BOSCH

AUTODOME IP starlight 5000i

NDP-5512-Z30C │ NDP-5512-Z30C-P

en Installation Manual

Table of contents

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!

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.

Warning!
Bosch's version of High PoE:
If supplying power to the camera by HPoE or a midspan device, you must install additional surge protection.

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).
Ventilation – Any openings in the device / enclosure are provided for ventilation to prevent overheating and to ensure reliable operation. Do not block or cover these openings. Do not place the device in an enclosure unless proper ventilation is provided, or the manufacturer's instructions have been adhered to.
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.

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.

> **Caution!**
> Always securely tighten all fittings to ensure a liquid-tight seal. Failure to do so could allow water to enter the housing and damage the units. If a sealant is used, ensure that it is a neutral cure type. Sealants that release acetic acid may harm electronics. Use drip loops on the wiring outside the housing.

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

> **Notice!**
> **Risk of water ingress**
> Securely seal all fittings and connection points between the device and all mounts to ensure a liquid-tight seal. Failure to do so could allow water to enter the housing and damage the device. Always use Teflon tape and sealant on connector threads of any mount (sold separately by Bosch or user-supplied).
> If a sealant is used, ensure that it is a neutral cure type. Sealants that release acetic acid may harm electronics.
> Use drip loops on the wiring outside the housing.

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

Indoor use only (NDP-5512-Z30C) - The product shall only be used indoors. Ethernet network should be connected to a network environment, which must comply with the following conditions:

1.1 The function of the ITE being investigated to IEC 60950-1 is considered not likely to require connection to an Ethernet network with outside plant routing, including a campus environment.

1.2 The ITE is to be connected only to PoE networks without routing to the outside plant.

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	O	O	O	O	O
PCBA with connectors	X	O	X	O	O	O
Cable assemblies	O	O	O	O	O	O
Image sensor assembly	X	O	X	O	O	O
Lens assembly	X	O	X	O	O	O
PT Motor control assembly	X	O	X	O	O	O
Fan assembly	X	O	X	O	O	O
This table was created according to the provisions of SJ/T 11364						
O: 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

Telephone: 800-366-2283

Fax: 800-366-1329

Email: cctv.repair@us.bosch.com

Customer Service

Telephone: 888-289-0096

Fax: 585-223-9180

Email: security.sales@us.bosch.com

Technical Support

Telephone: 800-326-1450

Fax: 717-735-6560

Email: technical.support@us.bosch.com

Canada

Telephone: 514-738-2434

Fax: 514-738-8480

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 Bosch Security Systems Sales or Customer Service Representative.
- 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.

3   Product Description

Specially designed and tuned for applications requiring surveillance in scenes with varying light levels, the AUTODOME IP starlight 5000i camera has an integrated 30X optical zoom to identify people at a maximum distance of 183 m (600 ft) with minimal loss of detail.

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 mm^2), 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 mm^2, the
recommended transmission distance is 42 m (141 feet) from the transformer.

Models	Watts	1.0 mm²	1.5 mm²	2.5 mm²	4.0 mm²
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

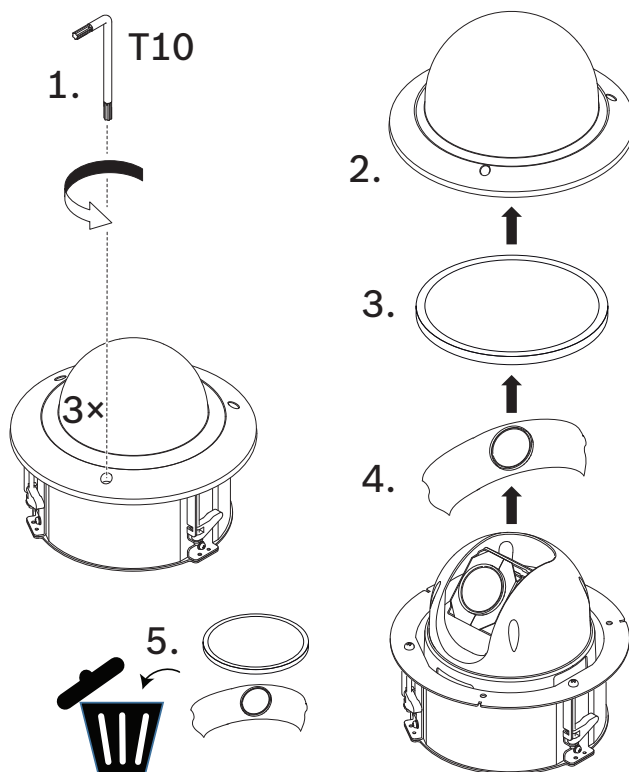Note: Metric wire sizes are standard DIN sizes, ISO6722, mm^2.

Wire diameter (mm²)	AWG
1.0	18
1.5	16
2.5	14
4.0	12

5   Preparing the Camera

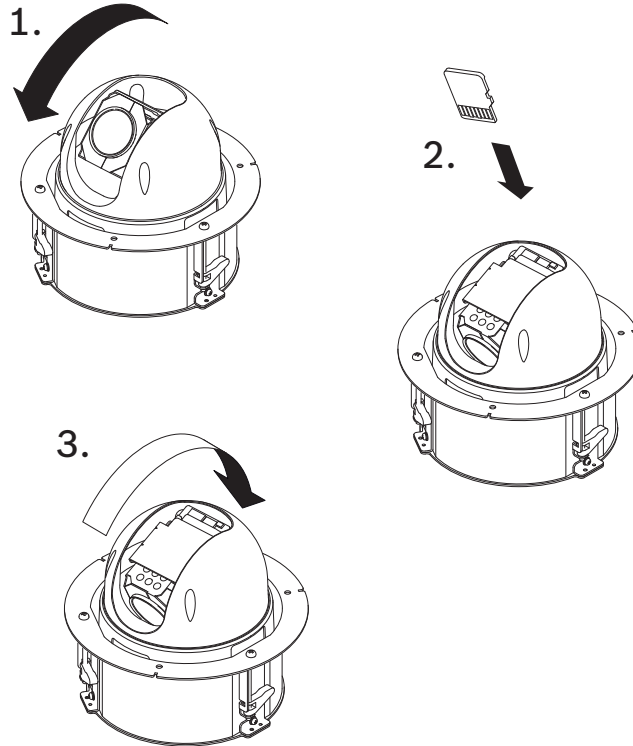**Note**: For pendant models, use T15.

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.
– The ceiling can sustain at least eight (8) times the weight of the camera (2.1 kg (4.6 lb)): > 17 kg (37 lb).

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.
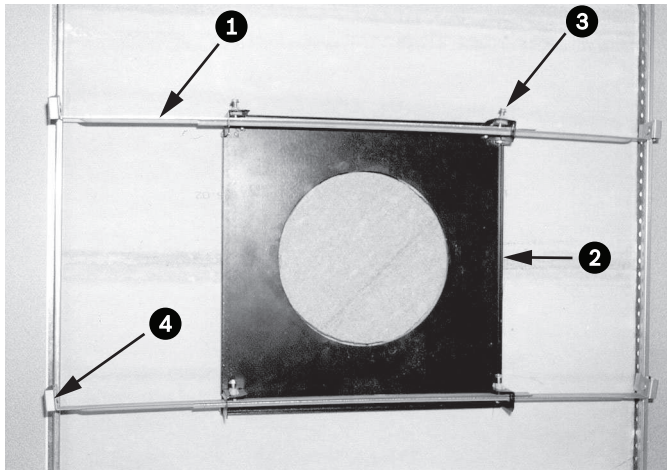5. Snap the Bar Clips of the bracket to the ceiling rails.

Figure 7.1: Suspension Ceiling Bracket (Top View)

1	Suspension Bars	3	Securing Screw (4)
2	Base Plate	4	Bar Clips

1. 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.
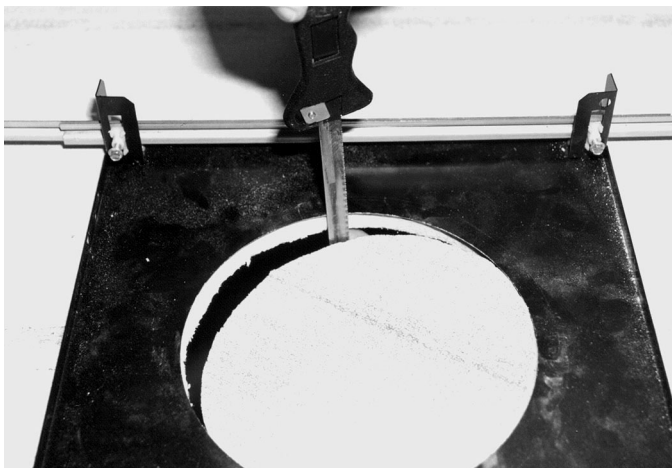
Figure 7.2: Cut Hole in Ceiling Tile

2.   Tighten the four (4) securing screws to the Bracket Assembly.

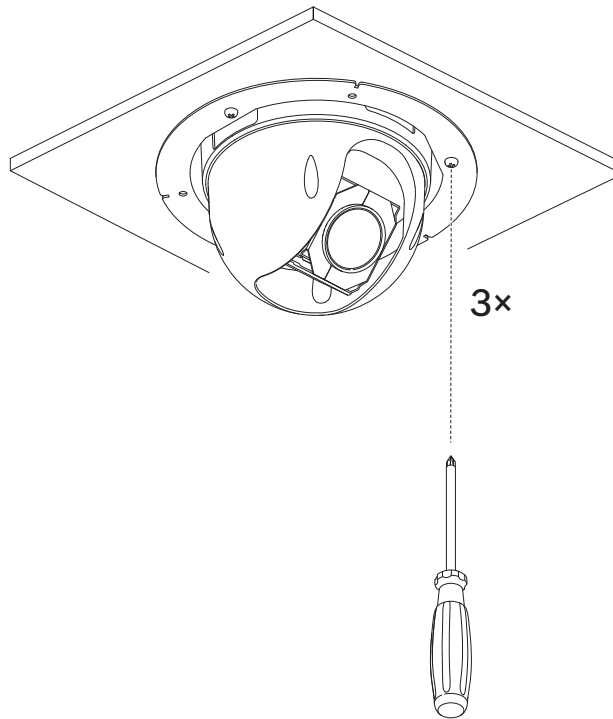**Figure 7.3:** Tighten Bracket Securing Screw

3.   Secure the Bracket Assembly to an overhead securing point with a safety wire.

Figure 7.4: Secure Bracket Assembly

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.
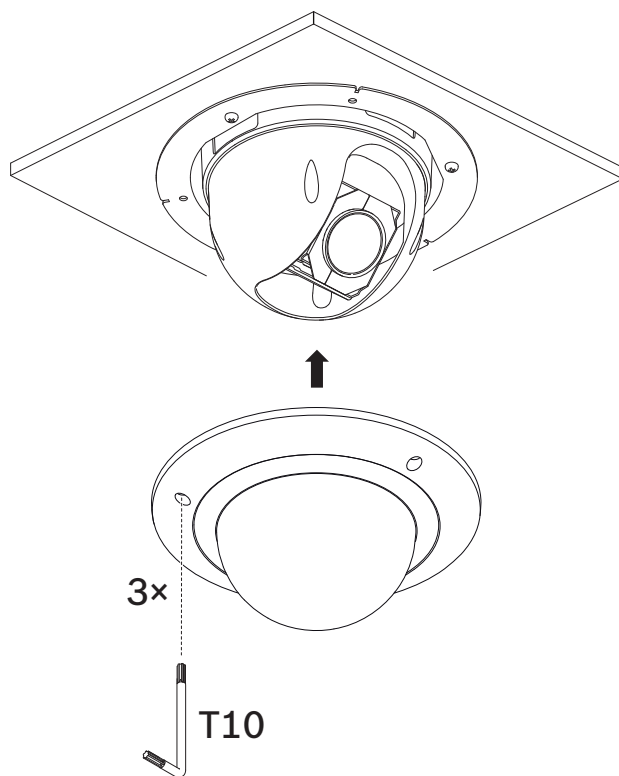3.   Turn each fastening screw to secure the clamps in the ceiling.

4.   Tighten the clamps using the Phillips screwdriver to secure the housing to 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.

5.   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.

3×

T10

8   Installing an In-Ceiling Camera in a Drywall Ceiling
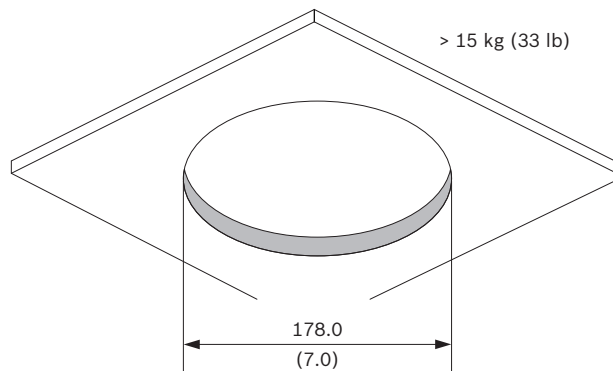
8.1   Tools Required

– Appropriate screwdriver (Phillips head)
– Appropriate tool for cutting a hole in drywall or ceiling tile (if applicable)
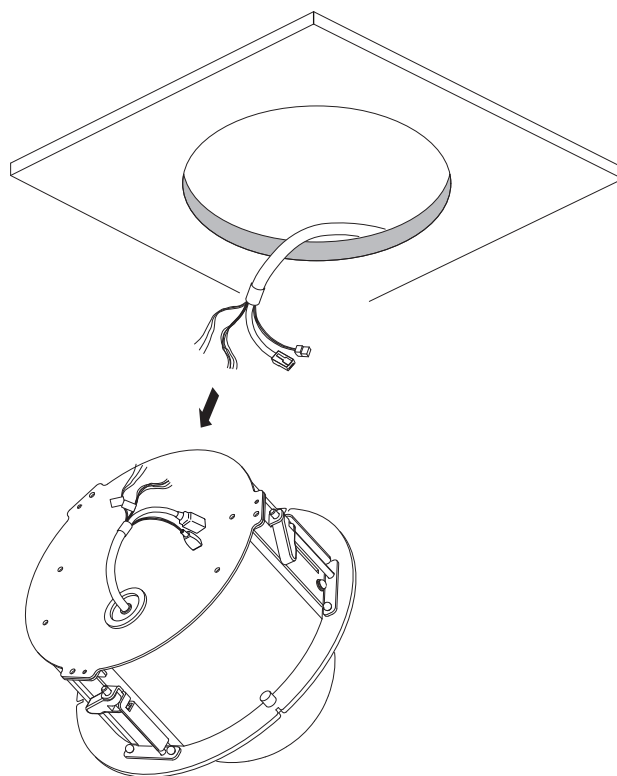
8.2   Installation Requirements

– The ceiling thickness ranges from 10 - 40 mm.
– The ceiling can sustain at least eight (8) times the weight of the camera (2.1 kg (4.6 lb)): > 17 kg (37 lb).

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.
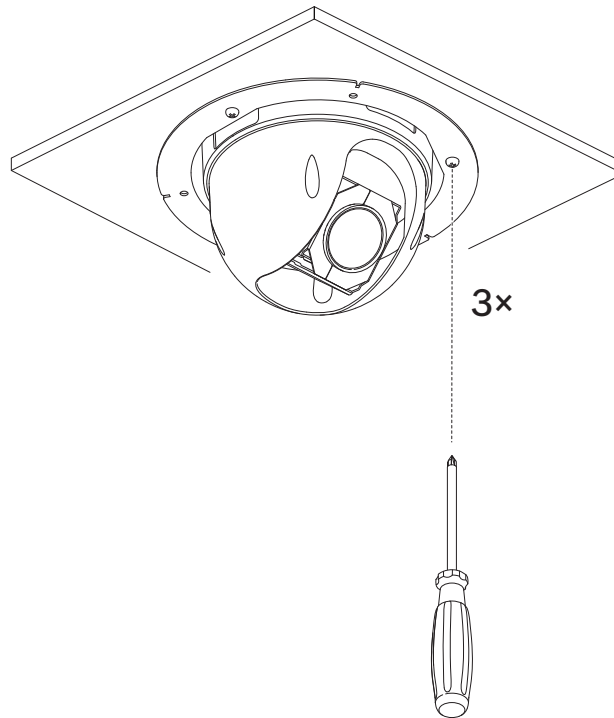

> 15 kg (33 lb)

178.0
(7.0)

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.
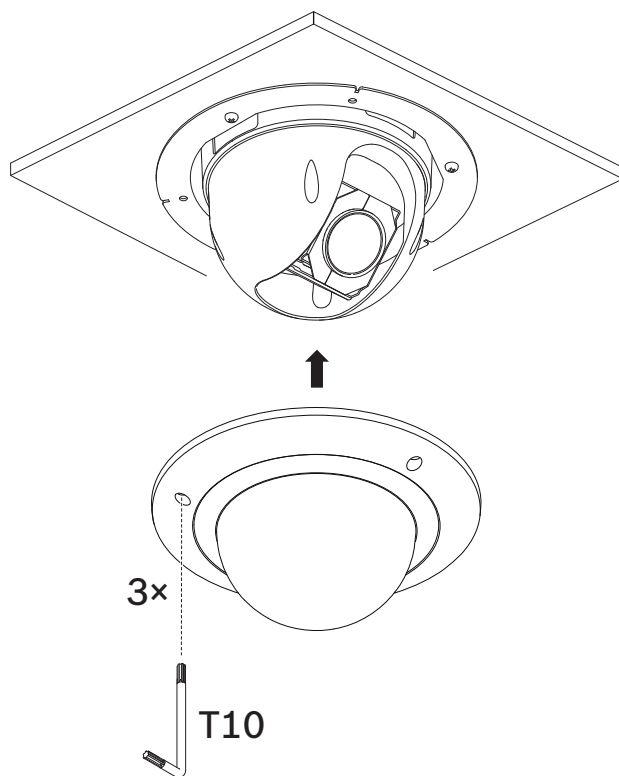3. Turn each fastening screw to secure the clamps in the ceiling.

3×

4.   Tighten the clamps using the Phillips screwdriver to secure the housing to 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.

5.   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.
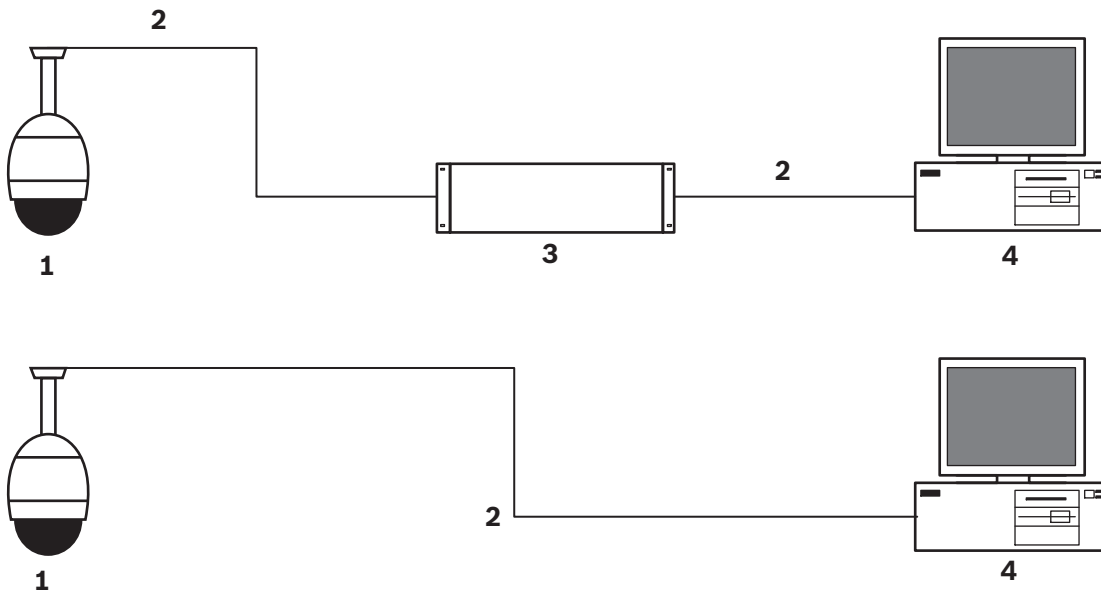

Figure 9.1: AUTODOME IP System Config

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

Table of Troubleshooting Issues

The table below identifies issues that could occur with the camera, and how to resolve them.

Note: Refer to the Error Codes section of the manual for descriptions of the error codes that appear on the OSD. The section also lists recommended actions to resolve the error codes.

11   Decommissioning