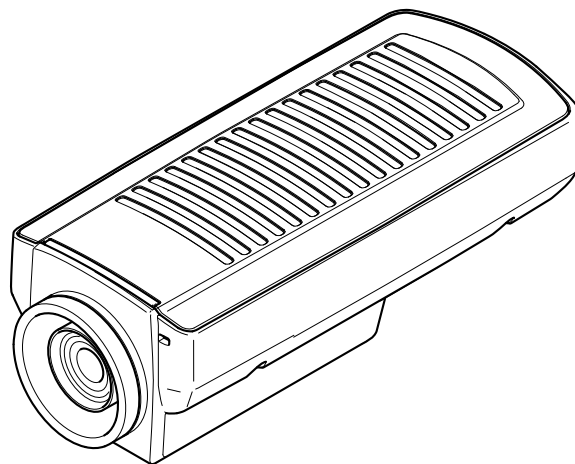


**AXIS Q17 Network Camera Series**

**AXIS Q1775 Network Camera**

**AXIS Q1775-E Network Camera**



# AXIS Q17 Network Camera Series

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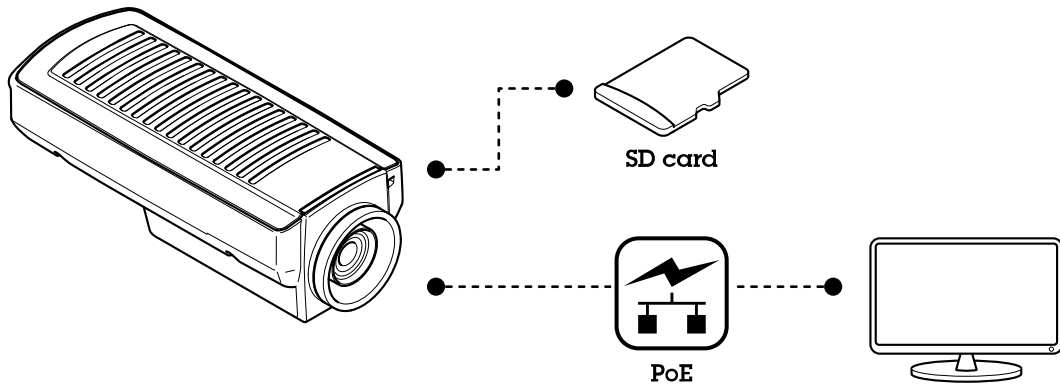
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# AXIS Q17 Network Camera Series

## System overview

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### System overview



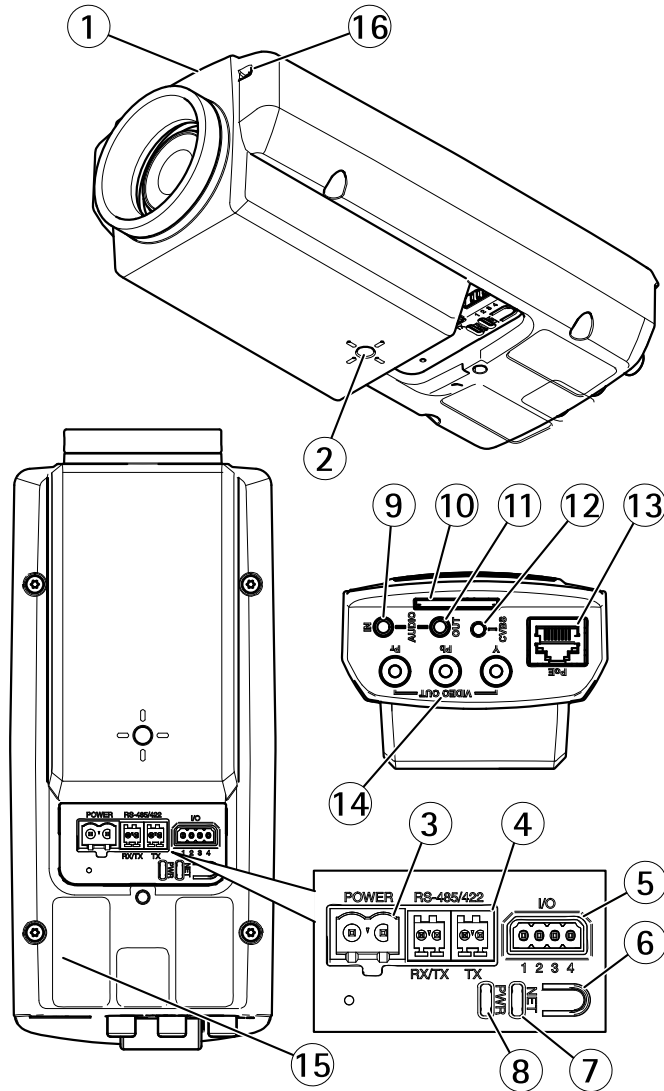
# AXIS Q17 Network Camera Series

## Product overview

### Product overview

#### NOTICE

Do not point the camera lens toward the sun or other high-intensity radiation sources because this could cause damage to the camera.



- 1 Status LED
- 2 1/4" screw mount for wall/ceiling stand
- 3 Power connector (blocked in AXIS Q1775-E)
- 4 RS485/422 connector
- 5 I/O connector
- 6 Control button
- 7 Network indicator LED
- 8 Power indicator LED
- 9 Audio in
- 10 SD card slot

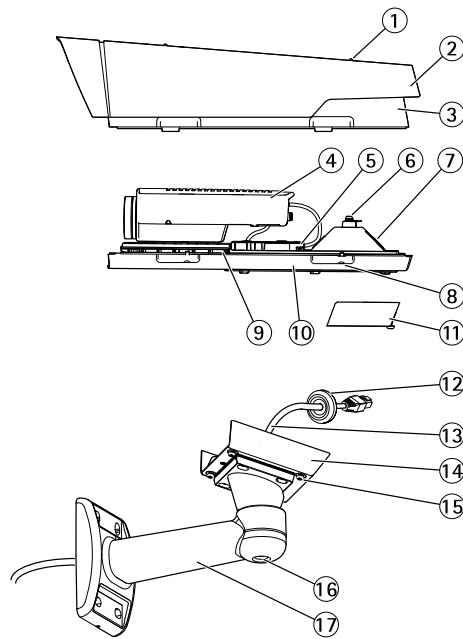
# AXIS Q17 Network Camera Series

## Product overview

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- 11 Audio out
- 12 CVBS button
- 13 Network connector (PoE)
- 14 Video out Y/Pb/Pr
- 15 Part number (P/N) & Serial number (S/N). The serial number may be required during the installation.
- 16 Microphone

### Housing Q1775-E



- 1. Sunshield adjustment screw (2x)
- 2. Sunshield
- 3. Top cover
- 4. Network camera
- 5. Network connector (PoE)
- 6. Safety wire tab
- 7. Cable hole
- 8. Bottom cover screws (4x)
- 9. Heater Caution! May be hot
- 10. Bottom cover
- 11. Cable cover
- 12. Gasket
- 13. Network cable (route through wall bracket)
- 14. Bracket adapter
- 15. Bracket screws (4x)
- 16. Bracket adjustment screw
- 17. Wall bracket

# AXIS Q17 Network Camera Series

## How to access the product

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### 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 [axis.com/support](https://axis.com/support)

The product can be used with the following browsers:

- Chrome™ (recommended), Firefox®, Edge®, or Opera® with Windows®
- Chrome™ (recommended) or Safari® with OS X®
- Chrome™ 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 [axis.com/support](https://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** cannot be deleted. If the password for root is lost, the product must be reset to the factory default settings.

# AXIS Q17 Network Camera Series

## How to access the product

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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 Q17 Network Camera Series

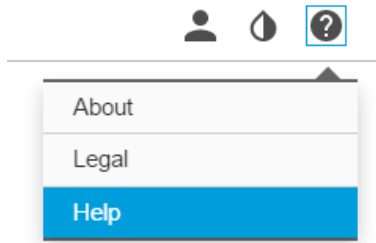
## Setup

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### Setup

#### About the product's built-in help

You can access the built-in help through your product's web page. The help provides more detailed information on the product's features and their settings.



#### Image quality

##### How to reduce noise in low-light conditions

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

**Note**

Increasing the max shutter value can result in motion blur.

- The shutter speed should be as slow as possible, which means you should set max shutter to the highest possible value.
- Reduce sharpness in the image.
- Try lowering the max gain value.

##### How to benefit from IR light in low-light conditions using night mode

Your camera delivers color images during the day. As light diminishes, you can set the camera to automatically shift to night mode. This enables delivering black-and-white images with the help of IR light.

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, set the **Day-night shift priority** to **Day**, **Night** or **None**.

##### How to handle scenes with strong backlight

Use WDR to make both dark and bright areas of the image visible.

1. Go to **Settings > Image**.
2. Turn on WDR under **Wide dynamic range**.



# AXIS Q17 Network Camera Series

## Setup

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*Image without WDR.*



*Image with WDR.*

### Note

If you use WDR, you may experience some WDR artifacts in the image.

Find out more about WDR and how to use it at [axis.com/web-articles/wdr](https://axis.com/web-articles/wdr)

## Streaming and storage

### How to choose video compression format

Deciding which compression method to choose depends 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. Installing 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.

# AXIS Q17 Network Camera Series

## Setup

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Find out more at [axis.com/compression-formats](http://axis.com/compression-formats)

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

### How to view live video stream on a monitor

Your camera can transmit live video stream to a monitor even without a network connection. Connect the camera and the monitor using the RCA connectors. The monitor can be used for surveillance purposes or for public viewing e.g. in a store.

### How to add audio to your recording

Edit the stream profile which is used for the recording:

1. Go to **Settings > System > Stream profiles**.
2. Select the stream profile to modify.
3. In the **Audio** tab, select the **Audio stream** checkbox and select **On** from the drop-down list.
4. Click **Ok**.

## Events

### About events

The event pages allow you to configure your product to perform actions when different events occur. For example, the product can start a recording or send an email notification when motion is detected. The set of conditions that defines how and when the action is triggered is called an action rule.

### How to automatically send an email if someone spray paints the lens

1. Go to **System > Detectors**.
2. Select **Alarm for dark images**. This will trigger an alarm if the lens is sprayed, covered, or rendered severely out of focus.
3. Set the **Minimum duration**. The value indicates the time that must pass before an email is sent.
4. Click **Save**.

Create an action rule:

5. Go to **Events > Action rules** and add an action rule.
6. Enter a name for the action rule.

# AXIS Q17 Network Camera Series

## Setup

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7. From the list of triggers, select **Detectors** and then select **Tampering**.
8. From the list of actions, select **Send Notification** and then select a recipient from the list or click **New Recipient** to create a new recipient.
9. Enter **Subject** and **Message** for the email.
10. Click **Ok**.

### How to automatically zoom in on a specific area with gatekeeper

This example explains how to use the gatekeeper functionality to make the camera zoom in automatically on the license plate of a car that passes through a gate. When the car has passed, the camera zooms out to the home position.

#### Create a motion detection profile:

1. Go to **Settings > Apps** and open **AXIS Video Motion Detection**.
2. Create a profile that covers the entrance of the gate and then save the profile.

#### Create the preset positions:

3. Go to **Settings > PTZ > Preset positions**.
4. Create the home position that includes the entrance of the gate.
5. Create the zoomed-in preset position so that it covers the area in the image where you assume that the license plate will appear.

#### Create an action rule:

6. Go to **Settings > System > Events** and add an action rule.
7. Name the action rule *Gatekeeper*.
8. From the trigger list, select **Applications** and then select the previously created motion detection profile.
9. From the action list, select the previously created preset position.
10. Click **OK**.

### How to record video when a PIR detector senses motion

This example explains how to connect an Axis PIR detector to the camera, and set up the camera to start recording when the detector senses motion.

#### Required hardware

- 3-wire cable (ground, power, I/O)
- Axis PIR detector

#### **NOTICE**

Disconnect the camera from power before connecting the wires. Reconnect to power after all connections are done.

#### Connect the wires to the camera's I/O connector

##### Note

For information on the I/O connector, see *Connectors on page 17*

1. Connect the ground wire to pin 1 (GND/-).
2. Connect the power wire to pin 2 (12V DC output).

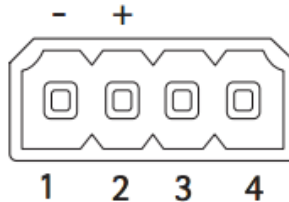
# AXIS Q17 Network Camera Series

## Setup

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3. Connect the I/O wire to pin 3 (I/O input).

Connect the wires to the PIR detector's I/O connector



1. Connect the other end of the ground wire to pin 1 (GND/-).
2. Connect the other end of the power wire to pin 2 (DC input/+).
3. Connect the other end of the I/O wire to pin 3 (I/O output).

Configure the I/O port in the camera's web page

1. Go to **Settings > System > I/O ports**.
2. Give the input module a descriptive name.
3. To make the PIR detector send a signal to the camera when it senses motion, select **Closed circuit** in the drop-down list.

To trigger the camera to start recording when it receives a signal from the PIR detector, you need to create an action rule in the camera's web page.

## 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](https://axis.com/applications)

To find the user manuals for Axis applications, go to [axis.com](https://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 Q17 Network Camera Series

## Troubleshooting

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### 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*.
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](http://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 [axis.com/support/firmware](http://axis.com/support/firmware)

1. Download the latest firmware file to your computer, available free of charge at [axis.com/support/firmware](http://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 Q17 Network Camera Series

## Troubleshooting

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AXIS Camera Management can be used for multiple upgrades. Find out more at [axis.com/products/axis-camera-management](http://axis.com/products/axis-camera-management)

### Technical issues, clues and solutions

If you can't find what you're looking for here, try the troubleshooting section at [axis.com/support](http://axis.com/support)

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#### 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.
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#### 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"><li>• If you receive: <code>Reply from &lt;IP address&gt;: 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.</li><li>• 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.</li></ul>
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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.
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#### 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*.

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](http://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 <b>Settings &gt; System &gt; Date and time</b>
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#### 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.
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#### 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.
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# AXIS Q17 Network Camera Series

## Troubleshooting

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No multicast H.264 displayed in the client	<p>Check with your network administrator that the multicast addresses used by the Axis product 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	<p>Ensure that your graphics card is using the latest driver. The latest drivers can usually be downloaded from the manufacturer's website.</p>
Color saturation is different in H.264 and Motion JPEG	<p>Modify the settings for your graphics adapter. Go to the adapter's documentation for more information.</p>
Lower frame rate than expected	<ul style="list-style-type: none"><li>• See <i>Performance considerations on page 15</i>.</li><li>• Reduce the number of applications running on the client computer.</li><li>• Limit the number of simultaneous viewers.</li><li>• Check with the network administrator that there is enough bandwidth available.</li><li>• Lower the image resolution.</li><li>• 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.</li><li>• The maximum frames per second is dependent on the utility frequency (60/50 Hz) of the Axis product.</li></ul>

### 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.

# AXIS Q17 Network Camera Series

## Specifications

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### Specifications

To find the latest version of the product's datasheet, go to [axis.com](http://axis.com) > [product] > Support & Documentation.

### LED indicators

**Note**

- The Status LED can be configured to flash while an event is active.

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

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

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

### Status LED behavior and buzzer signal for leveling assistant

For information on using the control button to start leveling of the camera, see [page 17](#).

Color	Buzzer	Camera position
Fixed green	Continuous beep	Level
Flashing green	Fast beeps	Almost level
Flashing orange	Medium beeps	Not level
Flashing red	Slow beeps	Far from level

### SD card slot

**NOTICE**

- Risk of damage to SD card. Do not use sharp tools, metal objects, or excessive force when inserting or removing the SD card. Use your fingers to insert and remove the card.
- Risk of data loss and corrupted recordings. Do not remove the SD card while the product is running. Unmount the SD card from the product's webpage before removal.

This product supports SD/SDHC/SDXC cards (not included).

For SD card recommendations, see [axis.com](http://axis.com)



# AXIS Q17 Network Camera Series

## Specifications

### Buttons

#### Control button

For location of the control button, see *Product overview on page 4*.

The control button is used for:

- Resetting the product to factory default settings. See *page 13*.
- Ensuring the camera is level. Press the button for not more than two seconds to start the leveling assistant and press again to stop. The status LED and buzzer signal (see *page 16*) assist leveling of the camera. The camera is level when the buzzer beeps continuously.
- Connecting to an AXIS Video Hosting System service. See . To connect, press and hold the button for about 3 seconds until the Status LED flashes green.
- Connecting to AXIS Internet Dynamic DNS Service. See . To connect, press and hold the button for about 3 seconds.

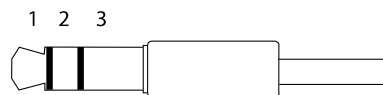
### Connectors

#### Audio connector

The Axis product has the following audio connectors:

- **Audio in (pink)** – 3.5 mm input for a mono microphone, or a line-in mono signal.
- **Audio out (green)** – 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. It is recommended to use a stereo connector for audio out.

3.5 mm audio connectors  
(stereo)



	1 Tip	2 Ring	3 Sleeve
<b>Audio Input</b>	Balanced: 'Hot' signal Microphone/Line in Unbalanced: Microphone/Line in	Balanced: 'Cold' signal Microphone/Line in Unbalanced: Unused	Ground
<b>Audio Output</b>	Line out, mono	Line out, mono	Ground

The internal microphone is used by default; the external microphone is used when connected. It is possible to disable the internal microphone by connecting a plug to the microphone input.

#### 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:

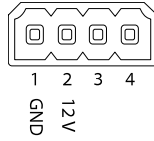
**Digital output** – For connecting external devices such as relays and LEDs. Connected devices can be activated by the VAPIX® Application Programming Interface or in the product's webpage.

**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.

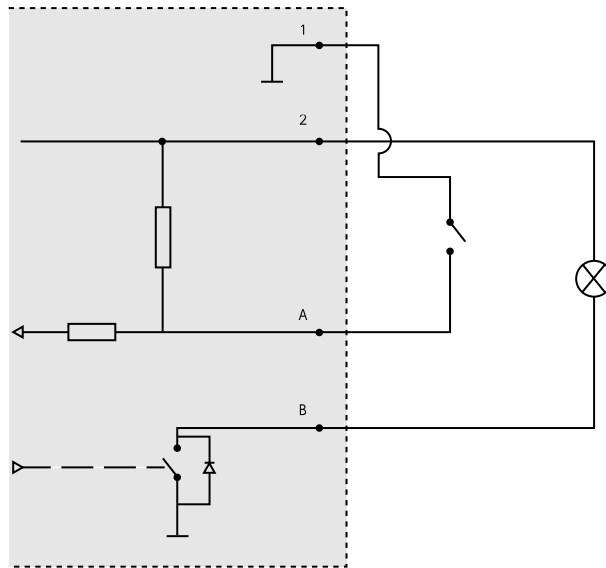
# AXIS Q17 Network Camera Series

## Specifications

4-pin 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)	3-4	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



- 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

2-pin terminal block for AC/DC power input. Use a Safety Extra Low Voltage (SELV) compliant limited power source (LPS) with either a rated output power limited to  $\leq 100$  W or a rated output current limited to  $\leq 5$  A.



# AXIS Q17 Network Camera Series

## Specifications

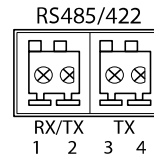
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### RS485/RS422 connector

Two 2-pin terminal blocks for RS485/RS422 serial interface used to control auxiliary equipment such as pan-tilt devices.

The serial port can be configured to support:

- Two-wire RS485 half duplex
- Four-wire RS485 full duplex
- Two-wire RS422 simplex
- Four-wire RS422 full duplex point to point communication



Function	Pin	Notes
RS485/RS422 RX/TX A	1	(RX) For full duplex RS485/RS422 (RX/TX) For half duplex RS485
RS485/RS422 RX/TX B	2	
RS485/RS422 TX A	3	(TX) For full duplex RS485/RS422
RS485/RS422 TX B	4	

### Video out

RCA connectors for component or composite video out.

- Component video out (Y/Pb/Pr) for HDTV video, e.g. an entrance camera connected to an HDTV screen.
- Composite video out (CVBS) - for easy installation using a video monitor. CVBS is available for 2 minutes after pressing the button and should only be used during installation.

