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L-810 Solar-Powered Obstruction Light Installation and Maintenance Manual

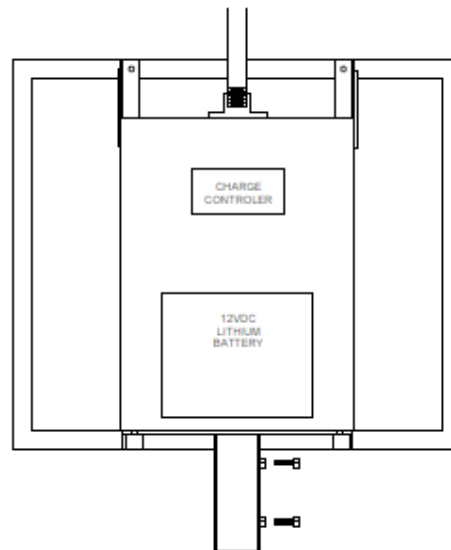


Package Contents:

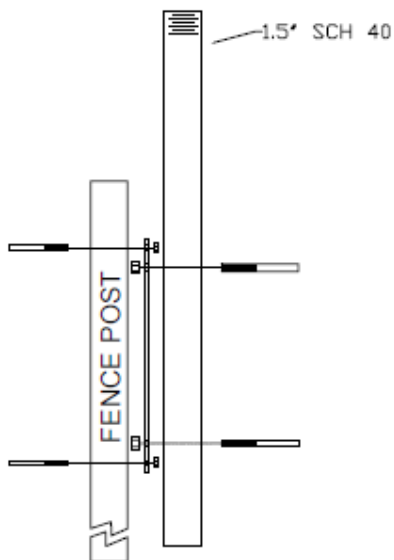
1. Solar panel assembly (Including battery, charge controller, box with post mount)
2. 36" Solar mounting post
3. 18" Obstruction light post and FAA certified L810 LED NVG Obstruction Light
4. Mounting plate
5. 2 3/8" U-bolts (for mounting plate to solar mount post)
6. 2 1/2" U-bolts (for mounting to fence post) *larger or smaller U-bolts may be required to mount to posts of larger or smaller sized



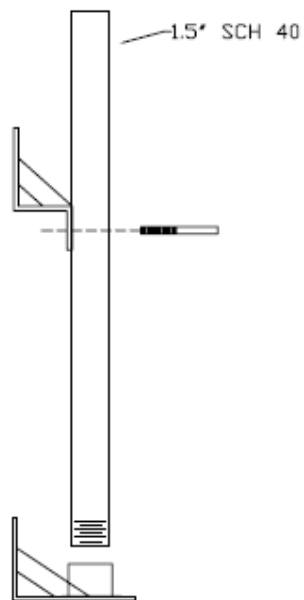
Mounting configurations:



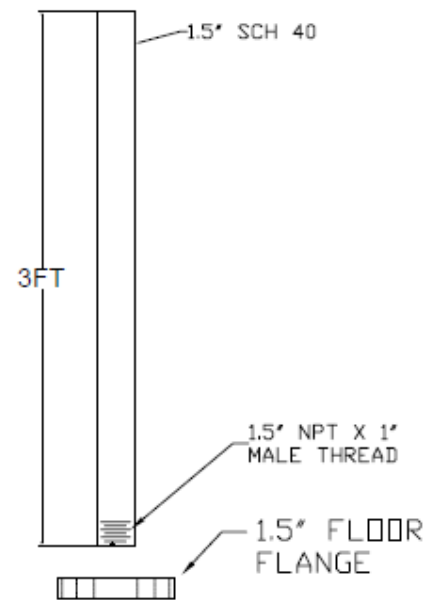
DIRECT POST MOUNT



POST TO
POST MOUNT



WALL MOUNT



ROOF MOUNT

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1 Introduction

1.1 About this Manual

The information in this manual is provided to assist installation and maintenance personnel in the proper installation, upkeep, and maintenance of the SPS Solar Power Supply.

1.2 Model Configurations

L810 Solar: L810 Solar OB Light

L810 Dual Solar: L810 Dual Solar OB Light

2 Safety Precautions

To help you install and maintain this equipment safely and efficiently make sure you read and understand all safety information in this manual prior to performing any procedure. Failure to do so may result in personal injury, property damage, or possible death.

2.1 Safety Statements

The following safety statements are used throughout this manual. They will alert you to possible safety hazards and conditions that could result in personal injury, death, or property and equipment damage.

CAUTION: Indicates hazards or unsafe practices that could result in minor personal injury, product, or property damage.

WARNING: Indicates hazards or unsafe practices that could result in severe personal injury or death.

DANGER: Indicates immediate hazards that will result in severe personal injury or death.

2.2 General Practices

Read and become familiar with the general safety instructions provided in this section of the manual before installing, operating, maintaining, or repairing this equipment.

- Do not attempt to assemble or install this equipment if it has been damaged from shipping.
- Do not attempt to install or maintain this equipment if you or the equipment is standing in water.
- Only qualified personnel should perform maintenance on this equipment.
- Always use proper tools (as mentioned in this manual) to perform installation and maintenance.
- Use proper hand and eye protection as needed when installing or maintaining this equipment.
- Make sure you have adequate first aid supplies available when installing this equipment.

- Do not modify this equipment as this could create a safety hazard and void your warranty.
- Use only manufacturer approved replacement parts.
- Read and carefully follow the instructions given throughout this manual for performing specific tasks and working with specific equipment.
- Follow all applicable safety procedures required by your company, industry standards, and government or other regulatory agencies.
- Make sure all equipment is rated and approved for the environment in which you are using it.
- Follow all instructions for installing components and accessories.
- Protect components from damage, wear, and harsh environment conditions.
- Allow ample room for maintenance, wiring accessibility, and cover removal.

2.3 Electrical Practices

- Do not attempt to make electrical connections with the power on.
- Install all electrical connections to local code.
- Route electrical wiring along a protected path. Make sure moving equipment will not damage it.
- Protect equipment with safety devices as specified by applicable safety regulations.
- If safety devices must be removed for installation, install them immediately after the work is completed and check them for proper functioning.
- Always use rated electrical tools when performing electrical work.
- Always make sure electrical connections are tight.
- Make sure electrical covers are in place after installation.

2.4 Qualified Personnel

Qualified personnel are those that are trained and experienced with installing or maintaining our equipment. Only qualified personnel should install or maintain our equipment and auxiliary features.

No one should:

- Attempt to install or perform maintenance on this or any equipment if they are physically impaired or under the influence of alcohol or non-prescription drugs.
- Maintain or install this equipment without correct training, supervision or experience in mechanical or electrical equipment.
- Attempt to maintain or install this equipment without the correct tools as specified in this manual.

2.5 Proper Usage

Always use this equipment as specified in this manual. Improper usage may result in serious personal injury, property damage, or possible death.

- Do not make any modifications that have not been recommended by us.
- Do not use any replacement parts that are not purchased from us.
- We cannot be responsible for injuries or damages resulting from nonstandard, unintended applications of its equipment. This equipment is designed and intended only for the purpose described in this manual. Uses not described in this manual are considered unintended uses and may result in serious personal injury, death, or property damage.

3 Specifications

3.1 Electrical Specifications

Batteries.....	(1) 12 VDC, 50Ah, 640W output power
Type.....	Lithium
Life.....	4000 charge/discharge cycles, typical
Charge Controller.....	Temperature compensated, pulse width modulated
Status Indicators.....	Battery state of charge, charging, system status
Light Control.....	Dusk to Dawn
Photovoltaic Panel.....	50 watt
Load.....	3.5-5.5 watts
Autonomy.....	10 days typical

3.2 Physical Specifications

Dimensions	
Height.....	25.5 inches (64.77cm)
Width.....	23 inches (58.42cm)
Mounting	(1) Universal fence mount plate
Product Weight.....	46lb. (20.87kg)
Shipping Weight	60 lb. (27 kg)

3.3 Environmental Specifications

Operating Temperature	-40°C (-40°F) to +55°C (+131°F)
Humidity	0% to 100%
Altitude	Sea level to 10,000 feet (3000 m)
Wind.....	120 mph

4 Installation

WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

4.1 Unpacking

Handle the equipment very carefully to prevent component damage. Note any exterior damage to the carton/crate that might lead to detection of equipment damage. If you note any damage to any equipment, file a claim with the shipper immediately. The shipper may need to inspect the equipment

Note: To prevent damage to the equipment, transport the product to the installation site before removing the components from the pallet.



4.2 Tools and Supplies Needed

Equipment Required, But Not Supplied

9/16 Wrench or Adjustable Wrench
Phillips Screwdriver
Tape Measure
Level

4.3 The following procedure describes the mounting of the Solar L810 to a fence post. Figure 1 illustrates the completed Solar L810 OB Light mounted on a fence post.



Figure 1. Completed Installation

4.3.1 Mounting plate and post assembly to the fence post

1. Hand tighten the supplied U-Bolts onto the mounting plate (see figure 2)



Figure 2



figure 3

2. Slide the mounting pipe into the opening, so that the center of the mounting plate is approx. 24" from the top of the pipe and tighten using a 9/16" Wrench (**adjust as necessary for your installation**) (see figure 3)

3. Attach, Level and Secure to fence post/wood post or any other post by using U-bolts or lag bolts. ***2.5" U-bolts supplied *** (see Figure 4)



Figure 4

4.3.2 Install the Obstruction light assembly to the battery enclosure



Figure 5

1. Pull the electrical wires from the light assembly through the top of the battery enclosure. (see Figure 5)

2. Screw the $\frac{3}{4}$ " aluminum tube into the hub on the top of the battery enclosure and tighten
3. Connect the red wire to + and the black wire to – on the charge controller (See figure 6)



Figure 6

4.3.3 Mounting the Battery Enclosure/Solar Panel

1. Loosen set screws on base of pre-assembled battery and panel enclosure enough to prevent interference with mounting post.
2. Slip the pre-assembled enclosure on the mounting post.
3. Turn the panel in the appropriate direction for your location.
(see figure 7)
4. Tighten set screws
5. Remove 2 wingnuts and bolts for solar panel angle setting and adjust to the proper angle using the chart (figure7) below. Tighten wingnuts

L810 Solar angle setting Guide:

1. Solar panel must face equator and have good exposure to sunlight
2. Using the map below, select your angle setting and secure using provided wing nuts

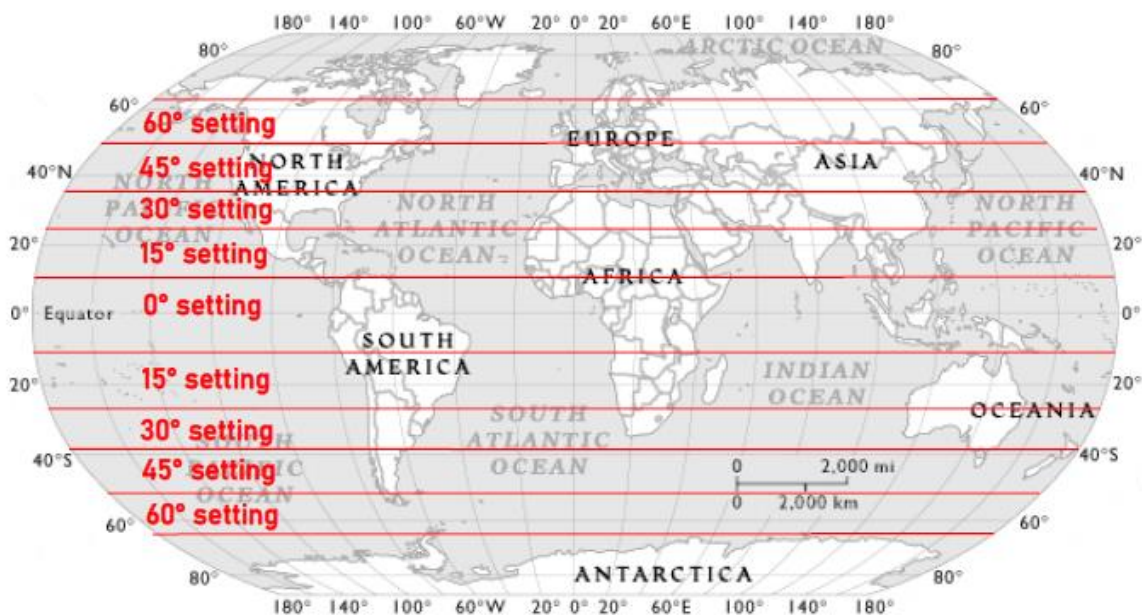


Figure 7

4.3.4 Install the Fuses

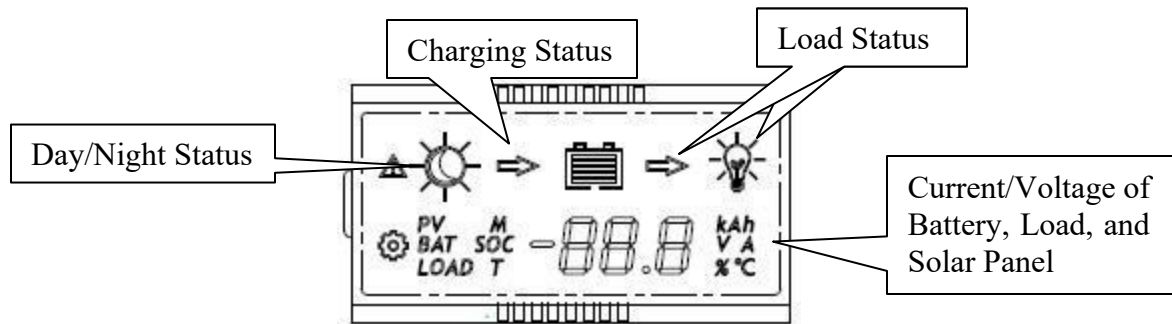
1. This product has one 30 ampere fuse for the battery. Locate the fuse (shipped with this manual). Install the fuse in the fuse holder and snap the fuseholder cover over the fuse

4.3.5 Connect Solar Panel cable to the Battery Enclosure

1. Locate the solar panel adapter cable and plug into the socket on the back of the battery enclosure.

4.3.6 Electrical Checkout

Inspect the solar L810 OB for proper electrical operation, as follows:



LCD interface panel on Charge controller (For more detailed information see owner's manual provided with product)

1. On the front surface of the charge controller, locate the LCD Interface.
2. The Interface will automatically cycle through 8 screens indicating battery, solar panel and load status.
3. Top row indicates day/night, charging status, and load status.
4. The charging arrow will be "on" indicating the solar panel is charging the batteries.
5. If the product performs as stated above, it is functioning correctly. If the solar L810 OB does not function correctly, contact us for assistance.
6. Close the door of the battery enclosure and lock using the key provided with this manual.

4.3.7 Installation Complete

The installation is complete and should appear similar to Figure 1

4.3.8 Testing the unit

To test the light, simply unplug the solar panel to simulate "nighttime". The Obstruction light will light up. Remember to plug the solar panel back in.

5 Maintenance

5.3 Maintenance Schedule

<u>Interval</u>	<u>Task</u>
Daily	Inspect the Solar L810 OB for proper lamp operation.
As Needed	Clean the solar panel glass. Make sure vegetation is not obstructing the solar panel.
Annually	Open the battery enclosure Door, and inspect all electrical connections.

6 Repair

Note: Be sure you have correctly identified the faulty component prior to making any repairs. Contact us for troubleshooting assistance.

6.3 Battery Replacement

- 6.3.2** Remove the cable from the solar panel to the battery enclosure socket on the back of the battery enclosure.
- 6.3.3** Open door on battery enclosure using key provided with this manual.
- 6.3.4** Remove the battery fuse from the inline fuse holder.
- 6.3.5** Remove the wires to the battery by removing the battery terminal screws.
- 6.3.6** Remove the battery hold down bracket on the back wall of the battery enclosure.
- 6.3.7** Remove battery from enclosure.
- 6.3.8** Install the new battery.
- 6.3.9** **Note: The new battery must be the same model as the original, to ensure adequate performance.**
- 6.3.10** Install the battery hold down bracket.
- 6.3.11** Replace the wires to the battery using the battery terminal screws.
- 6.3.12** Install fuse in the inline fuse holder.
- 6.3.13** Replace the cable from the solar panel to the battery enclosure socket on the back of the battery enclosure.
- 6.3.14** Perform the electrical checkout as described in Section 4.3.6.
- 6.3.15** Close the door on battery enclosure using key provided with this manual.

6.4 Fuse Replacement

- 6.4.2** Open the door on battery enclosure using the key provided with this manual.
- 6.4.3** Remove the battery fuse from the inline fuse holder.
- 6.4.4** Install new fuse in the inline fuse holder.
- 6.4.5** Acquire the proper replacement fuses.
- 6.4.6** Perform the electrical checkout as described in Section 4.3.4.
- 6.4.7** Remove the temporary cover from the solar panel.
- 6.4.8** Perform the electrical checkout as described in Section 4.3.4.
- 6.4.9** Close the door on battery enclosure using key provided with this manual.

6.5 Solar Panel Replacement

6.5.2 Locate the wires coming from the solar panel on the rear surface of the solar panel. Disconnect the solar panel connectors as shown in Figure 8.

6.5.3 The solar panel is attached to its mount with 4 bolts. Refer to Figures 9 and 10 to locate the bolts, and remove them.



Figure 8. Solar Panel Connectors



Figure 9. Lower Solar Panel Mounting Bolts



Figure 10. Upper Solar Panel Mounting Bolts

6.5.4 Remove the defective solar panel, and position the replacement solar panel for reassembly.

6.5.5 Attach the solar panel to the mounting brackets with the 4 mounting bolts, and tighten securely.

7 Replacement Parts

Part Number	Description
2300-0024	Fuse, MINI 30 amp 32 volt
1300-0092	Battery
7800-0020	Charge Controller
7800-0019	Solar Panel, 50 Watt
L810LED 12-48VDC	L810 Assy, Single, LED, 12-48V

Revision Table:

Rev #	Date	Changes
0	4.30.2025	Original Release