



# BOSCH

Precision Engineered Opto-Electronics™

## INSTALLATION INSTRUCTIONS

### EX62

Explosion Protected Full Size Housing



MAN-62-00

## **IMPORTANT SAFETY INSTRUCTIONS**

1. Read these instructions.
2. Keep this instruction.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with manufacturer instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided

plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the power where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in a way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



## IMPORTANT

For best results, please read this Instruction Booklet prior to installing the **EX62**.



## WARNING !

CSA Certified / UL Listed CLASS 2 power adaptors must be used in order to comply with electrical safety standards.

Made in Canada



**Class I, Div. 1&2, Groups A, B, C, D**

**Class II, Div. 1&2, Groups E, F, G**

**Class III**

**12 Vdc, 28.8W(max); 24 Vac, 38.4W(max) Temperature Code T6**

**WARNING:** To prevent ignition of hazardous atmospheres, **DO NOT REMOVE COVER** while circuits are alive. Keep assembly tightly closed when in operation. For Class I, Groups B, C & D conduit seals are required within 16".

**ADVERTISSEMENT:** Pour éviter l'allumage des atmosphères dangereuses, **ne faut pas ouvrir le couvercle** lorsque les circuits sont allumés, pour les Groupes B, C et D de la Catégorie 1 les joints de fermeture sont obligatoires dans une distance de 18 pouces.



EU Directives covered by this declaration:

72/9/EC Low Voltage Directives

89/336/EEC Electromagnetic Compatibility Directive

**Bosch Security Systems, Inc.** will not be responsible for injuries or damages resulting from the improper installation or use of any product sold by **Bosch Security Systems, Inc** their agents, distributors or dealers.

## **Certifications / Compliance:**

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CSA-NRTL: LR 113310

Class: 2258 02 / 82 Process Control Equipment

Safety: OSHA / ANSI / UL / CSA

CSA Std. C22.2 – Various Sections

UL 508 – Industrial Control Equipment

UL 698 – Industrial Control Equipment for  
Use in Hazardous (Classified)  
Locations

UL 1203 – Explosion-Proof and Dust-Ignition  
Proof Electrical Equipment for  
Use in Hazardous (Classified)  
Locations.

Class I, Div 1, 2, Groups A, B, C, D

Class II Div 1, 2, Groups E, F, G

Class III

Environmental: CSA / NEMA TYPE 4

Temperature

Rating Code: T6 (85°C)

*NOTE: This equipment has been tested and found to comply with the limits for a 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. As part of its' normal operation this device can generate radio frequency energy and if not installed and used in accordance with the installation manual may cause interference to radio communications. However, there is no guarantee that interference will not occur on a particular installation. If the device does cause interference to radio or television reception the user is encouraged to try to correct the interference by one or more of the following measures:*

- 1) Fit Ferrite beads on all cable to and from the power supply box, within the box walls.*
- 2) Route the composite cable between the camera and the power supply in steel conduit piping over the entire run of the cable up to and including connection to a deep conduit base fitted under the camera and a conduit fitting adaptor in the wall of the PSU box.*
- 3) Contact BOSCH Service Center for further advice.*

## INDEX – EX62

	<u>Page</u>
Description.....	6
Unpacking.....	7
Parts List.....	7
Items Required for Installation.....	7
 Mechanical Specifications .....	 8
 Initial Preparations .....	 9
Guidelines.....	9
 Section 1. Disassembly .....	 10
 Section 2. Voltage Setting .....	 11
 Section 3. Camera Adjustments .....	 13
 Section 4. Mounting.....	 15
 Section 5. Troubleshooting Guide .....	 19
 Section 6. General Specifications.....	 21

## DESCRIPTION

The larger version of the world's only explosion protected and bullet resistant surveillance camera system will house all major brands of surveillance cameras. Most motorized zoom lenses can also fit within the size range of the EX62. Designed for hazardous industrial locations including the entire range of OSHA (UL) designation for explosive locations.

Its Class I, Groups A and B ratings for Acetylene and Hydrogen makes this housing unique in industry.

A voltage regulator circuit allows for *12V dc* or *24V ac* operation for units with camera installed. The circuit board provides protection from voltage surge, transient spikes and reverse voltage.



## **UNPACKING**

Care should be taken when unpacking. Check the parts list and confirm all items have been located. Inspect the equipment thoroughly to ensure nothing was damaged in transit.

Contact BOSCH Service Center if a problem is noted, see the rear page of this booklet for contact numbers.

### **PARTS LIST** (items supplied with unit)

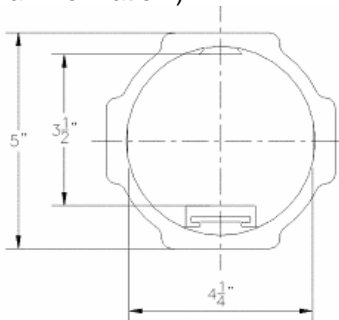
- *EX62* assembly
- Installation Instructions
- Hex key

### **ITEMS REQUIRED FOR INSTALLATION** (not supplied with unit)

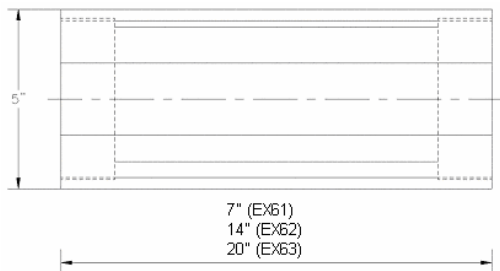
- Mounting bracket
- Hardware for mounting (bolts, etc.)
- Silicone sealant

## EX62 MECHANICAL DIMENSIONS

(See Section 6 - General Specifications, for additional information )



**Front View**



**Side View**

## INITIAL PREPARATIONS

- Determine the operating voltage at the installation site. The camera circuit board automatically configures for 12Vdc or 24Vac operation.
- All units have been tested prior to shipment. After the wiring has been reconnected, it is advisable to check the unit's operation before installation.

## GUIDELINES

The installation of the **EX62** is explained in Sections 1 to 4 listed below.

It is important that these steps are followed.

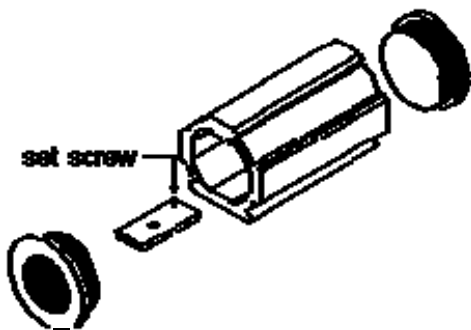
1. Disassembly
2. Voltage Setting
3. Camera Adjustments
4. Mounting

## **1. DISASSEMBLY**

The front and back caps of the unit must be removed for any access to the internal electronics. The set-screws on the caps are not tightened at the factory.

Refer to figure 1.1 for disassembly

- Step 1.1 - Remove or loosen the mounting straps on the housing to make disassembly and installation easier.
  
- Step 1.2 - Slide the enclosure out of the mounting cradle. Slowly unscrew and remove the front and back caps.
  
- Step 1.3 - Loosen the sliding tray set-screw at the rear of the tray with the hex key (supplied).
  
- Step 1.4 - Slide the unit forward and outside of the housing. Push or pull on the slide tray only. Do not push or pull on any electronic parts.



**Figure 1.1 Disassembly**

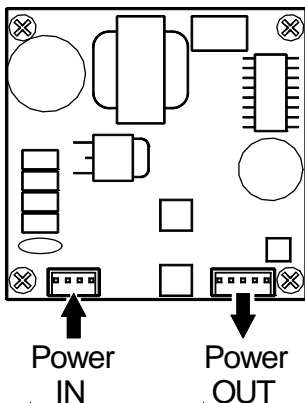
## **2. VOLTAGE SETTING**

The camera unit is pre-connected with an electrically isolated power board for 24V ac or 12V dc operation with no wiring change or wiring polarity. See figure 2.1 for wiring details.

For units with a housing only, the installer will have to provide the camera and mounting parts. Any necessary adjustments and parts will need to be made by the installer.

Note: Input voltage is 10.5VDC to 40VDC for DC input. The AC input range is 12VAC to 28VAC.

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



**FIGURE 2.1**  
**12VDC or 24VAC Electrically Isolated**

### 3. CAMERA ADJUSTMENTS

The units are available with varifocal auto-iris depending on the housing size. The following steps will advise the installer how to make any adjustments if necessary.

Step 3.1- Remove the camera module from the housing (see Section 1 Disassembly)

#### For Vari Focal and “Auto-Iris” Control Adjustments

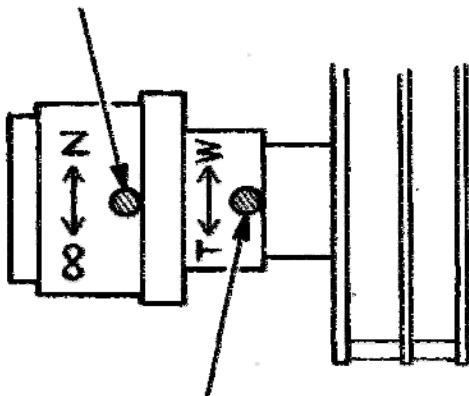
Step 1 - Loosen the lens set screws for focus/zoom adjustments. See **Figure 3-1**

Step 2 - The set screw marked **N**  $\longleftrightarrow \infty$  is used for image focus.

Step 3 - The set screw marked **T**  $\longleftrightarrow$  **W** is used for telephoto or wide-angle settings.

Step 4 - Re-tighten the set screws after focus adjustments have been completed.

Loosen this set screw  
for Focus adjustment.



Loosen this set screw for  
Telephoto (T) or Wide  
Angle (W) adjustment.

**Figure 3.1**  
**Micro Lens Adjustments**



#### 4. MOUNTING

Select a suitable location that is protected from accidental damage, tampering, and environmental conditions exceeding the unit's specifications.

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

The housing can be mounted using most heavy duty brackets that have a ¼"-20 bolt configuration. Use the bracket template (figure 4.1) to match the mounting bracket holes.

Step 4.1 - Based on the selected mounting location, determine if the video and the input power wires should enter the housing through any one of the ¾" NPT holes. For ease of re-assembly, this step should be performed in conjunction with Section 3.

Step 4.2 - Connect a ¾"NPT gland (not supplied) to one of the entry holes . Note: Wrap the threads with 2-3 turns of Teflon tape before insertion and seal with silicone afterwards.

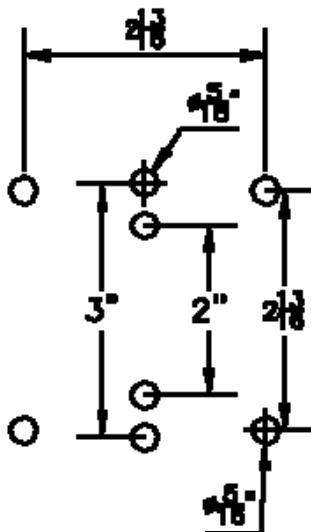
Step 4.3 - Check all other NPT holes not used are covered and tightened with a ¾" NPT plug. Seal the plug with silicone sealant.

Step 4.4 - Feed the input wires through the gland and connect to the

- power/video wires of the camera unit.
- Step 4.5 - Tighten the cable gland onto the input cable.
- Step 4.6 - Mount the housing cradle to the bracket (not supplied). Use the template to check for alignment onto the mounting bracket. Make any necessary directional adjustments and then tighten all mounting bolts. Note: The mounting holes are for a ¼"-20 bolt.
- Step 4.7 - Re-assemble the unit into the housing. Check that no parts or wires are pinched or damaged during re-assembly. Tighten the set-screw on the slide tray.
- Step 4.8 - Screw on and tighten the front and rear caps. Check that the gasket is even with the housing and the front cap window is not hitting the camera lens. Tighten the front and rear set-screws (4 total).

Step 4.9 - Add the housing unit back on the mounting cradle.

Step 4.10 - Add the 2 straps back on the housing and cradle. Tighten on the 2 side straps.



**Figure 4.1 Bracket Diagram**

## 5. TROUBLESHOOTING GUIDE

<i>PROBLEM</i>	<i>POSSIBLE CAUSE</i>	<i>LIKELY SOLUTION</i>
<b>No Video</b>	1. <u>Power Supply:</u> -Connections....  -Voltage Range...	Check input power connections at the cable leads. Check for loose wires.  If connected to DC, check voltage input range of 10.5 – 40 V.  If connected to AC, check input voltage range of 12 – 28V.  Measure the voltage at the input terminal block.

<p><b>No Video</b> (cont'd.)</p>	<p>2. <u>Video Connections</u></p>	<p>Determine if wiring polarity at "Video Connector" terminal block is correct. Check BNC connector.</p> <p>If still no video, connect the camera directly to the monitor. Check the video signal. If okay, the problem is with the interconnections. If still no video, contact BOSCH Service Center. See rear page of this manual for contact information</p>
<p><b>Poor Picture Quality</b></p> <p>Snowy Image</p>	<p>Poor Video Signal</p>	<p>Ensure video cable is correctly matched and terminated with 75 ohms at each end. Make sure video cables are similar types.</p>

## 6. GENERAL SPECIFICATIONS

Options.....Heater/Blower  
.....Ballistic Insert

Operational Range.....-50°C to +50°C  
(-58°F to +122°F)

Humidity Range.....Up to 85% (relative)

Power Supply.....12V dc or 24V ac (60Hz)

Housing.....Extruded Aluminum

Conduit Hole.....3/4" NPT

Dimensions .....7"(L)x5"(dia.) (EX61)  
.....14"(L)x5"(dia.) (EX62)  
.....20"(L)x5"(dia.) (EX63)

Weight..... EX61 6.5 lbs( 3kg) w/o camera  
.....EX62 15 lbs (6.8Kg) w/o camera  
.....EX63 20 lbs (9Kg) w/o camera

*Subject To Change Without Notice.*



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