



**BOSCH**

# **FLEXIDOME IP panoramic 6000/7000 - outdoor**

NDS-6004-F180E | NDS-6004-F360E | NDS-7004-F180E |  
NDS-7004-F360E

**en**

Installation manual



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# 1 Safety

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

**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.

## 1.3 Important safety instructions

- To clean the device, do not use liquid cleaners or aerosol cleaners.
- Do not install the 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 before installation is completed.
- 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 Data security

This device has been tested with Bosch IP cameras and the Project Assistant app by Bosch. Performance and functionality in other configurations cannot be guaranteed.

**Notice!**

This device contains a wireless access point. Change its default password during initial configuration to maximize data security.

**1.5****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 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.

**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.

**FCC statement (USA)**

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.

FCC suppliers Declaration of Conformity

F01U359667	NDS-6004-F180E	Fixed dome 12 MP 180° IP66 camera
F01U359668	NDS-6004-F360E	Fixed dome 12 MP 360° IP66 camera
F01U359669	NDS-7004-F180E	Fixed dome 12 MP 180° IVA IP66 camera
F01U359670	NDS-7004-F360E	Fixed dome 12 MP 180° IVA IP66 camera

Responsible party

Bosch Security Systems Inc

130 Perinton Parkway

14450 Fairport, NY, USA

www.boschsecurity.us

#### IC statement (Canada)

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

For use in China: CHINA ROHS DISCLOSURE TABLE

#### Fixed cameras with lens

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

<b>Hazardous substance table according to SJ/T 11364-2014</b>
This table was created according to the provisions of SJ/T 11364
○: The content of such hazardous substance in all homogeneous materials of such component is below the limit defined in GB/T 26572
×: 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/>

#### **NOM (Mexico)**

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.

#### **KC (South Korea)**

Applicant name: Bosch Security Systems B.V.

Product name: FLEXIDOME IP panoramic 6000 outdoor / FLEXIDOME IP panoramic 7000 outdoor

Model name: FLEXIDOME IP panoramic 6000 outdoor / FLEXIDOME IP panoramic 7000 outdoor

Manufacturer name: Bosch Security Systems B.V.

Country of origin: Portugal

Manufactured year and month: <http://www.boschsecurity.com/datecodes/>

## 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.

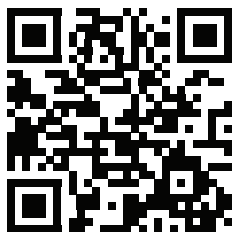
All rights reserved.

### 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](http://www.boschsecurity.com)



[http://www.boschsecurity.com/catalog\\_overview.htm](http://www.boschsecurity.com/catalog_overview.htm)



## 3 System overview

The FLEXIDOME IP panoramic 6000 outdoor and FLEXIDOME IP panoramic 7000 outdoor are designed for outdoor use mainly due to their IK10 and IP66 ratings. The 12 MP sensor operating at 30 fps gives full panoramic surveillance with complete area coverage, fine details and high speeds. The device offers full situational awareness and simultaneous E-PTZ views in high resolution. The FLEXIDOME IP panoramic 6000 outdoor is equipped with Essential Video Analytics and the FLEXIDOME IP panoramic 7000 outdoor offers Intelligent Video Analytics.

### Advantages of panoramic surveillance

Panoramic surveillance offers full 180° or 360° coverage of the designated area. Because our panoramic cameras cover the full area, they provide complete situational awareness and are ideally suited to following movement in one continuous sweep.

The 360° version of the camera, when mounted centrally on a pole or under an eave, gives complete surround coverage without blind spots. The 180° version has a higher effective resolution and is ideal for wall mounting in perimeter surveillance by obtaining a seamless 180° coverage.

### 3.1 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.

### 3.2 Using the camera

To access the features of the camera, use a web browser. The browser provides live viewing of the camera streams in the interface window, and also allows you to access and change the extensive list of settings and parameters for camera configuration. Refer to the software manual for more information on the browser interface.

The camera recording and storage functions include local alarm recording and recording to iSCSI-based systems. The camera can also use the Bosch Video Recording Manager (VRM) to control recording and storage. Integration with the many Bosch recording solutions is seamless.

### 3.3 Operation with external systems

The web browser is the most direct way of using the camera, however, the Bosch download store provides several other free applications (listed below) for viewing and controlling the camera.

#### Download store

Download the latest applications and firmware from:

<http://downloadstore.boschsecurity.com/>

#### Configuration Manager

Use the Configuration Manager application to configure general Video Client settings like the default path for workstation recording or the use of an IntuiKey keyboard.

If you decide to work with a pre-configured monitoring system, use the Configuration Manager application to set up your monitoring system:

- Easily configure basic system settings with the integrated configuration wizard
- Manage user groups and rights

- Add devices to your system and arrange them in groups

#### **Video Security Client**

The Video Security Client is a free, easy-to-use video-surveillance application provided by Bosch for local and remote monitoring of IP cameras and appliances. The software supports up to 16 cameras.

The Video Security Client has extensive dewarping capabilities and can be used for client-side dewarping as well as for viewing the available modes.

#### **Bosch Video Client**

The Bosch Video Client is a free Windows application to view, operate, control, and administer surveillance cameras and installations at remote locations. It offers a user-friendly interface for easy live viewing of multiple cameras, playback, forensic search and export.

#### **IP Helper**

The IP Helper tool is a free PC application that makes it easy to detect Bosch cameras and devices on your network.

### **3.3.1**

#### **Larger surveillance systems**

##### **Bosch Video Management System**

The Bosch Video Management System is a unique enterprise IP video surveillance solution that provides seamless management of digital video, audio and data across any IP network. It is designed to work with Bosch security products as part of a total video surveillance management system.

##### **Third-party integration**

Third-party integrators can easily access the internal feature set of the camera for integration into large projects. Access to metadata is available to integrators via RTSP.

When connected to external systems, many of the camera configuration parameters are controlled by the system and not by the settings made via a web browser.

### **3.4**

#### **Application variant**

The camera has a choice of application variants that set up the camera for optimum performance in a specific environment. Select the application variant best suited to your installation.

The application variant must be selected before any other changes are made, as the camera reboots automatically and resets the factory defaults when the application variant is changed.

##### **FLEXIDOME IP panoramic 6000/7000 MP outdoor**

In this application variant the camera has a frame rate up to 30 fps. The camera streams include a full image circle and dewarping can be set on the client side.

##### **FLEXIDOME IP panoramic 6000/7000 MP outdoor - DEWARP**

In this application variant the camera does the dewarping at the edge and the client dewarping is not necessary. The maximum framerate of the camera is 12.5 fps in this mode.

## 4 Planning



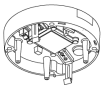
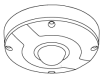
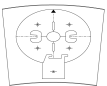
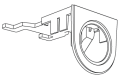


### 4.1 Unpacking




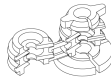





This equipment should be unpacked and handled with care. If an item appears to have been damaged in shipment, notify the shipper immediately.

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 Contents

	Quantity	Component
	1	Mounting plate
	1	Camera module
	1	Camera base
	1	Top cover
	1	Mounting template
	1	Conduit plate
	1	Conduit cover
	2	Conduit plate hole adapters: M25 (3/4 in.) and M20 (1/2 in.)

	Quantity	Component
	1	Conduit hole adapter rubber: for diameters less than M20 (1/2 in.)
	1	Screw
	1	Washer
	2	Grommet (plus 1 spare)
	1	Desiccant bag <b>Note: Do not open the bag before it is necessary to use its content.</b>
	1	TR20 bit
	1	Quick installation guide
	1	Safety instructions
	3	Identification label stickers

### 4.3 Preparation

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

#### Pre-requisites

- The components are removed from the box. Make sure that all parts are included and are not damaged.
- The PoE cable is installed. Make sure that the PoE cable is less than 300 mm (11.8 in.) long from the point of installation of the device.
- The necessary material and equipment:
  - To guarantee the IK10 standard, 4 screws M5 and mounting plugs M5 are necessary. For installation with conduit, 5 screws M5 and mounting plugs M5 are necessary.
  - Appropriate size power drill.
  - Screwdriver and bit holder for TR20 bit.

- Standard SD card (optional)

**Note:** Bosch recommends the use of industrial SD cards with health monitoring.

## 4.4 System requirements

To enjoy the full benefits of megapixel resolutions, ensure that the computer, the graphic adapter, the display connections, and the monitor are sufficiently powerful to view our camera images at their best.

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 7 or later operating system
- Network access
- Internet Explorer version 11 or later

**- or -**

Application software, for example, Video Security Client, Bosch Video Client, BVMS or Configuration Manager 6.01 or later.



### **Notice!**

Megapixel cameras can generate high bitrate streams. Ensure that your network can handle high volume traffic and that you use a powerful, high performance computer.

## 5 Installation

The device has two installation configurations:

- Installation without conduit.
- Installation with conduit.

### 5.1 Local storage



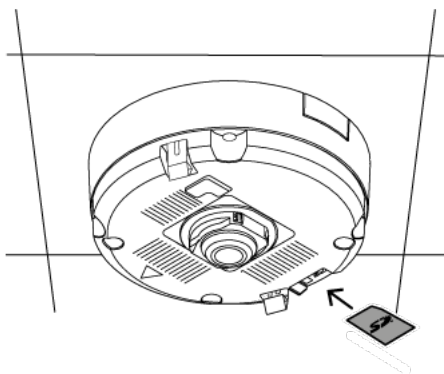
#### Notice!

Use full size SD cards for maximum reliability, and to eliminate the risk of bad connections in a microSD to full size SD adapter. Bosch recommends the use of industrial SD cards with health monitoring.

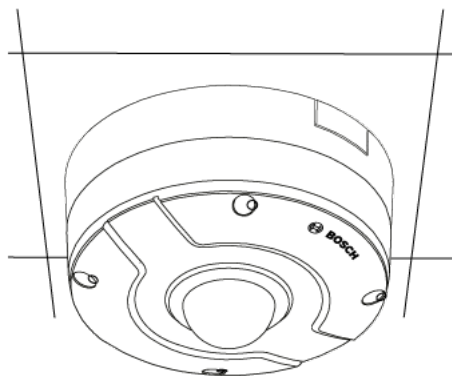
#### Installation/Removal of the SD card

On the top of the camera module, put the SD card in the correct position in the SD slot of the camera module. Push the SD card firmly into the SD slot until it latches.

To remove the SD card, push it firmly until it unlatches. Then, remove it from the SD slot.



### 5.2 Installation without conduit

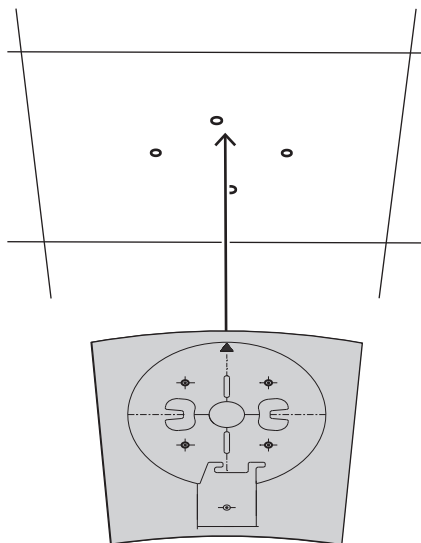


#### Notice!

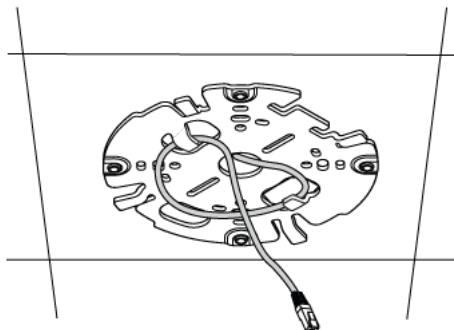
If NDS-6004-F180E or NDS-7004-F180E are installed on a wall, it is necessary that the arrow on the device points up. This will make sure that the image is shown horizontally and in the correct angle.

To install the device without the use of the conduit:

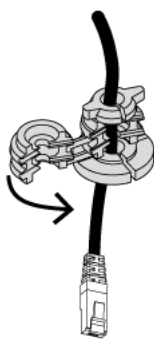
1. Use the mounting template supplied to mark the position of the four holes. Make sure that the final position is correct.



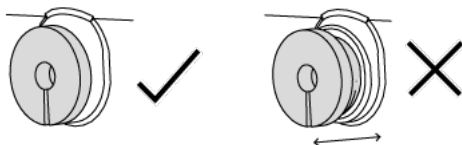
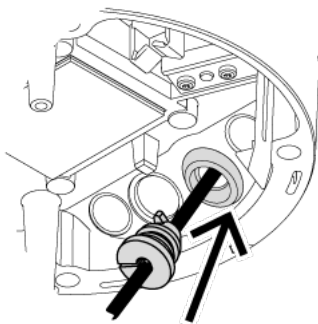
2. Use an appropriate size drill to open the four holes marked before.
3. Install the four mounting plugs.
4. Put the PoE cable through the center hole of the mounting plate.
5. Put the mounting plate in position and attach it with the four screws. The screws must be 5 to 6 mm in diameter (0.20 to 0.24 in.) and equal or bigger than 32 mm (1¼ in.) in length. Tighten the screws between 4 and 7 Nm (3 and 5.2 lbfft). If the device is mounted on a wall, make sure that the arrow on the mounting plate points up.



6. Put the PoE cable through the hole on the camera base.
7. Attach the grommet to the PoE cable.

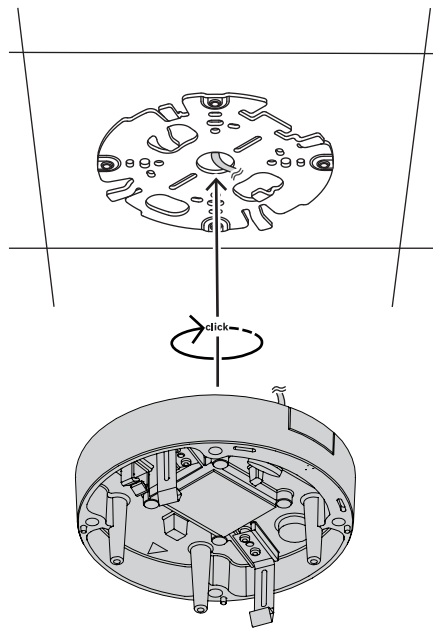


8. Push the grommet into the hole of the camera base, with both thumbs in opposite sides. Make sure that the grommet is fully pushed.

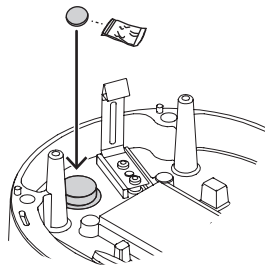


9. Adjust the length of the PoE cable, as necessary.
10. If necessary, do a loop with the PoE cable on the hooks of the mounting plate.
11. Align the camera base with the mounting plate. If the device is mounted on a wall, make sure that the arrow on the camera base points in the same direction as the arrow on the mounting plate.
12. Push the camera base against the mounting plate and turn the camera base clockwise until a click is heard. Make sure that the camera base is secured.

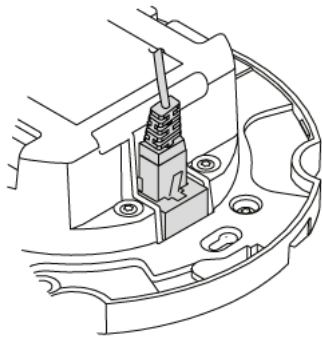




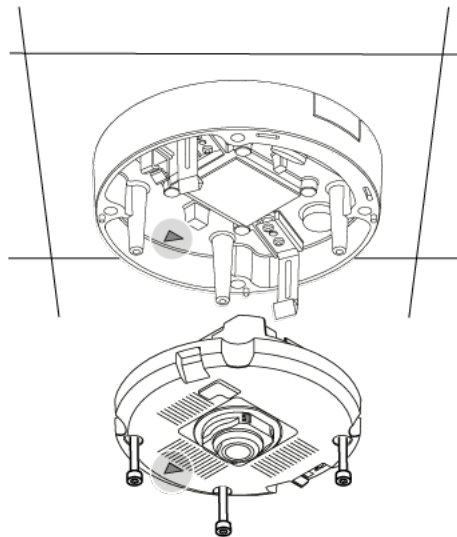
13. Remove the desiccant from the bag.  
Note: After the desiccant is removed from the bag, the installation of the device must be done in less than 10 min.
14. Remove the protective cover from the desiccant and stick the desiccant on the camera base.

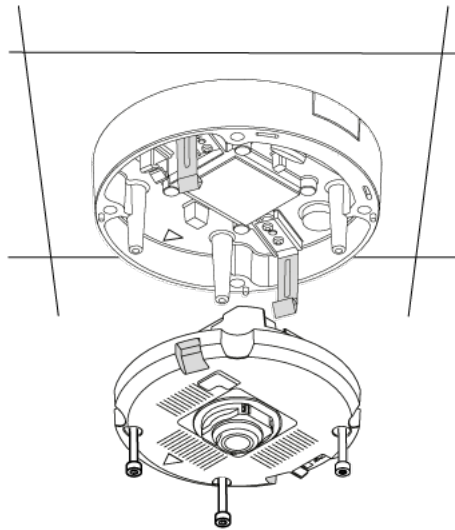


15. Connect the PoE cable to the camera module.

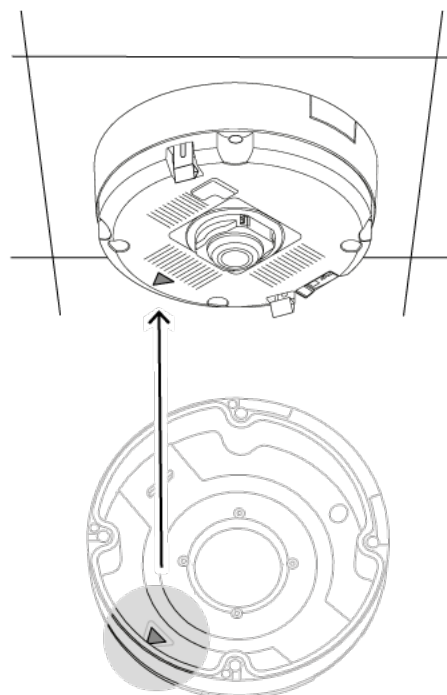


16. Pre-fix the camera module to the camera base with the spring hooks. Make sure that the arrow on the camera module points in the same direction as the arrow on the camera base.
17. Attach the camera module to the camera base with the three screws. Tighten the screws with 1.5 Nm (1.1 lbfft).

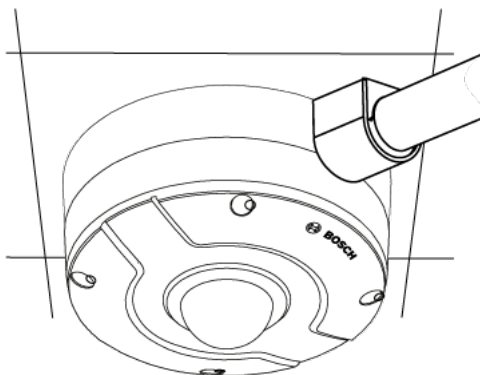




18. If necessary, make sure that the SD card is installed on the camera module (refer to Local Storage).
19. Attach the top cover to the camera base with the four screws. Make sure that the arrow is on the same side as the arrow of the camera module.



### 5.3 Installation with conduit

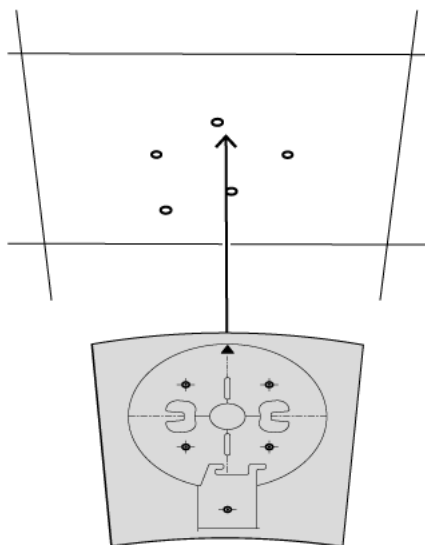
**Notice!**

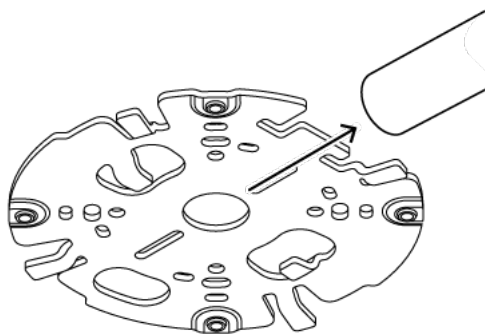
If NDS-6004-F180E or NDS-7004-F180E are installed on a wall, it is necessary that the arrow on the device points up. This will make sure that the image is shown horizontally and in the correct angle.

To install the device with the use of the conduit:

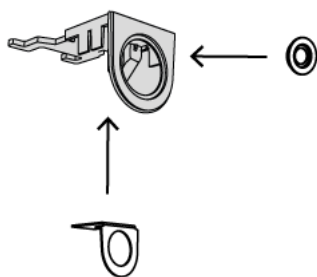
1. Use the mounting template supplied to mark the position of the five holes. Make sure that the final position is correct.

**Note:** Make sure that the cable duct opening is facing the conduit plate installation area.

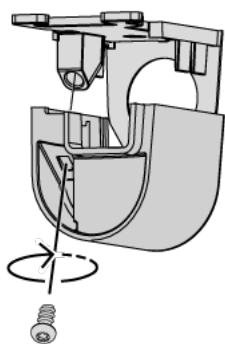
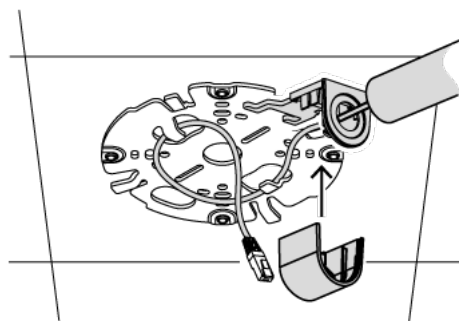




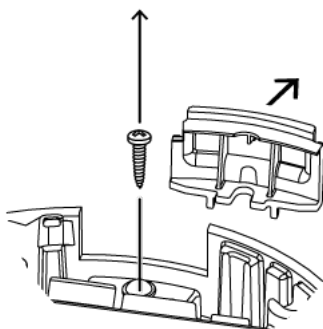
2. Use an appropriate size drill to open the five holes marked before.
3. Install the five mounting plugs on the surface.
4. Select the applicable conduit hole adapter and install the conduit plate hole adapter on the conduit plate:
  - If the conduit is M25 (0.75 in), use the conduit plate adapter with the larger hole (mounted by default).
  - If the conduit is M20 (0.50 in), use the conduit plate adapter with the smaller hole
  - If the cable duct diameter is smaller than M20 (0.50 in), use the conduit plate adapter with the larger hole. Then, puncture a hole in the rubber and install it on the conduit plate adapter and conduit plate.



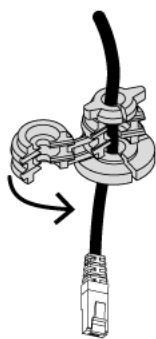
5. Put the PoE cable through the hole of the conduit plate.
6. Put the conduit plate in position on the surface and attach it with the washer and screw.
7. Put the conduit cover on the conduit plate and attach it with the screw.



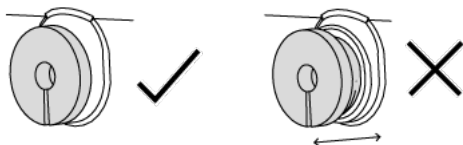
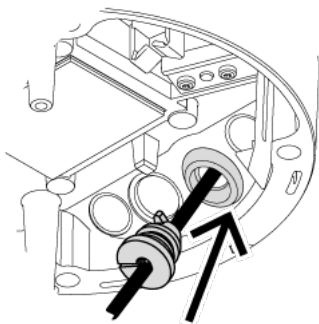
8. Put the mounting plate in position and attach it with the four screws. The screws must be 5 to 6 mm in diameter (0.20 to 0.24 in.) and equal or bigger than 32 mm (1¼ in.) in length. Tighten the screws between 4 and 7 Nm (3 and 5.2 lbfft). If the device is mounted on a wall, make sure that the arrow on the mounting plate points up.
9. Remove the screw from the camera base to remove the side cover.



10. Put the PoE cable through the hole on the camera base.
11. Attach the grommet to the PoE cable.

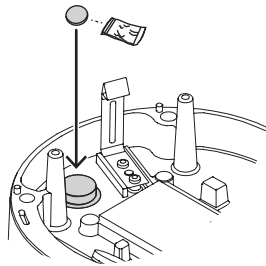


12. Push the grommet into the hole of the camera base, with both thumbs in opposite sides. Make sure that the grommet is fully pushed.

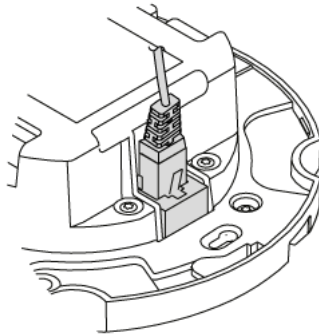


13. Adjust the length of the PoE cable, as necessary.
14. If necessary, do a loop with the PoE cable on the hooks of the mounting plate.
15. Align the camera base with the mounting plate. If the device is mounted on a wall, make sure that the arrow on the camera base points in the same direction as the arrow on the mounting plate.
16. Push the camera base against the mounting plate and turn the camera base clockwise until a click is heard. Make sure that the camera base is secured.
17. Remove the desiccant from the bag.  
Note: After the desiccant is removed from the bag, the installation of the device must be done in less than 10 min.

18. Remove the protective cover from the desiccant and stick the desiccant on the camera base.

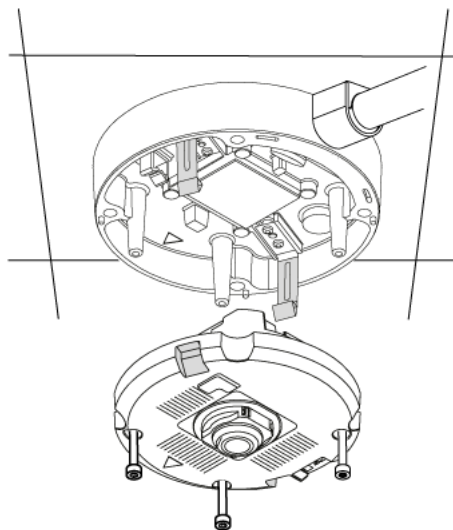
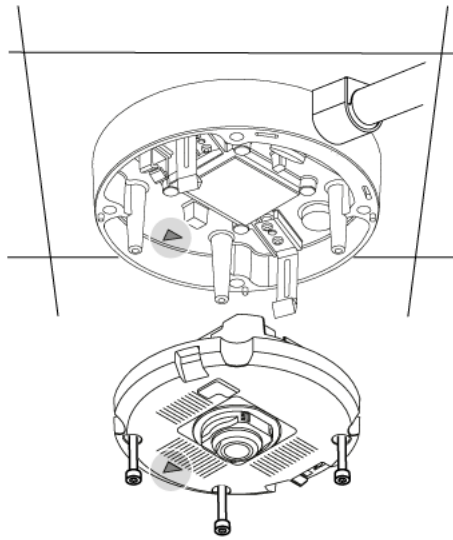


19. Connect the PoE cable to the camera module.

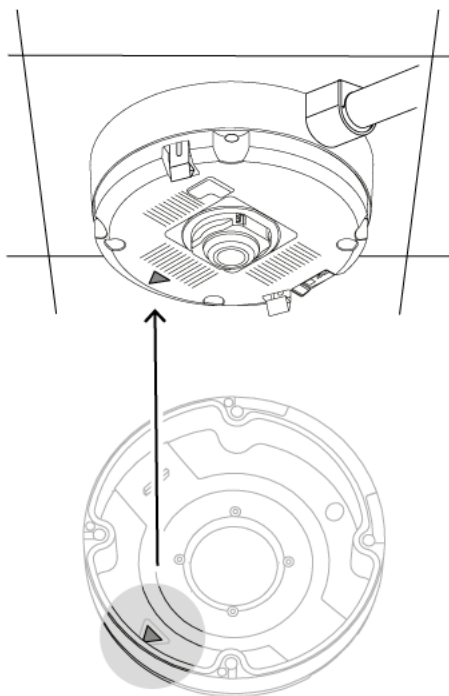


20. Pre-fix the camera module to the camera base with the spring hooks. Make sure that the arrow on the camera module points in the same direction as the arrow on the camera base.

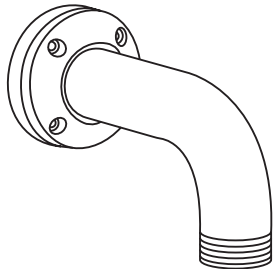
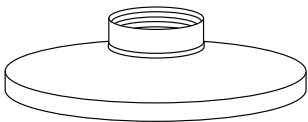
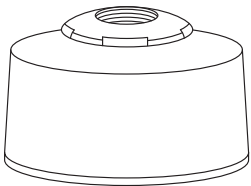


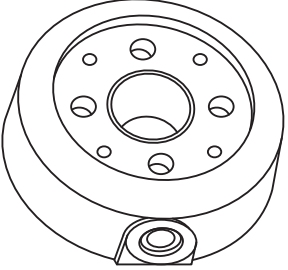




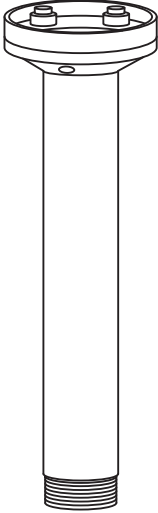
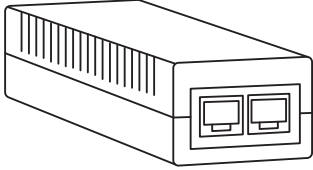
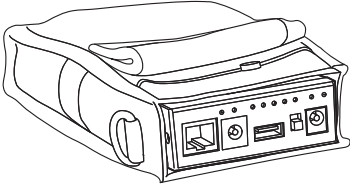
21. Attach the camera module to the camera base with the three screws. Tighten the screws with 1.5 Nm (1.1 lbfft).
22. If necessary, make sure that the SD card is installed on the camera module (refer to Local Storage).
23. Attach the top cover to the camera base with the four screws. Make sure that the arrow is on the same side as the arrow of the camera module.



### 5.4 Optional universal accessories

	CTN	Description
	NDA-8000-PIPW	Pendant interface plate including weather protector for outdoor use.
	NDA-8000-PIP	Pendant interface plate for indoor use.
	NDA-U-PSMB	Surface mount box (SMB) for wall mount or pipe mount.

	<b>CTN</b>	<b>Description</b>
	<p>NDA-U-PMT</p>	<p>Universal pipe mount for dome cameras, 31 cm, white</p>
	<p>NDA-U-PMTE</p>	<p>Extension for universal pipe mount, 50 cm, white</p>
	<p>NDA-U-WMT</p>	<p>Universal wall mount for dome cameras, white</p>

	<b>CTN</b>	<b>Description</b>
	NPD-5001-POE	Power-over-Ethernet midspan injector for use with PoE enabled cameras; 15.4 W, 1-port
	NPD-5004-POE	Power-over-Ethernet midspan injectors for use with PoE enabled cameras; 15.4 W, 4-ports
	NPD-3001-WAP	Bosch camera portable and wireless installation tool

## 6 Configuration

### 6.1 Browser connection

A computer with Microsoft Internet Explorer is used to receive live images, control the unit, and replay stored sequences. The unit is configured over the network using the browser.

#### 6.1.1 Establish 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 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.

You can use IP Helper or Configuration Manager to find the IP address. Download the software from <http://downloadstore.boschsecurity.com>.

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.

##### IP Helper

The IP Helper tool is a free PC application that makes it easy to detect Bosch cameras and devices on your network.

#### 6.1.2 Protected network

If a RADIUS server is used for network access control (802.1x authentication), the unit must be configured first. To configure the unit, connect it directly to a computer using a network cable and configure the two parameters, **Identity** and **Password**. Only after these have been configured can communication with the unit via the network occur.

### 6.2 Bosch Video Client

The Bosch Video Client is a free Windows application to view, operate, control, and administer surveillance cameras. It can be downloaded from:

<http://downloadstore.boschsecurity.com/>

The Configuration Manager, which is part of the Video Client, is a useful tool for locating the IP addresses of cameras in your network. Refer to the relevant Operation Manual for more information.

### 6.3 Video Security Client

#### Video Security Client

The Video Security Client is a free, easy-to-use video-surveillance application provided by Bosch for local and remote monitoring of IP cameras and appliances. The software supports up to 16 cameras.

The Video Security Client has extensive dewarping capabilities and can be used for client-side dewarping as well as for viewing the available modes.

## 7 Troubleshooting

### 7.1 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.	Check power supply.
	Faulty cable connections.	Check 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.
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.
	Incorrect firmware file.	Enter the IP address of the unit followed by /main.htm in your Web browser and repeat the upload.
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.
The camera LED flashes red. <b>Note:</b> The camera LED is only visible when the top cover is removed.	Firmware upload failed.	Repeat firmware upload.

### 7.2 Testing the network

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.

## 7.3 Customer service

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.

## 8 Maintenance

### 8.1 Cleaning

#### 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](http://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.

#### Lens cleaning

It is important to keep the lens clean to ensure optimum performance. Dust, grease, or fingerprints should be removed from the lens surface. When cleaning the lens, take extra care not to damage the special coating used to reduce light reflections.

- Remove dust with a blower-brush or grease-free soft brush.
- Wipe water drops off the lens with a clean soft lint-free cloth and dry the lens surface.
- Use special lens cleaning paper or cloth treated with lens cleaning fluid to gently wipe off any remaining dirt (wipe spirally from the lens center towards the edge).

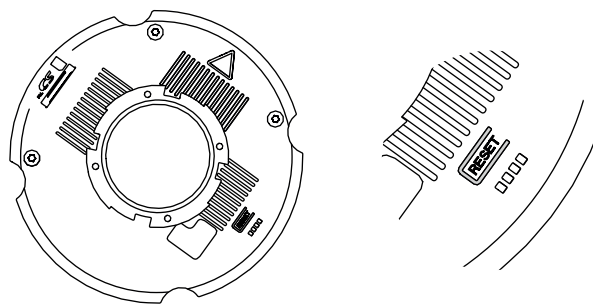
### 8.2 Repair

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

### 8.3 Reset

Use the factory reset button to restore the unit to its original settings. 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.





## 9 Decommissioning

### 9.1 Transfer

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

### 9.2 Disposal



**Disposal** - Your Bosch product was developed and manufactured with high-quality material and components that can be recycled and reused. This symbol means that electronic and electrical appliances, which have reached the end of their working life, must be collected and disposed of separately from household waste material. Separate collecting systems are usually in place for disused electronic and electrical products. Please dispose of these units at an environmentally compatible recycling facility, per European Directive 2012/19/EU.

**10**  
**10.1**

**Technical data**  
**Specifications**

<b>Power</b>		
Power Supply	Power-over-Ethernet 48 VDC nominal	
Power Consumption	140 mA (Essential Video Analytics - 6000 series) 200 mA (Intelligent Video Analytics - 7000 series)	
PoE	IEEE 802.3af (802.3at Type 1)	
<b>Sensor</b>		
Type	1/2.3-inch CMOS	
Total sensor pixels	12MP	
Used pixels (180° version)	3648 x 2160 (8MP)	
Used pixels (360° version)	2640 x 2640 (7MP)	
<b>Video performance – Sensitivity – 180° lens</b>		
(3100K, reflectivity 89%, F2.8, 30IRE)		
Color	0.46 lx	
Mono	0.15 lx	
<b>Video performance – Sensitivity – 360° lens</b>		
(3100K, reflectivity 89%, F2.8, 30IRE)		
Color	0.55 lx	
Mono	0.18 lx	
<b>Video performance – Dynamic range</b>		
Dynamic range	92 dB WDR (+16 dB IAE)	
<b>Video streaming</b>		
Video compression	H.264 (MP); M- JPEG	
Streaming	Multiple configurable streams in H.264 and M-JPEG, configurable frame rate and bandwidth. Multiple channels with edge dewarping. Regions of Interest (ROI)	
Overall IP Delay	Min. 120 ms, Max. 340 ms	
Encoding interval	1 to 25 [30] ips	
Encoder regions	Eight independent areas for setting encoder quality to optimize bitrate.	
<b>Video resolution (H x V) – 180° version</b>		
Video 1 channel	Image circle	3640 x 2160

<b>Video resolution (H x V) – 180° version</b>		
Video 2 channel	Panoramic	2688 x 800
	E-PTZ	2048 x 1152
	Corridor	1600 x 1200
Video 3 channel	E-PTZ	1280 x 720

<b>Video resolution (H x V) – 360° version</b>		
Video 1 channel	Full image circle	2640 x 2640
Video 2 channel	Full panoramic	3584 x 504
	E-PTZ	1536 x 864
	Quad	1536 x 864
	Panoramic	2688 x 800
	Double panoramic	1920 x 1080
	Corridor	1600 x 1200
Video 3 channel	E-PTZ	1280 x 720

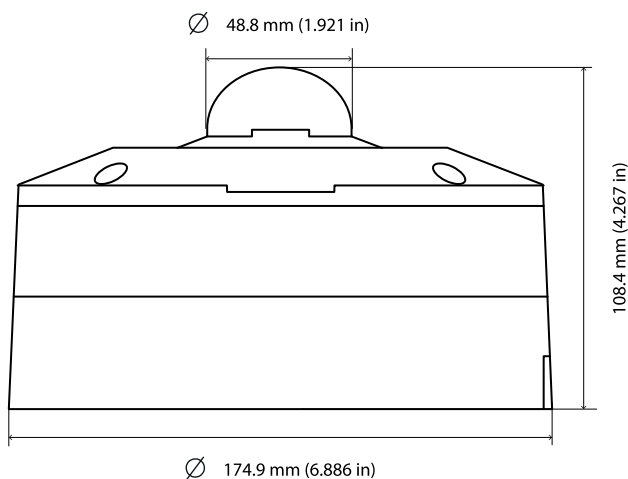
<b>Video functions</b>	
Day/Night	Color, Monochrome, Auto (adjustable switchover points)
Adjustable picture settings	Contrast, Saturation, Brightness
White Balance	2500 to 10000K, 4 automatic modes (Basic, Standard, Sodium vapor, Dominant color), Manual mode and Hold mode
Shutter	Automatic Electronic Shutter (AES) Fixed (1/30 [1/25] to 1/15000) selectable Default shutter
Sharpness	Sharpness enhancement level selectable
Backlight compensation	Off / On / Intelligent Auto Exposure (BLC)
Contrast enhancement	On/off
Noise reduction	Intelligent Dynamic Noise Reduction Intelligent Streaming
Intelligent defog	Intelligent defog automatically adjusts parameters for best picture in foggy or misty scenes (switchable)
Exposure region	Multiple selectable regions
Privacy Masking	Eight independent areas, fully programmable
Scene modes	9 default modes with scheduler
Video Content Analysis	MOTION+, Essential Video Analytics (for 6000 series) and Intelligent Video Analytics (for 7000 series)
Pre-positions	Six independent sectors

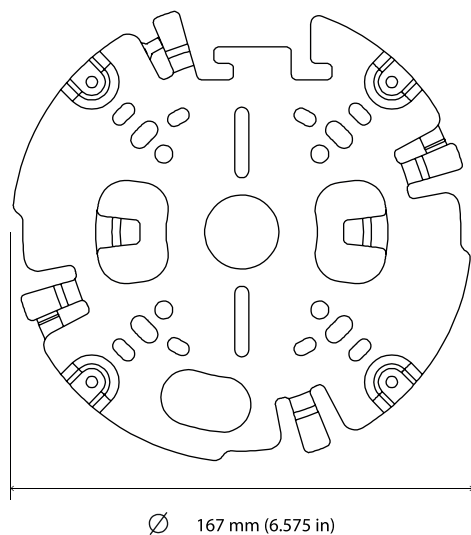
<b>Video functions</b>	
Display stamping	Individual names and stamps for all video channels
Other functions	Pixel counter, Video watermarking, Location
<b>Optical</b>	
Lens (180° version)	2.1 mm fixed-focus lens (IR corrected), F2.8
Lens (360° version)	1.6 mm fixed-focus lens (IR corrected), F2.8
Lens mount	Board mounted
Iris control	Fixed iris
Field of view (180° version)	180° (H) x 93° (V)
Field of view (360° version)	180° (H) x 180° (V)
Minimum object distance	0.1 m
Day/Night	Switched mechanical IR filter
<b>Local storage</b>	
Internal RAM	10 s pre-alarm recording
Memory card slot	SDXC/SDHC SD card slot
Recording	Continuous recording, ring recording, alarm/events/schedule recording
Industrial SD cards	Extreme lifetime and health monitoring support that provides early service indication. Recommended: Industrial SD cards with health monitoring
<b>Software</b>	
Unit discovery	IP Helper
Unit configuration	Via web browser or Configuration Manager
Firmware update	Remotely programmable
Software viewing	Web browser or third party software.
Latest firmware and software	<a href="http://downloadstore.boschsecurity.com/">http://downloadstore.boschsecurity.com/</a>
<b>Network</b>	
Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, ARP, DHCP, APIPA (Auto-IP, link local address), NTP (SNTP), SNMP (V1, V3, MIB-II), 802.1x, DNS, DNSv6, DDNS (DynDNS.org, selfHOST.de, no-ip.com), SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox™, CHAP, digest authentication, Stratocast™ Genetec
Encryption	TLS1.0/1.2, AES128, AES256
Ethernet	10/100 Base-T, auto-sensing, half/full duplex

<b>Network</b>	
Connectivity	Auto-MDIX
Interoperability	ONVIF Profile S; ONVIF Profile G; ONVIF Profile T GB/T 28181
<b>Mechanical</b>	
Dimensions (Ø x H)	174.9 x 108.4 mm (6.886 x 4.267 in)
Weight	2.06 kg (4.54 lbs)
Color	White (RAL9003)
<b>Environmental</b>	
Operating Temperature	-30°C to +45°C (-22°F to 113°F)
Storage Temperature	-20°C to +60°C (-4°F to 140°F)
Operating Humidity	5% to 93% RH non-condensing 5% to 100% RH condensing
Storage Humidity	Up to 98% RH
Impact Protection	IK10
Ingress Protection	IP66
Sustainability	PVC free

## 10.2

## Dimensions













**Bosch Security Systems B.V.**

Torenallee 49

5617 BA Eindhoven

Netherlands

**[www.boschsecurity.com](http://www.boschsecurity.com)**

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