



# DINION Housing Kit

VKC 4075 | VKN 5085 | NKN 710xx



**BOSCH**

**en** Installation Manual



## Table of contents

<b>1</b>	<b>Safety</b>	<b>4</b>
1.1	Safety message explanation	4
1.2	Safety precautions	4
1.3	Important safety instructions	5
1.4	FCC and ICES compliance	6
1.5	Notices	6
<b>2</b>	<b>Short information</b>	<b>7</b>
<b>3</b>	<b>System overview</b>	<b>8</b>
3.1	Available models	8
<b>4</b>	<b>Planning information</b>	<b>9</b>
4.1	Parts list	9
4.2	Unpacking	10
4.3	Tools required	10
<b>5</b>	<b>Installation</b>	<b>11</b>
5.1	Opening the cover	11
5.2	Install Mount and Housing	12
5.3	Pulling cables through mount	13
<b>6</b>	<b>Connecting cables in housing</b>	<b>14</b>
6.1	Cable and gland requirements	14
6.2	Feed cables through the housing base	14
6.3	Feed cables through the housing rear	15
6.4	Power connections	16
6.4.1	Incoming power safety earth connection	16
6.4.2	Incoming power wires	17
6.5	Camera connections	18
6.6	Housings with rear connectors	19
6.6.1	Connection – Rear housing video connection	19
6.6.2	Connection – Rear housing power connection	19
6.6.3	Connection - rear housing feed-through fitting	19
<b>7</b>	<b>Configuration and final assembly</b>	<b>20</b>
7.1	Camera Operation	20
7.2	Configuring IP camera kits	20
7.3	Configuring analog camera kits	21
7.4	Closing the housing	23
7.5	Positioning sunshield	23
<b>8</b>	<b>Maintenance</b>	<b>24</b>
8.1	Fuse replacement	24
<b>9</b>	<b>Decommissioning</b>	<b>25</b>
<b>10</b>	<b>Technical data</b>	<b>26</b>

# 1 Safety

## 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

**Warning!**

Hazardous voltage

Use caution when working inside the housing. Hazardous voltage is present in the housing when connected to the AC supply. Do not touch the power terminals when the unit is powered.

**Caution!**

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

**Caution!**

This device must be connected to earth (ground).

Safety (power) ground is indicated by the  symbol.

**Caution!**

These units must be properly and securely mounted to a supporting structure capable of sustaining the unit weight. Use care when selecting mounts or pan/tilts (not supplied) for installation; the mounting surface and unit's weight should be carefully considered.

**Caution!**

To protect the device, the branch circuit protection must be secured with a maximum fuse rating of 16A. This must be in accordance with NEC 800 (CEC Section 60).

## 1.3 Important safety instructions

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

1. Clean only with a dry cloth. Do not use liquid cleaners or aerosol cleaners.
2. Do not install unit 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 unit.
4. Take precautions to protect the unit from power and lightning surges.
5. Adjust only those controls specified in the operating instructions.
6. Operate the unit only from the type of power source indicated on the label.
7. Unless qualified, do not attempt to service a damaged unit 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.

**Power disconnect** - Units have power supplied whenever the power cord is inserted into the power source. The power cord is the main power disconnect for all units.

**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.

### **Coax grounding:**

- Ground the cable system if connecting an outside cable system to the unit.
- Connect outdoor equipment to the unit's inputs only after this unit has had its grounding plug connected to a grounded outlet or its ground terminal is properly connected to a ground source.
- Disconnect the unit's input connectors from outdoor equipment before disconnecting the grounding plug or grounding terminal.
- Follow proper safety precautions such as grounding for any outdoor device connected to this unit.

*Section 810 of the National Electrical Code, ANSI/NFPA No.70*, provides information regarding proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

## 1.4 FCC and ICES compliance

### 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.

## 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!

We recommend that memory cards only be used for local storage of alarm recordings.

## 2 Short information

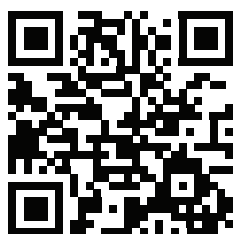
This manual has been compiled with great care and the information it contains has been thoroughly verified. The text was correct at the time of printing, however, the content can change without notice. Bosch Security Systems accepts no liability for damage resulting directly or indirectly from faults,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

### **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

These camera kits are complete camera packages that include a camera and lens installed inside a sturdy (IP66 proof) housing. A feed-through wall mount is also provided. All kits are equipped with a heater, blower and a sunshield. The maximum camera/lens size (H x W x D) for all models is 91 x 81 x 262 mm (3.6 x 3.2 x 10.3 in).

The kits are available with a choice of input power supply (24 VAC / 230 VAC), and various connection possibilities:

- housings with feed-through fittings in rear and base for power and signal cabling
- housings with pre-wired cables through holes in base of housing
- housings with rear connectors for a 4-pin power connector and a BNC connector, plus an optional feed through fitting (for ethernet and other cabling)

IP camera kits can use the PoE supply (if connected) to directly power the camera via the Ethernet cable (this can be seen as a backup to the normal camera power connection from the housing PCB).

### 3.1 Available models

The following models are available:

Model	Housing input voltage	Camera type	Connection	Pre-wired
VKC--xxx-50	230 VAC	DINION AN 4000	Power and BNC connectors	No
VKN--xxx-50	230 VAC	DINION AN 5000	Power and BNC connectors	No
VKC--xxx-20	24 VAC	DINION AN 4000	Feed-through	Yes (power and video cable)
VKN--xxx-20	24 VAC	DINION AN 5000	Feed-through	Yes (power and video cable)
NKN-xxxxx-10N	24 VAC	DINION IP 7000	Power and BNC connectors M20 fitting (for Ethernet cable)	No
NKN-xxxxx-20N	24 VAC	DINION IP 7000	Feed-through	Yes (power cable only)



## 4 Planning information

### 4.1 Parts list

Quantity	Item	Material
1	Housing (with installed sunshield, camera and lens)	Aluminum
2	Screw, 1/4-20 x 0.5 in.	Stainless Steel
2	Washer, spring	M6 Stainless Steel
4	Screw, tamper-resistant	M3.5 T15
1	Wrench, tamper-resistant	M3.5 T15
1	Allen key	1/4-20 x 0.5 in.
3	Plug (installed in fitting in some models)	M4 Silicone
1	Pink string (for pulling cables)	Polyester
1	Feed-through wall mount	Aluminum
1	Documentation packet	

#### Cable fittings for models without pre-wiring

Quantity	Item	Material
2	Cable gland, 3/8-in. NPT with locking nut	Polyamide / neoprene
1	Cable gland, 1/2-in. NPT with locking nut	Polyamide / neoprene
1	Cable gland, M20 x 1.5	Polyamide / neoprene

#### Analog models with rear connectors

Quantity	Item	Material
1	4-pin cable connector, Female	ABS
1	4-pin cable connector, Male	ABS

## 4.2 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.

## 4.3 Tools required

- Small flat blade screwdriver
- Phillips screwdriver (#1)
- Adjustable wrench
- Wire cutter/stripper/crimper tool

## 5 Installation

**Caution!**

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

**Caution!**

These units must be properly and securely mounted to a supporting structure capable of sustaining the unit weight. Use care when selecting mounts or pan/tilts (not supplied) for installation; the mounting surface and unit's weight should be carefully considered.

### 5.1 Opening the cover

**Caution!**

The heater will be hot when in operation.

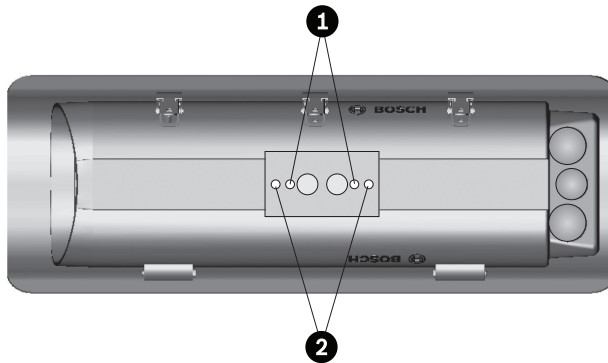
Do not touch! Always ensure that the heater is off and cool before working on the camera.

Open the cover by unlatching the three latches (1) on the side of the housing. If the optional tamper-resistant screws have been installed, use the supplied wrench to remove the screws before opening the latches.



## 5.2 Install Mount and Housing

1. Prepare and secure the wall mount to the mounting surface as described in the LTC 9215/00 Installation Manual included in the Documentation Packet.  
Note: If you plan to route cables out the back of the mount, ensure that the placement of the mount allows space behind the mounting surface to route and connect wires.
2. For housings that are **not** pre-wired, connect all required cables to housing PCB and camera (see *Connecting cables in housing*, page 14).
3. Position the housing above the mount and feed the protruding cables through the mount as described in *Pulling cables through mount*, page 13.
4. Attach the housing to the mount using the two (2) 1/4-20 x 0.5 in. screws and washers provided in the mounting kit. The spring washers must be used for a secure connection. The outermost set of 1/4-20 threaded holes (2) are for mounting to the LTC 9215/00 mount, and the innermost 1/4-20 threaded holes (1) are for mounting to all other mounts and pan/tilts.



5. Connect the power cable to an incoming power supply (use wire connectors inside a junction box if necessary to prevent water ingress).  
The wiring color coding for the kits is:

Color	Connection
Green	Ground
White	24 VAC
Black	24 VAC

**Table 5.1: Pre-wired 24 VAC kits**

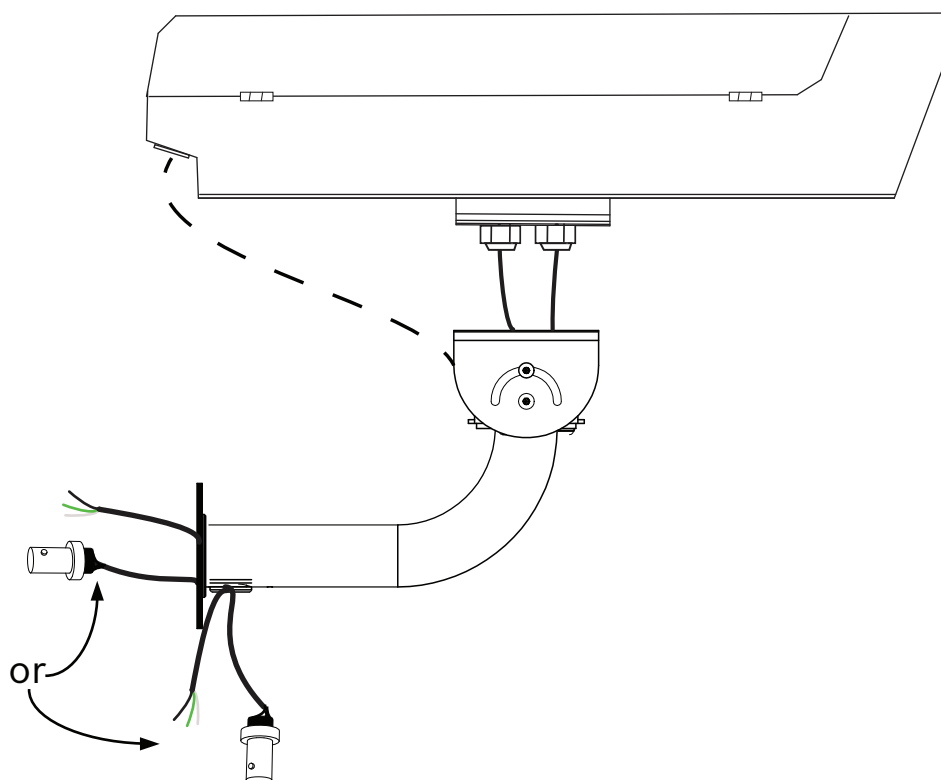
Color	Connection
Green	Ground
Brown	AC Live (24 VAC / 230 VAC)
Blue	AC Neutral (24 VAC / 230 VAC)

**Table 5.2: Other kits**

6. Connect the video/audio/alarm/PoE cables as required.
7. Tilt or swivel the mount where necessary.

### 5.3 Pulling cables through mount

1. Attach the pink string (supplied in Install package) to the end of one of the cables protruding out of the base (or rear) of the housing.
2. Feed the pink string with attached cable out through the required opening in the rear or base of the wall mount; you can choose the appropriate opening through the wall or in front of the wall. See example below for BNC connection and power connections (dotted line shows cables fed from rear of housing).



3. Use the pink string to pull all other cables through the mount (including audio and alarm cables if connected).

## 6 Connecting cables in housing

The feed-through cables can be fed through the rear or base of the housing, depending on customer requirements. See the relevant instructions in this section.

### 6.1 Cable and gland requirements

Power into the housings must be supplied using type UL Standard SJ cord (or better) acceptable for outdoor use. Installation must conform to NEC 400-4 CEC rule 4-010 and be marked with OUTDOOR, W, or W-A.

The supplied cable glands have the following specifications:

Gland type	Cable clamping range
3/8-in. NPT	4.5 to 7.9 mm Ø
1/2-in. NPT	5.8 to 10 mm Ø
M20 x 1.5	3.5 to 8 mm Ø

### 6.2 Feed cables through the housing base

To feed cabling through the base of the housing:

1. If required, remove the camera and tray to access the holes in the base of the housing:
  - loosen the two screws holding the camera tray in the housing.
  - Slide the tray backwards and remove from the housing.
2. Remove the two dome plugs located at the bottom the housing.
3. Screw the two 3/8-in NPT fittings into the foot of the housing.
4. Feed the power cable through one of the glands.
5. Feed the ethernet/video cable through the second cable gland.

To fit the cables through the NPT fitting in the housing:

**Ethernet cable:** remove the RJ-45 connector and then crimp the connector back on the cable once it is pulled through the gland. Crimp in accordance with the connector manufacturer's recommendations (the camera connector is Auto MDIX compliant).

**Video cable:** remove the BNC connector and then crimp the connector back on the cable once it is pulled through the gland.

6. Feed any audio and alarm cables through the second gland as required.
7. Pull any excess wire out of the housing
8. Apply a seal around the cables in their glands. Use RTV or an equivalent seal (a split rubber sleeve may also be used).
9. Tighten the cable glands. The tightening force required is approximately 1 to 1.5 turns past the point where the gland starts to grip the wire. Failure to correctly tighten the glands could result in water ingress.
10. Ensure that all open holes are covered with the rubber plugs provided.
11. Replace the camera and tray in the housing (if removed):
  - Slightly tilt the camera/lens tray assembly and slide it in under the rail that is located under the heater on the right side of the housing.
  - Lower the tray so that the holes at the side fit over the two screws of the housing.
  - Slide the entire assembly forward approximately 5 mm (0.2 in.) from the front of the window.
  - Tighten the two screws to lock the tray in place.

## 6.3 Feed cables through the housing rear

The rear holes allow cable to be fed through the supplied glands or the direct connection of conduit fittings.

1. Remove the dome plugs located at the rear of the housing.
2. Screw the cable glands into the holes at the rear of the housing. The holes accept either 3/8-in NPT or 1/2-in NPT cable glands or conduit fittings. (The M20 x 1.5 cable gland can also be used.)
3. Feed the power cable through one of the glands.
4. Feed the video/ethernet cable through a separate cable gland.  
To fit the cables through the NPT fitting in the housing:  
**Ethernet cable:** remove the RJ-45 connector and then crimp the connector back on the cable once it is pulled through the gland. Crimp in accordance with the connector manufacturer's recommendations (the camera connector is Auto MDIX compliant).  
**Video cable:** remove the BNC connector and then crimp the connector back on the cable once it is pulled through the gland.
5. Feed any audio and alarm cables through a separate gland as required.
6. Apply a seal around the cables in their glands. Use RTV or an equivalent seal (a split rubber sleeve may also be used).
7. Tighten the cable glands. The tightening force required is approximately 1 to 1.5 turns past the point where the gland starts to grip the wire. Failure to correctly tighten the glands could result in water ingress.
8. Ensure that all open holes are covered with the rubber plugs provided.

## 6.4 Power connections



**Caution!**

To protect the device, the branch circuit protection must be secured with a maximum fuse rating of 16A. This must be in accordance with NEC 800 (CEC Section 60).



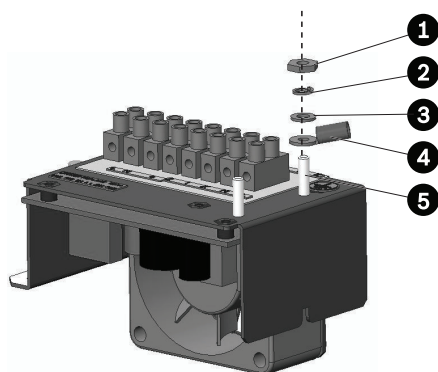
**Caution!**

The external ground wire must always be connected to the main ground post inside the housing.

### 6.4.1 Incoming power safety earth connection

Connect the incoming power safety earth wire to the grounding post on the PCB bracket assembly as follows:

1. A terminal lug (4) is provided for connecting the incoming power safety earth wire.
2. Remove the nut, the washers, and the ground wire lug from the grounding post (5).
3. Strip the incoming power safety earth wire and crimp into the lug.
4. Reattach the ground connections in the order shown:



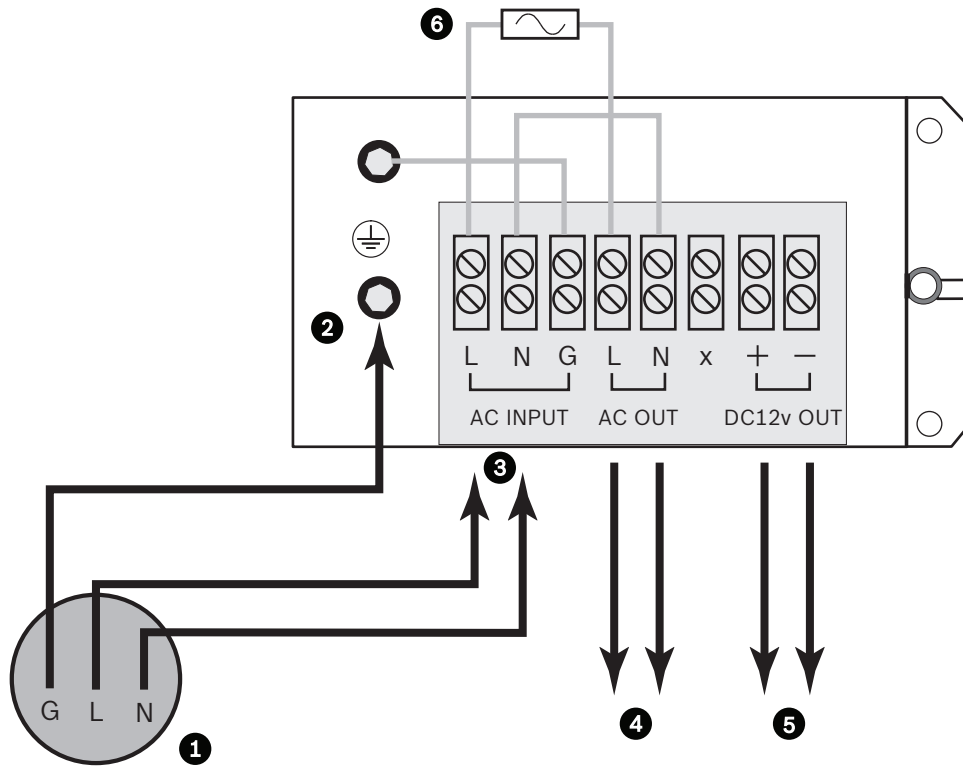
1	Nut
2	Lock washer
3	Flat washer
4	Input power ground lug
5	Grounding post



### 6.4.2 Incoming power wires

The terminal block accepts wire ranging from 0.5 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (20 AWG to 14 AWG). When using larger wire sizes, splice to a smaller size wire at the terminal block end. The splice may need to be enclosed in a junction box if it does not pass through the fittings.

1. Strip no less than 6 mm (0.25 in.) and no more than 8 mm (0.31 in.) of insulation away from the power supply wires. Do not nick the wires.
2. Connect the incoming power wires to the AC input connectors (3) on the terminal block as shown in the following figure:



Callout	Function
1	Power cable input to housing: - G (green/yellow) Earth wire - L (brown) power wire - N (blue) power wire
2	Power input grounding post
3	AC power input terminal block connectors
4	AC power output to camera
5	12 VDC power output to camera
6	Fuse

## 6.5 Camera connections

### Analog camera kit

Connect the coax cable (with BNC connector) directly to the **Video** connector on the back of the camera.

If required, connect audio and alarm cables directly to back of camera.

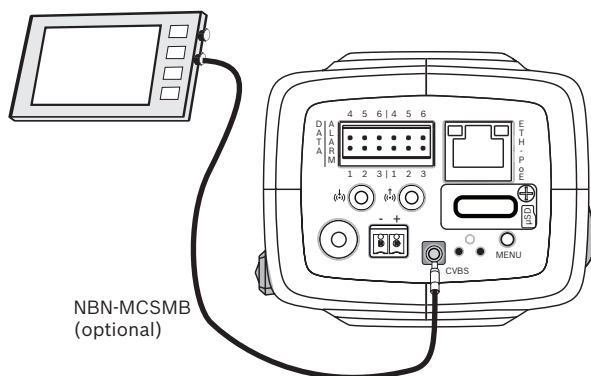
### IP camera kit

If required, connect the Cat5 / Cat6 cable to the **ETH POE** connector on the back of the camera.

If required, connect audio and alarm cables directly to back of camera.

Use the composite video connector (CVBS) on the camera to connect an analog monitor for setting up the camera or as a permanent analog output for viewing or recording:

- To connect a monitor for set-up, use the optional 3 m cable (NBN-MCSMB-30M) to connect directly to the CVBS connector of a monitor.
- For a permanent analog output, use the optional 0.3 m cable (NBN-MCSMB-03M) to connect to a high quality coax cable.



## 6.6 Housings with rear connectors

### 6.6.1 Connection – Rear housing video connection

A BNC connector is provided on the rear of the housing. Connect the analog video cable to this connector.

### 6.6.2 Connection – Rear housing power connection

The housings with the rear connectors already mounted are supplied with a 4-pin cable connector for the power cable.

- The 230 VAC models have a male panel connector. A female cable connector is provided.
- The 24 VAC models have a female panel connector. A male cable connector is provided.

Mount the 4-pin cable connector onto the power cable:

1. Cable diameter must be between 6 mm (0.24 in) and 12 mm (0.47 in).
2. Strip no less than 6 mm (0.24 in) and no more than 8 mm (0.32 in) of insulation away from the wire. Do not nick the wires.
3. Insert the power cord through the back shell assembly and strain relief.
4. The cable connector terminals accept wire ranging from 0.75 mm<sup>2</sup> to 2.5 mm<sup>2</sup> (18 AWG to 14 AWG).
5. Connect the power input wires to the numbered screw terminals on the mating connector according to the table.

Connector terminal number	Function	Wire color
1	AC neutral	Blue
2	AC live	Brown
3	No Connection (do not use)	-
4	Ground	Green/yellow

6. Assemble the cable connector, and plug it into the power receptacle on the housing.

### 6.6.3 Connection - rear housing feed-through fitting

Pull cables through this fitting as described in *Feed cables through the housing rear, page 15*.

## 7 Configuration and final assembly

### 7.1 Camera Operation



#### Warning!

Hazardous voltage

Use caution when working inside the housing. Hazardous voltage is present in the housing when connected to the AC supply. Do not touch the power terminals when the unit is powered.

Verify operation of the camera and lens before final assembly. If necessary, adjust the camera orientation, focal length and focus (refer to the following configuration descriptions for analog and IP cameras).

#### Other adjustments

Other minor operation adjustments are possible using the camera **Menu** button; these adjustments are described in the camera Operation Guide (see Bosch website for applicable camera).

### 7.2 Configuring IP camera kits

The camera normally provides an optimal picture without the need for further adjustments, however when the kit is mounted and connected, the camera field of view and focus point may need to be adjusted. To do this:

1. Connect a monitor to the 'CVBS' SMB connector on the rear of the camera.
2. Start the install wizard.

Note: For ease of connection, use the optional NBN-MCSMB-30M cable (not supplied with Kit) to connect a monitor to the camera.

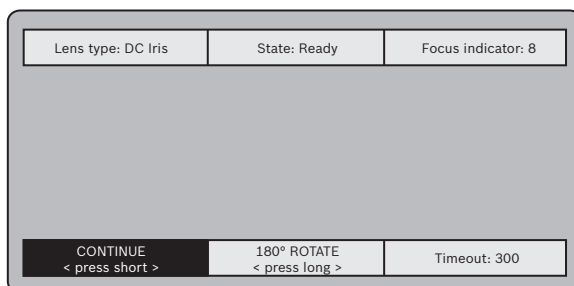
#### Install wizard and MENU button on camera

The **MENU** button on the rear panel is used for accessing the camera install wizard. The wizard fine-tunes the focus and optimizes picture sharpness in both bright and low-level lighting (for example, at night).

When there is a choice in the wizard, the options are selected by either a short press or a longer press of the **MENU** button. Select **EXIT** to close the wizard.

#### Using Install wizard

1. Power-up the camera and wait briefly before opening the camera install wizard.
2. Briefly press **Menu** to start the wizard and display the following screen on the monitor:

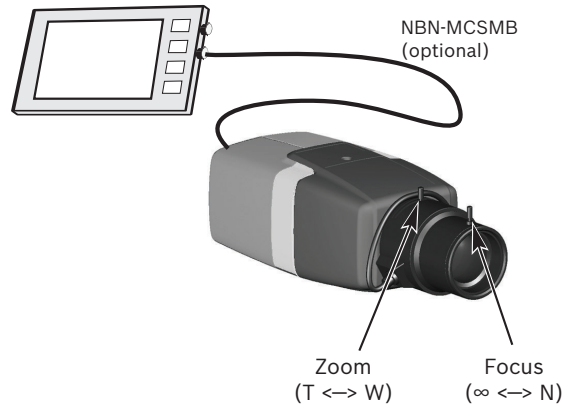


The lens type is identified and shown on the screen.

The iris is opened to its maximum value.

3. To rotate the image 180°, press and hold **Menu** until the image flips.
4. Briefly press **Menu** to continue.
5. Briefly press **Menu** to center the focus.

6. Manually adjust the focal length lever on the lens to obtain the required field of view.



7. Manually adjust the focus lever on the lens to obtain the sharpest image possible.
8. Briefly press **Menu** to start the automatic back focus adjustment (AUTO BACK FOCUS).
  - The motorized automatic back focus process runs.
  - The progress is shown on the monitor.
9. If the camera is not in focus, press **Menu** for a longer time to restart the wizard.
10. If the camera is correctly focused, briefly press the **Menu** button to exit the wizard.
  - The back focus position is stored.
  - The iris is set to its original value.

### 7.3 Configuring analog camera kits

Connect a service monitor to the Video connector on the back of the camera. Check that you can view the camera picture, and make the following manual adjustments:

1. Turn the focal length lever on the lens to obtain the required field of view.
2. Turn the focus lever on the lens to obtain the sharpest image possible.



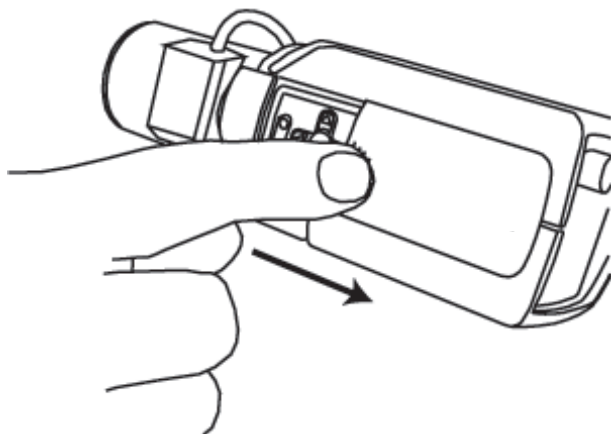
#### Backlight adjustment

The camera normally provides an optimal picture without the need for further adjustments, however to optimize picture sharpness in both bright and low-level lighting, use the camera's unique Lens Wizard for back focus. This ensures that the object of interest always remains in focus, even when focusing at the maximum lens iris opening (for example, at night).

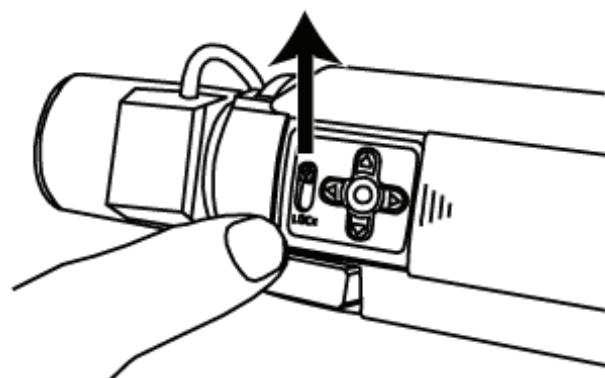
Note: Always adjust to obtain a sharp picture in both wide-angle and tele positions for both far and near focus.

To adjust back focus:

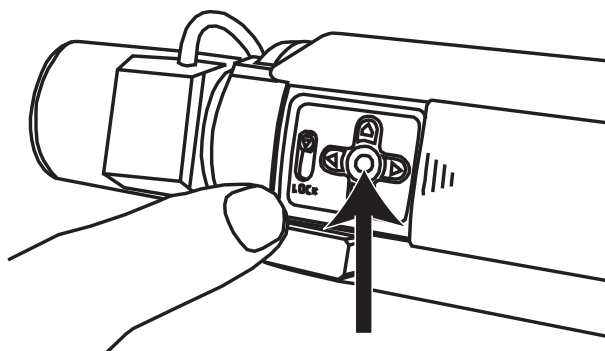
1. Open the slide door panel at the side of the camera.



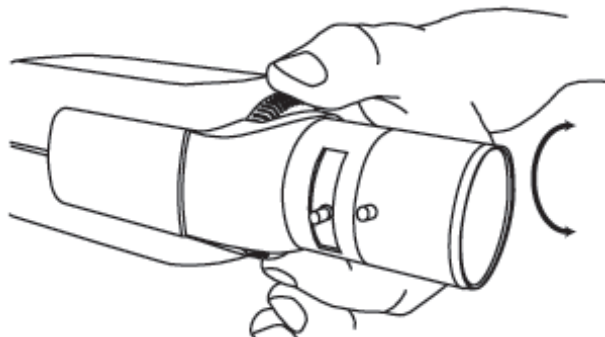
2. Unlock the back focus locking button.



3. Press and hold the center key (menu button) for more than 1 second until the **Install menu** appears.



4. Select **Lens Wizard** and move cursor to the **Set Back Focus Now** item.  
5. Turn the back focus adjustment as required.



6. Lock the back focus locking button.
7. Press and hold the center key for more than 1 second until all the menus disappear.
8. Close the side door panel.

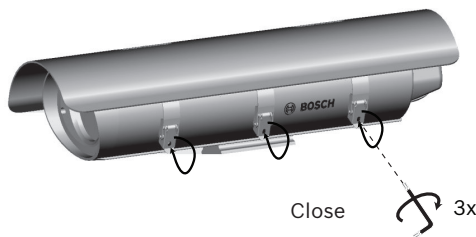
## 7.4 Closing the housing



### Caution!

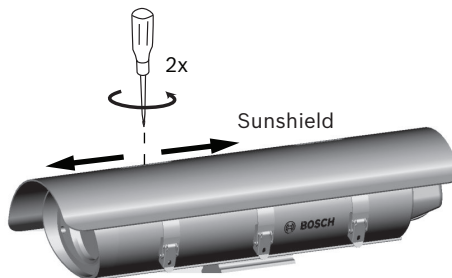
Always securely tighten all fittings to ensure a liquid-tight seal. Failure to do so could allow water to enter the housing and damage the units. If a sealant is used, ensure that it is a neutral cure type. Sealants that release acetic acid may harm electronics. Use drip loops on the wiring outside the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

- Pull any excess wire out of the housing and tighten the cable glands. The tightening force required is approximately 1 to 1.5 turns past the point where the gland starts to grip the wire. Failure to correctly tighten the glands could result in water ingress.
- Ensure that all holes are covered with the rubber plugs provided.
- Close the cover and secure the latches. Optional tamper-resistant screws are provided with the housing. If desired, secure the latch using these three screws and the provided tamper-resistant wrench.



## 7.5 Positioning sunshield

1. Loosen the two screws (M4 x 10) on the top of the housing.
2. Slide the sunshield to the desired position. It has a range of 50 mm (2 in).
3. Tighten the screws to lock the sunshield into position.
4. If the sunshield is not installed, seal the two screw holes with the plugs supplied.



## 8 Maintenance

No special maintenance is required other than occasionally cleaning the window with water or any non-aggressive liquid.

### 8.1 Fuse replacement

1. To replace a fuse, push and twist the fuse holder to open it.
2. Replace the fuse with a fuse that has the same current rating. The fuse is a 5 mm x 20 mm slow blow breaking capacity cartridge-type fuse.
3. Push and twist the fuse holder to close it.

Housing voltage	Fuse rating
24 VAC	4 A, 250 VAC
120 VAC	2 A, 250 VAC
230 VAC	2 A, 250 VAC

There is a spare fuse inside the housing.



## 9 Decommissioning

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



**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 Technical data

<b>Mechanical</b>	
Dimensions (H x W x L) - closed and including sunshield	126.5 x 171.3 x 480 mm (5 x 6.7 x 18.9 in.)
Weight (including camera and lens)	3.9 kg (8.6 lbs)
Construction	Aluminum casing, neoprene gaskets, all stainless steel hardware, 3.3 mm (1/8 in.) thick glass window
Color	Gray
Locking clasps (3x)	Tamper-resistant screws provided
Camera mounting	Removable camera/lens tray, mounted with two screws
Max camera + lens size (H x W x L)	91 x 81 x 262 mm (3.6 x 3.2 x 10.3 in)
Mounting	2 x pair of tapped holes (1/4-20 thread) - inner pair: 50.8 mm (2.0 in) center spread - outer pair: 73.7 mm (2.9 in) center spread
Rear fittings (-20N models)	1x cable diameter: 3.5 to 8.0 mm (0.14 to 0.32 in) 2x cable diameter: 5.8 to 10 mm (0.23 to 0.39 in)
Rear connectors (-10N models)	1x M20: 3.5 to 8.0 mm (0.14 to 0.32 in) 1x 4-pin (power) 1x BNC (hybrid analog video)
Bottom fittings (-20N models)	2x cable diameter: 4.5 to 7.9 mm (0.18 to 0.31 in)

<b>Environmental</b>	
Operating Temperature	-40°C to +50°C (-40°F to 122°F)
Storage Temperature	-40°C to +70°C (-40°F to +158°F)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH
Enclosure protection	IP66, NEMA 4X

### IP Housing Power

<b>Power</b>	
Power Supply	24 VAC 50/60 Hz
Current Consumption	45 W
Fuse	4 A
PoE (optional Power-over-Ethernet connection directly to camera)	48 VDC nominal IEEE 802.3af (802.3at Type 1) 150 mA   175 mA current consumption 7.2 W   8.4 W power consumption

**Analog Housing Power**

<b>Power</b>	
Power input (230 VAC)	freq. 50 Hz consumption 45 W fuse 2 A
Power input (24 VAC)	freq. 60 Hz consumption 45 W fuse 4 A

<b>Mount LTC 9215/00</b>	
Length	300 mm (12 in)
Maximum Load	9 kg (20 lb)
Mounting Head	Adjustable 360° pan, 180° tilt
Finish	Light gray
Approx. Weight	0.4 kg (0.9 lb)
Mounting	2 x tapped holes Thread: 1/4-20 73.7 mm (2.9 in) center spread

**Camera and lens**

See the applicable camera and lens documentation for specifications.





**Bosch Security Systems B.V.**

Torenallee 49

5617 BA Eindhoven

The Netherlands

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

© Bosch Security Systems B.V., 2015