AUTODOME IP starlight 5000i IR

NDP-5512-Z30L

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

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.

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.
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).

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

FCC & ICES Information
(U.S.A. and Canadian Models Only)
This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions:
– this device may not cause harmful interference, and
– this device must accept any interference received, including interference that may cause undesired operation.

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 and ICES-003 of Industry Canada. 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 radiates 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 expense.
Intentional or unintentional modifications, not expressly approved by the party responsible for compliance, shall not be made. Any such modifications could void the user's authority to operate the equipment. If necessary, the user should consult the dealer or an experienced radio/television technician for corrective action.
The user may find the following booklet, prepared by the Federal Communications Commission, helpful: How to Identify and Resolve Radio-TV Interference Problems. This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

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.

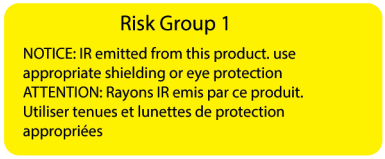
For use in China: CHINA ROHS DISCLOSURE TABLE

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	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 Important notices - illumination safety



The IEC 62471 provides the methods to determine the risk group of any lamp or any product incorporating a lamp. The risk groups in IEC 62471 indicate the degree of risk from potential optical radiation hazards. The risk groups were developed based upon decades of lamp use experience and the analysis of accidental injuries related to optical radiation emission.

EXEMPT Group – no optical hazard is considered reasonably foreseeable, even for continuous, unrestricted use. Typical examples are most frosted incandescent lamps and fluorescent lamps used in domestic applications.

Exposure Hazard Value (EHV) is a ratio of the Exposure Level (distance, exposure time) to Exposure Limit Value (ELV). When EHV is greater than 1, the device has exceeded the Exposure Limit Values for a particular Risk Group. The ELV is the level where optical radiation to the eye or skin is not expected to result in adverse biological effects.

The **Hazard Distance (HD)** is the distance from the source at which the Exposure Level equals the appropriate ELV. In other words, when EHV=1 for a particular Risk Group.

Regarding the Cornea / Lens infrared hazard of this product, the Exposure Hazard Value (EHV) at a test distance of 200mm is 2.19 based on EXEMPT Group exposure limits. The EHV based on Risk Group 1 limits is 0.386. The HD for the Exempt Group is 297 mm.

These values have been summarized in the table below:

1.8 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 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 Parts List

Quantity	Component
1	AUTODOME IP starlight 5000i IR camera
1	Screwdriver, T15 Torx
4	MAC address labels
1	Pendant interface plate
1	M4 screw
1	Quick Installation Guide
1	Safety instructions

3 Product Description

Keep your security in focus with the many features of the AUTODOME IP starlight 5000i IR camera. The camera is carefully tuned to deliver detailed, 1080p60 HD images during the day as well as full details in low-light or no-light conditions. The integrated, intelligent IR illuminator automatically adjusts the IR intensity according to zoom factor and field of view to ensure that the scene is illuminated uniformly.

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 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)

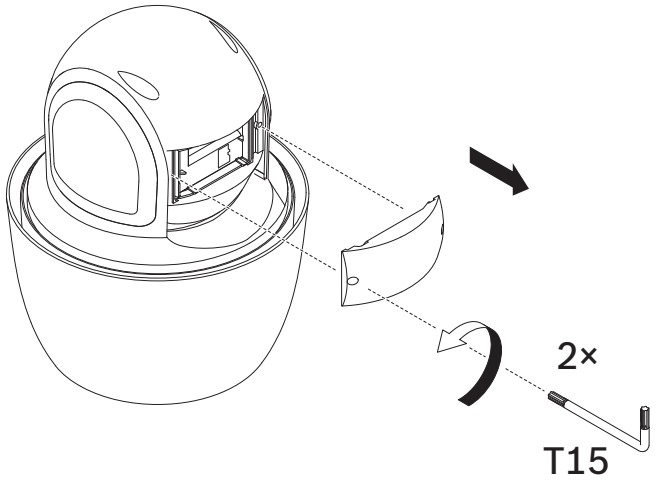
Wire Gage

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

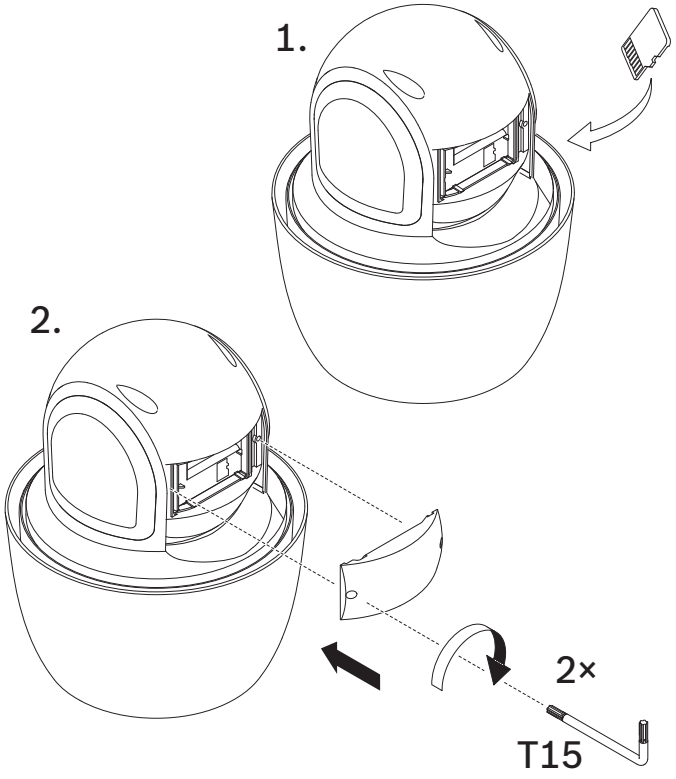
Wire diameter (mm²)	AWG
1.0	18
1.5	16
2.5	14
4.0	12

5 Installing a microSD card (optional)

1. Loosen the 2 Hex screws in the back of the camera housing.
2. Remove the housing cover.



3. Insert the card into the slot.
4. Replace the housing cover.
5. Tighten the screws on the housing cover.


1.
2.
2×
T15

6 Installing a Surveillance Cabinet and Camera

The surveillance cabinet can attach directly to a wall, to a corner mount, or to a pole mount. To install the cabinet (power supply box), follow the instructions in the Surveillance Cabinet *Installation Manual*.

1. Thread the cables through the wall and the mounts.

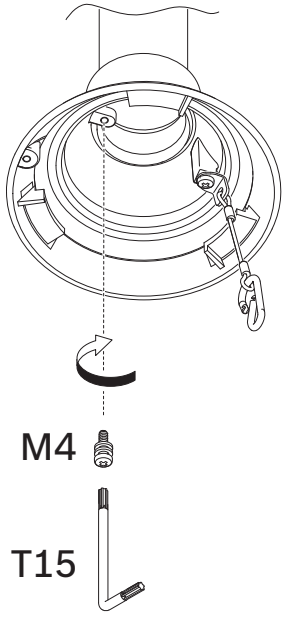
Ensure that the cables are long enough to reach through the mount and the camera's mounting cap to the connections from the camera.

6.1 Installing the Wall Mount

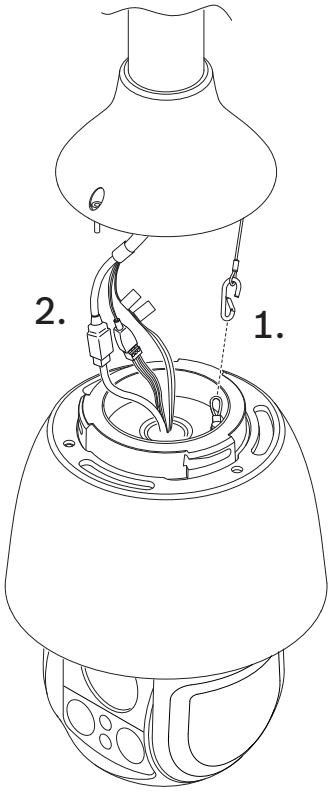
1. Slide the mounting flange over the wall mount.
2. Attach the wall mount to the mounting flange and fix them on the front door of the Wall-mount Surveillance Cabinet by using four M5 screws.

6.2 Attaching the Mounting Cap and the Camera

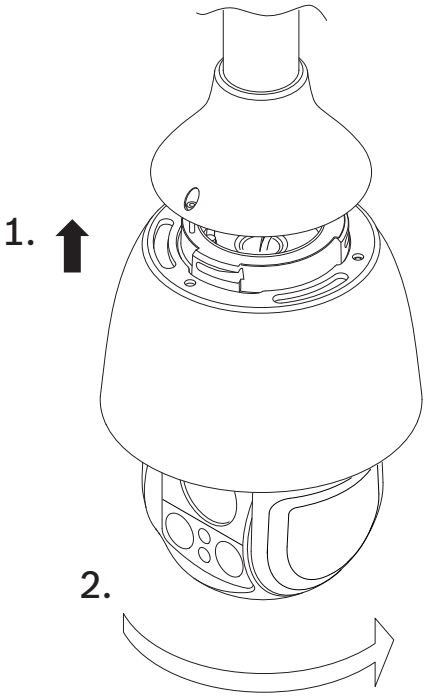
1. To ensure a watertight seal, wrap Teflon tape four times around the threads at the end of the wall mount.
2. Attach the mounting cap to the wall mount.
3. Secure the locking screw with the T15 Torx screwdriver.



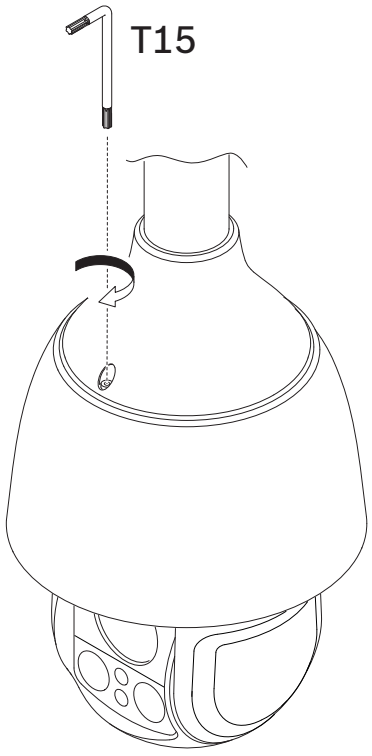
4. Thread all connection cables through the mounting cap.
5. Attach the hook at the end of the Safety Tether to the loop attached to the top of the camera.
6. Connect the mating connectors on the user-supplied cables to the matching connectors on the camera. Refer to the chapter Connection for more information.



7. Place the top of the camera inside the mounting cap.
8. Rotate the camera approximately 15 degrees in a clockwise direction to lock firmly into place.



9. Secure the safety locking screw with the T15 Torx screwdriver.


T15

7 Installing a Roof Mount and Camera

7.1 Installing the Roof Mount

1. Determine the wall location on the roof for the camera and use the Parapet wall mount bracket as a template to mark the hole locations.

Notice!
Allow enough room below the Parapet Mount Bracket to route the video, control, and alarm wires up through the Parapet arm. In certain installations, you may need to lift the Parapet arm for the camera to clear the top of the wall when it is swung into position. Provide enough slack in the wires to rotate the pipe arm over the roof and back when camera maintenance is required.

2. Prepare the mounting surface for the type of fastener by drilling holes for the mounting anchors as required.

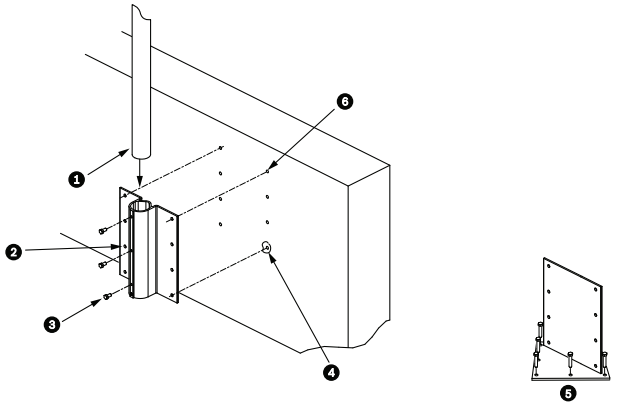


Figure 7.1: Parapet Wall Mount Bracket and Roof Mount Plate

1	Pipe arm	4	Apply sealant around each fastener hole
2	Parapet Wall Bracket	5	Roof Mount Plate
3	3/8-16 SS Hex Head Bolt (supplied)	6	Use a minimum of six (6) fasteners (not supplied). Eight (8) fastener holes shown.

Notice!
Fasteners are not supplied with the Roof Parapet Mount Kit because the appropriate fasteners depend on the material to which the mount is attached. The material must accommodate a minimum pull-out strength of 275 kg (600 lb) (for example, 19 mm (3/4 in.) minimum for plywood). Fasteners can include bolts, studs, or lag bolts. All fasteners must be made of corrosion-resistant stainless steel with a diameter of 10 mm (3/8 in.).
All bolts must fully extend through the mounting surface and be secured with a flat washer, a lock washer, and a nut. All studs must be anchored to concrete or welded to a steel backing plate. Anchor bolts can be used for blind structures where there is no access to the rear.

3. Apply a weatherproof sealant around each fastener hole at the mounting surface.

4. Attach the Parapet Wall Bracket using at least six (6) stainless steel fasteners, three (3) on each side. (The bracket has eight (8) holes.) Be careful not to overtighten the fasteners because it may strip the threads. If attaching the parapet mount to a flat roof, attach the optional LTC 9230/01 Roof Mount Plate to the roof and then attach the Parapet Wall Bracket to the Roof Mount Plate.
5. Insert the Parapet Pipe Arm into the mounting bracket until it bottoms in the bracket.
6. Remove the End Cap from the front of the arm. Feed the video, control, and power wires up through the bottom of the pipe arm and out the front end.

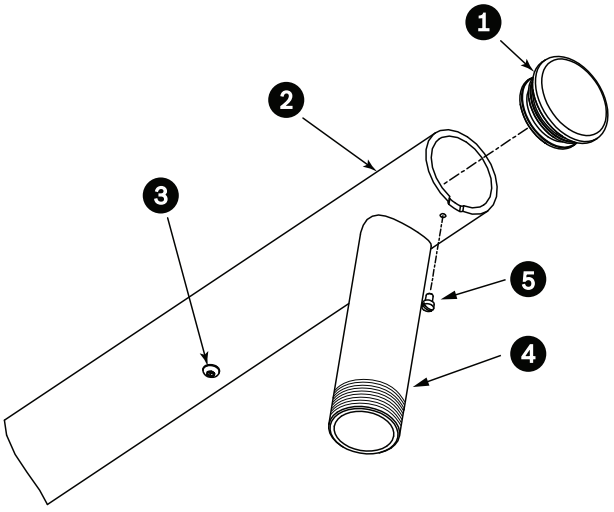


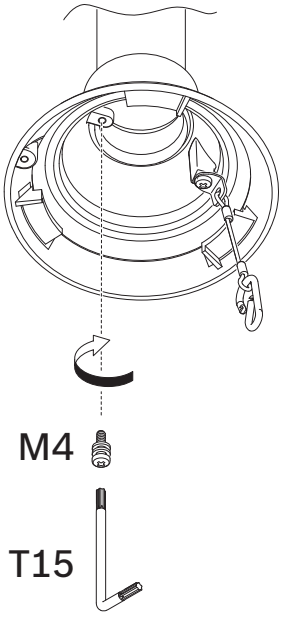
Figure 7.2: NDA-U-RMT

1	End Cap with O-ring
2	Parapet Pipe Arm
3	1/4-20 SS Cap Screw
4	Down Pipe
5	10-24 SS Pan Head Screw

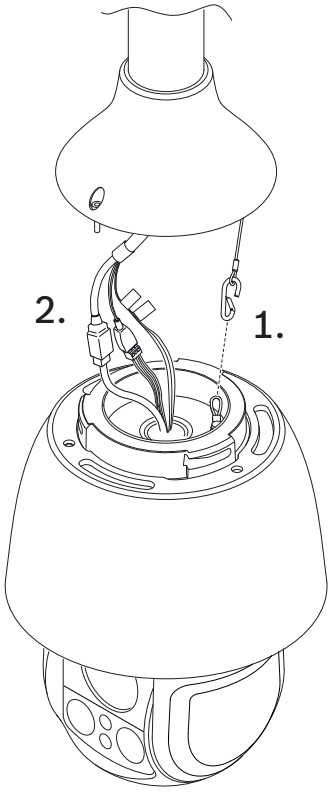
7. Fold back the video, control, and power wires at the front end of the arm and route them down and out through the Down Pipe. Replace the End Cap.
8. Wrap at least five layers of Teflon tape around the Down Pipe threads.

7.2 Attaching the Mounting Cap and the Camera

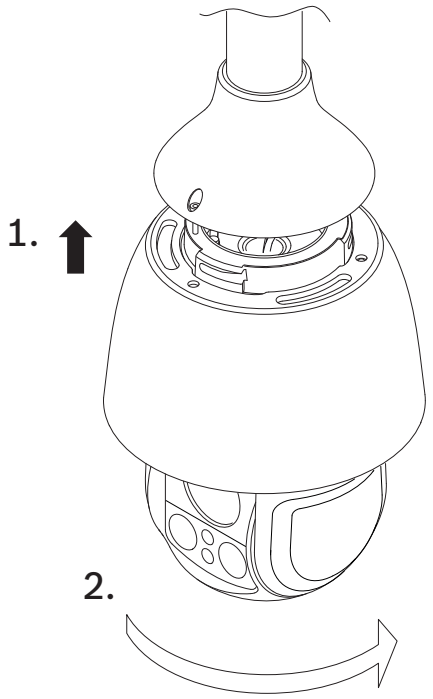
1. To ensure a watertight seal, wrap Teflon tape four times around the threads at the end of the wall mount.
2. Attach the mounting cap to the wall mount.
3. Secure the locking screw with the T15 Torx screwdriver.



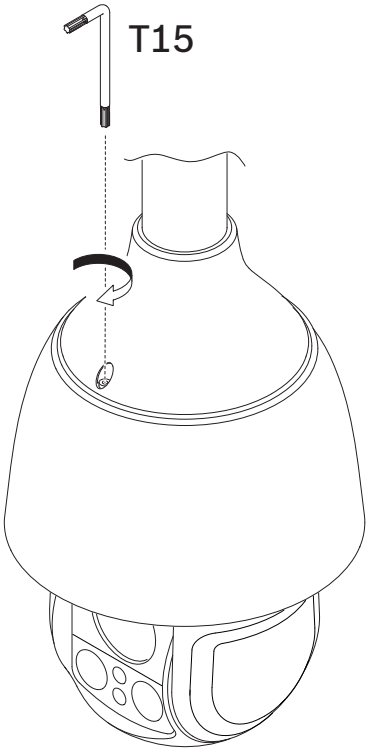
4. Thread all connection cables through the mounting cap.
5. Attach the hook at the end of the Safety Tether to the loop attached to the top of the camera.
6. Connect the mating connectors on the user-supplied cables to the matching connectors on the camera. Refer to the chapter Connection for more information.



7. Place the top of the camera inside the mounting cap.
8. Rotate the camera approximately 15 degrees in a clockwise direction to lock firmly into place.



9. Secure the safety locking screw with the T15 Torx screwdriver.



8 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.

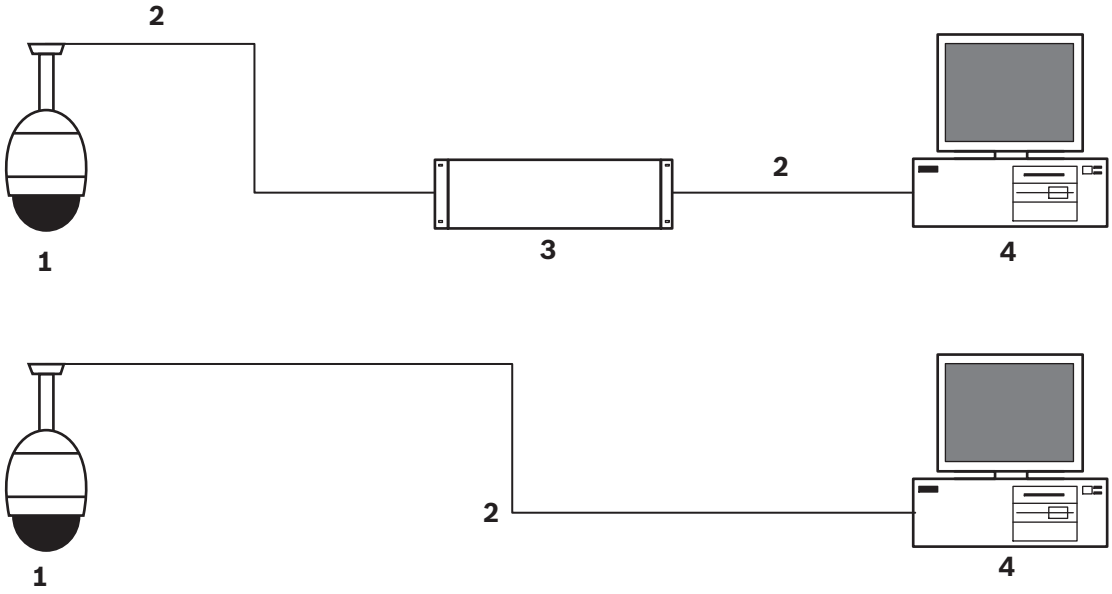


Figure 8.1: AUTODOME IP System Config

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

9 Maintenance

All bubbles require special care when handling and cleaning to avoid scratches.

Notice!
To avoid excessive moisture saturation inside the housing, limit the amount of time that the bubble is disconnected from the housing. Bosch recommends that the bubble be removed from the housing for no more than five (5) minutes.

Bubble Handling
The bubble may be packaged with a protective plastic sheet. It is recommended that the bubble remain stored this way until it is ready to install. Limit handling the bubble, as any scratches can quickly affect visibility.

Bubble Cleaning
If cleaning the bubble is required, use the following procedures and comply with all the warnings listed below.

Cleaning the Bubble Interior
The extremely soft interior surface should not be cleaned by rubbing or dusting with a cloth. Use clean dry compressed air, preferably from a spray can, to remove any dust from the interior surface.

Warning!
Do not use alcohol-based solutions to clean the polycarbonate bubble. This will cause the polycarbonate to cloud and over time cause stress aging, which makes the bubble brittle.

Cleaning the Bubble Exterior
The exterior of the polycarbonate bubble is hard coated for extra protection. If cleaning becomes necessary, only use cleaning solutions and cloths suitable for cleaning safety glass lenses. Dry the bubble thoroughly with a dry nonabrasive cloth to prevent water spots. Never scrub the bubble with any abrasive material or cleaners.
Bosch recommends cleaning the exterior of the bubble with NOVUS “No. 1” Plastic Clean & Shine (or equivalent), according to manufacturer’s instructions. Refer to www.novuspolish.com to order or to find a local distributor.

Cautions
- Do Not clean bubbles in the hot sun or on very hot days.
- Do Not use abrasive or highly alkaline cleaners on the bubble.
- Do Not scrape the bubble with razor blades or other sharp instruments.
- Do Not use Benzene, Gasoline, Acetone, or Carbon Tetrachloride on the bubble.

10 Decommissioning

10.1 Transfer

The unit should only be passed on together with this installation guide.

10.2 Disposal

Disposal
Your Bosch product has been developed and manufactured using high-quality materials and components that can be reused.
This symbol means that electronic and electrical devices that have reached the end of their working life must be disposed of separately from household waste.
In the EU, separate collecting systems are already in place for used electrical and electronic products. Please dispose of these devices at your local communal waste collection point or at a recycling center.

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