



EX65 Explosion-Protected Illuminator

LED Series



BOSCH

en Installation Manual

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1 Safety

1.1 About this Manual

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

1.2 Legal Information

Copyright

This manual is the intellectual property of Bosch Security Systems, Inc. and is protected by copyright. All rights reserved.

Trademarks

All hardware and software product names used in this document are likely to be registered trademarks and must be treated accordingly.

1.3 Safety Precautions

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



Danger!

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



Warning!

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



Caution!

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



Notice!

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

1.4 Important Safety Instructions

Read, follow, and retain all of the following safety instructions. Heed all warnings on the unit and in the operating instructions before operation.

**Caution!**

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

**Caution!**

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

**Warning!**

INSTALL EXTERNAL INTERCONNECTING CABLES IN ACCORDANCE TO NEC, ANSI/NFPA70 (FOR US APPLICATION) AND CANADIAN ELECTRICAL CODE, PART I, CSA C22.1 (FOR CAN APPLICATION) AND IN ACCORDANCE TO LOCAL COUNTRY CODES FOR ALL OTHER COUNTRIES. BRANCH CIRCUIT PROTECTION INCORPORATING A 20 A, 2-POLE LISTED CIRCUIT BREAKER OR BRANCH RATED FUSES ARE REQUIRED AS PART OF THE BUILDING INSTALLATION. A READILY ACCESSIBLE 2-POLE DISCONNECT DEVICE WITH A CONTACT SEPARATION OF AT LEAST 3 mm MUST BE INCORPORATED.

**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.

Adjustment of controls - Adjust only those controls specified in the operating instructions. Improper adjustment of other controls may cause damage to the unit.

Power cord and plug protection - Protect the power cord from being walked on or pinched, particularly at plugs, and at the point of exit from the device.

For units intended to operate with 230 VAC, 50 Hz, the input and output power cord must comply with the latest versions of *IEC Publication 227* or *IEC Publication 245*.

Power disconnect - Units with or without ON/OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON/OFF switch is in the ON position. The power cord is the main power disconnect device for switching off the voltage for all units.

Servicing - Do not attempt to service this device yourself. Refer all servicing to qualified service personnel.

1.5 Important Notices



Accessories - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury and/or serious damage to the unit. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer. When a cart is used, use caution and care when moving the cart/apparatus combination to avoid injury from tip-over. Quick stops, excessive force, or uneven surfaces may cause the cart/unit combination to overturn. Mount the unit per the manufacturer's instructions.

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



Caution!

Class I LED PRODUCT IEC60825-1 Ed. 1.2 (2001)

Invisible LED radiation when open. Avoid exposure to beam.

Electronic Surveillance - This device is intended for use in public areas only. U.S. federal law strictly prohibits surreptitious recording of oral communications.

Environmental statement - Bosch has a strong commitment towards the environment. This unit has been designed to respect the environment as much as possible.

Electrostatic-sensitive device - Use proper CMOS/MOS-FET handling precautions to avoid electrostatic discharge.

NOTE: Wear required grounded wrist straps and observe proper ESD safety precautions when handling the electrostatic-sensitive printed circuit boards.

Fuse rating - For 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)*.

Moving - Disconnect the power before moving the unit. Move the unit with care. Excessive force or shock may damage the unit and the hard disk drives.

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)*.

Permanently connected equipment - Incorporate a readily accessible disconnect device external to the equipment.

Pluggable equipment - Install the socket outlet near the equipment so it is easily accessible.

Power resupply - If the unit is forced to power down due to exceeding the specified operating temperatures, disconnect the power cord, wait for at least 30 seconds, and then reconnect the power cord.

Power lines - Do not locate the unit near overhead power lines, power circuits, or electrical lights, nor where it may contact such power lines, circuits, or lights.

SELV - All the input/output ports are Safety Extra Low Voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits.

Because the ISDN circuits are treated like telephone-network voltage, avoid connecting the SELV circuit to the Telephone Network Voltage (TNV) circuits.

System ground/Safety ground

System (video) ground is indicated by the symbol .

Safety (power) ground is indicated by the symbol .

The system ground is only used to comply with safety standards or installation practices in certain countries. Bosch does **not** recommend connecting system ground to safety ground unless it is explicitly required. However, if the system ground and safety ground are connected and grounding loops are causing interference in the video signal, use an isolation transformer (available separately from Bosch).

**Caution!**

Connecting System ground to Safety ground may result in ground loops that can disrupt the CCTV system.

**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 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.

**Notice!**

Ce produit est un appareil de **Classe A**. Son utilisation dans une zone résidentielle risque de provoquer des interférences. Le cas échéant, l'utilisateur devra prendre les mesures nécessaires pour y remédier.

1.6 FCC & 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.

1.7 UL Certification

UL Disclaimer

Underwriter Laboratories Inc. ("UL") has not tested the performance or reliability of the security or signaling aspects of this product. 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.

1.8 Explosion Protected Certifications

Illuminator for Use in Hazardous Locations
Bosch Security Systems
LED-65 Illuminator models
12-24 VDC, 12-24 VAC, Class 2, 37 watts



LISTED

File # E333679

Class I, Groups C and D; Class II, Groups E, F, and G; Class III

Class I, Zone 1, AEx db IIB T6; Ex db IIB T6 X

Zone 21, AEx tb IIIC T85°C Db

Ex tb IIIC T85°C Db X

IP68, Type 4X, Type 6P

ATEX Certification

DEMKO 10 ATEX 0948139X

0539 (Ex) II 2 G Ex db IIB T6 Gb

(Ex) II 2 D Ex tb IIIC T85°C Db



IECEX Certification

IECEX UL 10.0010X

Ex db IIB T6 Gb; Ex tb IIIC T85°C Db

Relevant standards associated with the ATEX and IECEX certifications.

EN 60079-0:2012+A11:2013

EN 60079-1:2014

EN 60079-31:2014

IEC 60079-0:2011 Edition 6

IEC 60079-1:2014 Edition 7

IEC 60079-31:2013 Edition 2

1.9 Joint Information

To obtain more information about the flameproof joints, please contact Bosch Security Systems.

Joint-Threaded (All Models)	Designation	Pitch	Full Threads Engaged	Depth of Engagement
Back Cover to Junction Box	M 103	1.5 mm	7 minimum	14.5 mm
Housing to Junction Box	M 103	2 mm	7 minimum	18.5 mm
Supply Opening Blanking Element to Junction Box (four openings provided)	3/4-14 NPT	N/A	5	N/A
Housing to Front Cover	M 103	2 mm	8 minimum	19.5 mm



Warning!

To reduce the risk of ignition of hazardous atmospheres, conduit runs must have a sealing fitting connected to the wall of the enclosure.



Warning!

DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

1.10 Warranty / Limitation of Liability

The unit has a 3 year warranty.

BOSCH Security Systems warrants that its products, at the time of shipment by BOSCH Security Systems, are free from defect in material or workmanship under normal use and service for the respective warranty periods specified in the applicable Price Schedule or as otherwise published.

To assure conformance with operating limitations, Buyer should refer to the applicable data sheet.

The warranty is void (i) if the Product is not operated in conformance with installation, environmental, mechanical or electrical requirements, or within thermal stress limits, or (ii) to the extent that any malfunction is the result of misuse, abuse, vandalism, neglect, improper installation or application, alteration, accident, or negligence in use, storage, transportation, or handling or if the original identification markings on the product have been removed, defaced or altered, lightning, electricity, water, fire, environment or other hazard, or act of God, or other impact outside of normal operating guidelines.

The foregoing warranty is subject to Buyer's (i) promptly written claim and (ii) timely provision to BOSCH Security Systems of an opportunity to inspect and test the Product claimed to be defective. Such inspection may be on Buyer's premises and/or BOSCH Security Systems may request the return of the Product at Buyer's expense. However, BOSCH Security Systems shall not be responsible for packing, inspection, or labor costs in connection with the return of Product. No Product shall be accepted for warranty service that is not accompanied by a Return Authorization issued by BOSCH.

The liability of BOSCH Security Systems hereunder or otherwise is solely and exclusively limited to replacement (new or refurbished Product), repair, or credit of the amortized purchase price, as BOSCH Security may elect, for any Product which is returned by Buyer during the applicable warranty period, or services for which timely notice of defect has been given by Buyer, and which are found by BOSCH Security to be subject to adjustment under this warranty.

BOSCH Security System's warranty shall not be enlarged, diminished, or affected by, and no obligation or liability shall arise or grow out of BOSCH Security's rendering or technical advice, facilities, or services in connection with Buyer's order to the products furnished hereunder.

For more information about the warranty on this product, see the Warranty Repair section on Bosch's Customer Care web page at www.boschsecurity.us/en-us/Service/CustomerCare.

1.11 Customer Support and Service

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

Service Centers

USA

Telephone: 800-366-2283 or 585-340-4162

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: 585-223-3508 or 717-735-6560

Email: technical.support@us.bosch.com

Repair Center

Telephone: 585-421-4220

Fax: 585-223-9180 or 717-735-6561

Email: security.repair@us.bosch.com

Canada

Telephone: 514-738-2434

Fax: 514-738-8480

Europe, Middle East & Africa Region

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

<http://www.boschsecurity.com/startpage/html/europe.htm>

Asia Pacific Region

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

http://www.boschsecurity.com/startpage/html/asia_pacific.htm

More Information

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

2 Product Description

The EX65 Explosion Protected Illuminator is the world's first Intelligent infrared illuminator for explosive environments, combining the latest innovations in infrared technology and design to deliver the highest quality CCTV illumination for critical surveillance applications.

Electropolished 316L stainless steel construction ensures the ultimate environmental protection available today. A single pre-assembled unit with an integrated junction box, the EX65 is designed to be easy to install. Through any of the four (4) 3/4 in. conduit entries, connections are made to the convenient terminal block; there is also space for any additional wiring. All connections are conveniently accessible within the junction box including power and telemetry.

Constant Light technology compensates for LED degradation, a natural occurrence with all LED-based illuminators, to deliver a constant level of lighting performance throughout the life of the illuminator.

2.1 Unpacking

- 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.

2.2 Parts List

2.2.1 Parts Included with the Product

Quantity	Item
1	EX65 Explosion Protected Illuminator
1	Sunshield
4	M4 bolts with washers for sunshield
1	1.5 mm hex key
1	Multi-use tool
1	Instruction Manual

2.2.2 User-supplied Parts

Quantity	Item
3	M6 x 1.0 x 16 mm bolts with lock washers
1	Bottle of Jet-Lube® NCS-30 grease (as needed)
1	Tube of Molykote® BG 20 grease (as needed)
1	Tube of LA-CO Slic-Tite® Paste with PTFE (as needed)

3 Planning

Refer to the information below before installing the unit. This section provides dimensional information and guidelines to help plan your installation.

3.1 Dimensional Drawings

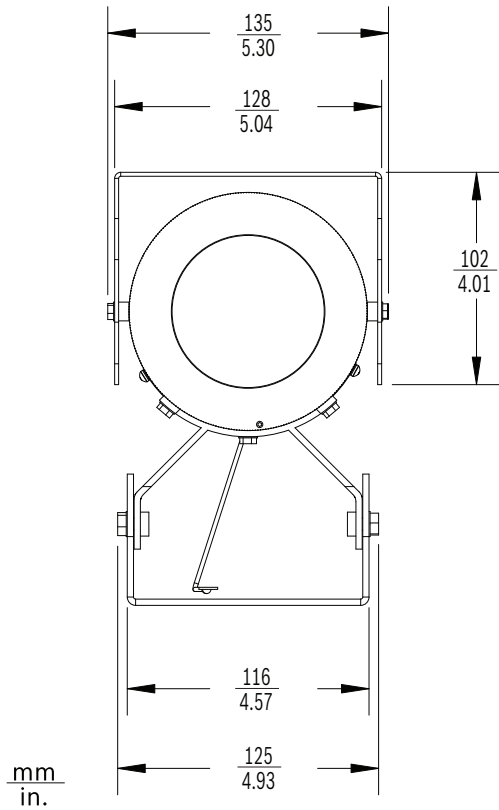


Figure 3.1: Front View

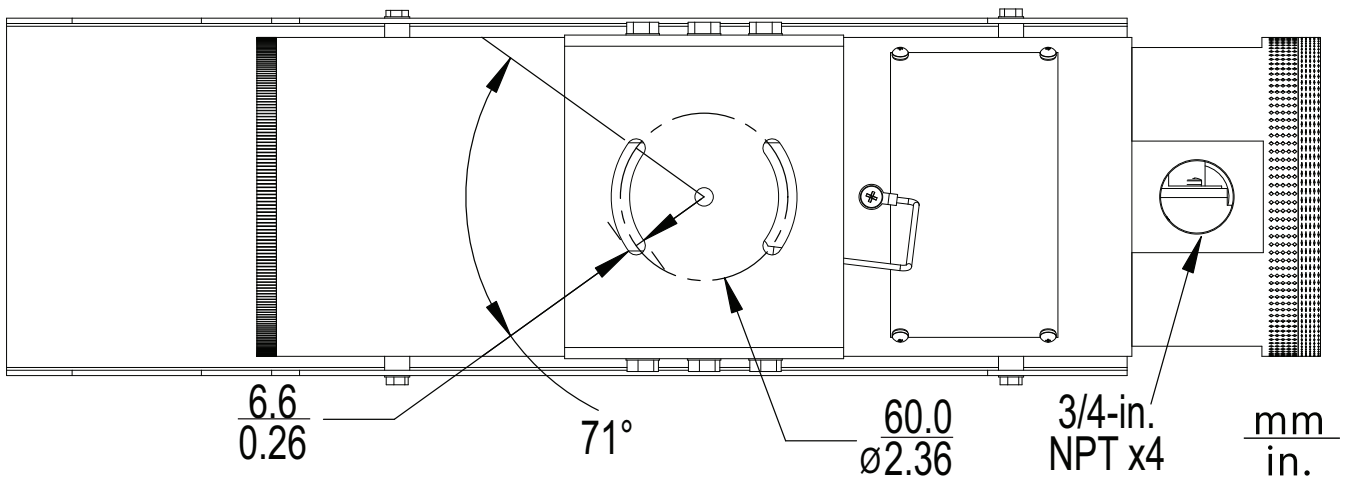


Figure 3.2: Bottom view

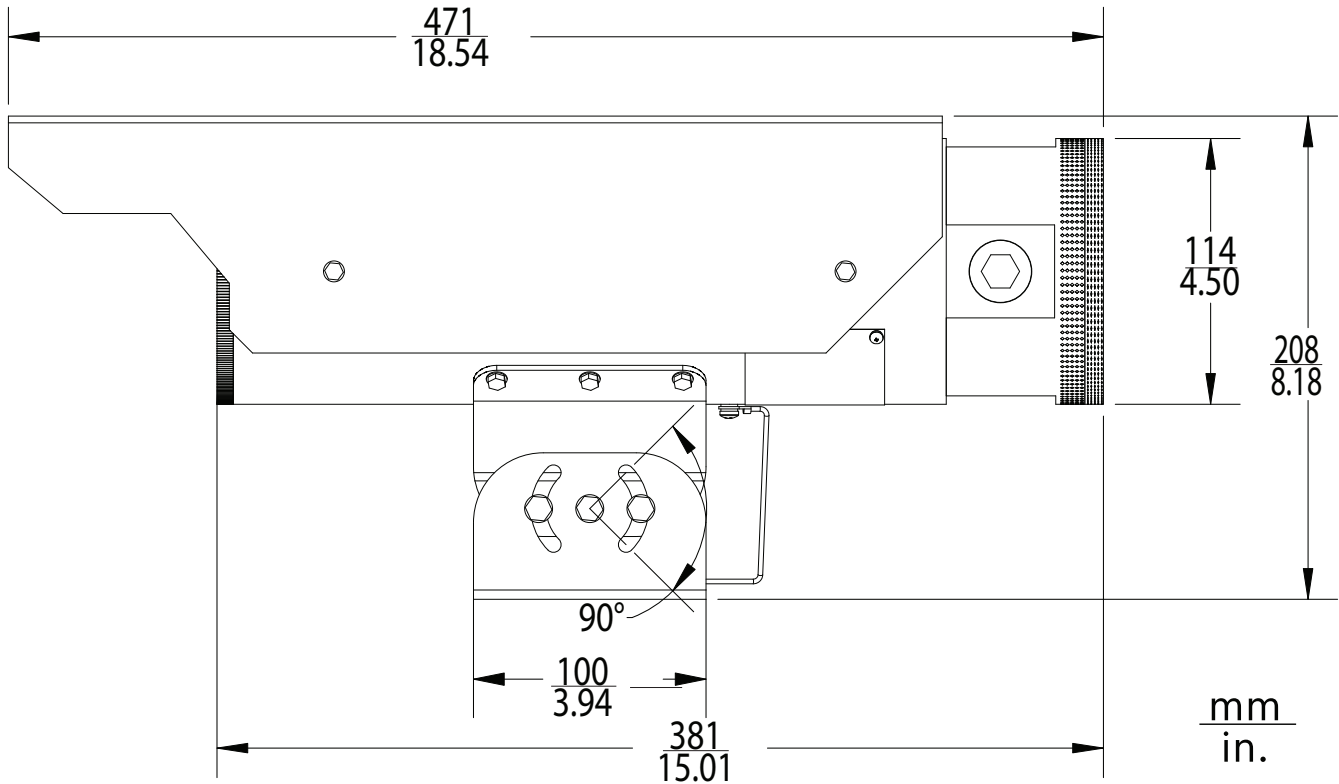


Figure 3.3: Side view

3.2 Initial Preparations

- Determine the operating voltage at the installation site. The circuit board automatically configures for 12 VDC or 24 VAC operation. The unit can receive an input voltage range of 10.5 VDC to 40 VDC or 12 VAC to 28 VAC without damage, but it is recommend to stay within the voltage range specified in *Explosion Protected Certifications, page 8*.
- All units have been tested prior to shipment. It is advisable to check the unit's operation before installation.



Caution!

It is recommended that the installer wear an ESD strap or discharge any static electricity to ground before handling any electronic components.



Notice!

To avoid excessive moisture saturation inside the housing, limit the amount of time that the unit housing is open. Bosch recommends that the unit housing be open for no more than five (5) minutes.

4 Installation Overview

This chapter details the installation guidelines for the EX65. It is important that you consider these steps.



Warning!

Do not apply power to the unit in an explosive environment unless the housing is fully installed, the front and back caps are tightened, and all openings are appropriately plugged and sealed. Disconnect power before servicing or disassembling the unit.

Based on the explosion-protected requirements of the installation location, determine the appropriate installation method and follow all local guidelines and laws. It is important to keep the following in mind during installation:

- The front and back end caps of the unit must be removed for access to the internal electronics or to adjust the lens. The set screws on the caps are tightened at the factory. It is easier to remove the front end cap with the sunshield removed.
- It is advisable to set the photocell sensitivity and illuminator intensity prior to installation. Only make adjustments if necessary as these settings are optimally set from the factory. See *Configuration*, page 22.
- The back end cap of the unit must be removed for access to the internal electronics. The set screws on the caps are tightened at the factory. It is easier to remove the end cap with the sunshield removed.
- When tightening the end caps, ensure that the threads are clean and lubricated with Jet-Lube® NCS-30 grease.
- Before tightening the end caps, ensure that the o-rings are clean and lubricated with Molykote® BG 20 grease (from Dow Corning).
- Ensure that all 3/4-in. NPT plugs are securely tightened in the 3/4-in. NPT conduit openings and sealed with LA-CO Slic-Tite® Paste with PTFE, apply per manufacturer's instructions on the label.
- Ensure that the unit is wired and sealed appropriately either with a conduit seal or a gland and cable rated for the intended environment. Use LA-CO Slic-Tite® Paste with PTFE thread sealant on all conduit or gland threads.
- Carefully follow all manufacturers' instructions for applying grease and paste products.
- All cable entry devices shall be ATEX/IECEx-certified for Ex d IIB T6 Gb and Ex tb IIIC T85°C Db IP67, rated at least 85 °C (185 °F), suitable for the conditions of use and installed correctly.
- All unused conduit openings shall have a 3/4-14 in. NPT stopping plug certified for Class I, Groups C and D; Class II, Groups E, F, and G; and Class III; Class I, Zone 1, AEx d IIB T6; Ex d IIB T6 X hazardous locations, as supplied with the unit.
- Type 'd' protection requires that the hexagon set screws (M3 X 0.5-6g/6H) are considered special fasteners. When installed, the set screws must not protrude from the threaded holes.
- The maximum surface temperature of the unit with aluminum housing will never reach 85 °C when used throughout the ambient operating range of –50 °C to 60 °C (–58 °F to 140 °F).
- If starting up the unit below -40 °C, there may be a delay between when power is applied to the device and when device begins to operate.
- The joint between the junction box and housing is secured by a thread locker for permanent securement. This joint shall not be removed because there may be damage to the flame path threads.

- The device was subjected to the resistance to impact test at 2 J. It shall be installed where it will not be subjected to impact.
- For ambient temperatures below $-10\text{ }^{\circ}\text{C}$, use field wiring suitable for the minimum ambient temperature.

Note: This product is serialized to ensure traceability.

5 Connections

5.1 Power Cable Requirements



Warning!

Before proceeding, disconnect the power from the power supply cable. Ensure that the voltage of the unit matches the voltage and type of the power supply being used.

Connect power from a 24 VAC class 2 power supply. Use AWG 16 to 22 stranded wire or AWG 16 to 26 solid wire; cut back 5 mm (0.2 in.) of insulation.

Cable size	Stranded wire: AWG 16 to 22 Solid wire: AWG 16 to 26
Cable shape	Round
Conductors	2-conductor version
Environmental	Outdoor rated

5.1.1 Wire Distance Guide

This table lists the maximum wire distances for 14, 16, and 18 AWG wires connected to a 24 VAC illuminator.

	Watts	14 AWG (2.5 mm)	16 AWG (1.5 mm)	18 AWG (1.0 mm)
LED-658 Series	37	133 m (438 ft)	84 m (276 ft)	53 m (173 ft)

5.2 Telemetry Cable Requirements

The terminal block contains two terminals for telemetry cables from a remote illuminator control device.

Max. wire diameter	AWG 22-28 for both stranded and solid; cut back 5 mm (0.2 in) of insulation
Telemetry in	Normally Open connection, remove jumper to use external control device

5.3 Making the Connections

All required connections are accessible by removing the rear end cap.



Notice!

Take care not to drop the end caps to prevent damage to the cap threads.



Notice!

Ensure that all wiring/cabling has enough slack inside the housing so that you can slide the assembly out of the housing without damaging the wiring/cabling or any internal components of the device.

Refer to the following figure when making connections:

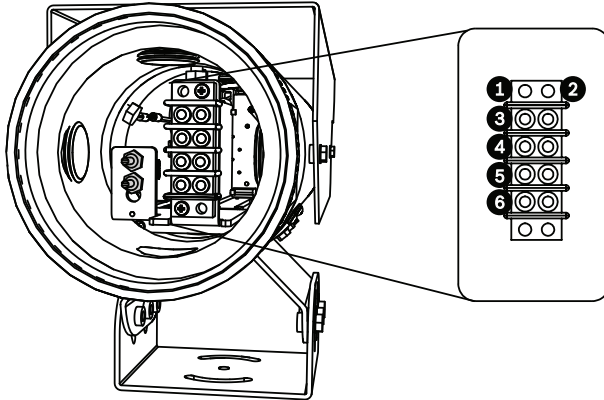


Figure 5.1: Cable Connection Terminators

1	Terminals for incoming power and telemetry cables
2	Internal illuminator use. DO NOT connect any cables to these terminals.
3	Power In (12–24 VDC/12–24 VAC)
4	Power In (12–24 VDC/12–24 VAC)
5	Telemetry (for remote illuminator control)
6	Telemetry (for remote illuminator control)



Caution!

Connections to the terminal block must be made to the terminals on the left side. Do not make connections to the terminals on the right side of the block.

To make connections, follow these steps.

1. Loosen the set screws on the rear end cap using the supplied hex key. Loosen the rear end cap using the multi-use tool. To prevent damage to the o-ring, for every half turn counterclockwise turn back one quarter-turn clockwise.

Note: To prevent damage to the cap threads, take care not to drop the end caps.

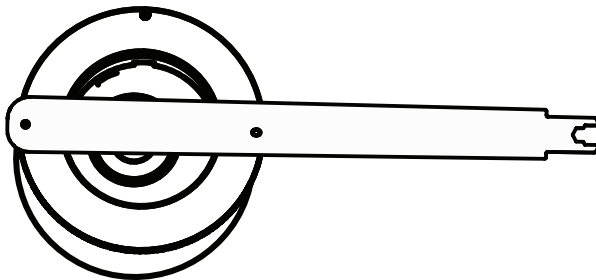


Figure 5.2: Removal of end cap with multi-use tool

2. Unscrew the rear end cap by hand. Set the cap aside.
3. Feed power (and, if used, telemetry) cables through any one of the four 3/4-in. conduit entries.
4. Connect one lead of the power cable to terminal 3 and the other lead to terminal 4.

Note: The power in terminals are polarity insensitive.

6. Connect the two leads from a remote illuminator control device to terminals 5 and 6. This connection is set to Normally Open (NO). When the connection is closed, the illuminator is activated.

Note: The photocell controls the day/night switch operation, which prevents the Illuminator turning on in daylight conditions.

9. Clean and grease the O-ring and threads before replacing the end cap. Refer to *Installation Overview, page 17*.

10. Replace the end cap.

11. Tighten the end cap using the multi-use tool. Ensure that the O-ring is properly seated. After tightening, ensure that there is no gap between the cap and the body of the housing.

12. Tighten the set screws on the end cap using the supplied hex key.

Set screws must not protrude from the threaded hole after tightening.

6 Configuration



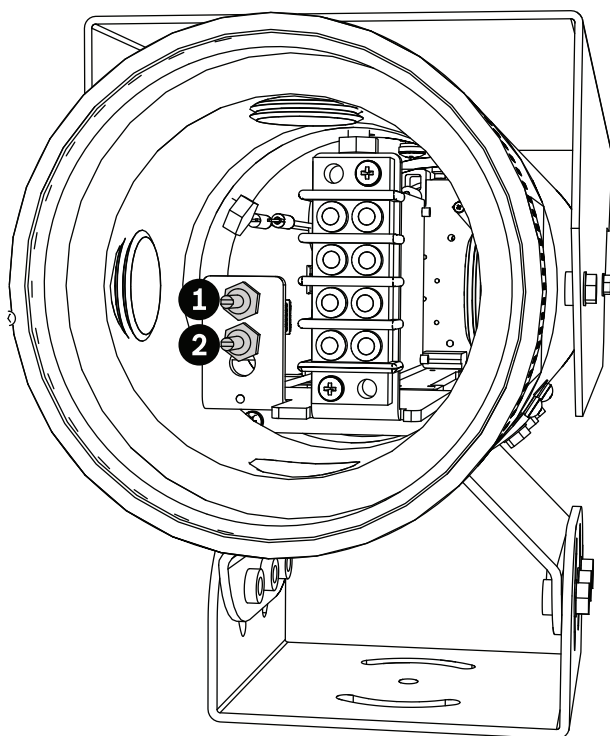
Notice!

Take care not to drop the end caps to prevent damage to the cap threads.

Making Adjustments to the Illuminator

To make adjustments to the illuminator intensity and sensitivity, remove the rear end cap to access these controls:

- Intensity: adjusts the intensity of the infrared illumination emanating from the EX65.
Note: The intensity level is set to maximum at the factory.
- Photocell Sensitivity: controls the level of ambient light necessary to activate the illuminator.



1	Intensity control
2	Photocell Sensitivity control

1. Turn the Intensity control (item 1, above) clockwise to increase the level of infrared illumination.
2. Turn the Photocell Sensitivity control (item 2, above) clockwise to increase sensitivity, or turn the control counterclockwise to decrease sensitivity.
9. Clean and grease the O-ring and threads before replacing the end cap. Refer to *Installation Overview*, page 17.
10. Replace the end cap.
11. Tighten the end cap using the multi-use tool. Ensure that the O-ring is properly seated. After tightening, ensure that there is no gap between the cap and the body of the housing.
12. Tighten the set screws on the end cap using the supplied hex key. Set screws must not protrude from the threaded hole after tightening.

7 Mounting

7.1 Mounting the Unit

Follow all local codes with respect to the wiring and installation of explosion protected housings.



Caution!

Ensure the selected location is protected from falling objects, accidental contact with moving objects, and unintentional interference from personnel. Follow all applicable building codes.

The following installation guidelines must be followed:

- Locate the unit such that it cannot be easily interfered with, either intentionally or accidentally.
- Select mounting hardware and a mounting surface capable of supporting the combined weight of the equipment under all expected conditions of vibration and temperature.
- Secure all cabling.

The unit can be mounted to a compatible Bosch bracket with M6 bolts, or to any purpose-built bracket using M6 or 1/4 in.–20 bolts. **Note:** Ensure that a fabricated bracket is capable of supporting at least three times the weight of the system.

The stainless steel mount adapter (EXS-ADPT) that allows installers to mount an EXTEGRA IP 9000/EX65 device onto one of a variety of mounting brackets originally designed for the MIC series of cameras. Installers secure the adapter to a MIC Wall Mount Bracket (MIC-WMB), and then secure the mounting cradle of the device to the mount adapter. The MIC-WMB can be mounted to any of the following MIC mounting brackets:

- MIC Spreader Plate (MIC-SPR) for installation on a wall
- MIC Corner Mount Bracket (MIC-CMB) for installation in a corner
- MIC Pole Mount Bracket (MIC-PMB) for installation on the side of a CCTV pole.

Refer to the datasheet “MIC Mounting Brackets and Other Accessories” for details about these mounts.

To install the camera onto a MIC mounting bracket, follow these steps:

1. Install the chosen MIC mounting bracket.
2. Install the MIC-WMB.
3. Mount the EXS-ADPT to the MIC-WMB using the four (4) supplied screws.
4. Align the three (3) holes in the mounting cradle to any three (3) holes (in a line) in the EXS-ADPT.
5. Install the center bolt first, and then rotate the camera in the desired direction for surveillance. When the camera is in the desired position, install the other two (2) bolts. Proceed to step 6 below.

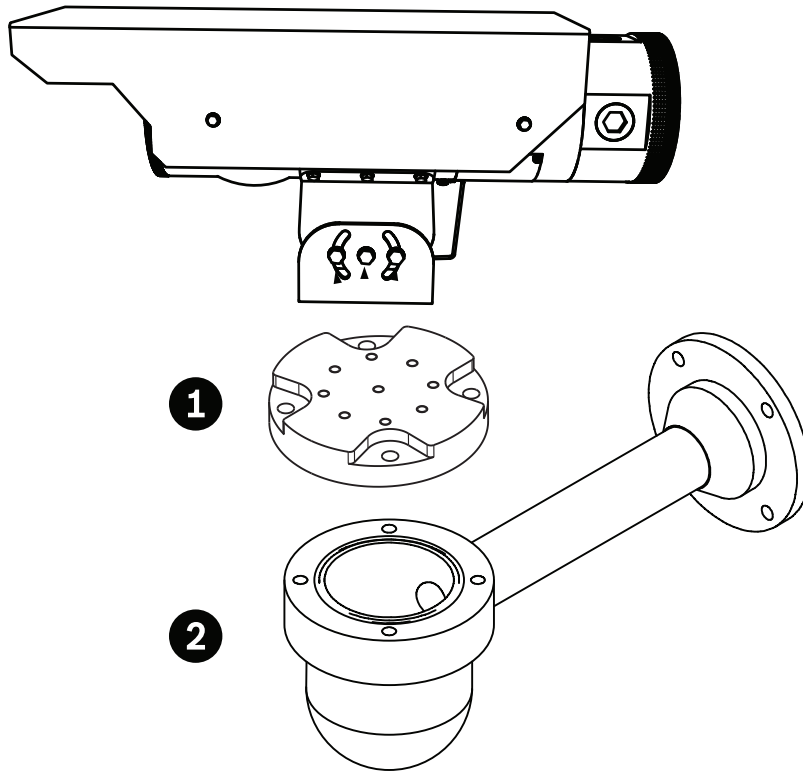


Figure 7.1: EXTEGRA IP 9000/EX65 device to EXS-ADPT (1) to MIC Wall Mount Bracket (MIC-WMB) (2)

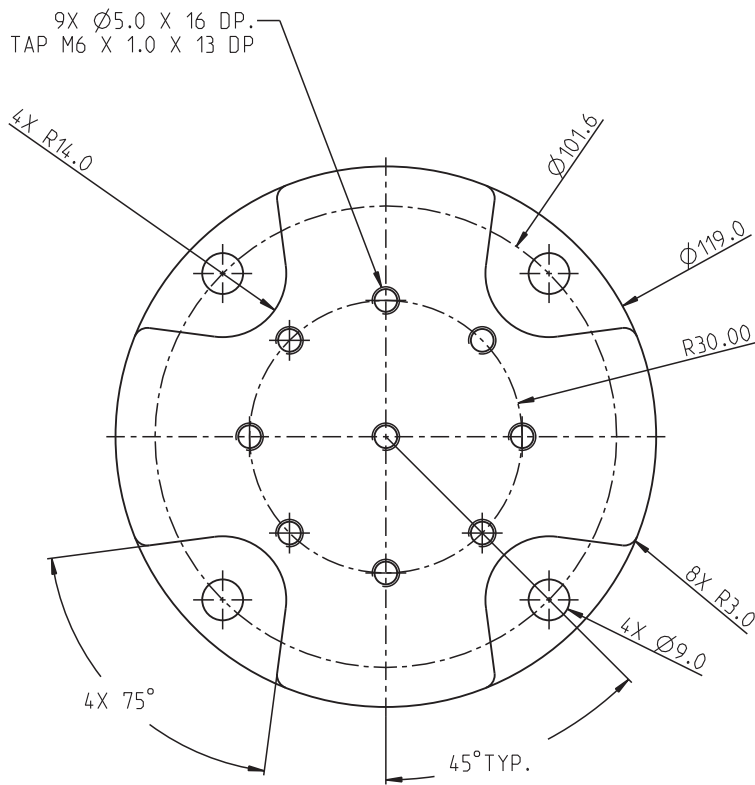


Figure 7.2: EXS-ADPT Mount Bolt Hole Pattern

To install the camera directly to a mounting surface:

1. Select a mounting surface and, if needed, prepare the surface by pre-drilling and tapping three M6 x 1.0 x 20 mm holes in a line that are 30 mm apart center to center and in line with the desired surveillance target.
2. Allocate three stainless steel M6 x 1.0 x 16 mm bolts with lock washers and ensure that the mounting surface and the threads of bolts are clean and free of debris.
3. (Optional) Apply a few drops of a medium-strength thread-locking agent to the bolts per the manufacturer's instructions.
4. Secure the mounting cradle (item 1 in the following figure) to the mounting surface with the M6 x 1.0 x 16 mm bolts and lock washers using a 10 mm wrench or the multi-use tool. Do not tighten fully.

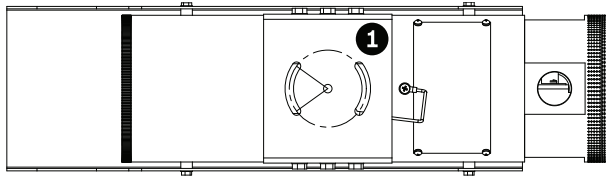
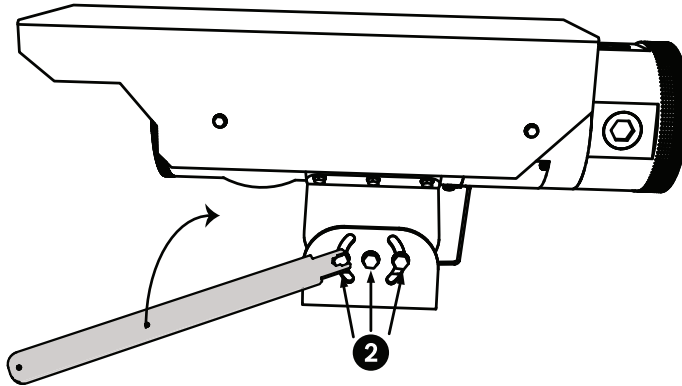


Figure 7.3: Bottom View with Mounting Cradle detail

5. Slightly loosen the six M6 bolts on both sides of the mounting cradle, using a 10mm wrench or the multi-use tool, and make directional adjustments to the device so that it is pointing at the desired surveillance target. (See the following figure.)



6. Tighten all mounting bolts to 4.1 to 6.8 N·m (3 to 5 ft-lb).
7. Connect wiring as explained in *Connections*, page 19, and follow all local regulations and laws regarding explosion protected devices.
8. Connect the ground cable, located on the bottom of the housing, to a suitable grounded material (grounded conduit or a ground wire).

7.2

Installing the Sunshield

1. Line up the mounting holes of the sunshield with the tapped holes in the body of the unit.
2. Install the supplied M4 bolts through the sunshield bolt holes into the body of the unit and tighten by hand.
3. Tighten the supplied bolts to 2.0 N m (1.5 ft-lb) using a 7 mm wrench or the multi-use tool.

8 Troubleshooting

8.1 Illuminator Operation

The following table is intended to help you identify the causes of malfunctions and correct them when possible.

Issue	Possible Solution
Fuse blows	<ul style="list-style-type: none"> – Check the fuse rating. – Check for shorting between the housing and the input power wires.
Cannot tell if LEDs are ON	LEDs will have a faint red glow when ON. To check: <ul style="list-style-type: none"> – Aim the LEDs directly at an IR sensitive camera, or – Wait for the LEDs to warm up (two minutes).
LEDs are not ON	<ul style="list-style-type: none"> – Cover the photocell to activate power to the LEDs (up to 30 seconds delay for activation). – Adjust the photocell sensitivity control. See <i>Configuration, page 22</i>. – Adjust power to the LEDs.
LEDs do not turn OFF when sufficient ambient light is present	<ul style="list-style-type: none"> – Make sure the photocell is not covered or hidden behind any object. – Adjust the photocell sensitivity control. See <i>Configuration, page 22</i>. The LEDs remain ON or OFF if the adjustment is at full turn.
LEDs oscillating ON and OFF	<ul style="list-style-type: none"> – Adjust the photocell sensitivity control. See <i>Configuration, page 22</i>. – Remove any objects in front of the LEDs that are causing reflections back to the photocell sensor.

9 Maintenance

9.1 Repairs

**Danger!**

Disconnect power before servicing or disassembling the housing or unit.

Never remove the front or end caps unless power is disconnected from the unit.

Bosch recommends that you contact your local Bosch service center for device maintenance and repair. In the event of failure, the device should be removed from site for repair.

9.2 Replacement of the Mounting Cradle

1. Disconnect power from the unit and, optionally, remove all connections.
2. Using a 10 mm wrench or the multi-use tool, remove the three (3) M6 bolts holding the mounting cradle to the mounting surface.
3. Put the unit in a safe location.
4. Using a 7 mm wrench or the multi-use tool, remove the seven (7) M4 bolts holding the mounting cradle to the housing.
5. Install a new mounting cradle in reverse of installation and tighten the seven (7) M4 bolts to 2.0 N m (1.5 ft/lb).
6. Finish installation as described in *Mounting, page 23*.

10 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*.

11

Technical data

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

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