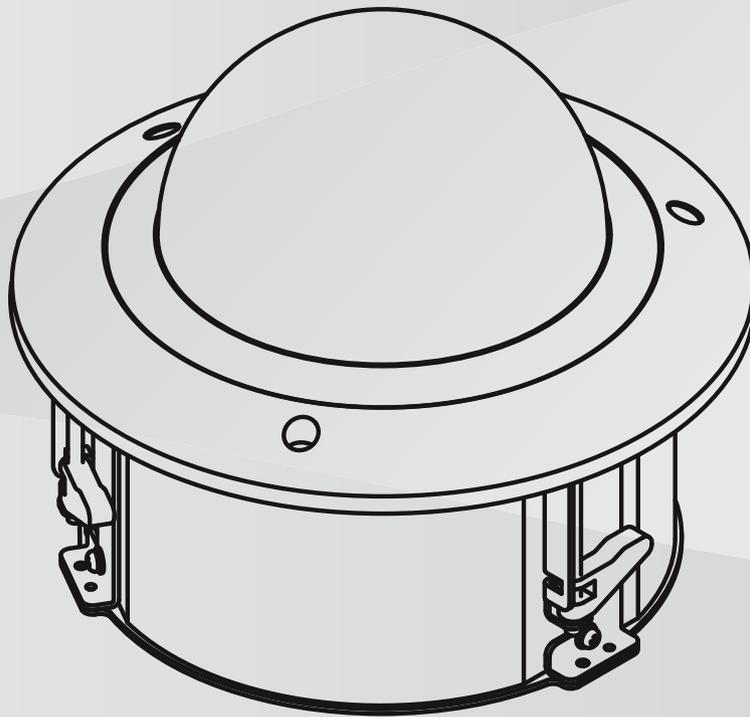




BOSCH

AUTODOME IP starlight 5100i (In-ceiling)



en

Installation Manual

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1 Safety

1.1 About this manual

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

1.2 Legal information

Copyright

This manual is the intellectual property of Bosch Security Systems, Inc. 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.

1.3 Safety precautions

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



Danger!

High risk: This symbol indicates an imminently hazardous situation such as “Dangerous Voltage” inside the product. If not avoided, this will result in an electrical shock, serious bodily injury, or death.



Warning!

Medium risk: Indicates a potentially hazardous situation. If not avoided, this may result in minor or moderate injury.



Caution!

Low risk: Indicates a potentially hazardous situation. If not avoided, this may result in property damage or risk of damage to the unit.



Notice!

This symbol indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property.

1.4 Important safety instructions

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

1. Clean only with a dry cloth. Do not use liquid cleaners or aerosol cleaners.
2. Do not install device near any heat sources such as radiators, heaters, stoves, or other equipment (including amplifiers) that produce heat.
3. Never spill liquid of any kind on the device.
4. Take precautions to protect the device from power and lightning surges.
5. Adjust only those controls specified in the operating instructions.
6. Operate the device only from the type of power source indicated on the label.
7. Unless qualified, do not attempt to service a damaged device yourself. Refer all servicing to qualified service personnel.
8. Install in accordance with the manufacturer's instructions in accordance with applicable local codes.
9. Use only attachments/accessories specified by the manufacturer.
10. Protect all connection cables from possible damage, particularly at connection points.

**Caution!**

TO REDUCE THE RISK OF ELECTRIC SHOCK, DISCONNECT THE POWER SOURCE WHILE INSTALLING THE DEVICE.

**Caution!**

Installation must be made by qualified personnel and conform to ANSI/NFPA 70 (the National Electrical Code® (NEC)), Canadian Electrical Code, Part I (also called CE Code or CSA C22.1), and all applicable local codes. Bosch Security Systems accepts no liability for any damages or losses caused by incorrect or improper installation.

All-pole power switch - Incorporate an all-pole power switch, with a contact separation of at least 3 mm, into the electrical installation of the building. If it is needed to open the housing, use this all-pole switch as the main disconnect device for switching off the voltage to the unit.

Camera signal - Protect the cable with a primary protector if the camera signal is beyond 140 feet, in accordance with NEC800 (CEC Section 60).

Fuse rating - For security protection of the device, the branch circuit protection must be secured with a maximum fuse rating of 16A. This must be in accordance with NEC800 (CEC Section 60).

Outdoor signals - The installation for outdoor signals, especially regarding clearance from power and lightning conductors and transient protection, must be in accordance with NEC725 and NEC800 (CEC Rule 16-224 and CEC Section 60).

Power disconnect - Units have power supplied whenever the power cord is inserted into the power source, or when High Power-over-Ethernet (High PoE) power is provided over the Ethernet CAT 5E/6 cable. The power cord is the main power disconnect device for switching off the voltage for all units. When High PoE or PoE+ (820.3at) is used to power the unit, the power is provided over the Ethernet cable, which is then the main power disconnect device for switching off the voltage for all units.

Grounding:

- Connect outdoor equipment to the unit's inputs only after this unit has had its ground terminal connected properly to a ground source.

- Disconnect the unit's input connectors from outdoor equipment before disconnecting the grounding terminal.

- Follow proper safety precautions such as grounding for any outdoor device connected to this unit.

U.S.A. models only - Section 810 of the National Electrical Code, ANSI/NFPA No.70, provides information regarding proper grounding of the mount and supporting structure, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Video loss - 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.

Always use Teflon tape and sealant on connector threads of any mount (sold separately by Bosch or user-supplied).

1.5

Connection in applications

24 VAC power source: This unit is intended to operate with a limited power source. The unit is intended to operate at 24 VAC (if PoE+ is not available). User supplied wiring must be in compliance with electrical codes (Class 2 power levels).

PoE: Use only approved PoE+ devices. Power-over-Ethernet can be connected at the same time as a 24 VAC power supply.

If auxiliary power (24 VAC) and PoE+ are applied simultaneously, the camera selects auxiliary input and shuts off PoE+.

1.6 Important notices



Notice!

This is a **class B** product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - This device may not cause harmful interference.
 - This device must accept any interference received, including interference that may cause undesired operation.

2. 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 B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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 60950-1 . 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.

For use in China: CHINA ROHS DISCLOSURE TABLE

Moving cameras

Hazardous substance table according to SJ/T 11364-2014						
	Pb (Pb)	Hg (Hg)	Cd (Cd)	Cr 6+ (Cr 6+)	PBB (PBB)	PBDE (PBDE)
Housing & enclosures	X	0	0	0	0	0
PCBA with connectors	X	0	X	0	0	0
Cable assemblies	0	0	0	0	0	0
Image sensor assembly	X	0	X	0	0	0
Lens assembly	X	0	X	0	0	0
PT Motor control assembly	X	0	X	0	0	0
Fan assembly	X	0	X	0	0	0
This table was created according to the provisions of SJ/T 11364						
0: The content of such hazardous substance in all homogeneous materials of such component is below the limit defined in GB/T 26572						
X: The content of such hazardous substance in a certain homogeneous material is above the limit defined in GB/T 26572						

The manufacturing datecodes of the products are explained in:
<http://www.boschsecurity.com/datecodes/>

1.7 Customer support and service

If this unit needs service, contact the nearest Bosch Security Systems Service Center for authorization to return and shipping instructions.

USA and Canada

Telephone: 800-289-0096, option 5

Fax: 800-366-1329

Email: repair@us.bosch.com

Customer Service

Telephone: 800-289-0096, option 3

Fax: 800-315-0470

Email: orders@us.bosch.com

Technical Support

Telephone: 800-289-0096, option 4

Fax: 800-315-0470

Email: technical.support@us.bosch.com

Europe, Middle East, Africa, and Asia Pacific Regions

Please contact your local distributor or Bosch sales office. Use this link:

<https://www.boschsecurity.com/corporate/where-to-buy/index.html>

More Information

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

2 Introduction

- This equipment should be unpacked and handled with care. Check the exterior of the packaging for visible damage. If an item appears to have been damaged in shipment, notify the shipper immediately.
- Verify that all the parts listed in the Parts List below are included. If any items are missing, notify your Sales or Customer Service Representative from Bosch Security Systems.
- Do not use this product if any component appears to be damaged. Please contact Bosch Security Systems in the event of damaged goods.
- The original packing carton (if undamaged) is the safest container in which to transport the unit and must be used if returning the unit for service. Save it for possible future use.

2.1 Establishing the connection

The unit must have a valid IP address to operate on your network and a compatible subnet mask. By default, DHCP is pre-set at the factory to **On** and so your DHCP server assigns an IP address. With no DHCP server the default address is 192.168.0.1

1. Start the Web browser.
2. Enter the IP address of the unit as the URL.
3. During initial installation, confirm any security questions that appear.

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 Bosch Video Client or Bosch Video Management System.

2.2 Configuration with Project Assistant app

You can also use the Project Assistant app to complete the initial configuration of the camera. In order to use this device with the Project Assistant app by Bosch, you must download the app from the Bosch Download Store, from Google Play, or from the Apple Store.

You can access the app in several ways:

- Scan the QR code from the QIG.
- From www.boschsecurity.com, select Support > Apps and Tools > Online Apps - Video > Bosch Project Assistant app. Select the appropriate operating system, and then click the appropriate button to download and install the app.
- From Google Play Store (play.google.com), search for Bosch Project Assistant. Select the app from the list. Click the Install button.
- From Apple Store (itunes.apple.com), search for Bosch Project Assistant. Select the app from the list. Click the appropriate button to download and install the app.

3 **Product Description**

The AUTODOME IP starlight 5100i camera extends the camera range of the series to the next level. The camera has a 1/2-inch, 4MP sensor, which is specially tuned for applications that need surveillance in scenes with varying light levels.

The camera has an integrated 20X optical zoom to identify people at a maximum distance of 180 meters (600 feet).

4 Preparing Wiring

- ▶ Prepare and install all wiring for 24 VAC, PoE+ (Cat5e/Cat6), alarms, and audio as necessary. For 24 VAC, follow the recommendations for maximum cable distance and wire gage.

Maximum cable distance in meters (feet) per minimum cable diameter

The following table identifies the recommended transmission distance (maximum) in meters (feet), based on the specified wattage, per the minimum cable diameter (in mm²), when the cable diameter is fixed and the maximum permitted power consumption for 24 VAC is 10%. For example, for a device of 20 W and a minimum cable diameter of 1.0 mm², the recommended transmission distance is 42 m (141 feet) from the transformer.

Models	Watts	1.0 mm ²	1.5 mm ²	2.5 mm ²	4.0 mm ²
Indoor (ceiling)	20	42 m (141 ft)	68 m (225 ft)	109 m (358 ft)	275 m (905 ft)
Outdoor	30	28 m (94 ft)	45 m (150 ft)	72 m (238 ft)	183 m (603 ft)

Wire Gage

Note: Metric wire sizes are standard DIN sizes, ISO6722, mm².

Wire diameter (mm ²)	AWG
1.0	18
1.5	16
2.5	14
4.0	12

5 Preparing the Camera

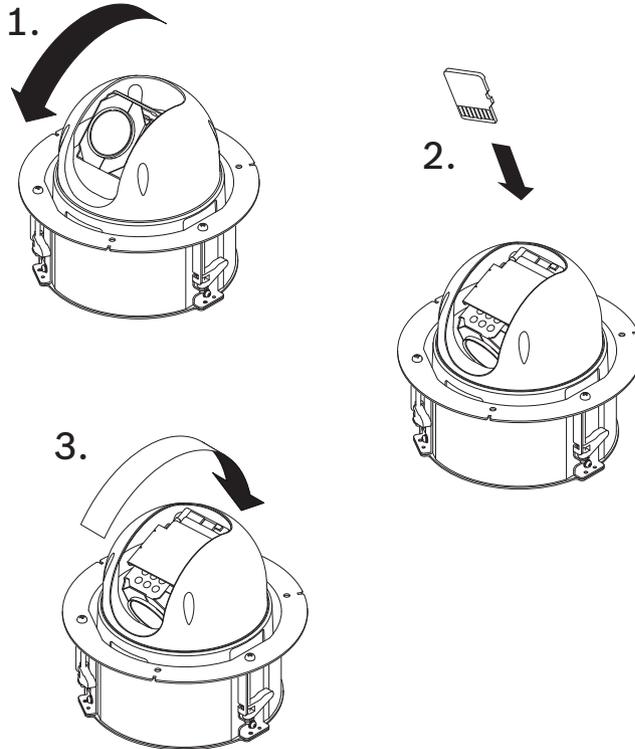
Note: For pendant models, use T15.

For in-ceiling models, use T10.

1. Loosen the three (3) Hex screws in the trim ring / bubble enclosure with the appropriate Torx screwdriver.
2. Remove the trim ring / bubble enclosure.
3. Remove the foam insert that protects the camera block.
4. Remove the tape holding the plastic lens protector; remove the lens protector.

6 Installing a microSD card (optional)

1. Push the camera block until you see the card slot (item 1 in the following figure).
2. Insert the card into the slot (item 2 in the following figure).
3. Push the camera block into its original position (item 3 in the following figure).



4. Proceed with installation.

7 Installing an In-ceiling Camera in a Suspended Ceiling

7.1 Tools Required

- Appropriate screwdriver (Phillips head)
- Appropriate tool for cutting a hole in drywall or ceiling tile (if applicable)

7.2 Installation Requirements

- The ceiling thickness ranges from 10 - 40 mm.

7.3 Preparing the Suspension Ceiling for Installation

You must use the VGA-IC-SP In-ceiling Support Kit to install the camera In-ceiling housing into a suspended or drop ceiling. This kit requires a separate purchase.

1. Choose the desired location to mount the camera.
2. Remove an adjacent ceiling tile.
3. Loosen the four (4) securing screws, located in the corners of the Bracket Assembly, enough to hold the suspension bars but still allowing adjustment during installation.
4. Place the Bracket Assembly over the ceiling tile, which is used to mount the camera.
5. Snap the Bar Clips of the bracket to the ceiling rails.
 - ▶ Use the bracket Base Plate as a template or cut a hole-sized hole in the center of the ceiling tile with a drywall utility saw or jig saw.
 - ▶ Tighten the four (4) securing screws to the Bracket Assembly.
 - ▶ Secure the Bracket Assembly to an overhead securing point with a safety wire.

7.4 Securing the Camera to the Ceiling

1. Connect the cables from the ceiling to the cables on the camera. Refer to the chapter Connection for more information.
2. Insert the camera (without the trim ring / bubble enclosure) into the hole in the ceiling. Ensure not to pinch the cables.
3. Turn each fastening screw to secure the clamps in the ceiling.



Warning!

Over torquing the ceiling clamps can damage the clamp or ceiling. Only tighten the clamp until it contacts the ceiling and you start to feel some resistance. If using a power screwdriver, set the torque level to the lowest setting.

-
4. Place the trim ring / bubble enclosure in position over the camera block, aligning the three (3) screws. Tighten the screws firmly to secure the trim ring / bubble enclosure to the in-ceiling bracket.

8 Installing an In-Ceiling Camera in a Drywall Ceiling

8.1 Tools Required

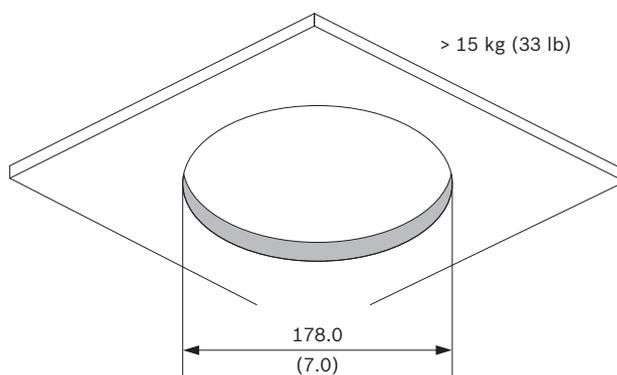
- Appropriate screwdriver (Phillips head)
- Appropriate tool for cutting a hole in drywall or ceiling tile (if applicable)

8.2 Installation Requirements

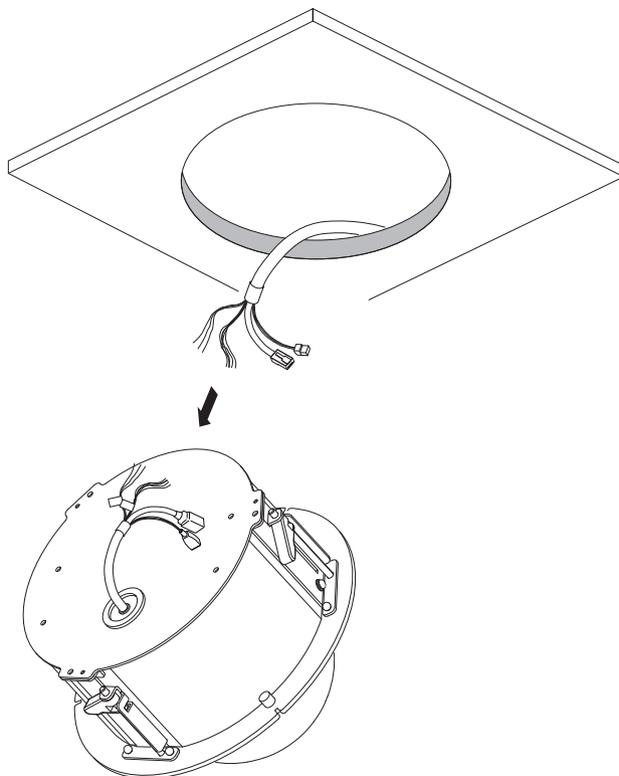
- The ceiling thickness ranges from 10 - 40 mm.

8.3 Preparing the Ceiling for Installation

1. Use the template to mark the hole in the ceiling for the camera.
2. Cut the hole in the ceiling with a drywall utility saw or jig saw.



3. Pull the cables (24 VAC, CAT 5/CAT6, alarm and/or audio as needed) through the hole in the ceiling.



8.4

Securing the Camera to the Ceiling

1. Connect the cables from the ceiling to the cables on the camera. Refer to the chapter Connection for more information.
2. Insert the camera (without the trim ring / bubble enclosure) into the hole in the ceiling. Ensure not to pinch the cables.
3. Turn each fastening screw to secure the clamps in the ceiling.



Warning!

Over torquing the ceiling clamps can damage the clamp or ceiling. Only tighten the clamp until it contacts the ceiling and you start to feel some resistance. If using a power screwdriver, set the torque level to the lowest setting.

4. Place the trim ring / bubble enclosure in position over the camera block, aligning the three (3) screws. Tighten the screws firmly to secure the trim ring / bubble enclosure to the in-ceiling bracket.

9 Connection



Caution!

Compliance with EN50130-4 Alarm Standard – CCTV for Security Applications
 To meet the requirements of the EN50130-4 Alarm Standard, an ancillary uninterruptable power (UPS) supply is necessary. The UPS must have a **Transfer Time** between 2–6 ms and a **Backup Runtime** of greater than 5 seconds for the power level as specified on the product datasheet.

Note: Consult the National Electrical Code (NEC) for cable bundling requirements and limitations.

- ▶ Connect the cable to the 24 VAC wires from the camera.

Label ID	Description	Cable Wire Color
AC24V	24 VAC	Red
AC24V	24 VAC	Black
EARTH	Earth Ground	Yellow/Green

- ▶ Connect the Ethernet cable to the RJ45 connector of the camera. The following figure illustrates a typical system configuration.

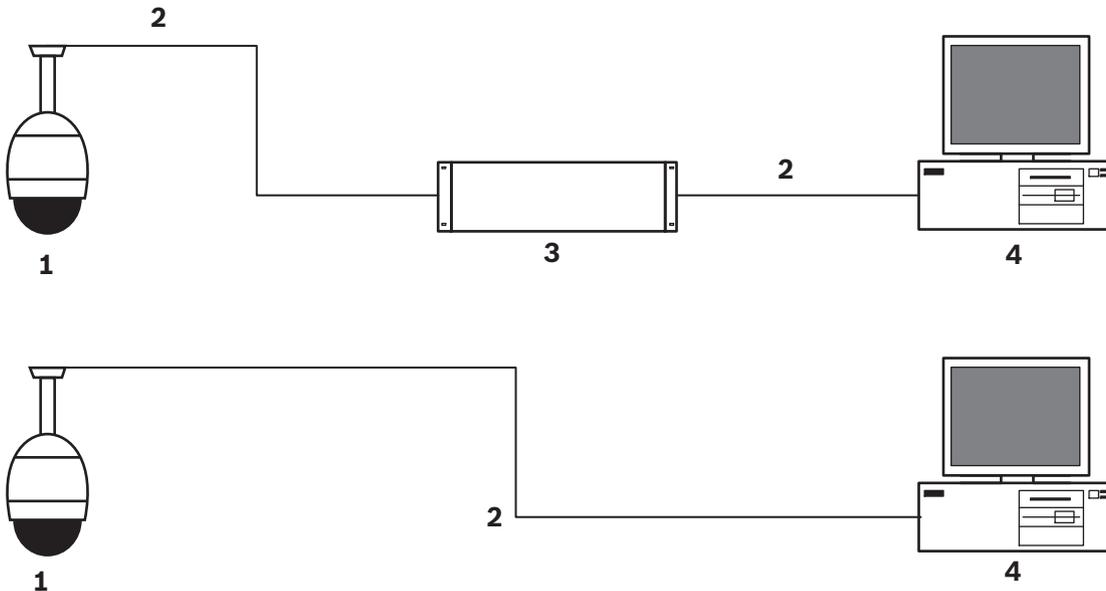


Figure 9.1: AUTODOME IP System Config

1	AUTODOME camera
2	IP connection (Ethernet/CAT5/CAT6) (100 m maximum)
3	Network switch
4	Network device (computer with monitor, DVR/NVR, etc.)

- ▶ If desired, connect the alarm and/or audio wires as identified in the following table.

Label ID	Description	Cable Wire Color
ALARM_COM	Alarm Communications	Red
ALARM_OUT	Alarm Out	Brown

Label ID	Description	Cable Wire Color
ALARM_IN1	Alarm In 1	White
ALARM_IN2	Alarm In 2	Blue
AUDIO_OUT	Audio Out	Grey
GND	Ground	Black
AUDIO_GND	Audio Ground	Green
AUDIO_IN	Audio In	Purple

10 Troubleshooting

Problem	Questions to Ask/Actions to Resolve the Problem
No camera control.	<ul style="list-style-type: none"> - Ensure that the LAN cable has good connection and is secured. - Refresh the browser and ensure that video is updated. - Cycle the camera's power off and on.
Video is noisy or distorted.	<ul style="list-style-type: none"> - Check the integrity of all connectors and splices of the Ethernet cable. If O.K., then: <ul style="list-style-type: none"> - Contact Bosch Technical Support.
Camera moves when attempting to move other cameras.	<ul style="list-style-type: none"> - Check that the camera's IP address is properly set. If camera's IP address is not set, then: <ul style="list-style-type: none"> - Use Configuration Manager to confirm that two cameras do not have the same IP address. If they do, change the address of one of the cameras.
No network connection.	<ul style="list-style-type: none"> - Check all network connections. - Ensure that the maximum distance between any two Ethernet connections is 100 m (328 ft) or less. If O.K., then: <ul style="list-style-type: none"> - If you are behind a firewall, ensure that the Video Transmission mode is set to UDP.
Camera reboots frequently or intermittently.	Test your camera with another power supply. Check the Bosch website for a software update that might address the issue.
No OSD messages appear.	Bosch's Video SDK is required. Video management software from third parties does not use the SDK.
The image on the screen is dim.	Is the bubble dirty? If so, clean the bubble with a soft, clean cloth.
The contrast on the screen is too weak.	Adjust the contrast feature of the monitor. Is the camera exposed to strong light? If so, reposition the camera.
The image on the screen flickers.	Does the camera face directly into the sun or fluorescent lighting? If so, reposition the camera.
No video.	<ul style="list-style-type: none"> - Check that the mains power to the power supply is on. - Check to see if you have a web page. If you do, then try cycling the camera's power off and on. If you do not, then you may have the wrong IP address. Use Configuration Manager to identify the correct IP address. If O.K., then: <ul style="list-style-type: none"> - Check that there is 24 V output from the transformer. If O.K., then: <ul style="list-style-type: none"> - Check the integrity of all wires and mating connectors to the camera.
Picture is dark.	<ul style="list-style-type: none"> - Check that the Gain Control is set to High.

Problem	Questions to Ask/Actions to Resolve the Problem
	If O.K., then: - Check that the Auto Iris Level is set to the appropriate level. If O.K., then: Ensure that the maximum distance between any two Ethernet connections is 100 m (328 ft) or less. If O.K., then: - Restore all camera settings.
Background is too bright to see subject.	Turn on backlight compensation.

11

Technical data

For product specifications, see the datasheet for your camera, available on the appropriate product pages of the Online Product Catalog at www.boschsecurity.com.

12

Support



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](#)
- [Commissioning](#)
- [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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