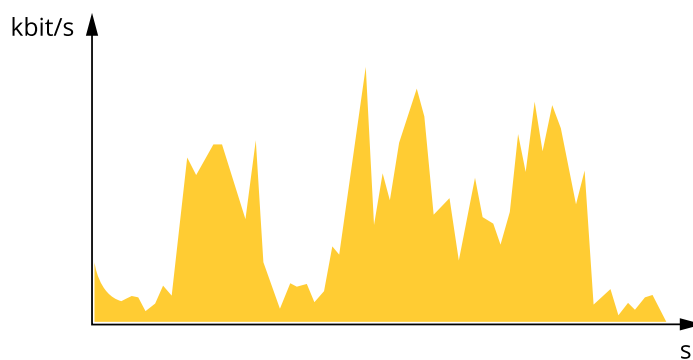
The Stream profiles settings override the settings from the Stream tab. If you request a stream with a specific stream profile, the stream contains the settings of that profile. If you request a stream without specifying a stream profile, or request a stream profile that doesn't exist in the product,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

Bitrate control

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

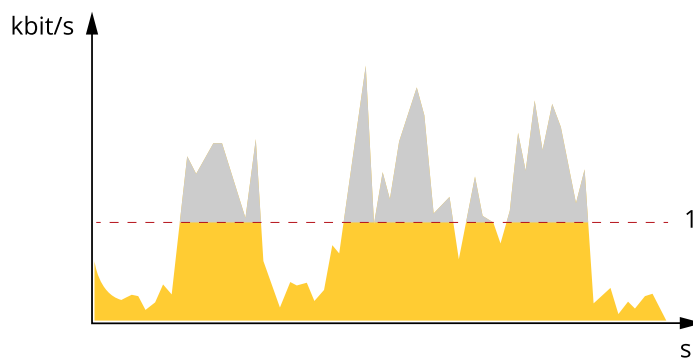
Variable bitrate (VBR)

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

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.

AXIS M3044-WV Network Camera

Learn more

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.



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

www.axis.com/products/online-manual/22449#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/22449#t10001688

How to activate an application licence code on a device

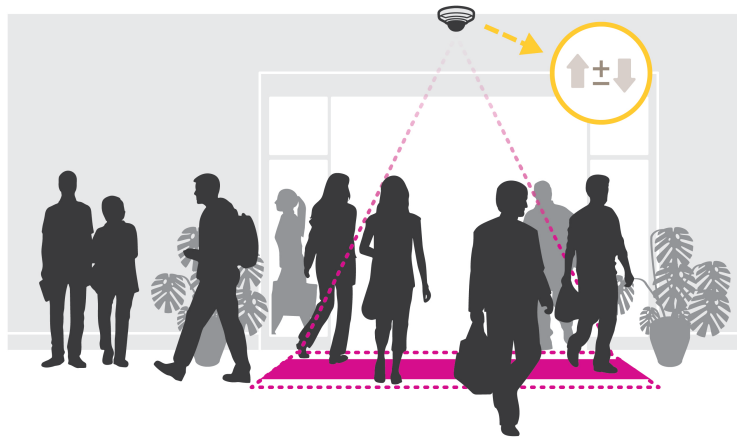
AXIS People Counter

AXIS People Counter is an analytic application that you can install on a network camera. You can use the application to count how many people pass through an entrance, in what direction they pass, and if more than one person passes during a predefined interval. You can also use it to estimate how many people are currently occupying an area, and the average visiting time.

The application runs embedded in the camera which means you don't need a dedicated computer to run the application. AXIS People Counter is suitable for any indoor environment, like stores, libraries, or gyms.

AXIS M3044-WV Network Camera

Learn more



How does estimating occupancy work?

You can use the application to estimate occupancy in areas with one or several entrances and exits. Each entrance and exit needs to be equipped with a network camera with AXIS People Counter installed. If there are several cameras, they communicate with each other over the network in a primary and secondary concept. The primary camera continuously fetches data from the secondary cameras and presents the data in the live view. Every fifteen minutes, the primary camera sends the statistical data to AXIS Store Data Manager. Consequently, the reports generated from AXIS Store Data Manager can present the data in a minimum of 15 minutes time interval.

Advanced wireless settings

The most common security method is WPA-/WPA2-PSK. This product also supports WPATM-/WPA2TM-Enterprise which is a more secure method. All settings must match the settings in the access point.

WPATM-/WPA2TM-PSK

The security method WPA-/WPA2-PSK is designed for small networks and does not require an authentication server. The Axis product uses a PSK (Pre-Shared Key) to authenticate with the access point. The key can be entered either as manual hex – a 64 hexadecimal number (0–9, A–F) – or a passphrase using 8–63 ASCII characters. The longer the passphrase, the more secure is the key.

WPATM-/WPA2-Enterprise

The security method WPA-/WPA2-Enterprise is designed for large networks and requires an authentication server. The network is protected by EAPOL (Extensible Authentication Protocol Over Lan).

Select the WPA-Enterprise type being used by the access point:

- EAP-TLS. See *page 18*.
- EAP-PEAP/MSCHAPv2. See *page 19*.

EAP-TLS

The authentication protocol EAP-TLS (Extensible Authentication Protocol - Transport Layer Security) allows the client and server to authenticate each other using digital certificates provided by a Certification Authority. To gain access to the protected network, the Axis product presents its certificate to the network access point. Access is granted if the certificate is approved.

Important

To ensure successful certificate validation, time synchronization should be performed on all clients and servers prior to configuration.

AXIS M3044-WV Network Camera

Learn more

Configure the wireless settings using WPA™-/WPA2-Enterprise and EAP-TLS

1. Go to **Settings > System > Wireless**.
2. In the list, select the wireless network.
3. Under **WPA-Enterprise** type, select **EAP-TLS**.
4. Enter the user **Identity** associated with your certificate.
5. Select the **EAPOL** version (1 or 2) as used in the access point.
6. Select the CA certificate and the client certificate to use for wireless authentication.
7. Click **Save**.

EAP-PEAP/MSCHAPv2

The authentication protocol **EAP-PEAP/MSCHAPv2** (Extensible Authentication Protocol – Protected Extensible Authentication Protocol/Microsoft Challenge Handshake Authentication Protocol) allows the client to authenticate the network using a digital certificate provided by a Certification Authority. The network authenticates the client using an identity and a password. To gain access to the protected network, the Axis product presents its identity and password to the network access point. If these credentials are approved, the access point allows access on a preconfigured port.

Important

To ensure successful certificate validation, time synchronization should be performed on all clients and servers prior to configuration.

Configure the wireless settings using WPA™-/WPA2-Enterprise and EAP-PEAP/MSCHAPv2

1. Go to **Settings > System > Wireless**
2. In the list, select the wireless network.
3. Under **WPA-Enterprise** protocol, select **EAP-PEAP/MSCHAPv2**.
4. Enter the user **Identity** associated with your certificate.
5. Enter the **Password** for your user identity.
6. Select the **PEAP Version** (0 or 1) as used in the access point.
7. Select the **PEAP Label** that the access point uses when using PEAP version 1. Select 1 to use client EAP encryption; select 2 to use client PEAP encryption.
8. Select the **EAPOL** version (1 or 2) as used in the access point.
9. Select the CA certificate with which to validate the network/AP certificate.
10. Click **Save**.

Wireless certificates

Wireless network certificates are used to authenticate devices on a wireless network. Wireless networks using the WPA™-/WPA2-Enterprise security method are protected by EAPOL (Extensible Authentication Protocol Over Lan), which is part of the IEEE 802.1X standard. The client authenticates the server using digital certificates. The server authenticates the client using digital certificates or a password depending on the selected WPA-Enterprise type.

AXIS M3044-WV Network Camera

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. Disconnect power from the product.
2. Press and hold the control button while reconnecting power. See *Product overview on page 24*.
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**.

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

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 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.

AXIS M3044-WV Network Camera

Troubleshooting

Important

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

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/22449#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.
--------------------------	---

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.
---	---

AXIS M3044-WV Network Camera

Troubleshooting

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 20*.

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.

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 **Settings > System > Date and time**.

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.

AXIS M3044-WV Network Camera

Troubleshooting

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

- See *Performance considerations on page 23*.
- 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.
- The maximum frames per second is dependent on the utility frequency (60/50 Hz) of the Axis device.

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.
- 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.

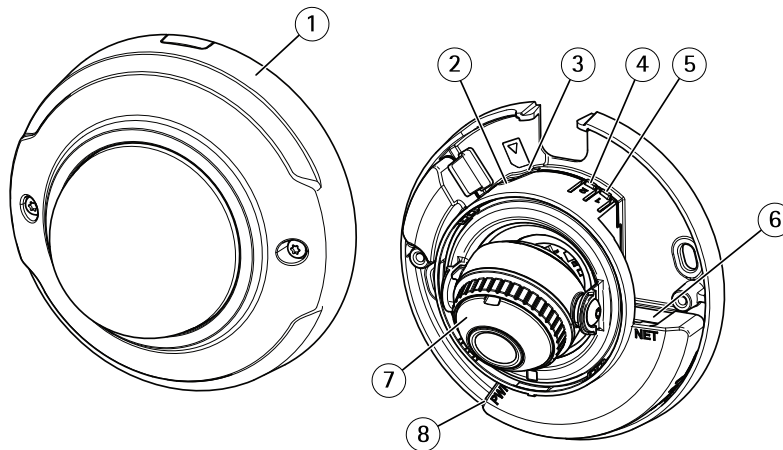
- Accessing Motion JPEG and H.264 video streams simultaneously affects both frame rate and bandwidth.
- Heavy usage of event settings affects the product's CPU load which in turn affects the frame rate.
- Using HTTPS may reduce frame rate, in particular if streaming Motion JPEG.
- Heavy network utilization 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.
- Use 5 GHz rather than 2.5 GHz (5 GHz is typically less "crowded") and keep the distance to the access point short and free of obstacles (to improve the air path).

AXIS M3044-WV Network Camera

Specifications

Specifications

Product overview



- 1 Dome cover
- 2 Status LED
- 3 microSD card slot
- 4 WLAN pairing button (2)
- 5 Control button (1)
- 6 Network connector
- 7 Focus ring
- 8 Power connector

LED Indicators

Note

- The Status LED can be configured to flash while an event is active.
- The Status LED can be configured to flash for identifying the unit. Go to **Settings > System > Plain config**.

Status LED	Indication
Unlit	Connection and normal operation.
Green	Steady green for 10 seconds for normal operation after startup completed. Flashes green during wireless network pairing.
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.
Red	Firmware upgrade failure.

Note

Amber is a combination of red and green, and can be perceived as either of these colors depending on viewing angle.

AXIS M3044-WV Network Camera

Specifications

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 20*.

WLAN pairing button

The WLAN pairing button is used for connecting to an access point through push button configuration (PBC). To find out more, go to .

Connectors

Network connector

RJ45 Ethernet connector.

