



Extreme CCTV™
SURVEILLANCE SYSTEMS

Precision Engineered Opto-Electronics™

INSTALLATION INSTRUCTIONS

EX12LED

Infrared LED Illuminator



www.ExtremeCCTV.com

Toll free: 1-888-408-2288

MAN-12LED-02



IMPORTANT

For best results, please read this Instruction Booklet prior to installing the **EX12LED** Illuminator Unit.



WARNING !

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



Extreme CCTV®
SURVEILLANCE SYSTEMS

Made in Canada

12 Vdc, 9W(max)

24 Vac, 60 Hz, 9 W(max)



C US
189936

Certified to:

UL 50 / UL 2044

CSA C22.2 No. 1-M94

CSA Type 4X / NEMA 4X

NEC Class 2 Limited Power Circuit See Installation

Instructions For Proper Connections

CSA C22.2 No. 0-M1991

CSA C22.2 No. 94.M91

CSA C22.2 No. 94-M91



EU Directives covered by this declaration:

72/9/EC Low Voltage Directives

89/336/EEC Electromagnetic Compatibility Directive

This installation should be made by a qualified service person and conform to all local codes.

EXTREME CCTV™ will not be responsible for injuries or damages resulting from the improper installation or use of any product sold by **EXTREME CCTV™**, their agents, distributors or dealers.

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DESCRIPTION

The ***EX12LED Infrared LED Illuminator*** provides night-time covert lighting for short range indoor and outdoor surveillance when used in conjunction with existing or newly installed monochrome cameras. Its compact cube shape is comprised of 42 LEDs mounted into a solid core CNC machined aluminum housing and beamed through a dark-tinted tough window.

The ***EX12LED*** has an effective range up to 40 feet and is available in 850nm or 940nm with 30° or 60° beam spread.

A voltage regulator circuit allows for *12V dc* or *24V ac* operation, and a range in between; also providing protection from voltage surge, transient spikes, and reverse voltage.

The ***EX12LED*** is available in several models designed to meet specific needs.

Contact Extreme CCTV™ for information.

- sales@ExtremeCCTV.com
- Tel: 1-888-409-2288 (Toll free NA)

See the Light. Get the Picture.™

UNPACKING

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

Contact Extreme CCTV™ if a problem is noted.

- quality@ExtremeCCTV.com
- Tel: 1-604-420-7711 or

see the rear of the booklet for contact numbers.

PARTS LIST (items supplied with unit)

- *EX12LED* Unit including one “**U**” shaped mounting bracket with fasteners
- Installation Instructions booklet

ITEMS REQUIRED FOR INSTALLATION

(not supplied with unit)

- Philips screwdriver
- Small slotted screwdriver
- Mounting screws, etc.

INITIAL PREPARATIONS

- The *EX12LED* operates in either V dc or V ac mode. The power input supply voltages can be 12 – 30V dc or 12 – 28V ac.
See Section 2, Input Power Connections – Reference Only.
- Determine the optimum location for the Illuminator unit.
See Section 3, Mounting-Illuminator Unit.
- All units have been tested prior to shipment, but it is advisable to check the unit's operation before installation.

GUIDELINES

The installation and set-up of the *EX12LED* is explained in Sections 3 and 4.

It is important that these steps are followed in sequence:

3. Mounting - Illuminator Unit.
4. LED Adjustments.

1. MECHANICAL SPECIFICATIONS
(See Section 7 - General Specifications, for additional information)

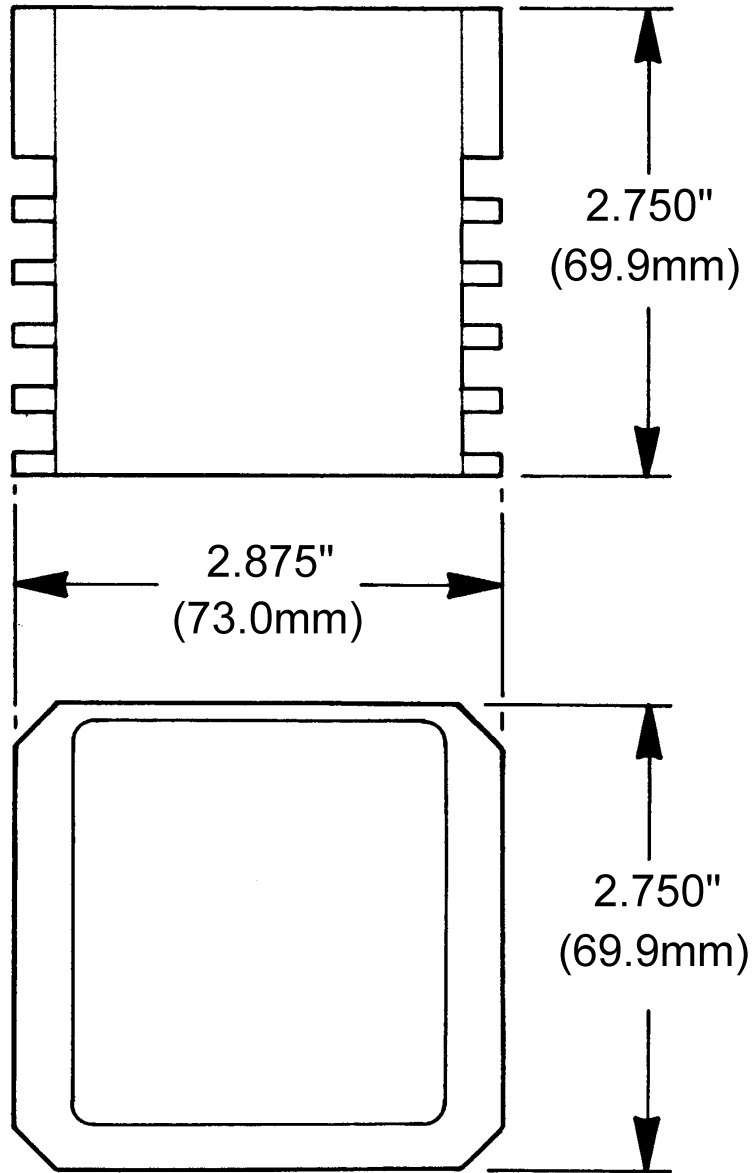


FIGURE 1 – 1
Outline Dimensions

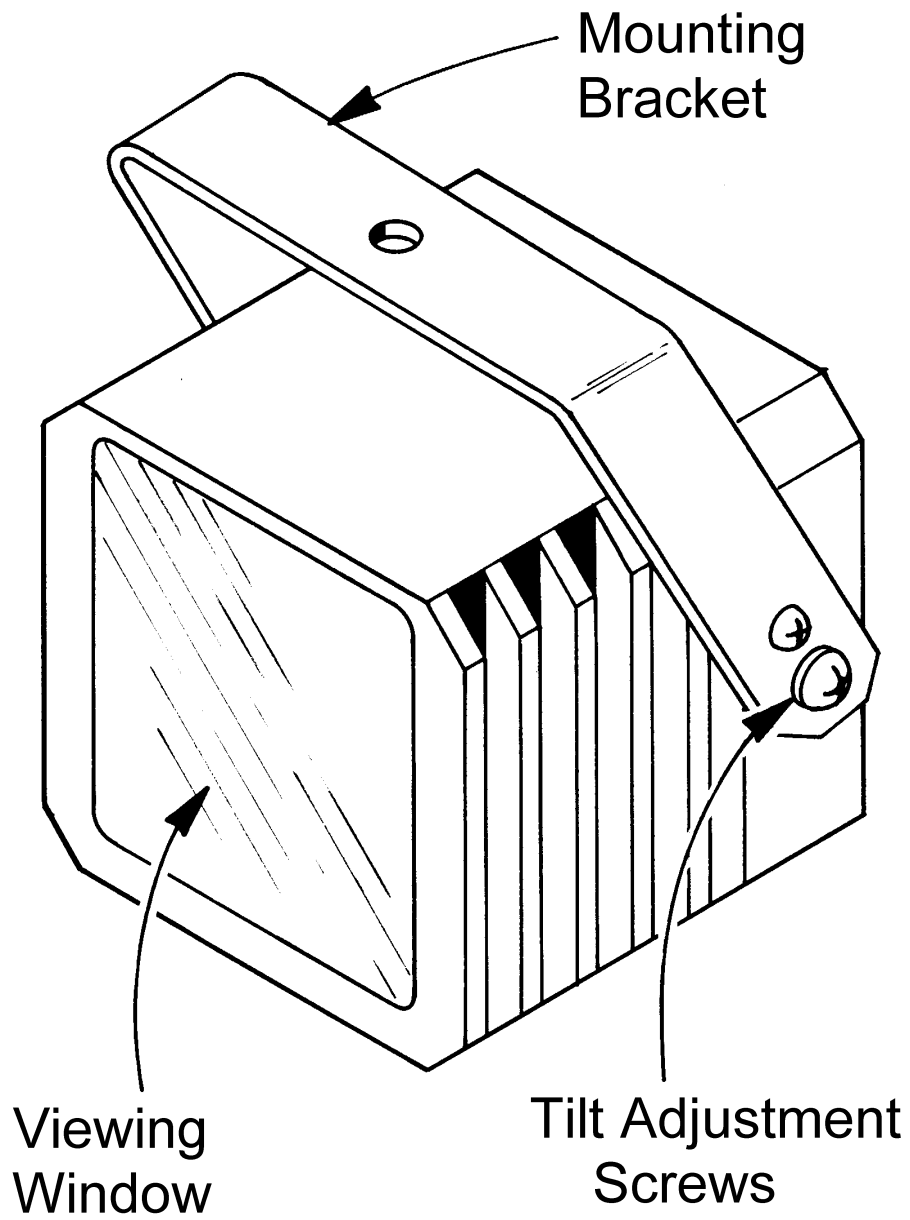
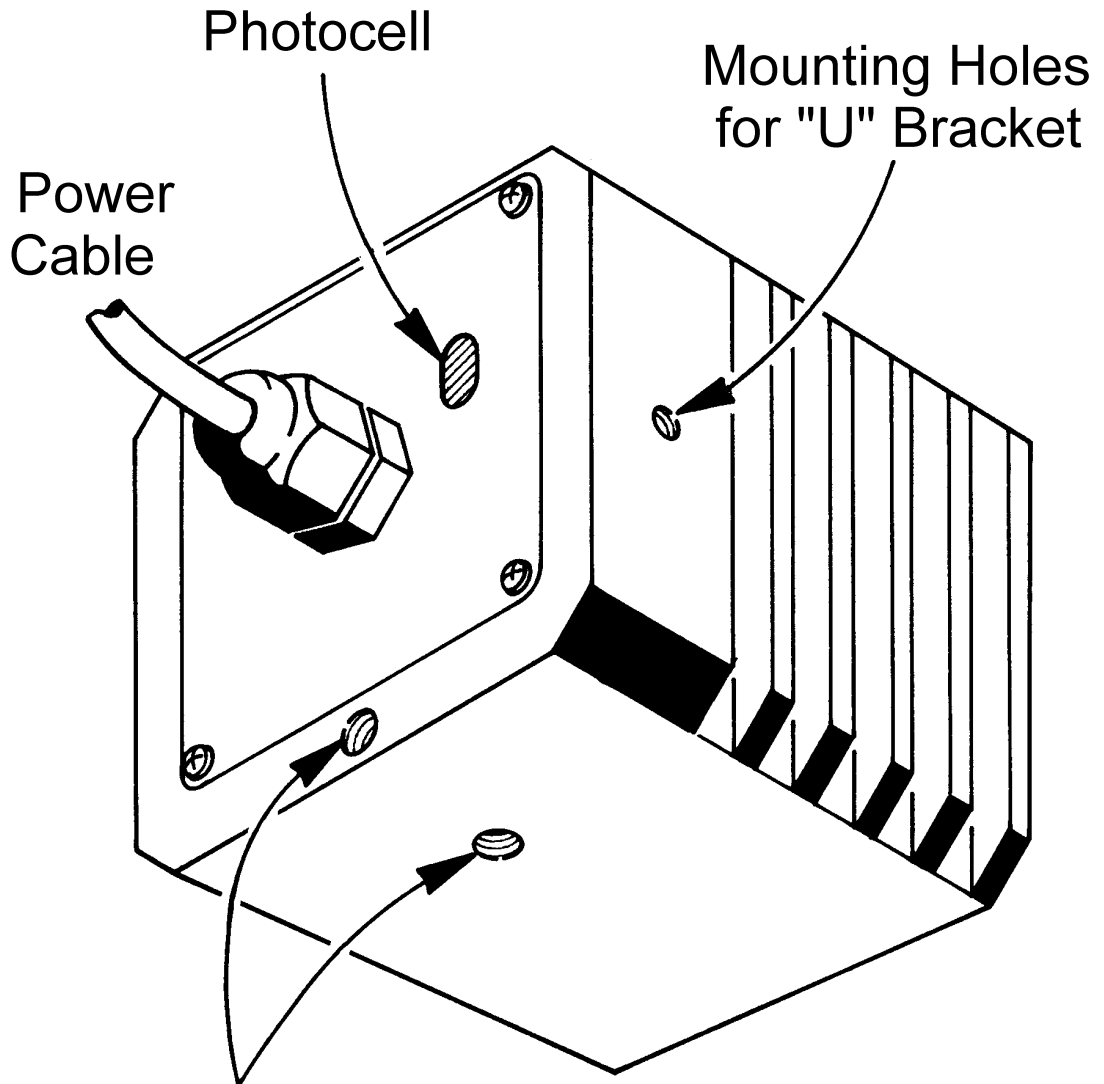


FIGURE 1 – 2
Front View



1/4-20 threaded holes for standard camera-type mounting brackets

FIGURE 1 – 3
Rear View

2. INPUT POWER CONNECTIONS – Reference Only

The voltage operating range is 12 – 30V dc or 12 – 28V ac. Note: input leads are not polarity dependent.

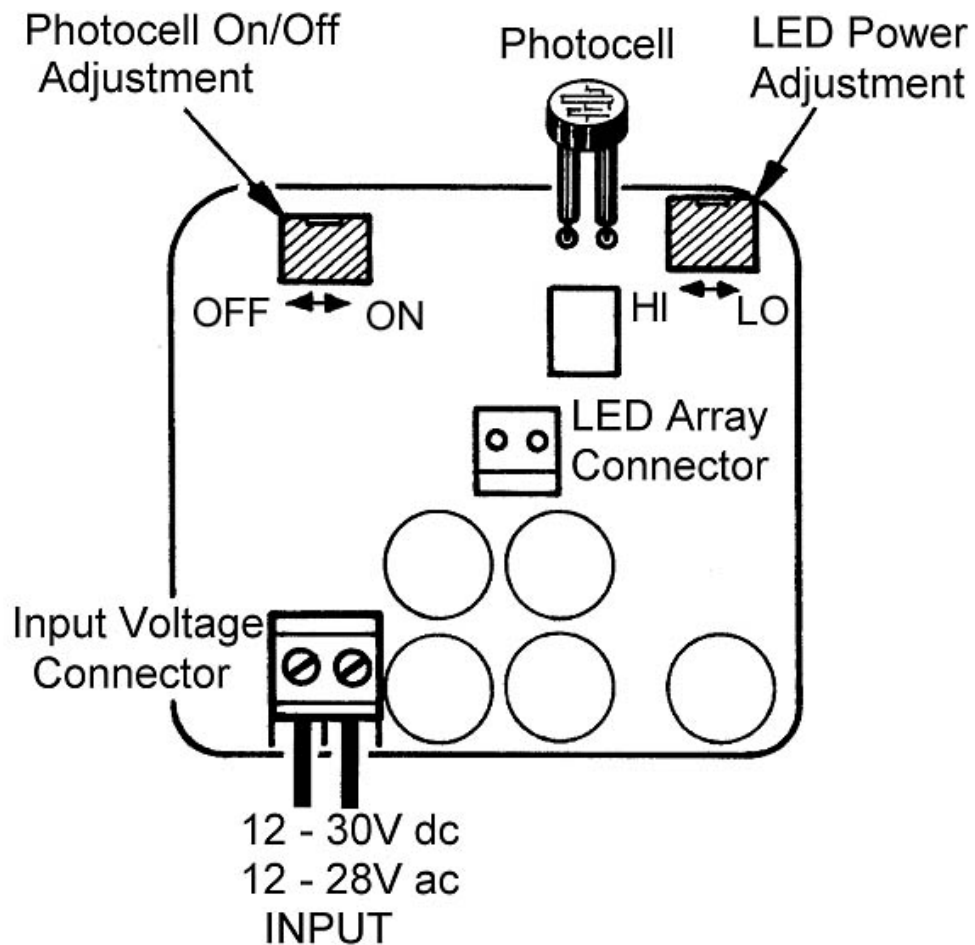


FIGURE 2 - 1
Voltage Regulator Board (VRB)

3. MOUNTING - ILLUMINATOR UNIT

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

Caution: The selected mounting location should not place the camera in a situation where its environmental specifications could be exceeded. See page 17. 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:

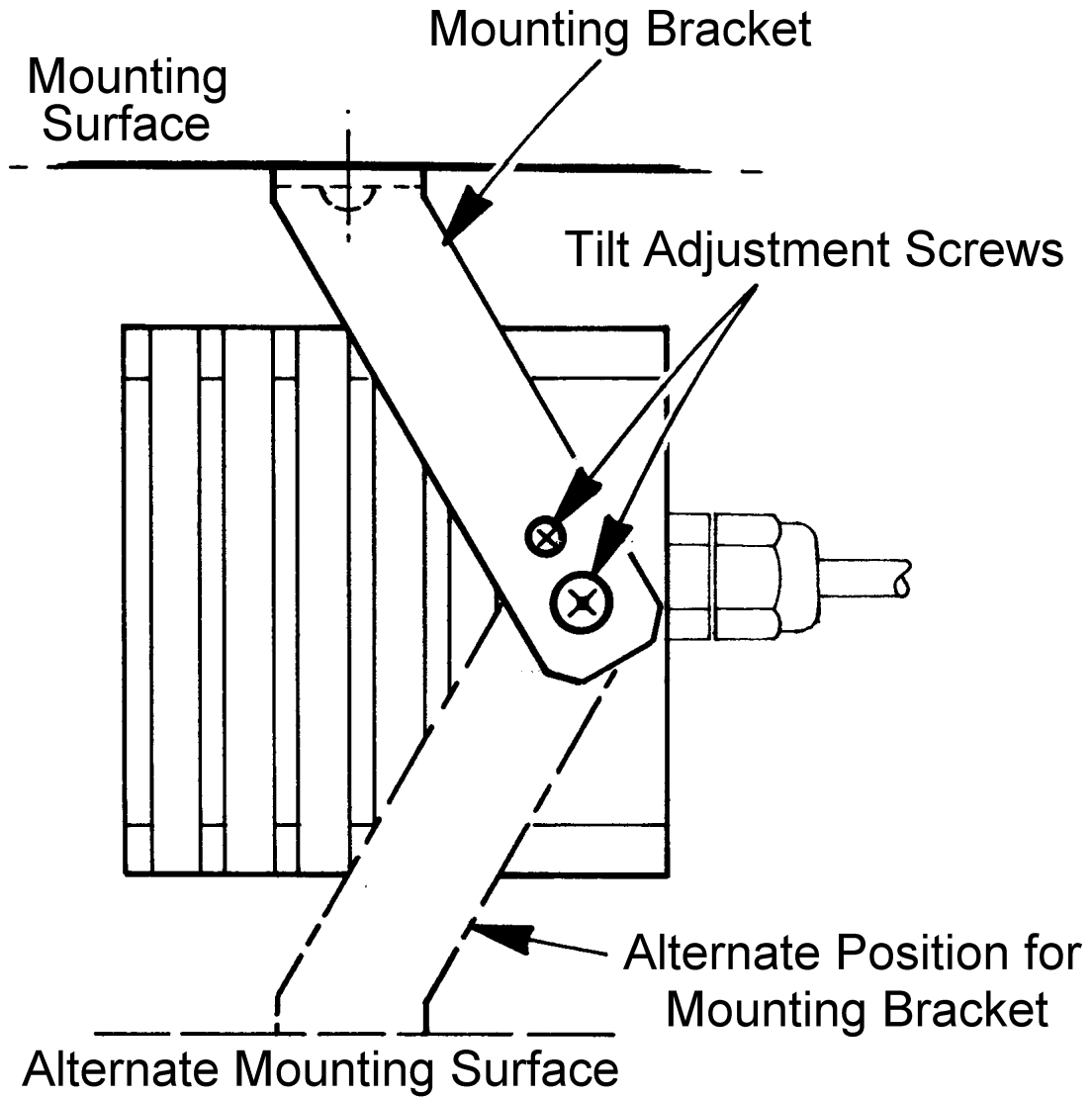
- Locate the camera such that it cannot be easily interfered with, either intentionally or accidentally.
- Select a mounting surface capable of supporting the combined weight of the camera and mounting hardware under all expected conditions of vibration and temperature.

- Secure all cabling.
- Installations on drywall must use a ¼” bolt and drywall butterfly type anchor or superior connection.

The EX12LED can be mounted to any flat surface. The supplied “U” shaped mounting bracket allows for tilt as well as rotation. If this mounting bracket does not suit the needs of the installation, the installer can utilize either of the two ¼-20 camera-mount holes located in the housing (see **Figure 1-3** on page 6). The choice of camera-type mounting brackets is left to the installer.

Step 3.1 - Mount the “U” bracket to the chosen mounting surface and attach the *EX12LED* with the supplied adjustment screws.
See **Figure 3-1** on page 10.

Step 3.2 - Tighten the *EX12LED* into its approximate viewing direction.
Proceed to Section 4.



Note: The Tilt Adjustment screws should be loosened only. Do not remove these screws.

FIGURE 3 - 1
Mounting Details

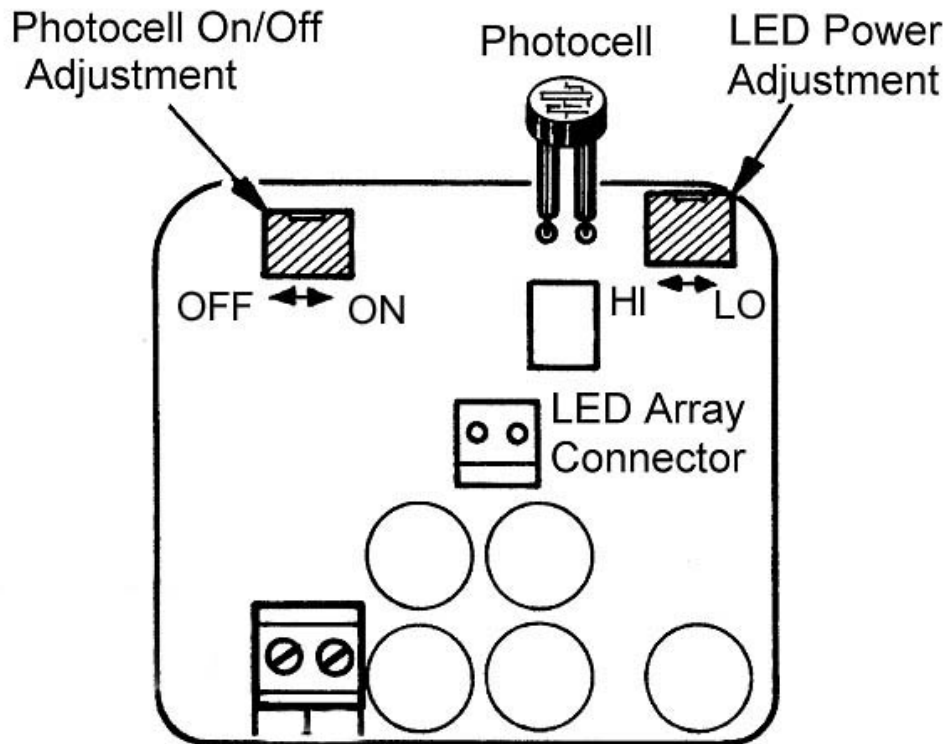
4. LED ADJUSTMENTS

The LEDs can be configured for optimum brightness by adjusting the “LED Power” control located on the LED VRB. The photocell’s light-level can also be increased or decreased via the “On/Off” potentiometer.

See **Figure 4-1** on page 12.

The *EX12LED* should be energized while making these adjustments. It would be beneficial for the installer to have a connected IR sensitive camera during this adjustment phase.

- Step 4.1 - Remove the rear cover of the *EX12LED* to expose the LED VRB.
- Step 4.2 - Point the *EX12LED* in the desired viewing direction.
- Step 4.3 - Cover or adjust the photo-cell to turn the LEDs “ON” (850nm LEDs will have a slight red glow while 940nm LEDs are covert).
- Step 4.4 - Adjust the LED Power if they are too bright or too dim.



For LED power adjustment, rotate clockwise (CW) for “Low” and counter-clockwise (CCW) for “High”.

For photocell “On/Off” light-level adjustment, rotate clockwise (CW) for “On” and counter-clockwise (CCW) for “Off”.

FIGURE 4 - 1
LED and Photocell Adjustments

5. ILLUMINATOR UNIT RE-ASSEMBLY

Make sure the input power wires are properly connected and tightened into the terminal block, all holes are sealed against moisture penetration and all mounting screws are tight.

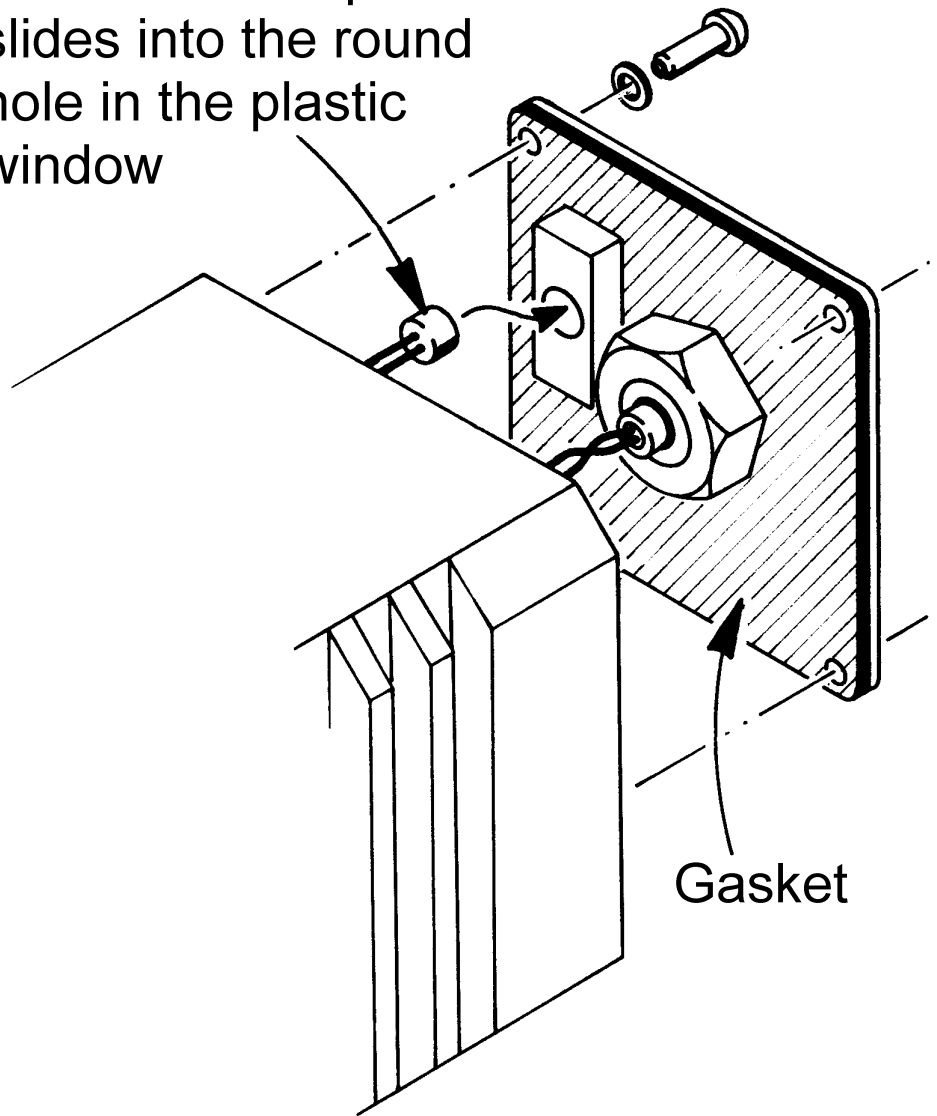
Step 5.1 - Check the gasket attached to the rear cover plate has not been dislodged or warped.

Step 5.2 - Gently press the rear cover into place, making sure the gasket is properly seated and the photocell is centered in its viewing window. See **Figure 5-1** on page 14.

Step 5.3 - Attach the rear cover to the housing.

Step 5.4 - Ensure the power cable has enough slack so that it is not stressed or crimped when the *EX12LED* unit is fixed into its final mounting position.

Make sure the photocell
slides into the round
hole in the plastic
window



Gasket

FIGURE 5 – 1
Rear Cover Re-Assembly

6. TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE SOLUTION
Fuse Blows	<ul style="list-style-type: none">- Check fuse rating.- Check for shorting between the enclosure and the input power.
Don't know if LEDs are "ON"	850nm LEDs will have a faint red glow when "ON". 940nm LEDs are covert. Aim the LEDs directly at an IR sensitive camera to see the lights or wait for the LEDs to warm up (two minutes). Feel for warmth.
LEDs are not "ON"	<ul style="list-style-type: none">- Cover the photo sensor to activate power to the LEDs (up to 30 seconds delay for activation).- Adjust the photocell's variable resistor towards the "ON" position.- Adjust power to the LEDs.

PROBLEM	POSSIBLE SOLUTION
LEDs are not turning “OFF” when sufficient ambient light is present	<ul style="list-style-type: none">- Make sure the photo sensor is not covered or hidden behind any object.- Check that the photocell is recessed in the viewing window.- Adjust the photocell’s variable resistor towards the “OFF” position. The LEDs will stay “ON” or “OFF” if the adjustments are at full turn.

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7. GENERAL SPECIFICATIONS

LED Type.....High Perf. 850nm / 940nm

LED Beam Angles60deg. (W), 30deg. (M)

Operational Range..... -20°C to +50°C
(-4°F to 122°F)

Humidity Range Up to 85% (relative)

Power Supply..... 12V dc or 24V ac
(60Hz), 9W

Viewing Window Acrylic
Housing..... CNC Aluminum
Anodized

Dimensions **W:** 2.875" (73.0mm)
H: 2.750" (69.9mm)
D: 2.750" (69.9mm)

Weight..... 1.0 lbs. (454g)

Subject To Change Without Notice



Extreme CCTV®

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