AXIS D2110-VE Security Radar

Installation Guide

Read this first

Read through this Installation Guide carefully before installing the product. Keep the Installation Guide for future reference.

Legal considerations

Radar surveillance can be regulated by laws that vary from country to country. Check the laws in your local region before using this product for surveillance purposes.

Liability

Every care has been taken in the preparation of this document. Please inform your local Axis office of any inaccuracies or omissions. Axis Communications AB cannot be held responsible for any technical or typographical errors and reserves the right to make changes to the product and manuals without prior notice. Axis Communications AB makes no warranty of any kind with regard to the material contained within this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Axis Communications AB shall not be liable nor responsible for incidental or consequential damages in connection with the furnishing, performance or use of this material. This product is only to be used for its intended purpose.

Intellectual property rights

Axis AB has intellectual property rights relating to technology embodied in the product described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the patents listed at *axis.com/patent* and one or more additional patents or pending patent applications in the US and other countries.

Equipment modifications

This equipment must be installed and used in strict accordance with the instructions given in the user documentation. This equipment contains no user-serviceable components. Unauthorized equipment changes or modifications will invalidate all applicable regulatory certifications and approvals.

Trademark acknowledgements

AXIS COMMUNICATIONS, AXIS and VAPIX are registered trademarks or trademark applications of Axis AB in various jurisdictions. All other company names and products are trademarks or registered trademarks of their respective companies.

Regulatory information
Europe

CE

This product complies with the applicable CE marking directives and harmonized standards:

- Electromagnetic Compatibility (EMC) Directive 2014/30/EU. See *Electromagnetic compatibility (EMC) on page 2*.
- Radio Equipment Directive (RED) 2014/53/EU. See *Radio transmission on page 3*.
- Low Voltage Directive (LVD) 2014/35/EU. See *Safety on page 3*.
- Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU, including any amendments, updates or replacements. See *Disposal and recycling on page 4*.

A copy of the original declaration of conformity may be obtained from Axis Communications AB. See *Contact information on page 4*.

Electromagnetic compatibility (EMC)

This equipment has been designed and tested to fulfill applicable standards for:

- Radio frequency emission when installed according to the instructions and used in its intended environment.
- Immunity to electrical and electromagnetic phenomena when installed according to the instructions and used in its intended environment.

USA

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested using a shielded network cable (STP) and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.The product shall be connected using a shielded network cable (STP) that is properly grounded.

Contact information

Axis Communications Inc.
300 Apollo Drive
Chelmsford, MA 01824
United States of America
Tel: +1 978 614 2000

Canada

This digital apparatus complies with CAN ICES-3 (Class A). The product shall be connected using a shielded network cable (STP) that is properly grounded. Cet appareil numérique est conforme à la norme CAN NMB-3 (classe A). Le produit doit être connecté à l'aide d'un câble réseau blindé (STP) qui est correctement mis à la terre.

Europe

This digital equipment fulfills the requirements for RF emission according to the Class A limit of EN 55032. The product shall be connected using a shielded network cable (STP) that is properly grounded. Notice! This is a Class A product. In a domestic environment this product may cause RF interference, in which case the user may be required to take adequate measures.

Australia/New Zealand

This digital equipment fulfills the requirements for RF emission according to the Class A limit of AS/NZS CISPR 32. The product shall be connected using a shielded network cable (STP) that is properly grounded. Notice! This is a Class A product. In a domestic environment this product may cause RF interference, in which case the user may be required to take adequate measures.

Japan

この装置は、クラスA機器です。この装置を住宅環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 VCCI – A
本製品は、シールドネットワークケーブル(STP)を使用して接続してください。また適切に接地してください。

Korea

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다. 적절히 접지된 STP (shielded twisted pair) 케이블을 사용하여 제품을 연결 하십시오.

Radio transmission

This equipment may generate or use radio frequency energy. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

The transmitter operates at 24.05–24.25 GHz with maximum output power < 20 dBm.

USA

This product complies with FCC radiation exposure limits for an uncontrolled environment. This equipment shall be installed and operated with a minimum distance of 20 cm (7.9 in) between the user and the device.

Canada

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
This product complies with IC radiation exposure limits for an uncontrolled environment. This equipment shall be installed and operated with a minimum distance of 20 cm (7.9 in) between the user and the device. Transmitter carrier frequency is 24.050–24.250 GHz, with RF output power of less than 20 dBm.
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
Ce produit est conforme aux limites d'exposition aux radiations IC pour un environnement non contrôlé. L'équipement doit être installé et fonctionné à une distance minimum de 20 cm (7,9 po) entre l'utilisateur et le dispositif. La fréquence porteuse du transmetteur est de 24,05–24,25 GHz avec une puissance de sortie RF inférieure à 20 dBm.

Europe

Hereby, Axis Communications AB declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EC.

FR

Par la présente Axis Communications AB déclare que l'appareil le produit est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/CE.

DE

Hiermit erklärt Axis Communications AB, dass sich dieses Produkt in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 2014/53/EG befindet.

IT

Con la presente Axis Communications AB dichiara che questo prodotto è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/CE.

ES

Por medio de la presente Axis Communications AB declara que el este producto cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/CE.

FI

Axis Communications AB vakuuttaa täten että tämä tuote tyyppinen laite on direktiivin 2014/53/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

NL

Hierbij verklaart Axis Communications AB dat het toestel in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EG.

SV

Härmed intygar Axis Communications AB att denna produkt står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EG.

DA

Undertegnede Axis Communications AB erklærer herved, at følgende udstyr overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EF.

PT

Axis Communications AB declara que este produto está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/CE.

EL

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Axis Communications AB ΔΗΛΩΝΕΙ ΟΤΙ αυτό το προϊόν ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/ΕΚ.

Taiwan

【低功率警語】 第十二條　經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。第十四條　低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。　前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Japan

本製品は、特定無線設備の技術基準適合証明を受けています。

Brazil

Este produto está homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolução 242/2000 e atende aos requisitos técnicos aplicados.

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

Para maiores informações, consulte o site da ANATEL www.anatel.gov.br.

Mexico

La operación de este equipo está sujeta a las siguientes dos condiciones:

1. Es posible que este equipo o dispositivo no cause interferencia perjudicial.
2. Este equipo o dispositivo debe aceptar cualquier interferencia. Incluyendo la que pueda causar su operación no deseada.

Safety

If its connecting cables are routed outdoors, the product shall be grounded either through a shielded network cable (STP) or other appropriate method.

This product complies with IEC/EN/UL 62368-1, safety of audio/video and IT equipment, and IEC/EN/UL 60950-22, Safety of Information Technology Equipment. The product shall be grounded either through a shielded network cable (STP) or other appropriate method.

Disposal and recycling
When this product has reached the end of its useful life, dispose of it according to local laws and regulations. For information about your nearest designated collection point, contact your local authority responsible for waste disposal. In accordance with local legislation, penalties may be applicable for incorrect disposal of this waste.

Europe

This symbol means that the product shall not be disposed of together with household or commercial waste. Directive 2012/19/EU on waste electrical and electronic equipment (WEEE) is applicable in the European Union member states. To prevent potential harm to human health and the environment, the product must be disposed of in an approved and environmentally safe recycling process. For information about your nearest designated collection point, contact your local authority responsible for waste disposal. Businesses should contact the product supplier for information about how to dispose of this product correctly.

This product complies with the requirements of Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS).

Contact information
Axis Communications AB
Emdalavägen 14
223 69 Lund
Sweden

Tel: +46 46 272 18 00
Fax: +46 46 13 61 30

axis.com

Warranty information
For information about Axis' product warranty and thereto related information, go to *axis.com/warranty*.

Support
Should you require any technical assistance, please contact your Axis reseller. If your questions cannot be answered immediately, your reseller will forward your queries through the appropriate channels to ensure a rapid response. If you are connected to the Internet, you can:

- download user documentation and software updates
- find answers to resolved problems in the FAQ database, search by product, category, or phrase
- report problems to Axis support staff by logging in to your private support area
- chat with Axis support staff
- visit Axis Support at *axis.com/support*

Learn more!
Visit Axis learning center *axis.com/academy* for useful trainings, webinars, tutorials and guides.

Package contents

- AXIS D2110-VE Security Radar
- Mount bracket
- Pipe adapter (2x)
- Screw T30 (4x) for use with pole mount.
- Torx screwdriver TR20
- Mounting tool for RJ45
- Cable shoe
- Lock washer
- Cable gasket, gray (2x)
- Cable gasket, black
- Cable gland
- 6–pin I/O connector block for connecting external devices
- Printed materials
    - Installation Guide (this document)
    - Extra serial number label (2x)
    - AVHS Authentication key
    - Drill template
    - Radar surveillance sticker

Product overview
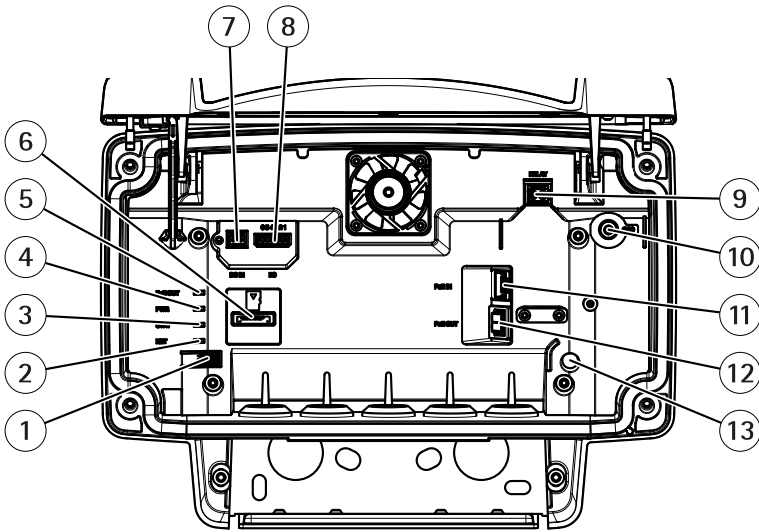
1   Control button
2   Network LED
3   Status LED
4   Power LED
5   PoE out LED
6   microSD card slot
7   DC power connector
8   I/O connector
9   Relay connector
10   Grounding screw
11   Network connector (PoE in)
12   Network connector (PoE out)
13   Intrusion alarm sensor

Where to install the product

The detector is intended for monitoring open areas. Any solid object (such as a tree or a bush) in the coverage area will create a blind spot (radar shadow) behind it.

Install the detector on a pole, or on a spot on a wall where there are no other objects or installations close to it.

To be able to correctly identify movement in the coverage area, the detector needs to be installed on a stable mount. Do not install the detector on a swaying pole.

If two radar detectors of are mounted close together they may interfere with each other, see *How to install multiple detectors on page 8* .

At the recommended mounting height, the near detection limit is 4.5 m (15 ft).

If there are a lot of metal objects in the field of view there will be a lot of reflections impacting the performance.

Note

> Do not repaint the detector. The paint may seriously impact the detector's performance.
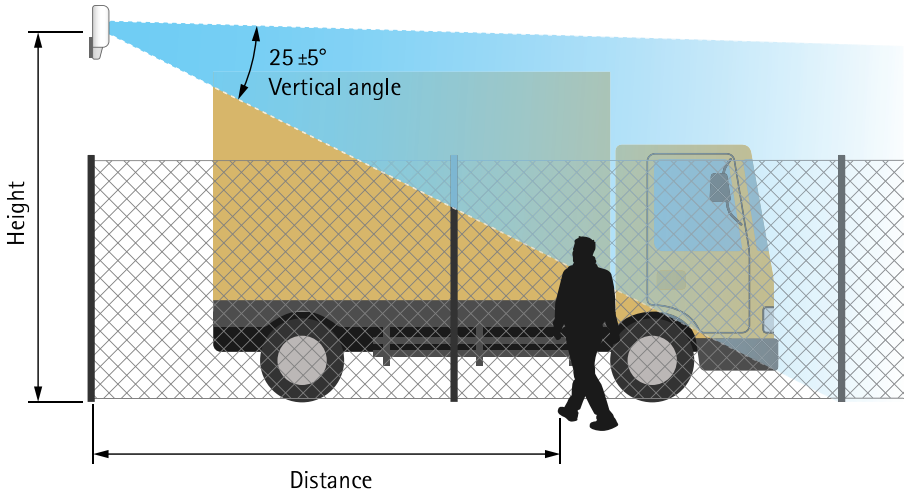
Mounting height

For optimal performance, install the detector 3.5 m (11 ft) above ground.

Note

> If you install the detector at a different height, enter the actual mounting height in the product's web pages before calibrating the radar.

The following table shows the detection range at different mounting heights when detecting a 1.8 m (6 ft) tall person walking.

Mounting height	3.5 m (11 ft)	4 m (13 ft)	4.5 m (15 ft)	5 m (16 ft)
Near detection limit	4.5 m (15 ft)	6 m (20 ft)	7 m (23 ft)	8.5 m (28 ft)
Far detection limit (max. values)	49 m (161 ft)	51 m (167 ft)	51 m (167 ft)	52 m (171 ft)

How to install multiple detectors

If two radar detectors of are mounted close together they may interfere with each other. To avoid problems, select different channels for the detectors.

1. Go to **Settings > Radar > General** and select **Channel**.

How to install the product

1. Use the drill template and drill holes in the wall.
2. Fasten the mounting bracket to the wall.
3. Route the network cable through the mounting bracket. Leave approximately 30 cm (12 in) of cable for connecting the detector.

⚠CAUTION

Risk of water leaks. Do not use network cables with capped network connectors because they can cause tearing of the cable gasket.
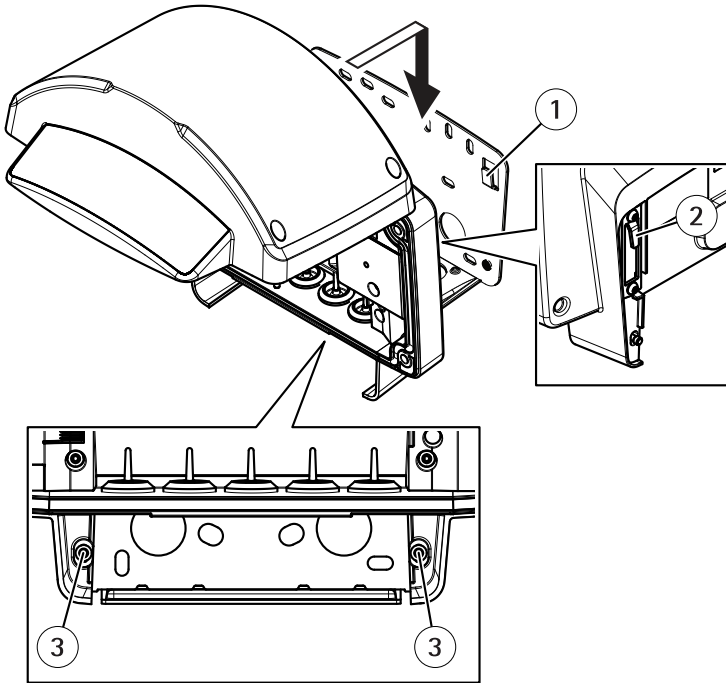
4. To connect an auxiliary device, for example an I/O or a PTZ camera, repeat the step above for each cable.
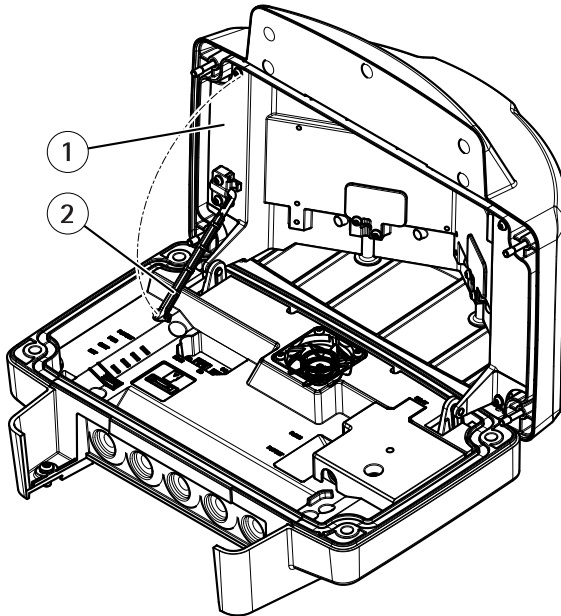

1   Cover
2   Strut

5. Loosen the screws on the cover and open the cover.
6. Snap the strut into position to lock the cover in its open position.
7. To use a microSD card for local storage, insert the card into the detector's microSD card slot.

1   Hook, bracket side
2   Hook, detector side
3   Screw (2x)

8. Attach the detector to the mounting bracket with the hooks and tighten the screws with 1 N m (0.7 lb ft) torque.
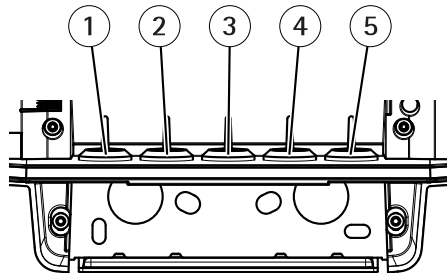
1   Network
2   PTZ camera

    3   *Power*
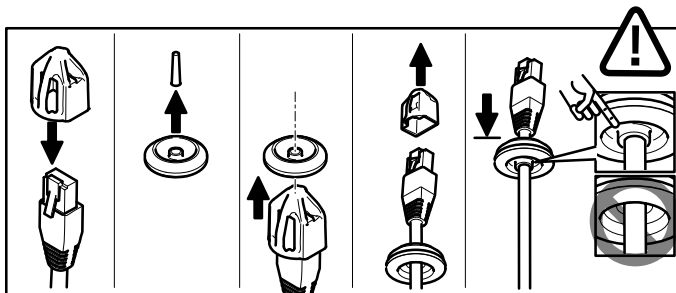   *4*   *I/O*
    5   *Ground/Relay*

9. Remove the left cable gasket and pull the tab to open a hole for the network cable.

⚠CAUTION

Risk of water leaks.

- Only open holes in cable gaskets that are used.

- If a cable gasket is torn, replace it with a new cable gasket.

10. Push the network cable through the cable gasket.

11. Pull the network cable back slightly so that the cable gasket adjusts itself on the cable.

⚠CAUTION

Risk of water leaks. If the cable gasket is not correctly adjusted on the cable water can seep in and damage the product.

12. Put back the cable gasket.

13. If connecting an auxiliary device, for example an I/O, repeat the step above as applicable to the specific device. If more than one cable is used, each cable must be routed through a separate cable gasket.

14. To use a cable gland with strain relief, assemble it as shown below. Tighten the nut and cap firmly by hand.
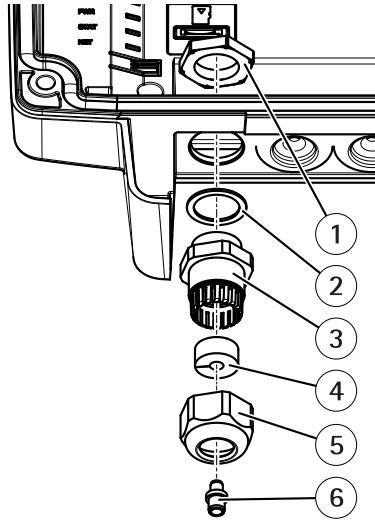
1   Nut
2   Gasket
3   Body
4   Seal
5   Cap
6   Plug (discard)

15. If using a grounding wire, attach it to the cable shoe using cable shoe pliers. Attach the cable shoe to the grounding screw. Make sure the cable shoe is in contact with the grounding surface.

16. Connect external devices to the detector.

17. Connect the network cable.

18. Make sure that the LEDs indicate the correct condition. See *LED Indicators on page 16*.

19. Pull out the strut and close the cover.

20. Tighten the four screws with 1 N m (0.7 lb ft) torque.

21. Configure the detector. See the User Manual at *axis.com/products/axis-d2110-ve/support-and-documentation*.

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

Browser support

You can use the device with the following browsers:

	Chrome^TM	Firefox®	Edge®	Safari®
Windows®	recommended	x	x	
OS X®	recommended			x
Other operating systems	x	x		

To find out more about how to use the device, see the User Manual available at *axis.com*.

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

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 6*.
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**.

Further information

- For the latest version of this document, see *axis.com*
- The user manual is available at *axis.com*
- To check if there is updated firmware available for your device, see *axis.com/support*
- For useful online trainings and webinars, see *axis.com/academy*

Optional accessories

For a complete list of available accessories for this product, go to the product's page on axis.com and select Software & Accessories.

Specifications

To find the latest version of the product's datasheet, go to the product page at *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.

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.

PoE out LED	Indication
Unlit	PoE out turned off
Green	PoE out turned on

SD card slot

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

Buttons

Control button

For location of the control button, see *Product overview on page 6* .

The control button is used for:

- Resetting the product to factory default settings. See *page 14*.

Connectors

Network connector

RJ45 Ethernet connector with Power over Ethernet Plus (PoE+).

Network connector (PoE out)

Use this connector to supply power to a camera.

Power over Ethernet IEEE802.3at Type 2, max 30W

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.
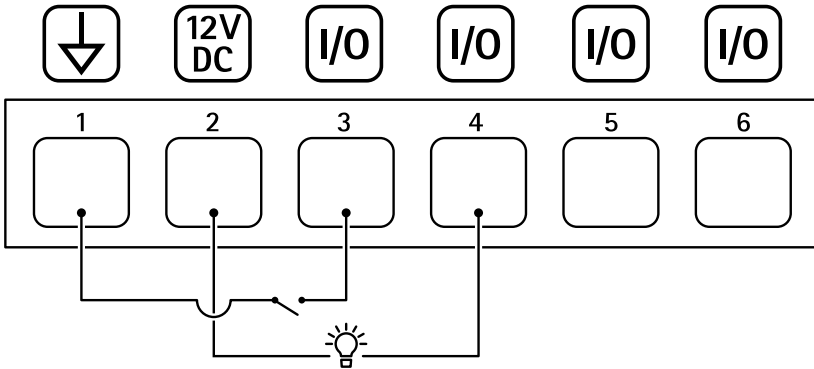
6-pin terminal block
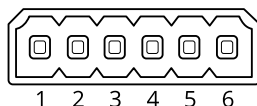
Function	Pin	Notes	Specifications
DC ground	1		0 V DC
DC output	2	Can be used to power auxiliary equipment. Note: This pin can only be used as power out.	12 V DC Max load = 50 mA

| 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 – Internally connected to pin 1 (DC ground) when active, and floating (unconnected) when inactive. If used with an inductive load, e.g., a relay, connect a diode in parallel with the load, to protect against voltage transients. | 0 to max 30 V DC, open drain, 100 mA |

Example

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

Power connector

2-pin terminal block for DC power input. Use a Safety Extra Low Voltage (SELV) compliant limited power source (LPS) with either a rated output power limited to ≤100 W or a rated output current limited to ≤5 A.
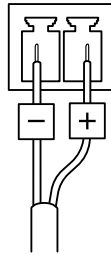
Relay connector
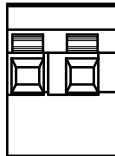
⚠CAUTION

Use single core wires for the relay connector.

Function	Specifications
Type	Normally open
Rating	30 V DC/5 A
	125 V AC/10 A
	250 V AC/5 A
Isolation from other circuitry	2.5 kV

19

Safety information

Hazard levels

⚠DANGER

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Indicates a situation which, if not avoided, could result in damage to property.

Other message levels

Important

Indicates significant information which is essential for the product to function correctly.

Note

Indicates useful information which helps in getting the most out of the product.

Safety instructions

⚠DANGER

Risk of electric shock. All cables shall be de-energized before installing or performing maintenance on the product.

⚠WARNING

The Axis product shall be installed by a trained professional, and in compliance with local laws and regulations.

⚠CAUTION

Be careful of sharp metal edges. Use cut-resistant gloves during installation.

NOTICE

- The Axis product shall be used in compliance with local laws and regulations.
- Axis recommends using a shielded network cable (STP).
- Axis recommends using a network cable of category CAT5e or higher.
- Store the Axis product in a dry and ventilated environment.
- Avoid exposing the Axis product to shocks or heavy pressure.
- Avoid exposing the Axis product to vibration.
- Do not install the product on unstable poles, brackets, surfaces or walls.
- Do not install the product on vibrating poles, brackets, surfaces or walls.
- Use only applicable tools when installing the Axis product. Using excessive force with power tools could cause damage to the product.
- Do not use chemicals, caustic agents, or aerosol cleaners.
- Use a clean cloth dampened with pure water for cleaning.
- Use only accessories that comply with the technical specification of your product. These can be provided by Axis or a third party. Axis recommends using Axis power source equipment compatible with your product.
- Use only spare parts provided by or recommended by Axis.
- Do not attempt to repair the product yourself. Contact Axis support or your Axis reseller for service matters.

Transportation

NOTICE

- When transporting the Axis product, use the original packaging or equivalent to prevent damage to the product.

Battery

Lithium coin cell 3.0 V batteries contain 1,2–dimethoxyethane; ethylene glycol dimethyl ether (EGDME), CAS no. 110–71–4.

⚠WARNING

- Risk of explosion if the battery is incorrectly replaced.
- The battery should be replaced with an identical battery only.
- Used batteries should be disposed of according to local regulations or the battery manufacturer's instructions.