

Installation Instruction Manual

ILS-S810-0IR

L-810(L) Solar
Red LED with Infrared
(IR) Obstruction Light



SOLARIS

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 **itl** International
Tower Lighting, LLC™

Front Matter

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Introduction

Congratulations, and thank you for choosing an SOLARIS Red LED with Infrared (IR) obstruction light.

We trust that ITL's reputation for technical excellence, experience in product development, commitment to our customers and testing will ensure your complete satisfaction.

You have chosen one of the most technologically innovative LED obstruction lights available on the market today. This product is the result of many years of engineering with extensive input from field service personnel.

This manual covers the ILS-S810-0IR Solar Red LED with Infrared (IR) Obstruction Light.

Please take the time to read and familiarize yourself with this manual. It contains the information necessary to install, test and troubleshoot the ILS-S810-0IR Obstruction Light.

Product Description

The ILS-S810-0IR Solar Red LED with Infrared (IR) obstruction light utilizes LED technology and Fresnel Optics to provide a reliable solar power lighting solution.

The ITL, LLC L-810(L) Solar Red LED with Infrared (IR) obstruction light complies with applicable FAA specifications for marking hazards to air navigation such as towers, smoke stacks or similar structures. It is intended for installations which require FAA L-810(L) red lights.

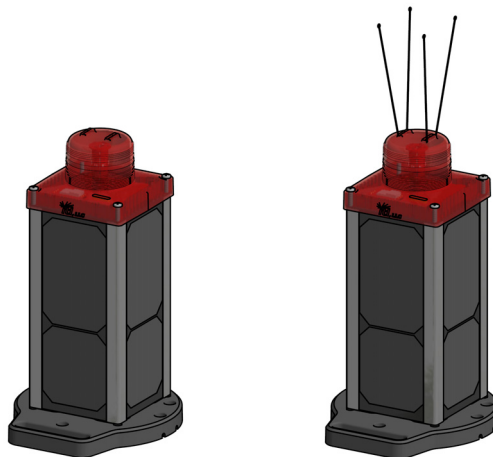


Figure 1: ILS-S810 Solar Red LED with Infrared Obstruction Light

Specifications

Complies with FAA AC150/5345-43H or AC150/5345-43J (selectable), Type L-810 (L)
Complies with FAA Engineering Brief 67 and Engineering Brief 98

Intensity:	32.5 effective candelas (min.), Red 4mW/sr (min.), 800-900nm, Infrared
Beam:	360° Horizontal, 10° Vertical (min.)
Height:	16.8 Inches (42.7 cm) (bird deterrent not included)
Width:	10.5 Inches (26.7 cm)
Weight:	14.0 lbs. (6.4 Kg)
Voltage:	Battery: 6 - 12 VDC Input: 7 - 12 VDC (1 A max)
Temperature:	-40°C to +55°C
Humidity:	less than 95%, non-condensing

Installation

The following section describes how to install the ILS-S810-0IR obstruction light.

Unpacking your LED Obstruction Light

Please examine the shipping containers and their content thoroughly upon receipt and report any potential shipping damage to the carrier.

Tools for Installation

The following tools are suggested for mounting of the ILS-S810 obstruction lights.

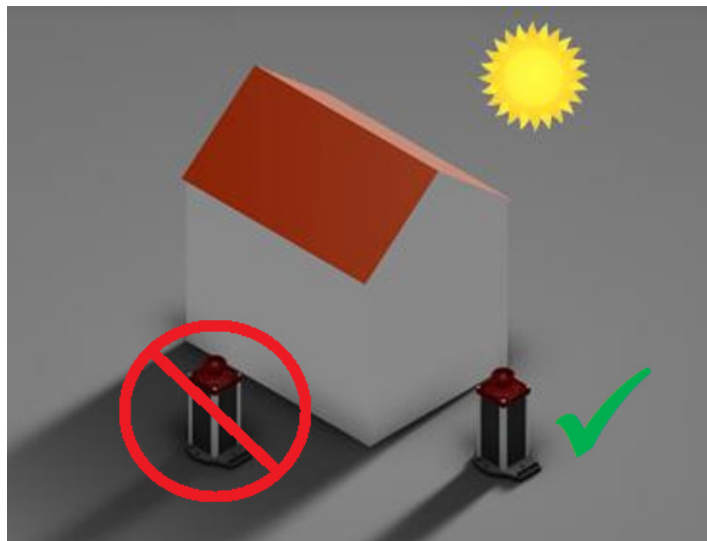
- Digital multi-meter capable of reading 600VAC/DC (Fluke 177 or 179)
- Nut Drivers and Sockets
- #2 Phillips Screwdriver
- Infrared Remote Control (Optional)

Quick Installation

The ILS-S810-0IR requires direct sunlight exposure for up to 40 minutes to activate after being removed from the packaging. The unit will indicate it is functioning by flashing red LED I3 every 5 seconds. See next section for selection of 43H or 43J Red Intensity.

The ILS-S810-0IR includes standard industry 3 and 4 hole mounting patterns. The ILS-S810-0IR must be mounted in the upright position. Use the mounting kit to attach the base. Do not mount in an area that is often shaded. Visually verify proper day/night operation.

It is the responsibility of the installer to comply with all applicable local, state, and federal regulations for installation and operation of this device.



Infrared Remote Control

An optional infrared remote control (P/N ILS-S810-IRC) is available to communicate with the ILS-S810. For best results the Infrared Remote Control should be pointed at the IR Port at the front of the ILS-S810 as shown in the figure below. LED1 on the ILS-S810 will blink after each button press received from the remote control. LED1 will blink twice to confirm a command has been received.

The ILS-S810-0IR comes from the factory with Flashing disabled. Flashing must remain disabled (factory default) for compliance with FAA Advisory Circulars.

The ILS-S810-0IR comes from the factory set for FAA AC 150/5345-43H Red Intensity. If 150/5345-43J compliance is required this can be selected using the infrared remote control (see table below). Note that 43J Red Intensity requires higher power consumption and will affect battery performance. See your FAA issued Determination of No Hazard to determine which intensity is required.

Function	Code*	Description
Battery Level	228<Enter>	3 LEDs on = Fully Charged 2 LEDs on = Good 1 LED on = Okay 1 LED Blinking = Low
Enable Flashing	352<Chan Up>	Enables flashing operation (30FPM)
Disable Flashing	352<Chan Down>	Disables flashing operation (steady burning operation selected, factory default)
Enable 43H Red Intensity	434<Chan Up>	Enables FAA 154/5340-43H Red Intensity (factory default)
Disable 43H Red Intensity	434<Chan Down>	Disables FAA 154/5340-43H Red Intensity, (Higher power consumption 43J Intensity Enabled)
Power Off	769<Power>	Places the ILS-S810 in a low power state for storage. Expose to direct sun light to turn on.

*The numeric codes represent the letters of a telephone keypad. For example the code for Battery Level, 228, is B-A-T on a telephone keypad. The Channel Up button is used for turning On a function and the Channel Down for turning Off a function.

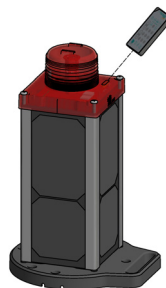


Figure 2: Infrared Remote Control Port

Leveling

The ILS-S810-0IR must be leveled during installation for correct vertical beam alignment. The following diagrams detail how to use a compact “torpedo” level on two axes to ensure that the obstruction light is level mounted level. Place the level across the base as shown and repeat on an adjacent side to level both axis.

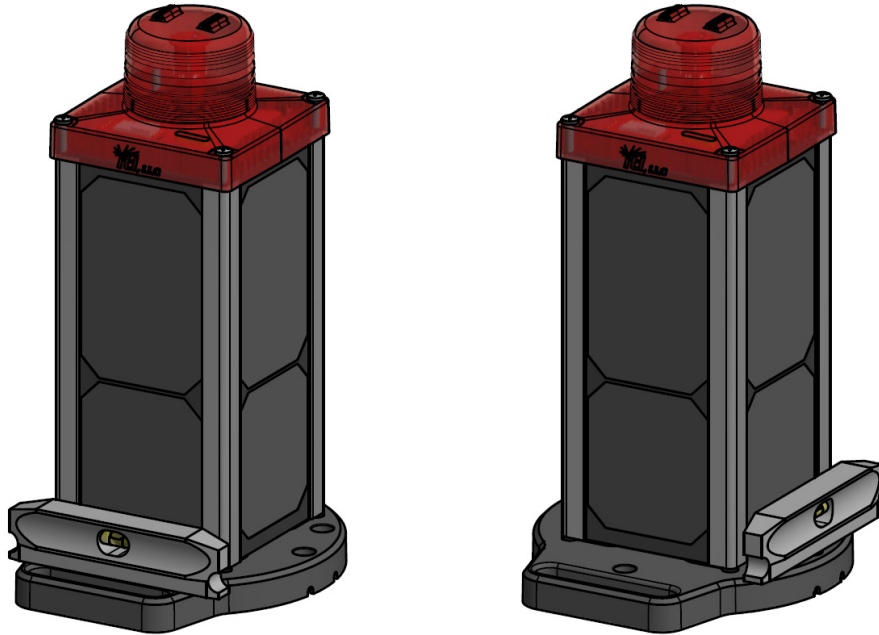


Figure 3: Leveling

Mounting Detail

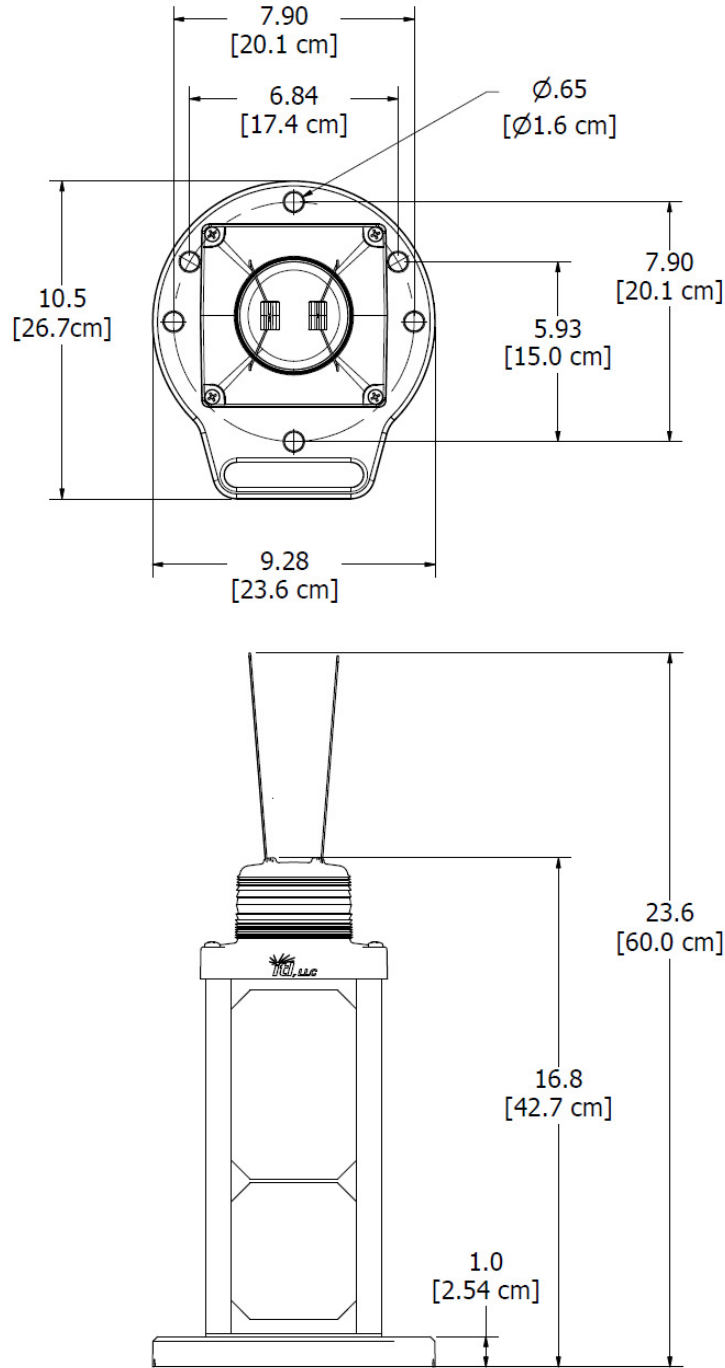
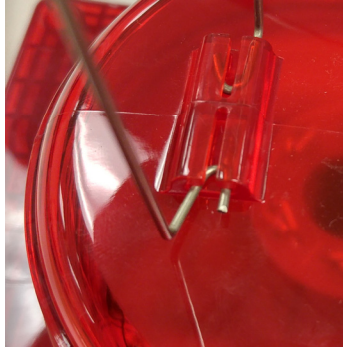


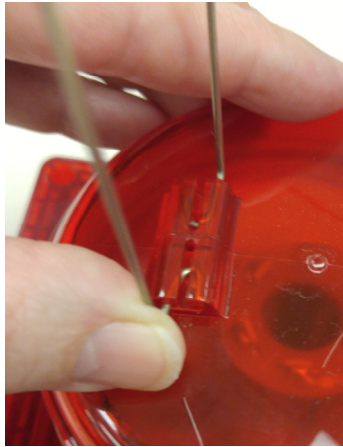
Figure 4: Outline Dimension sand Mounting Detail

Bird Deterrent Installation

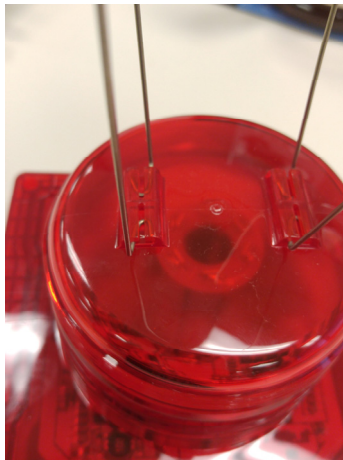
1. Align bird deterrent wires with snap-in slots



2. Snap bird deterrent wires into slots



3. Complete remaining bird deterrent wire installation



Spare Parts

ILS-S810-0IR Spare Parts

ITL Order P/N	Description
ILS-S810-0IR-TAS	Combination Lens and Lamp
LEN-S180-0IR	S810-0IR Lens
ITL-S814-BAT	S810 Battery Pack
ILS-S810-CHG	Battery Charger (not shown)
HAR-S810-PWR	Battery Connector Wiring Harness
ILS-S810-IRC	Infrared Remote Control (not shown)
ILS-S810-BRD	Bird Deterrent (not shown)

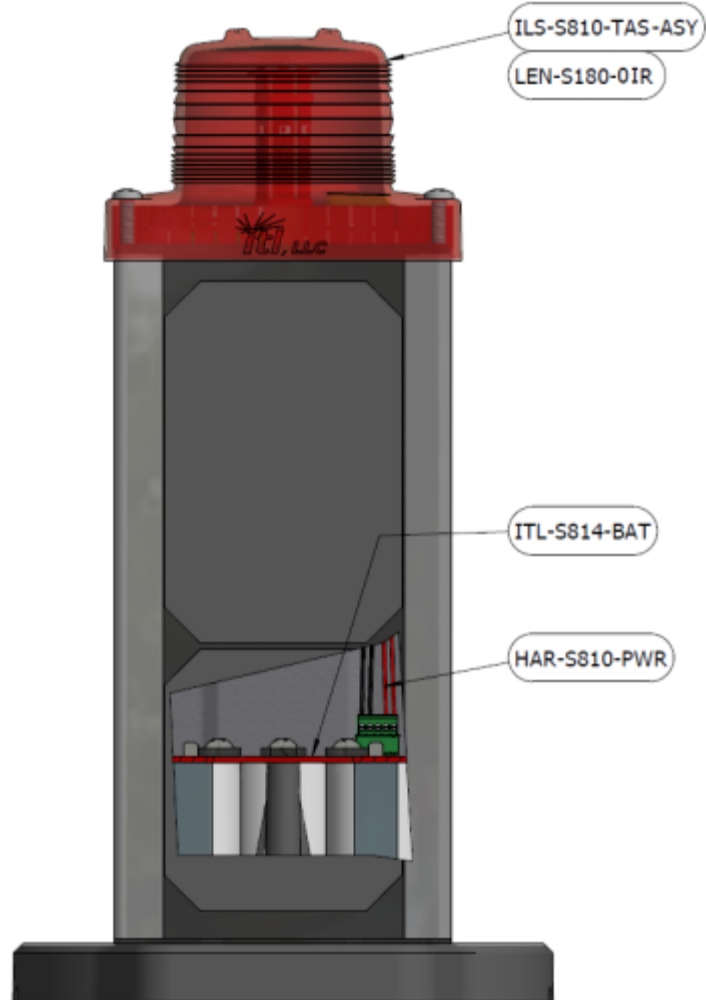


Figure 5: Spare Part Locations

Maintenance

The maintenance outlined below should be performed at least once annually.

- Verify that the fixture is functional in all operating modes with no indication of an alarm condition on alarm indicator lights, alarm dry contacts, or digital monitoring interfaces.
- Verify that the photoelectric control operates the system in the correction operating mode (day/night) when exposed to light and dark ambient lighting conditions.
- Inspect the fixture for any type of obstruction that could block light output at any point along the 360 degree horizontal output of the fixture. Note that multiple fixtures may be used to achieve 360 degree coverage.
- Inspect lenses and transparent covers for damage.
- Clean the fixture lens or transparent cover using a mild detergent and soft nonabrasive cloth.
- Check the battery voltage by removing the lens and then testing the terminals of the battery connector with a multimeter.
- Ensure that no water is present inside the housing.

Battery Replacement

The battery can be accessed by the removing the bottom of the ILS-S810. Note that the ILS-S810-01R will automatically begin flashing operation under extreme low battery conditions.

1. Remove the base screws from the base (HDW-2520-62S).
2. Slide the base out of the fixture
3. Disconnect the battery cable from the battery (HAR-S810-PWR).
4. Remove the battery screws securing the battery to the base (HDW-2510-075S).
5. Slide the battery out of the base.
6. Slide replacement battery into base.
7. Reconnect battery cable.
8. Secure the battery with battery screws and rubber washers.
9. Ensure the gasket is flush in the gasket channel (ILS-S810-GSL).
10. Slide the battery and base back into the fixture and replace the base screws (see figure 6 for more details).

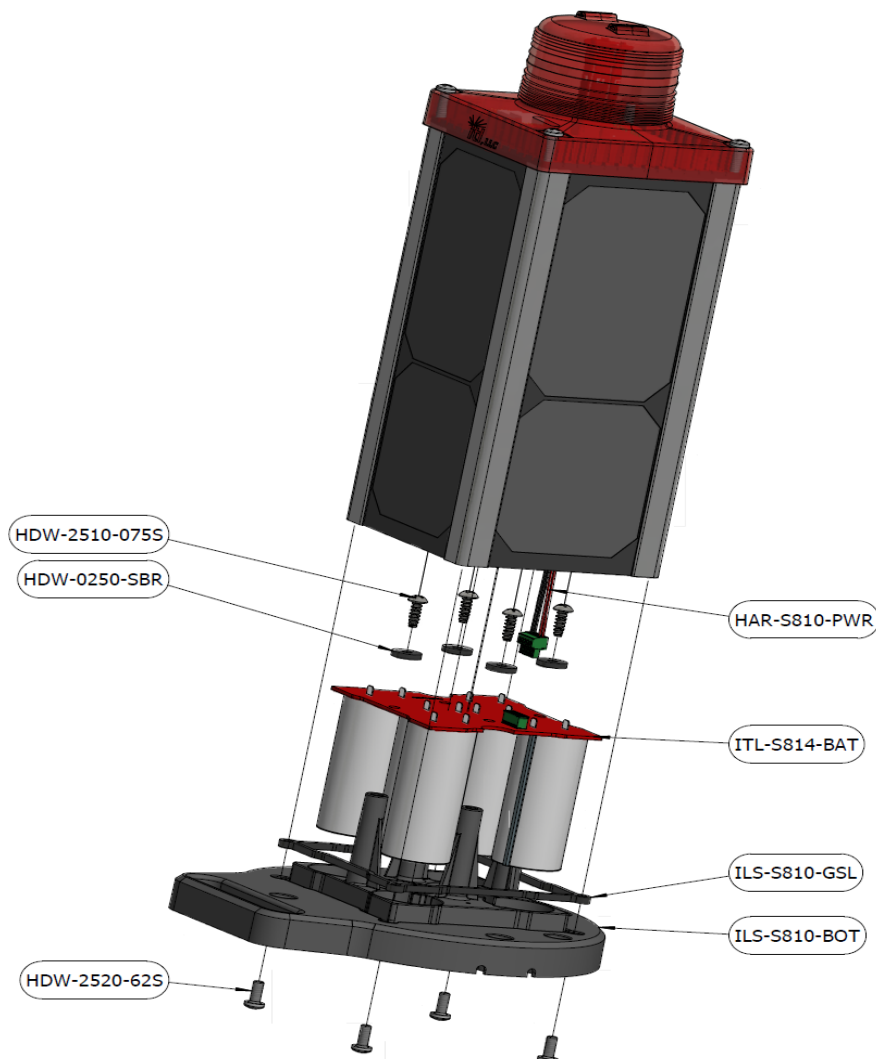


Figure 6: Battery Assembly

Battery Charging

An optional battery charger (P/N ILS-S810-CHG) is available for charging the batteries from a standard 120Vac wall outlet. Note that the ILS-S810-0IR will automatically begin flashing operation under extreme low battery conditions.

1. Remove the lens screws from the lens and fixture body (HDW-2520-125S) (not shown for clarity).
2. Disconnect the 4-position Solar Panel Cable.
3. Connect the charger cable in place of the solar panel cable on the ILS-S810.
4. Plug the battery charger into a standard 120Vac wall outlet and allow time for the batteries to charge. Charging may take several hours. Charging will automatically stop when the batteries are fully charged.
5. Check the battery level using the Infrared Remote Control (see page 8).
6. When the batteries are fully charged unplug the charger from the wall outlet and disconnect from the ILS-S810.
7. Reconnect Solar Panel Cable in the ILS-S810.
8. Replace the lens on the body and secure with lens screws. (see figure 7 for more details).

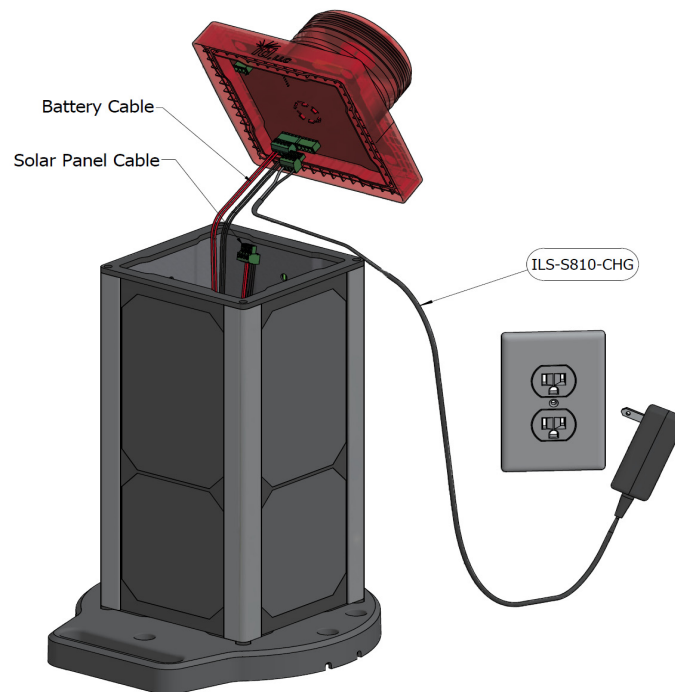


Figure 7: Battery Charging

Long Term Storage

1. Remove the lens screws from the lens and fixture body (HDW-2520-125S).
2. Disconnect the Battery Cable by unplugging the 5-position green connector.

Lens Replacement

1. Remove the lens screws from the lens and fixture body (HDW-2520-125S).
2. Disconnect the battery cable and solar panel cable.
3. Remove the PCB screws (HDW-0424-31S-TR).
4. Place PCB in new lens ensuring that the PCB orientation hole is aligned with the lens orientation indicator stud.
5. Replace PCB screws.
6. Reconnect the battery cable and solar panel cable.
7. Replace lens on body and secure with lens screws.
(see figure 8 for more details).

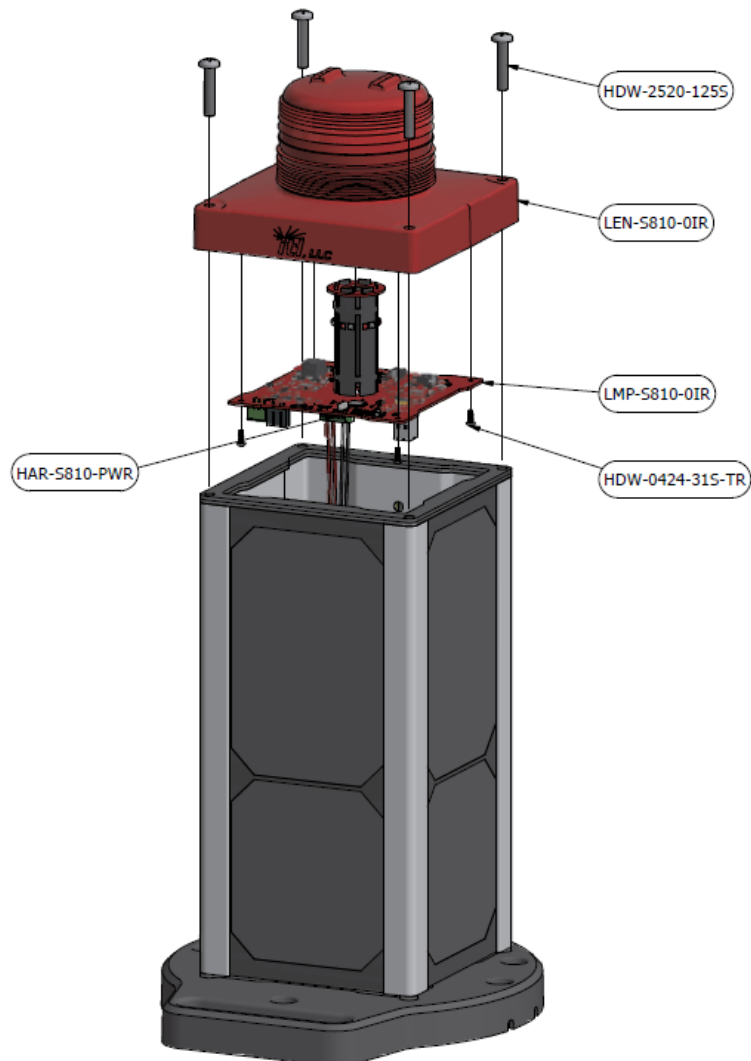


Figure 8: Lens Assembly

Technical Support and Contact Information

Contact Information

For information on the ILS-S810-0IR Solar Red LED with Infrared (IR) obstruction lights' basic functions, refer to this manual and the accompanying drawings. For additional help with the installation or operation of any ITL products, please contact ITL, LLC at one of the following below.

Web and Internet Sites

Corporate home page: <http://www.itl-llc.com>



Customer Support Technicians (8:00 AM - 5:00 PM Central Time)

US and Canada call: +1-615-256-6030

Toll Free: +1-866-624-8309

Email: support@itl-llc.com

RMA

Please contact ITL, LLC before returning equipment for repair and obtain a Return Material Authorization (RMA) number.

Appendix A – Troubleshooting

1. If the ILS-S810 will not turn on at night:
 - a. Ensure the light is located in a dark environment (below 30 foot candles).
 - b. Ensure that the unit has been exposed to direct sunlight for at least 30 minutes to activate by checking that LED I3 is blinking every 5 seconds.
 - c. Ensure that the battery is above the shutdown voltage.

2. If the ILS-S810 will not turn off during the day:
 - a. Ensure that the solar panel cable is connected inside the ILS-S810.

3. If the ILS-S810 does not respond to the Infrared Remote Control:
 - a. Ensure that the ILS-S810 is on by exposing it to direct sunlight for up to 40 minutes. LED I3 will blink once every 5 seconds when the unit is on.
 - b. Replace the battery in the Infrared Remote Control.

4. If the ILS-S810 begins flashing at night when flashing is disabled this indicates an extremely low battery condition.
 - a. See section Battery Replacement.

Revision	Description of Change	Date	Preparer / Approval
0	Initial Release	3/3/2021	Prepared By: Elke Hinson Approved By: Andy Rudolph
1	Updated Title, added "SOLARIS".	9/22/2021	Prepared By: Elke Hinson Approved By: Andy Rudolph