

AXIS FA54 Main Unit

User Manual

AXIS FA54 Main Unit

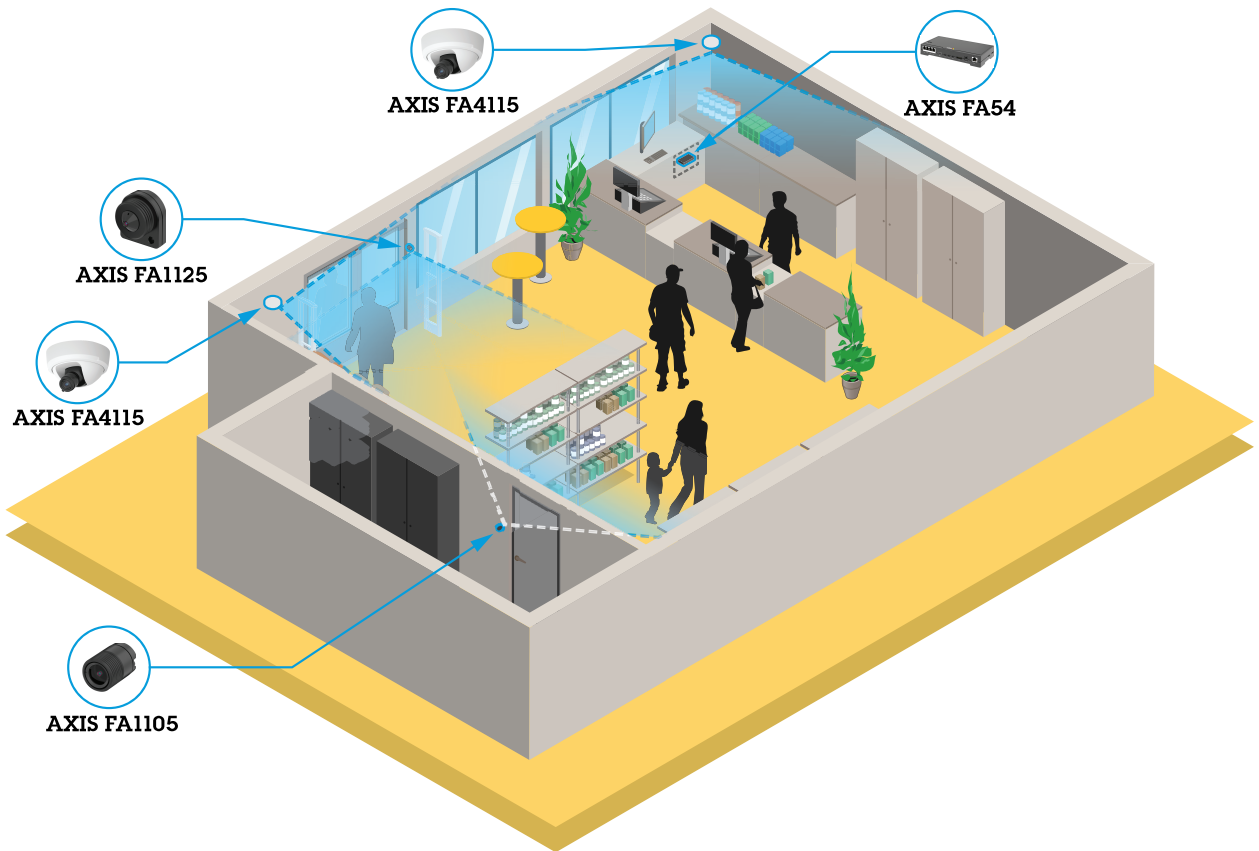
Table of Contents

Solution overview	3
Product overview	4
About the sensor units	4
How to access the product	5
How to access the product from a browser	5
About secure passwords	5
Setup	7
Product webpage overview	7
How to monitor long and narrow areas	8
How to view live video stream on a monitor	9
About overlays	9
How to maximize details in an image	9
How to reduce bandwidth and storage	10
Applications	10
Troubleshooting	11
How to reset to factory default settings	11
How to check the current firmware	11
How to upgrade the firmware	11
Technical issues, clues and solutions	12
Performance considerations	13
Specifications	14
LED Indicators	14
SD card slot	14
Buttons	14
Connectors	15

AXIS FA54 Main Unit

Solution overview

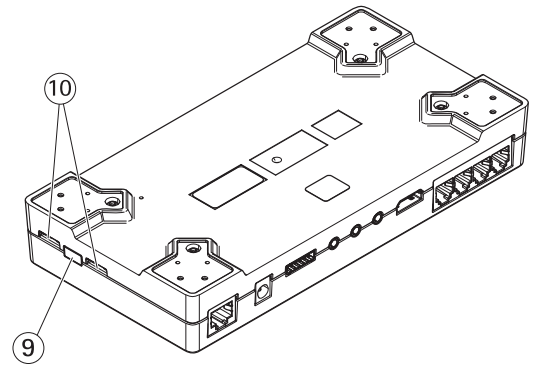
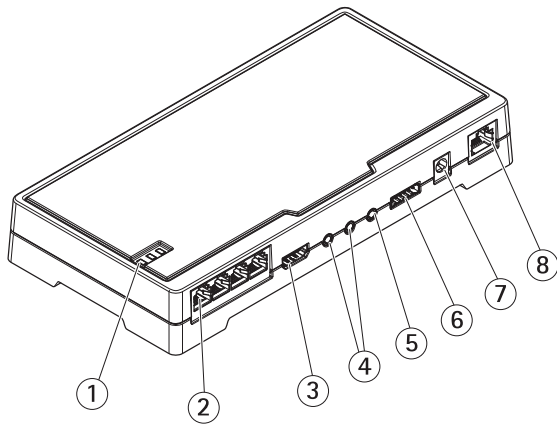
Solution overview



AXIS FA54 Main Unit

Product overview

Product overview



- 1 Status LED
- 2 RJ12 connector (4x)
- 3 HDMI
- 4 Audio in (2x)
- 5 Audio out
- 6 I/O connector
- 7 Power connector
- 8 Network connector (DC input)
- 9 Control button
- 10 microSD card slot

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.

AXIS FA54 Main Unit

How to access the product

How to access the product

AXIS IP Utility and AXIS Device Manager 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 axis.com/support

The product can be used with the following browsers:

- Windows®: Chrome™ (recommended), Firefox®, Edge®, or Opera®
- OS X®: Chrome™ (recommended) or Safari®
- Other operating systems: Chrome™ or Firefox®.

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

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

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 *How to assign an IP address and access your device* on the product page at axis.com.

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

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 the 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 recommend that you:

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

Set a secure password for the root account

Important

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

1. Type a password. Follow the instructions about secure passwords. See *About secure passwords* on page 5.
2. Retype the password to confirm the spelling.

AXIS FA54 Main Unit

How to access the product

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

AXIS FA54 Main Unit

Setup

Setup

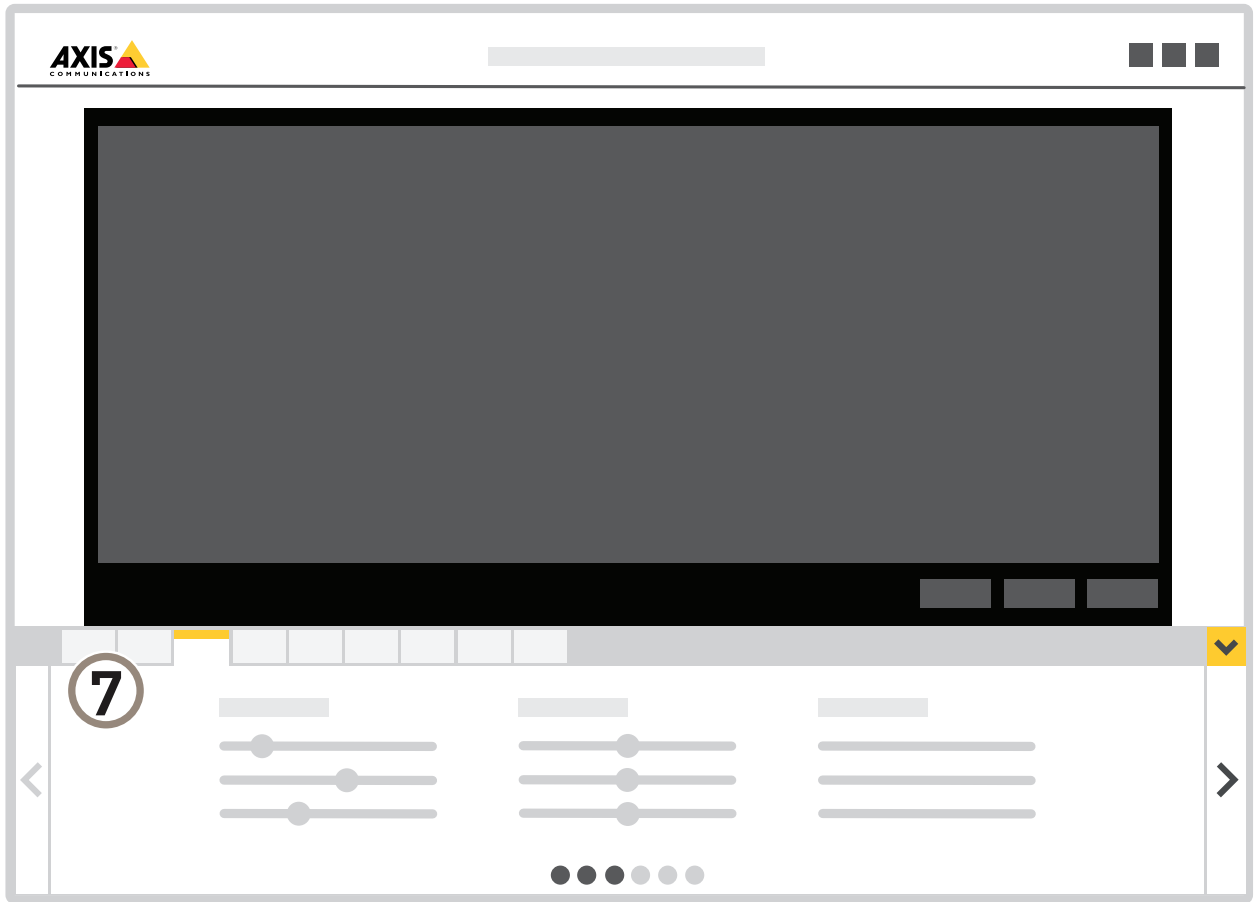
Product webpage overview



- 1 *Live view control bar*
- 2 *Live view*
- 3 *Product name*
- 4 *Controls*
- 5 *Video control bar*
- 6 *Settings toggle*

AXIS FA54 Main Unit

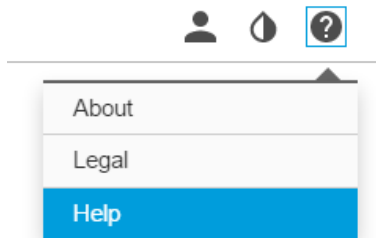
Setup



7 Settings tabs

About the product's built-in help

You can access the built-in help from the product's webpage. The help provides more detailed information on the product's features and their settings.

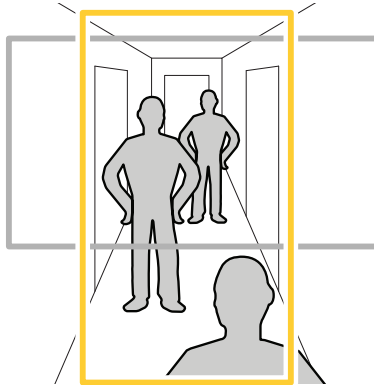


How to monitor long and narrow areas

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 FA54 Main Unit

Setup



1. Depending on your product, turn the camera or the 3-axis lens in the camera 90° or 270°.
2. If your product doesn't rotate the view automatically, log in to the product's webpage and go to **Settings > Stream > Orientation**. Rotate the view 90° or 270°.

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

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 details in an image

Important

If you maximize details in an image, bitrate increases and might lead to reduced frame rate.

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

AXIS FA54 Main Unit

Setup

How to 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.

Applications

About 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

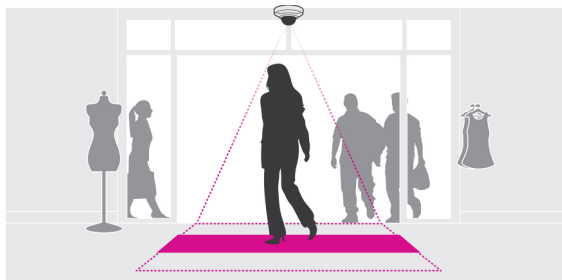
- Several applications can run at the same time but some applications might not be compatible with each other. Certain combinations of applications might require too much processing power or memory resources when run in parallel. Verify that the applications work together before deployment.

AXIS 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 FA54 Main Unit

Troubleshooting

Troubleshooting

How to 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 4*.
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**.

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.

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, 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

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

AXIS FA54 Main Unit

Troubleshooting

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.

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

Technical issues, clues and solutions

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

Problems upgrading the firmware

Firmware 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 <code>ping</code> and the IP address of the product): <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 product.• If you receive: <code>Request timed out</code>, 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 <code>http</code> or <code>https</code> 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 *How to reset to factory default settings on page 11*.

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 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.
---------------------	--

AXIS FA54 Main Unit

Troubleshooting

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.
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 13</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 product'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 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.
- Rotating the lens manually will result in better performance compared to rotating the image from the GUI.
- 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 FA54 Main Unit

Specifications

Specifications

To find the latest version of the product's datasheet, go to the product page on axis.com and locate **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. 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



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

Buttons

Control button

The control button is used for:

- Resetting the product to factory default settings. See *How to reset to factory default settings on page 11*.
- 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.

AXIS FA54 Main Unit

Specifications

Connectors

HDMI connector

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

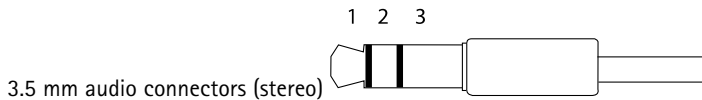
Network connector

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.



	1 Tip	2 Ring	3 Sleeve
Audio Input	Microphone/Line in		Ground
Audio Output	Line out (mono)		Ground

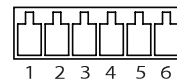
I/O connector

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.

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

6-pin configurable terminal block

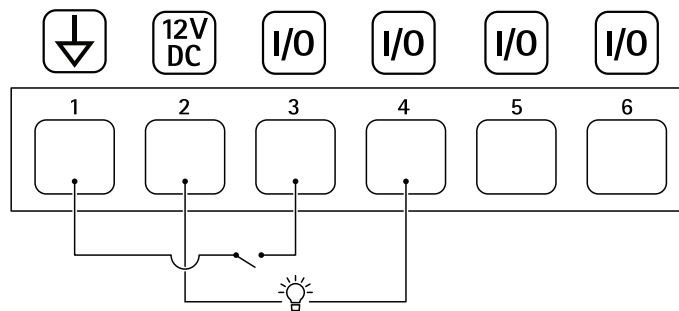


Function	Pin	Notes	Specifications
DC ground	1		0 V DC
DC output	2	Can be used to power auxiliary equipment. Note: This pin can only be used as power out.	12 V DC Max load = 50 mA
Configurable (Input or Output)	3–6	Digital input – Connect to pin 1 to activate, or leave floating (unconnected) to deactivate.	0 to max 30 V DC
		Digital output – Connect to pin 1 to activate, or leave floating (unconnected) to deactivate. 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

AXIS FA54 Main Unit

Specifications



- 1 DC ground
- 2 DC output 12 V, max 50 mA
- 3 I/O configured as input
- 4 I/O configured as output
- 5 Configurable I/O
- 6 Configurable I/O

Power connector

DC connector. Use the supplied adapter.

RJ12 Connector

The RJ12 connector is used for connecting the sensor unit to the main unit.

