AXIS FA54 Main Unit

User Manual

AXIS FA54 Main Unit

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AXIS FA54 Main Unit

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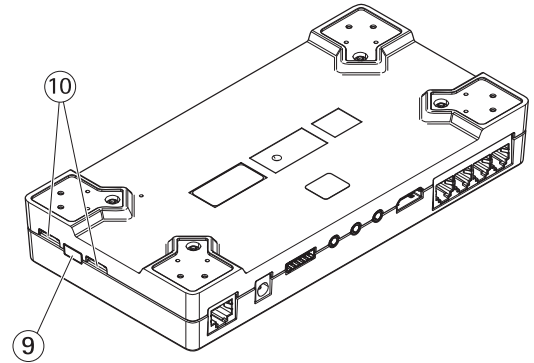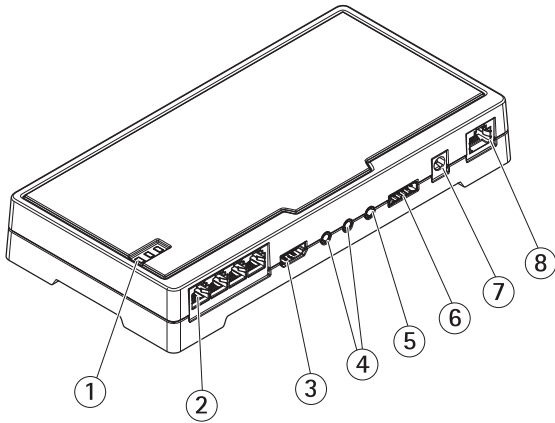
1	Status LED
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About the sensor units

We recommend that you connect the sensor units to the main unit before powering the main unit. If you disconnect a sensor unit, and connect a different sensor unit, it may be necessary to restart the main unit.

How to shorten the sensor unit cable

Note

- The sensor unit cable cannot be extended or split.
- When routing the sensor unit cable, the minimum bending radius is 40 mm.

The sensor unit is delivered with a cable. To shorten the cable follow these steps:

1. Cut the cable to the desired length. Measure from the sensor unit.

2. Strip the plastic outer coating from the end of the cable.

3. Peel back the shield.

4. Flatten the colored wires in the order described below.

1	Brown
2	White/brown
3	Not used
4	Not used

Product overview

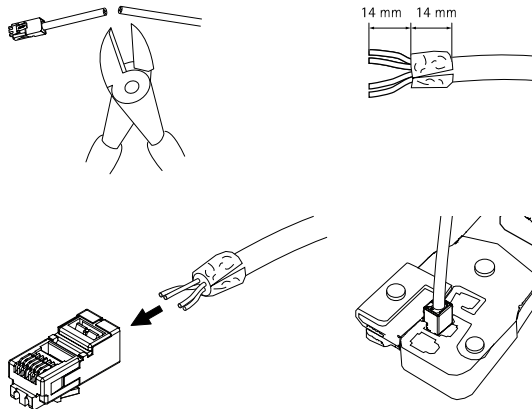| 5	White/blue
6	Blue

   5. Insert the wires all the way into a shielded 6P6C RJ12 connector.

NOTICE

   Make sure that the wires stay in the correct order and that the cable shield makes good contact with the connector shield.

   6. Use a crimping tool to fasten the connector to the cable.

Setup

How to access the product

AXIS IP Utility and AXIS Camera Management are recommended methods for finding Axis products on the network and assigning them IP addresses in Windows®. Both applications are free and can be downloaded from *www.axis.com/support*

The product can be used with the following browsers:

- Chrome^{TM} (recommended), Firefox®, Edge®, or Opera® with Windows®
- Chrome^{TM} (recommended) or Safari® with OS X®
- Chrome^{TM} or Firefox® with other operating systems.

How to access the product from a browser

1. Start a web browser.

2. Enter the IP address or host name of the Axis product in the browser's address field.

   To access the product from a Mac computer (OS X), go to Safari, click on Bonjour and select the product from the drop-down list.

   If you do not know the IP address, use AXIS IP Utility to locate the product on the network. For information about how to discover and assign an IP address, see the document *Assign an IP Address and Access the Video Stream* on Axis Support web at *www.axis.com/support*

   Note

   > To show Bonjour as a browser bookmark, go to **Safari > Preferences**.

3. Enter your username and password. If this is the first time the product is accessed, the root password must first be configured.

4. The product's live view page opens in your browser.

About secure passwords

Important

> When setting the initial password, the password is sent in clear text over the network. If there is a risk of network sniffing, first set up a secure and encrypted HTTPS connection before resetting the passwords.

The device password is the primary protection for the data and services. Axis' products do not impose a password policy as products may be used in various types of installations, but to protect your data do the following:

- Don't use the default password that comes with the products.
- Use a password with at least 8 characters, preferably using a password generator.
- Don't expose the password.
- Change password at a recurring interval, at least once a year.

Set a password for the root account

Important

> The default administrator user name **root** is permanent and cannot be deleted. If the password for root is lost, the product must be reset to the factory default settings.

Setup

The default root account has full privileges and should be reserved for administrative tasks. Always create a user account with limited privileges for daily use. This reduces the exposure of the administrative account.

1. Make sure to follow the instructions about secure passwords, see *About secure passwords on page 6* .

2. Type a password and then retype it to confirm the spelling.

3. Click **Create login**. The password has now been configured.

AXIS Internet Dynamic DNS Service

AXIS Internet Dynamic DNS Service assigns a host name for easy access to the product. For more information, see *www.axiscam.net*

To register the Axis product with AXIS Internet Dynamic DNS Service, go to **System Options > Network > TCP/IP > Basic**. Under **Services**, click the AXIS Internet Dynamic DNS Service **Settings** button (requires access to the Internet). The domain name currently registered at AXIS Internet Dynamic DNS service for the product can at any time be removed.

Note

AXIS Internet Dynamic DNS Service requires IPv4.

About the product's built-in help

To set up the product, you need to access the product's webpage. In the webpage you can also find detailed instructions in the product's built-in help.
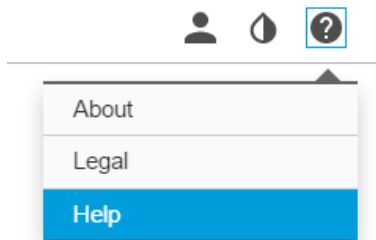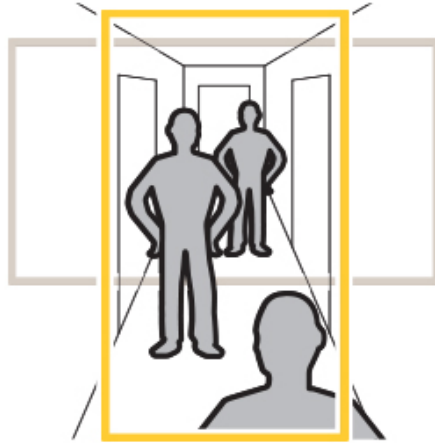

How to set up corridor format

Use corridor format to better utilize the full field of view in a long narrow area. For example in staircases, hallways, roads, tunnels, and many others.

1. Turn the camera 90°.

2. Go to the **Stream** tab on the product's webpage and rotate the view 90°.

How to view live video stream on a monitor

Your camera can transmit live video stream to an HDMI monitor without a network connection. The monitor can be used for surveillance purposes or for public viewing e.g. in a store.

1. Connect an external monitor using the HDMI connector.

2. Change the HDMI settings under **Settings > Stream > HDMI**.

About overlays

Note

> The overlay feature is not supported for the quad stream, only for the individual video streams.

Note

> Image and text overlay will not be displayed on video stream over HDMI.

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.

How to maximize the details in the image

Important

> If you maximize the details in the image the bitrate becomes higher which in turn might result in reduced frame rate.

• Make sure to select the capture mode with the highest resolution.

- Set the compression as small as possible.

- Select MJPEG streaming.

- Turn off the Zipstream functionality.

How to reduce bandwidth and storage

Important

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

1. Go to live view and select H.264.

2. Go to the **Stream** tab.

3. Do one or more of the following:

    - Turn on the Zipstream functionality.

    - Turn on the GOP and set a high GOP length value.

    - Increase the compression.

    - Turn on the dynamic FPS.

About applications

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

To find the user manuals for Axis applications, go to *www.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.

Troubleshooting

> **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*.

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 *www.axis.com/support*

How to 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**.

How to 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.

> **Note**
>
> When you upgrade the product with the latest firmware, 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 www.axis.com > product > Support & Documentation.

1. Download the latest firmware file to your computer, available free of charge at *www.axis.com/support/firmware*

2. Log in to the product as an administrator.

3. Go to **Settings > System > Maintenance** in the product's webpage and follow the instructions.

4. The upgrade takes a while, don't break the power to the product. When the upgrade is finished, the product restarts automatically.

AXIS Camera Management can be used for multiple upgrades, see *www.axis.com/products/axis-camera-management* for more information.

Troubleshooting

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 product 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 product and try again.

Problems setting the IP address

The product is located on a different subnet	If the IP address intended for the product and the IP address of the computer used to access the product 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 product from the network. Run the ping command (in a Command/DOS window, type `ping` and the IP address of the product): - 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 product. - If you receive: `Request timed out`, this means that the IP address is available for use with the Axis product. Check all cabling and reinstall the product.
Possible IP address conflict with another device on the same subnet	The static IP address in the Axis product 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 product.

The product 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 product must be reset to the factory default settings. See .
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 Camera Management to locate the product on the network. Identify the product 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 product must be synchronized with an NTP server. Go to **Settings > System > Date and time**

The product is accessible locally but not externally

Router configuration	Check that your router allows incoming data traffic to the Axis product. The router must support UPnP®.
Firewall protection	Check the Internet firewall with your network administrator.

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 product 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 product are valid for your network. Check with your network administrator to see if there is a firewall preventing viewing.

Troubleshooting

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	- See *Performance considerations on page 12*. - 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. - In the product's webpage, set a capture mode that prioritizes frame rate. Changing the capture mode to prioritize frame rate might lower the maximum resolution depending on the product used and capture modes available. - The maximum frames per second is dependent on the utility frequency (60/50 Hz) of the Axis product.

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.

- 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.

Technical specifications

To find the latest version of the datasheet, go to www.axis.com > product > Support & Documentation.

LED Indicators

Status LED	Indication
Green	Steady green for normal operation.
Amber	Steady during startup. Flashes when restoring settings.
Red	Firmware upgrade failure.

Network LED	Indication
Green	Steady for connection to a 1 Gbit/s network. Flashes for network activity.
Amber	Steady for connection to a 10/100 Mbit/s network. Flashes for network activity.
Unlit	No network connection.

Power LED	Indication
Green	Normal operation.
Amber	Flashes green/amber during firmware upgrade.

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. Disconnect power or unmount the SD card from the product's webpage before removal.

This product supports microSD/microSDHC/microSDXC cards (not included).

For SD card recommendations, see *www.axis.com*

Buttons

Control button

The control button is used for:

- Resetting the product to factory default settings. See .

- Connecting to an AXIS Video Hosting System service. To connect, press and hold the button for about 3 seconds until the status LED flashes green.

Connectors

HDMI connector

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

AXIS FA54 Main Unit

## Technical specifications

Network connector

RJ45 Ethernet connector.

Audio connector

The Axis product has the following audio connectors:

- **Audio in** – 3.5 mm input for a mono microphone, or a line-in mono signal (left channel is used from a stereo signal).

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

3.5 mm audio connectors (stereo)
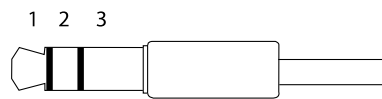
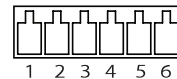|	1 Tip	2 Ring	3 Sleeve
Audio Input	Microphone/Line in		Ground
Audio Output	Line out (mono)		Ground

I/O connectors

Use the I/O connector with external devices in combination with, for example, tampering alarms, 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 output – For connecting external devices such as relays and LEDs. Connected devices can be activated by the VAPIX® Application Programming Interface or in the product's webpage.

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.

6-pin configurable terminal block

Function	Pin	Notes	Specifications
0 V DC (-)	1	DC ground	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 = 50 mA
Configurable (Input or Output)	3–6	Digital input – Connect to pin 1 to activate, or leave floating (unconnected) to deactivate.	0 to max 30 V DC
		Digital output – Connected to pin 1 when activated, floating (unconnected) when deactivated. If used with an inductive load, e.g. a relay, a diode must be connected in parallel with the load, for protection against voltage transients.	0 to max 30 V DC, open drain, 100 mA

Technical specifications
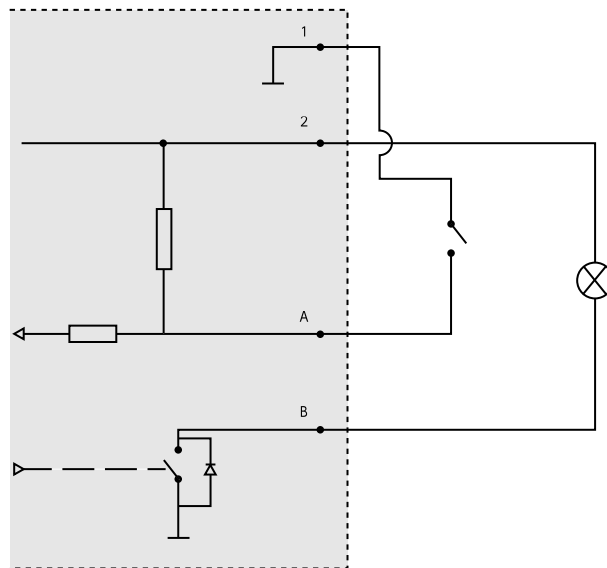
1   0 V DC (-)
2   DC output 12 V, max 50 mA
A   I/O configured as input
B   I/O configured as output

Power connector

DC connector. Use the supplied adapter.

RJ12 Connector

The RJ12 connector is used for connecting the sensor unit to the main unit. For information on how to shorten the sensor unit cable see *How to shorten the sensor unit cable on page 4* .