BOSCH
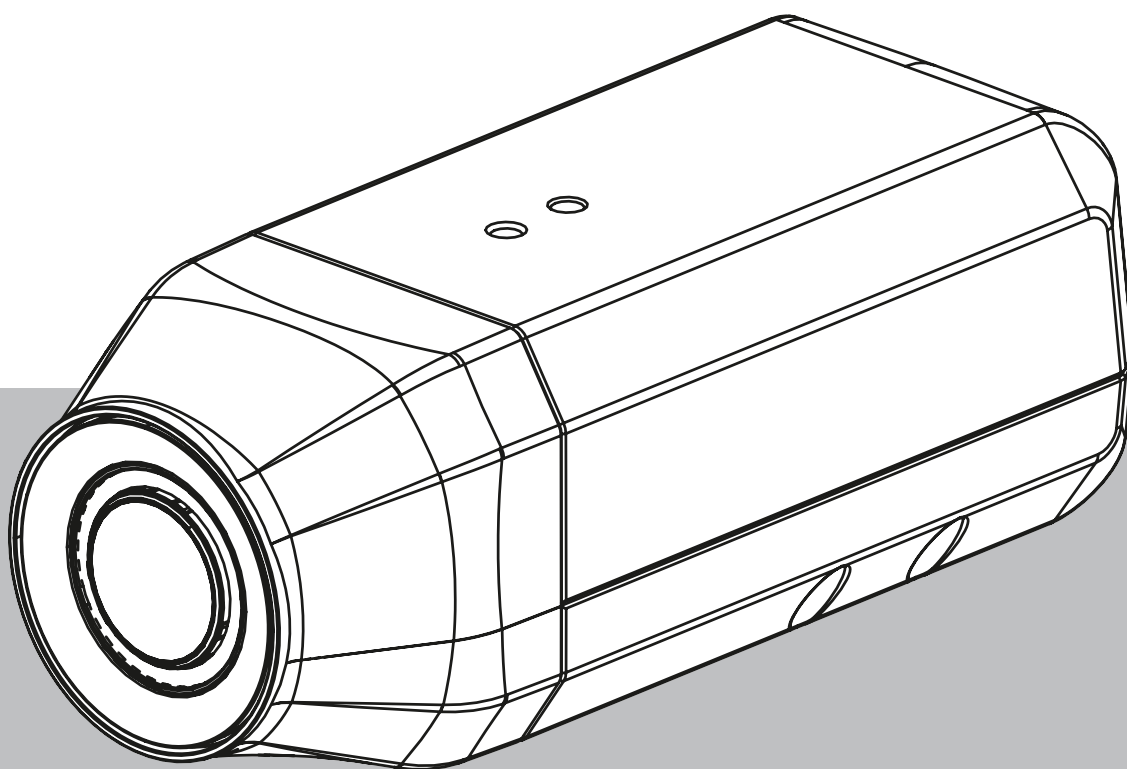
DINION 7100s

NBI-7802-AX | NBI-7802-AXT | NBI-7803-AX | NBI-7803-AXT | NBI-7804-AX | NBI-7804-AXT | NBI-7803S-AX | NBI-7803S-AXT | NBI-7804S-AX | NBI-7804S-AXT

en   Installation manual

Table of contents

1   Safety and security information

Read, follow, and retain for future reference all of the following safety instructions. Follow all warnings before operating the device.

1.1   Safety message explanation

In this manual, the following symbols and notations are used to draw attention to special situations:

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 the equipment or environment, or data loss.

1.2   Safety precautions

Caution!
Installation should only be performed by qualified service personnel in accordance with the National Electrical Code (NEC 800 CEC Section 60) or applicable local codes.

Caution!
The product must be supplied only by an external source having an output complying with PS2 or Annex Q conform to IEC 62368-1 and UL62368-1.

1.3   Important safety instructions

–   To clean the device, do not use liquid cleaners or aerosol cleaners.
–   Do not install device near any heat sources such as radiators, heaters, stoves, or other equipment (including amplifiers) that produce heat.
–   Do not spill liquids on the device.
–   Take precautions to protect the device from power and lightning surges.
–   Adjust only those controls specified in the operating instructions.
–   Operate the device only from the type of power source indicated on the label.
–   Unless qualified, do not attempt to service a damaged device yourself. Refer all servicing to qualified service personnel.

- Install in accordance with the manufacturer's instructions in accordance with applicable local codes.
- Use only attachments/accessories specified by the manufacturer.
- Protect all connection cables from possible damage, particularly at connection points.

1.4   Notices

Notice!
Optical elements are sensitive and should be protected at all times. Do not allow objects to come into contact with glass surfaces and do not touch optical elements with your fingers.

Notice!
Video loss is inherent to digital video recording; therefore, Bosch Security Systems cannot be held liable for any damage that results from missing video information.
To minimize the risk of losing information, we recommend multiple, redundant recording systems, and a procedure to back up all analog and digital information.

Notice!
This device is intended for use in public areas only.
U.S. federal law strictly prohibits surreptitious recording of oral communications.

UL Disclaimer
Underwriter Laboratories Inc. ("UL") has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested fire, shock and/or casualty hazards as outlined in Standard(s) for Safety for Information Technology Equipment, UL 62368-1. UL Certification does not cover the performance or reliability of the security or signaling aspects of this product.
UL MAKES NO REPRESENTATIONS, WARRANTIES, OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING-RELATED FUNCTIONS OF THIS PRODUCT.

FCC suppliers Declaration of Conformity
DINION 7100s: NBI-7802-AX, NBI-7802-AXT, NBI-7803-AX, NBI-7803-AXT, NBI-7804-AX, NBI-7804-AXT, NBI-7803S-AX, NBI-7803S-AXT, NBI-7804S-AX, NBI-7804S-AXT

Compliance statement
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.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested 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.

Responsible party
Bosch Security Systems, LLC

130 Perinton Parkway

14450 Fairport, NY, USA

For more information please contact the nearest Bosch Security Systems location or visit:

www.boschsecurity.us

Canada

CAN ICES-003(A) / NMB-003(A)

VCCI statement (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

CMIM statement (Morocco)

This device falls under the scope and is compliant with the Moroccan EMC Directive, establishing: (1) technical regulations for electrical equipment designed to be used with a nominal tension between 50-1000 V AC and 75-1500 V DC; (2) specific technical regulations for electromagnetic compatibility of equipment, excluding wireless and telecommunications terminals and other types of devices.

European Union, Great Brittain, Australia, and New Zealand

Notice!

This equipment has been tested and found to comply with the limits for a **Class A** digital device, pursuant to **EN 55032**. 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.

RCM statement (Australia and New Zealand)

This device falls under the scope and is compliant with the Australian Communications Media Authority (ACMA) scheme and the Electrical Equipment Safety System (EESS) scheme, as defined by the Electrical Regulatory Authorities Council (ERAC) of Australia, establishing that the device is suitable for household, personal or similar use with a voltage greater than 50 V AC RMS or 120 V ripple-free DC, and less than 1000 V AC RMS or 1500 V ripple-free DC. It is immaterial whether the low voltage electrical and electronic equipment is also designed or marketed to be used for commercial or industrial purposes.

Use latest software

Before operating the device for the first time, make sure that you install the latest applicable release of your software version. For consistent functionality, compatibility, performance, and security, regularly update the software throughout the operational life of the device. Follow the instructions in the product documentation regarding software updates.

The following links provide more information:

–   General information: https://www.boschsecurity.com/xc/en/support/product-security/

–   Security advisories, that is a list of identified vulnerabilities and proposed solutions: https://www.boschsecurity.com/xc/en/support/product-security/security-advisories.html

Bosch assumes no liability whatsoever for any damage caused by operating its products with outdated software components.

Old electrical and electronic equipment

	This product and/or battery must be disposed of separately from household waste. Dispose such equipment according to local laws and regulations, to allow their reuse and/or recycling. This will help in conserving resources, and in protecting human health and the environment.

2   Short information

This manual has been compiled with great care and the information it contains has been thoroughly verified. The text was correct at the time of publication, however, the content can change without notice. Bosch Security Systems accepts no liability for damage resulting directly or indirectly from faults, incompleteness or discrepancies between this manual and the product described.

Copyright

This manual is the intellectual property of Bosch Security Systems and is protected by copyright. All rights reserved.

Trademarks

All hardware and software product names used in this document are likely to be registered trademarks and must be treated accordingly.

More information

For more information please contact the nearest Bosch Security Systems location or visit www.boschsecurity.com.

https://www.boschsecurity.com/xc/en/product-catalog/

3   System overview

3.1   Product description

The DINION 7100s camera is a box camera built for mission-critical applications, prioritizing city and traffic monitoring, transportation and critical infrastructure due to its easy installation.
The latest CPP16 platform combined with the pre-installed IVA Pro Buildings, IVA Pro Perimeter, IVA Pro Privacy analytics delivers highly reliable detection of persons and vehicles, even in crowded or challenging environments.

3.2   Intended use

The camera is designed to be integrated in professional IP video surveillance solutions as a surveillance camera. Installation, commissioning and operation of the camera shall be carried out by trained professionals only.
The use of surveillance cameras is restricted by national laws and regulations. Use the camera accordingly.
The DINION 7100s box camera is intended for indoor use. For outdoor intended purposes, the device must be installed with a matching outdoor housing weather protector. Refer to the *Accessories, page 19* chapter for the available outdoor housings.

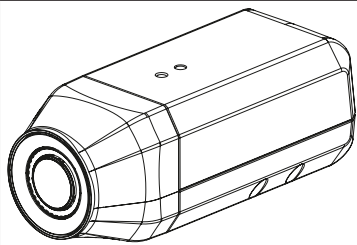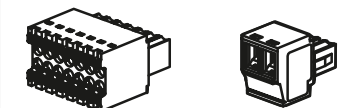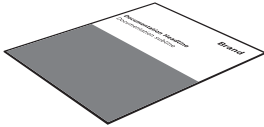# 4   Preparing for installation
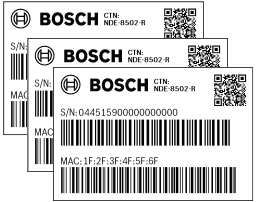
4.1   Unpacking

This equipment should be unpacked and handled with care. If an item appears to have been damaged in shipment, notify the shipper immediately.

Verify that all parts are included. If any items are missing, notify your Bosch Security Systems sales or customer service representative.

The original packaging is the safest container in which to transport the unit and can be used if returning the unit for service.

4.2   Parts included

	Quantity	Component
	1	DINION 7100s device
	1	Bag with 14-pin Data/Alarm connector and 2-pin power connector
	1	Safety and security information
	1	Quick installation guide

	Quantity	Component
	3	Installer UX labels

4.3 Preparation

Before installation, prepare and plan the installation process and materials needed.

Pre-requisites

Remove the components from the box. Make sure that all parts are included and are not damaged.

The necessary material and equipment:

–   MicroSD card (optional)

Note: We recommend the use of industrial microSD cards with health monitoring.

–   Screwdriver for MicroSD card slot cover.

–   Wireless installation dongle for wireless commissioning (optional).

4.4 In-box configuration

In-box configuration of the camera can be done via a wired connection with the camera still inside the box.

1.   Connect a network cable with PoE, and wait 1 minute for the camera to power up.
2.   Connect and configure the camera via the wired network by using the web interface , the Project Assistant app or the Configuration Manager.

For more detail about the Project Assistant app, refer to *Commissioning, page 21*.

4.5   Connection
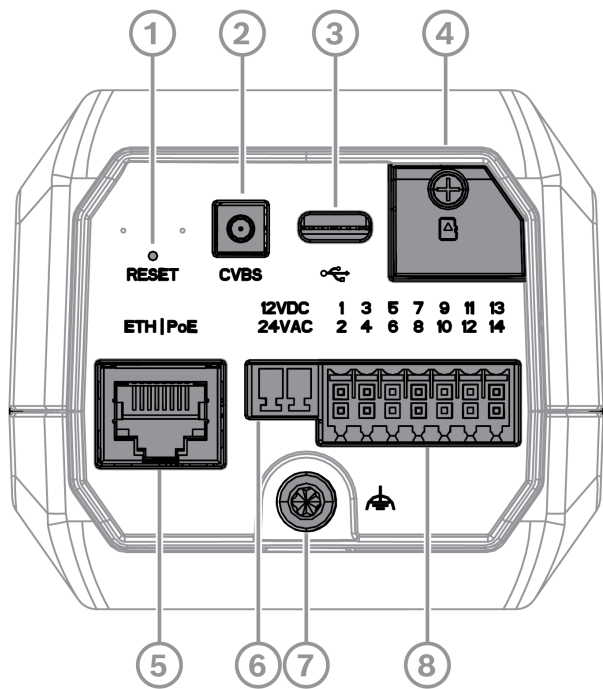
1	Reset button and LED positions
2	CVBS port
3	USB-C port
4	Micro SD card slot
5	RJ45 network connector
6	2-pin power connector
7	Earth terminal
8	14-pin Data/Alarm connector

4.5.1   Network and PoE power

Connect the camera to a 10/100/1000 Base-T network:
– Use the STP (Shielded Twisted Pair) Category 5e (or higher) cable with RJ45 connectors (the camera network socket is Auto MDIX compliant).
– Power can be supplied to the camera via the Ethernet cable compliant with the Power-over-Ethernet standard and/or via the 12 VDC / 24 VAC auxiliary power.
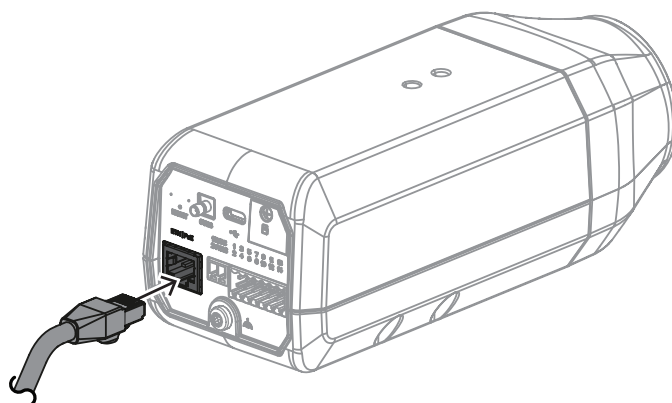
Power-over-Ethernet (PoE) can be connected at the same time as a 12 VDC / 24 VAC power supply. If auxiliary power (12 VDC / 24 VAC) and PoE is applied simultaneously, the camera draws its power from PoE by default, and seamlessly switches to auxiliary input if PoE power fails.

When PoE power returns, the camera seamlessly switches back to PoE as its default power source.

4.5.2   12 VDC/24 VAC power input

> **ⓘ**
>
> **Notice!**
> When using a 12 VDC / 24 VAC power supply, only use the two pole connector. Do not make any additional ground connection with the 12 VDC / 24 VAC supply leads. This will damage the camera.

Connect an approved power supply unit with a rated supply voltage of 24 VAC or 12 VDC as follows:

1. Strip back 7mm (0.27 in) of insulation on the power supply cable (must be 16-22 AWG stranded wire or 16-26 AWG solid wire).
2. Connect the earth terminal of the camera to the system earth of the installation to ensure correct safety and EMC/RFI protection.
3. Loosen the screws of the supplied 2-pole connector and insert the stripped wires, then tighten the screws again.
4. Insert the 2-pole connector into the camera power socket.
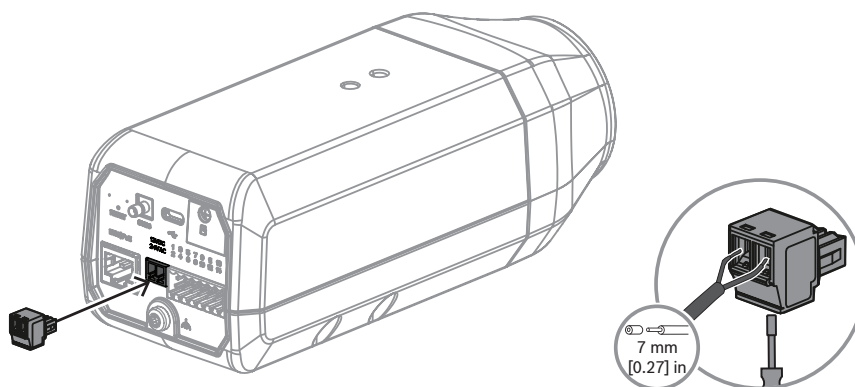
4.5.3   14-pin Data/Alarm connector

Pin	Connection
1	AUDIO IN
2	AUDIO OUT
3	GND
4	GND
5	Tx-
6	RxD/Tx+
7	Rx-
8	TxD/Rx+
9	GND
10	GND
11	ALARM IN2
12	ALARN IN1
13	ALARM OUT B
14	ALARM OUT A

The maximum wire diameter is AWG 22-28 for both stranded and solid; cut back 10 mm (0.39 in) of insulation.
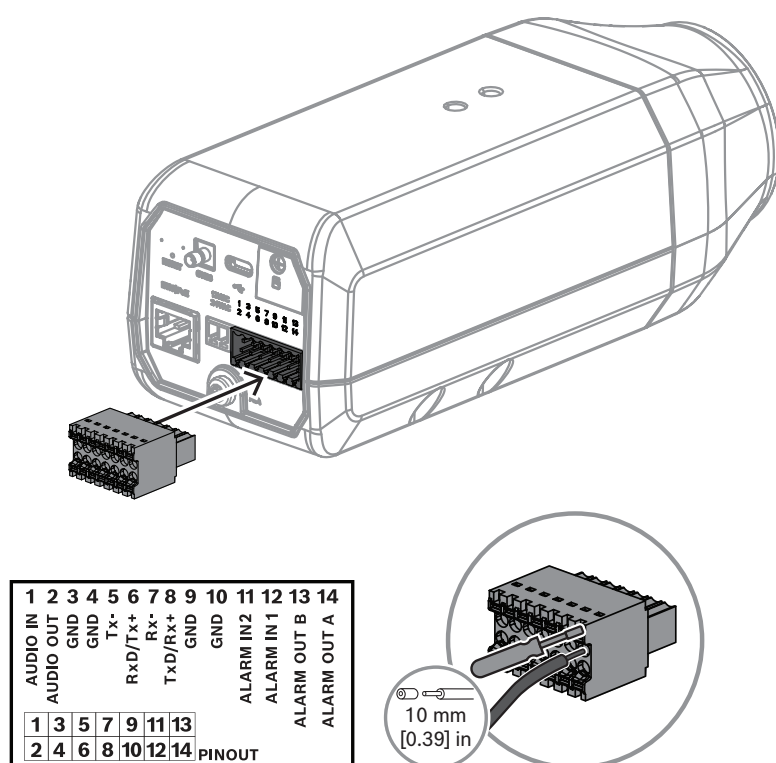
Inputs and outputs
1. Alarm input:

   Use the alarm input to connect external alarm devices such as door contacts or sensors:
   – TTL logic, +5V nominal, +40VDC maximum.
   – Configurable as active low or active high.
2. Alarm output:

   Use the alarm output for switching external devices such as lamps or sirens. The alarm output switching capability has a maximum voltage of 30 VAC or 40 VDC; 0.5A, continuous 10VA.

Audio input
Connect audio devices to the audio input and audio output connectors.

The unit has full-duplex mono audio for two-way communication between a speaker or door intercom system. The audio input signal is transmitted in synchronization with the video signal.
1. Input:
   – Line in: Line level input
   – Microphone: Microphone level input with 2.5 VDC (4mA) supply voltage for external microphone
2. Ouput:

   Line output level (not suitable for direct speaker connection); impedance 1 Vrms maximum, 1.5 kOhm typical output voltage

Data input
Connect the camera to an external device to send control data.

Use the data connector to connect to an external device for sending control data from the camera to the external device. This data connection supports RS485, RS422, and RS232.

4.5.4 Video monitor
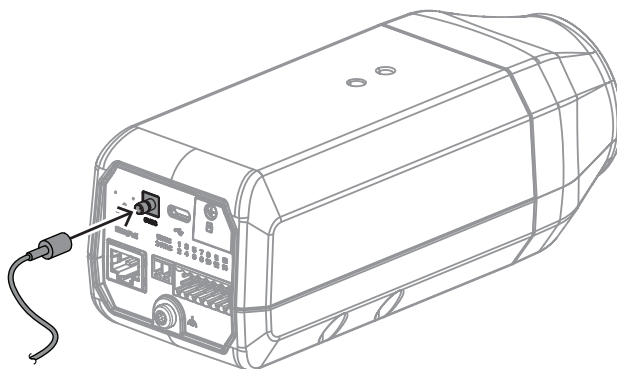
Use the SMB video connector (CVBS) to connect an analog monitor for setting up the camera:

– To connect a monitor, use the optional 3 m cable (NBN-MCSMB-30M) to connect directly to the CVBS connector of a monitor.
– To connect to a coax cable, use the optional 0.3 m cable (NBN-MCSMB-03M).

5   Installation

5.1   Mounting the camera

The DINION 7100s can cover various surface mounting options when combined with the available accessories.

Refer to *Accessories, page 19* for the available accessories.

ⓘ   **Notice!**
             Do not expose the image sensors to direct sunlight.
             Do not obstruct the free flow of air around the camera.

To install the device with the use of a mounting accessory:

1.   Attach the mount to the surface using appropriate size bolts or studs.
2.   Attach the camera to the mounting accessory.
     –   The camera can be mounted either from the top or from the bottom (1/4" 20 UNC thread).

1/4"-20 UNC
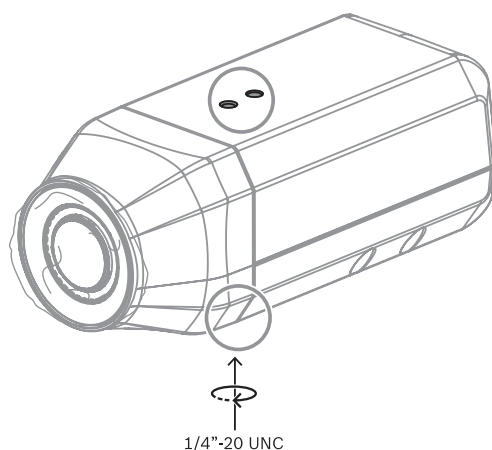
3.   After mounting the camera, you can remove the protective cover from the lens.
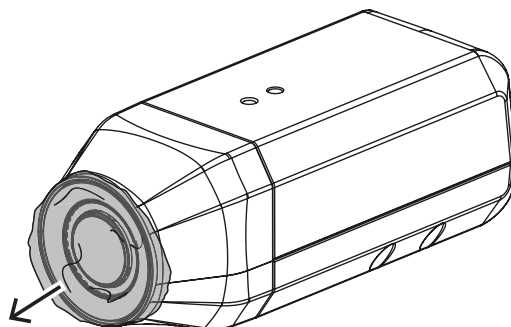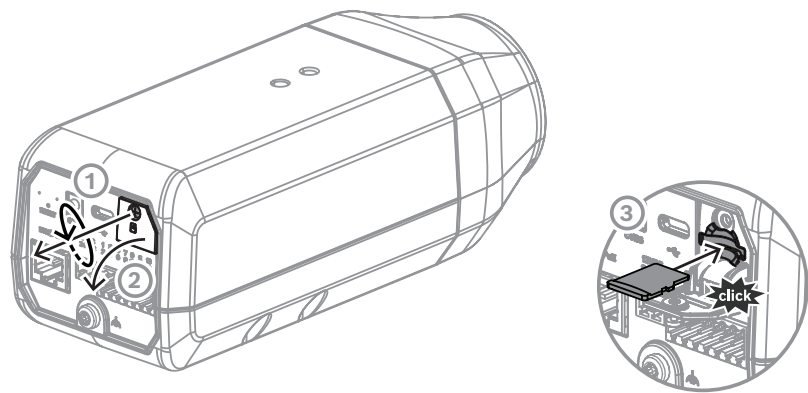

5.2 Local storage

> **Notice!**
> Local storage on SD cards should only be used for alarm recording. To minimize the risk of losing information, use multiple, redundant recording systems and a procedure to back up all digital information.

1. Unscrew the SD card slot cover.
2. Slide the memory card into the slot until it locks in place.
3. Screw the cover into place to seal the slot.

5.3 LED status

The device includes two status LED. The LEDs can be seen in the back of the camera above the Reset button.
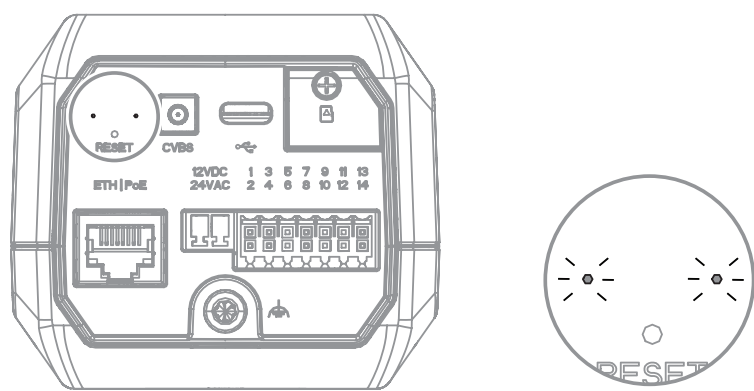
Refer to the table below for the different status LED functions.

Status LED	Meaning
Red	Booting
Blinking red	Resetting
Green	Working, but stream is not being watched or recorded
Blinking green	Stream is being watched and/or recorded

Disable the status LED in the camera settings, if necessary.
1.   Select **Camera**.
2.   Select **Installer menu**.
3.   Select **Disabled** in **Camera LED**.

5.4   Grounding
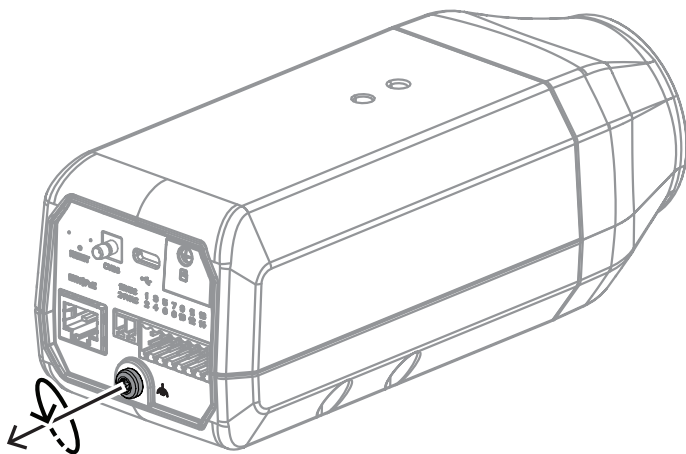
Grounding is always recommended for indoor cameras.

Grounding provides improved surge protection (up to 1kV, 1 kA to ground (8/20 μs pulse)).

The grounding wire is not included in the box. Bosch recommends the use of a grounding wire with a ring terminal.

The ring terminal must not have a thickness greater than 2 mm (0.01 in.).

i	**Notice!** Use proper surge protection on cables that are routed outdoors, or close to large inductive loads or electrical mains supply cables.

5.5   Accessories

UHO-HBGS-11	Outdoor housing, 24VAC, feed-through
UHO-HBGS-51	Outdoor housing, blower, 230VAC/35W
UHO-HBGS-61	Outdoor housing, blower, 120VAC/35W
UHO-POE-10	POE outdoor housing, heater, blower
VSP-UHO-POE-10	PoE outdoor housing IK10, heater, blower
LTC 9219/01	Feed through J mount
LTC 9210/01	Column mount, 8", 9KG/20lb load
LTC 9213/01	Pole mount adapter for LTC9210,9212,9215
LTC 9215/00	Wall mount with cable feed through, 12"
LTC 9215/00S	Wall mount for UHI/UHO

TC9210U	Camera mount, 6", indoor
NBN-MCSMB-03M	Cable, SMB to BNC, camera-cable, 0.3m
NBN-MCSMB-30M	Cable, SMB to BNC, camera-monitor/DVR
NPD-5001-POE	Midspan, 15W, single port
NPD-5004-POE	Midspan, 4 port x 15W
NCA-WLAN-EU	Wireless installation dongle EU
NCA-WLAN-NA	Wireless installation dongle NA
UPA-2450-50	Indoor power supply for camera

6   Commissioning

The DINION 7100s offers commissioning functionalities to access the device for installation, configuration and test:

–   Configuration via an RJ45 patch cable connection to enable wired commissioning.
–   Configuration using a Wireless installation dongle for local commissioning (sold separately: NCA-WLAN-EU / NCA-WLAN-NA).
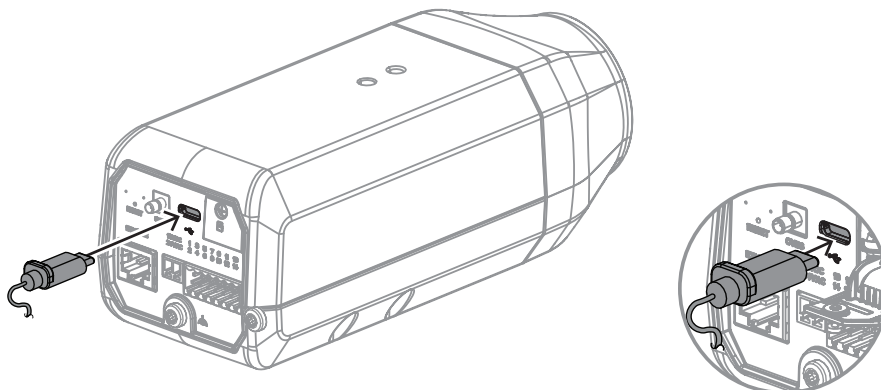
To configure the camera using the Project Assistant app, you can use the camera's web interface or the Configuration Manager.

To commission the camera using the Project Assistant app:

1.   Connect the network cable to the PoE.
2.   Download the Project Assistant app.

3.   Do the necessary steps to configure the device. Use the step-by-step instructional video for help.

7 Connection via the web browser

A computer with a web browser (Google Chrome, Microsoft Edge, or Mozilla Firefox) is used to receive live images, control the unit, and replay stored sequences. The unit is configured over the network using the browser.

7.1 System requirements

Our recommendations are:
– Computer with Dual core HyperThreading processor or better
– Graphic card with performance that matches or is better than the resolution of the camera
– Windows 10 or later
– Network access
– Google Chrome, Microsoft Edge, or Mozilla Firefox
 - or -
 Application software, for example, Video Security Client or BVMS.

7.2 Establishing the connection

The device must have a valid IP address to operate on the network and a compatible subnet mask. By default, DHCP is pre-set at the factory **On plus Link-Local** so a DHCP server assigns an IP address or, if no DHCP server is available, a link local address (auto-IP) is assigned within the range 169.254.1.0 to 169.254.254.255.

The Project Assistant app or Configuration Manager can be used to find the IP address. Download the software from https://downloadstore.boschsecurity.com:
1. Start the web browser.
2. Enter the IP address of the device as the URL.
3. During the initial installation, confirm any security questions that show.

If a RADIUS server is used for network access control (802.1x authentication), you must configure the device before the device can communicate with the network.

To configure the device, connect it directly to a computer using a network cable and then set the service-level password.

Note:

If you cannot connect, the unit may have reached its maximum number of connections. Depending on the device and network configuration, each unit can have up to 50 web browser connections, or up to 100 connections via BVMS.

7.3 Password protection in camera

The device is password-protected. The first time that any user accesses the device, the device will prompt the user to set a password at the service level.

The camera requires a strong password. Follow the prompts in the dialog box, which specifies what is required. The system measures the strength of the password that you enter.

When you use Configuration Manager to access your device for the first time, you must set the initial password of the device in Configuration Manager. The Users section (General > Unit Access > Users) displays the message, "Before you can use this device you have to secure it with an initial password."

Note: After you set the initial password, a "lock" icon appears next to the device name in the **Devices** list in Configuration Manager.

You can also launch the device webpage directly. In the device webpage, an initial password page appears, displaying input fields and a password strength gauge.

Enter the user name ("**service**") and a password in the appropriate fields. Refer to the section **User Management** for more information.

After a service-level password is set for the device, the device displays a dialog box that prompts users to enter the user name ("**service**") and the service-level password every time that they access the device.

1. Fill in the fields **User name** and **Password**.
2. Click **OK**. If the password is correct, the desired page appears.

Note: New releases of software may require you to set a new and stronger password.

8   Troubleshooting

8.1   Resolving problems

The following table is intended to help identify the causes of malfunctions and correct them where possible.

Malfunction	Possible causes	Solution
Unit does not operate.	Power failure.	Make sure that the power supply is working properly.
	Faulty cable connections.	Do a check of all cables, plugs, contacts, and connections.

No connection established, no image transmission.	Incorrect unit configuration.	Check all configuration parameters (reset to factory default if necessary).
	Faulty installation.	Check all cables, plugs, contacts and connections.
	Wrong IP address.	Check the IP addresses (ping).
	Faulty data transmission within the LAN.	Check the data transmission with ping.
	The maximum number of connections has been reached.	Wait until there is a free connection and call the transmitter again.

No audio transmission to remote station.	Faulty microphone cable connection.	Check audio parameters on the **Audio** configuration and **LIVE** page functions pages.
	Incorrect configuration.	
	Incorrect audio selected.	

The unit does not report an alarm.	Alarm source is not selected.	Select possible alarm sources on the Alarm sources configuration page.
	No alarm response specified.	Specify the desired alarm response on the Alarm connections configuration page; if necessary change the IP address.

The unit is not operational after a firmware upload.	Power failure during programming by firmware file.	Have the unit checked by Customer Service and replace if necessary.

Web browser contains empty fields.	Active proxy server in network.	Create a rule in the local computer's proxy settings to exclude local IP addresses.

8.2 Testing the network connection

The ping command can be used to check the connection between two IP addresses. This allows testing whether a device is active in the network.

1. Open the DOS command prompt.
2. Type `ping` followed by the IP address of the device.

If the device is found, the response appears as "Reply from ... ", followed by the number of bytes sent and the transmission time in milliseconds. Otherwise, the device cannot be accessed via the network. This might be because:

- The device is not properly connected to the network. Check the cable connections in this case.
- The device is not correctly integrated into the network. Check the IP address, subnet mask, and gateway address.

Notice!
The *ping* command only works when ping response is not disabled in the device.

8.3 Customer service

If safe operation of the device cannot be ensured, remove it from service and secure it to prevent unauthorized operation. In such cases, contact the Bosch Technical Support.

If a fault cannot be resolved, please contact your supplier or system integrator, or go directly to Bosch Security Systems Customer Service.

The version numbers of the internal firmware can be viewed on a service page. Please note this information before contacting Customer Service.

1. In the address bar of your browser, after the unit IP address, enter: /version
   for example: 192.168.0.80/version
2. Write down the information or print out the page.

9   Maintenance

9.1   Cleaning

Lens cleaning

⚠	**Caution!** Do not touch the lens. Handle the device with care as to not scratch the coating.

It is important to keep the lens clean to ensure optimum performance. Dust, grease, or fingerprints should be removed from the lens.

– Remove dust with a blower-brush or grease-free soft brush.
– Use special cleaning paper or cloth treated with cleaning fluid to gently wipe off any remaining dirt.

9.2   Repair

The unit does not contain any user-serviceable parts. Refer all repairs to suitable qualified specialists.

9.3   Reset

To reset the camera to the factory settings, use the reset button located in the back of the device. Any changes to the settings are overwritten by the factory defaults. A reset may be necessary, for example, if the unit has invalid settings that prevent it from functioning as desired.
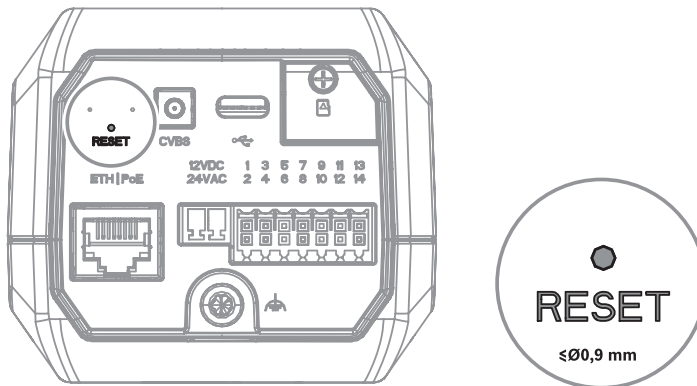
10   Decommissioning

10.1   Disposal

Old electrical and electronic equipment
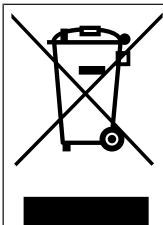
	This product and/or battery must be disposed of separately from household waste. Dispose such equipment according to local laws and regulations, to allow their reuse and/or recycling. This will help in conserving resources, and in protecting human health and the environment.

Support

Access our **support services** at www.boschsecurity.com/xc/en/support/.
Bosch Security and Safety Systems offers support in these areas:

– Apps & Tools
– Building Information Modeling
– Warranty
– Troubleshooting
– Repair & Exchange
– Product Security

Bosch Building Technologies Academy

Visit the Bosch Building Technologies Academy website and have access to **training courses, video tutorials** and **documents**: www.boschsecurity.com/xc/en/support/training/

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