



SL-BRK

LED Sectored Bridge Light Installation & Service Manual

SL-BRK

LED Sectored Bridge Light

Large 10watt solar module
& 7.5Ah battery



Sectored light

Lantern cap
designates
LED light colour

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Version No.	Description	Date	Approved
1.0	Manual Launch	Feb 2010	K. Paton
1.1	Logo and Warranty Update	July 2010	K. Paton
2.0	Updated Light Head Design	Sept 2011	M. Henry

Introduction

Congratulations! By choosing to purchase a Sealite lantern you have become the owner of one of the most advanced LED marine lanterns in the world.

Sealite Pty Ltd has been manufacturing lanterns for over 25 years, and particular care has been taken to ensure your lantern gives years of service.

As a commitment to producing the highest quality products for our customers, Sealite has been independently certified as complying with the requirements of ISO9001:2008 quality management system.

Sealite lanterns comply with requirements of the US Coast Guard in 33 CFR part 66 for Private Aids To Navigation.

By taking a few moments to browse through this booklet, you will become familiar with the versatility of your lantern, and be able to maximise its operating function.

Please remember to complete the Sealite warranty registration card accompanying your lantern.

Operating Principle

The solar module of the lantern converts sunlight to an electrical current that is used to charge the battery. The battery provides power to operate the lantern at night.

The flasher unit has very low current requirements. A microprocessor drives an array of ultra bright LED's through a DC/DC converter, which enables the LED's to operate within the manufacturer's specifications. The battery is protected from over-charging within the circuit to ensure maximum battery life.

On darkness, the microprocessor will initiate a program check and after approximately 1 minute begin flashing to the set code

Technology

Sealite is the world's fastest growing manufacturer of marine aids to navigation. We employ leading mechanical, optical, hardware & software engineers to create innovative products to service the needs of our customers worldwide, and offer the widest range of solar-powered LED lanterns in the marketplace.

Electronics

Sealite employs leading in-house electronic engineers in the design and development of software and related circuitry. All individual electronic components are sourced directly by Sealite procurement staff ensuring that only the highest quality components are used in our products.

LED Technology

All marine lanterns use the latest advancements in LED (Light Emitting Diode) technology as a light source. The major advantage of LED's over traditional light sources is well established in that they typically have an operational life in excess of 100,000 hours, resulting in substantial savings to maintenance and servicing costs.

Precision Construction

Commitment to investing in the design and construction of injection-moulded parts including optic lenses, light bases and a range of other components ensures that all Sealite products are of a consistent & superior quality.

Optical Performance

Sealite manufactures a range of marine LED lenses moulded from multi-cavity dies. Complex shapes such as the SL70, BargeSafe™ and 16-segment multi-focus lenses are a testament to the company's superior in-house lens manufacturing capabilities and outstanding optical performance.

Award-winning, Patented Technology

Several United States and Australian patent registrations are held on Sealite's range of innovative designs, with other regional patents pending in Canada, United Kingdom and Europe.

SL-BRK Model

The Sealite SL-BRK Bridge Light is specifically designed to clearly mark bridges and structures extending over navigational waterways and is used extensively in the USA.

The SL-BRK features a large solar power supply (10watt solar module with a 7.5ahr SLA battery), positioned on top of the assembly to maximise solar collection.

A long extension arm can be fitted between the light and the power supply ensuring clear visibility of the AtoN from mariners below.

PLEASE NOTE: *the extension arm is not included with the standard SL-BRK bridge lighting kit. Sealite can manufacture a range of extension arms to suit many installations - please contact your Sealite representative today for details.*





Intensity Settings

Intensity settings are preset at the factory and can not be adjusted in the field.

Intensity setting is preset at 100% but can be factory adjusted to suit individual intensity requirements.

Flash Code Settings

Flash codes are preset at the factory and can not be adjusted in the field.

Flash code is preset to Steady-On but can be factory adjusted to suit individual flash setting requirements.

Installation

Charging the Battery

New lanterns should be left in the sun for 1-2 days to ensure battery is charged before placing in service.

Preferred Installation Location

For best lantern performance, ensure solar modules are not covered and are in clear view of the sky with no shadows.

The SL-BRK lantern is fitted with 2 core cable. Please ensure that the wires are connected to the battery and solar panel correctly.

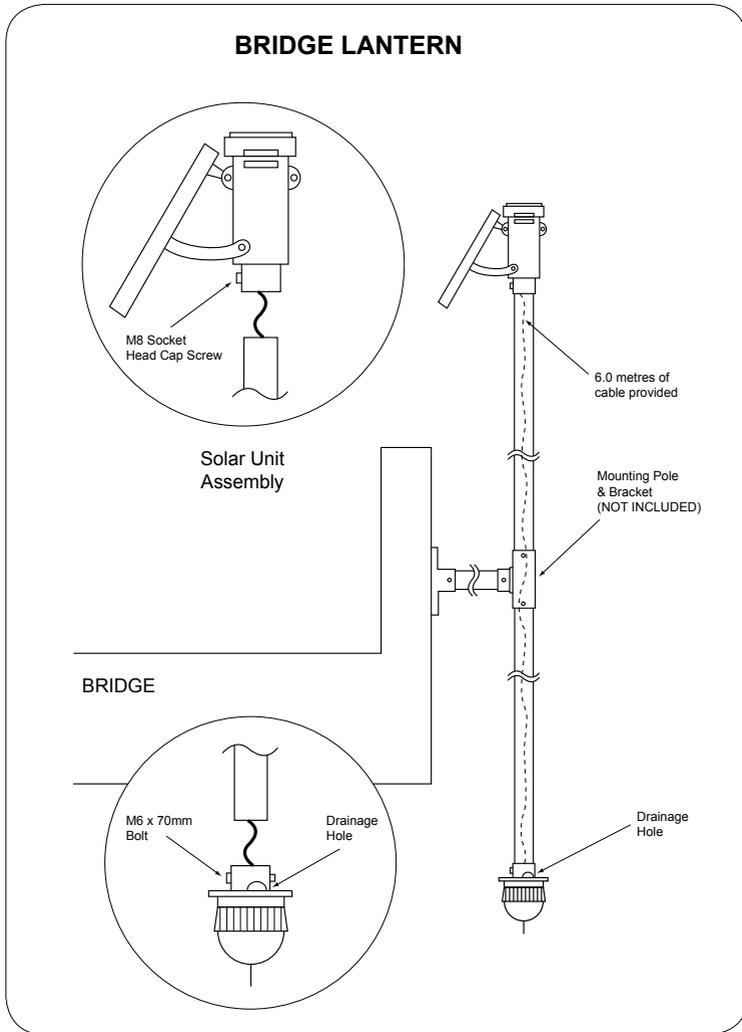
1. Feed the cable from the SL-BRK light head through the mounting pole and fit the light head over the mounting pole. If mounting a sectored light, ensure that the sector is located correctly. The sector can be identified by the narrow band of reflective tape around the base of the lens.
2. Mark the through hole to be drilled in the mounting pole with a black texta and remove the light head for drilling. This will ensure that the cable is not damaged by the drilling.
3. Refit the light head and bolt the light head in place, using a M6 x 70mm stainless bolt and Nylock nut.
4. Connect the cable to the SL-BRK solar unit. Feed the cable up through the bottom of the aluminium housing. Connect the 2 cores of the cable to the battery.

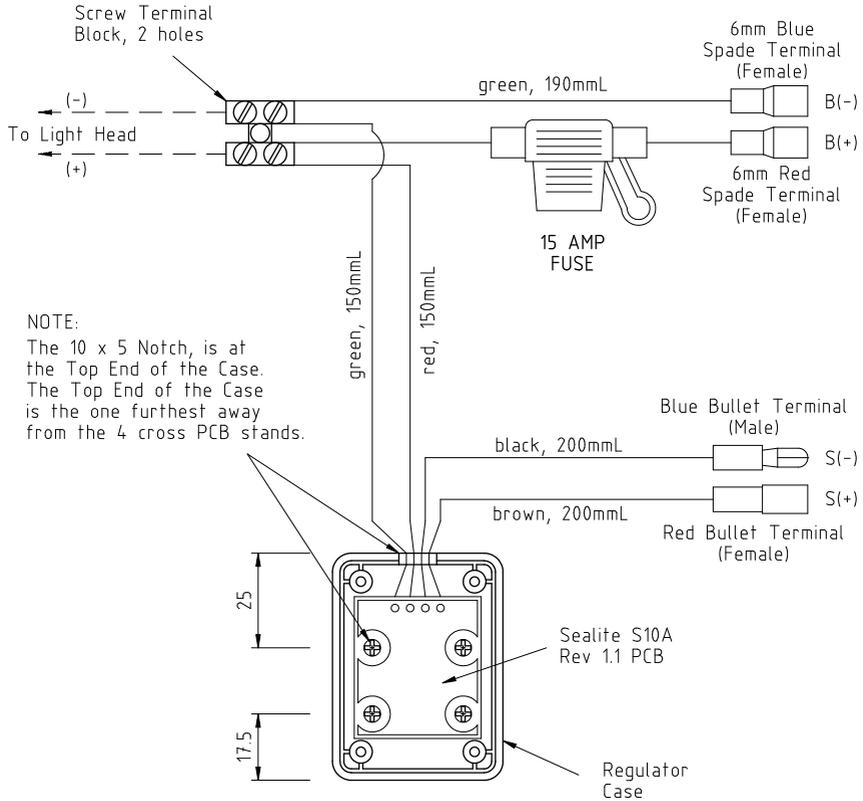
Care must be taken to observe the polarity of each wire before they are connected.

- Battery Negative- Blue Female Spade (Blue wire) - connect directly to the battery terminal.
- Battery Positive- Red Female Spade (Brown wire) - connect directly to the battery terminal.

Make sure all connections are secure and insulated correctly.

5. Ensure the foam insulator is fitted into the bottom of the aluminium housing. Fit the battery back into the housing. Fit the rubber gasket assembly and the top plate to the housing and secure evenly with the 2 x M8 x 30 SHCS.
6. Tighten the cable gland underneath to secure the cable and ensure a water tight seal.
7. Fit the Housing over the mounting pole and tighten the M8 x 16 SHCS securely.
8. Loosen the solar panel adjustment bolts on the side of the housing and adjust the solar panel to the path of the sun. Retighten the solar panel adjustment bolts.
9. Cover the SL-BRK light head for at least 30 consecutive seconds and the light will activate.





Wiring Diagram

Maintenance and Servicing

Designed to be maintenance free, the SL-BRK will require minimal attention, though the following maintenance and servicing information is provided to help ensure the life of your Sealite product.

1. **Cleaning Lens-** occasional cleaning of the light lens may be required. Using a cloth and warm soapy water, wipe off any foreign matter before rinsing the lens with fresh water.
2. **Solar panels** must be clean from any foreign material. Using a cloth and warm soapy water, wipe off any foreign matter before rinsing the solar panel with fresh water.
3. **Battery Check-** inspection of batteries should be performed every three years (minimum) to ensure that the charger, battery and ancillary electronics are functioning correctly. Using a voltage meter, check that the battery voltage is at least 12 volts under 100MA load, and ensure all terminals are clear of foreign matter.

Trouble Shooting

Problem	Remedy
Lantern will not activate.	<ul style="list-style-type: none"> • Ensure battery terminals are properly connected. • Ensure battery voltage is above 12volts. • Ensure lantern is in darkness. • Wait at least 60 seconds for the program to initialise in darkness.
Lantern will not operate for the entire night.	<ul style="list-style-type: none"> • Expose lantern to direct sunlight and monitor operation for several days. Sealite products typically require 1.5 hours of direct sunlight per day to retain full autonomy. From a discharged state, the lantern may require several days of operational conditions to 'cycle' up to full autonomy. • Ensure solar module is clean and not covered by shading during the day.

All Sealite boards are fitted with two Indicator LEDs. These are positioned towards the bottom of the lantern. Use the table below to help determine operational status.

LED Combinations (Status Indicator LEDs A in Fig.3)		Lantern Status	Lantern	Comment
YELLOW LED	RED LED			
OFF	OFF	Normal	OFF	Normal running condition in daylight.
Flashing ON 0.1 seconds OFF 0.1 seconds	OFF	Normal	ON	Normal running condition.
Flashing ON 0.1 seconds OFF 0.1 seconds	OFF	Normal – synchronised light	ON	Normal running condition but lantern is not synchronised to GPS-enabled lanterns.
Flashing ON 1 second OFF 1 second	OFF	Normal – synchronised light	ON	Normal running condition and lantern is synchronised to GPS-enabled lanterns.
	Fixed-on	Flat Battery (<8v)	OFF	Battery is flat. Battery must receive charge (above 11.5v) and lantern must see daylight for at least 1 minute before operation.
	Flashing ON 0.1 seconds OFF 0.1 seconds	Low Battery Voltage (<10.5v)	ON	Battery is low. Battery must receive charge (above 11.5v) for at least 1 minute.
Fixed-on	OFF	High Battery Voltage / Battery Fully Charged (>15v)	ON	Battery is charged.
Flashing ON 1 second OFF 0.2 seconds	Flashing ON 1 second OFF 0.2 seconds	Factory Setup Mode	ON	Lantern is in factory setup mode (0xFF). Please change the flash code.



Sealite LED Light Warranty V2.1

Activating the Warranty

Upon purchase, the Sealite Pty Ltd warranty must be activated for recognition of future claims. To do this you have two (2) options:

1. **Postal Registration** - please complete the Sealite Warranty Registration Card and return to Sealite within 30 days of your purchase.
2. **Online Registration** - please complete the Online Registration Form at; www.sealite.com

Sealite Pty Ltd will repair or replace your LED light in the event of electronic failure for a period of up to three years from the date of purchase.

The unit must be returned to Sealite freight prepaid.

Warranty Terms

1. Sealite Pty Ltd warrants that any Sealite marine products fitted with telemetry equipment including but not limited to AIS, GSM, GPS or RF ("Telemetry Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
2. Sealite Pty Ltd warrants that any BargeSafe™ Series of LED barge light products ("BargeSafe™ Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
3. Sealite Pty Ltd warrants that any LED area lighting products ("Area Lighting Products") but not including sign lighting products will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
4. Sealite Pty Ltd warrants that any LED sign lighting products ("Sign Lighting Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of three (3) years from the date of purchase by the original purchaser.
5. Sealite Pty Ltd warrants that any Sealite marine lighting products other than the Telemetry Products, BargeSafe™ Products, and Area Lighting Products ("Sealite Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of three (3) years from the date of purchase by the original purchaser.
6. Sealite Pty Ltd will repair or replace, at Sealite's sole discretion, any Telemetry Products, BargeSafe™ Products, Area Lighting Products or Sealite Products found to be defective in material and workmanship in the relevant warranty period so long as the Warranty Conditions (set out below) are satisfied.
7. If any Telemetry Products, BargeSafe™ Products, Area Lighting Products or Sealite Products are fitted with a rechargeable battery, Sealite Pty Ltd warrants the battery will be free from defect for a period of one (1) year when used within original manufacturer's specifications and instructions.

Warranty Conditions

This Warranty is subject to the following conditions and limitations;

1. The warranty is applicable to lanterns manufactured from 1/1/2009.
2. The warranty is void and inapplicable if:
 - a. the product has been used or handled other than in accordance with the instructions in the owner's manual and any other information or instructions provided to the customer by Sealite;
 - b. the product has been deliberately abused, or misused, damaged by accident or neglect or in being transported; or
 - c. the defect is due to the product being repaired or tampered with by anyone other than Sealite or authorised Sealite repair personnel.

3. The customer must give Sealite Pty Ltd notice of any defect with the product within 30 days of the customer becoming aware of the defect.
4. Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. Typical battery replacement period is 3-4 years. Long term exposure to high temperatures will shorten the battery life. Batteries used or stored in a manner inconsistent with the manufacturer's specifications and instructions shall not be covered by this warranty.
5. No modifications to the original specifications determined by Sealite shall be made without written approval of Sealite Pty Ltd.
6. Sealite lights can be fitted with 3rd party power supplies and accessories but are covered by the 3rd party warranty terms and conditions.
7. The product must be packed and returned to Sealite Pty Ltd by the customer at his or her sole expense. Sealite Pty Ltd will pay return freight of its choice. A returned product must be accompanied by a written description of the defect and a photocopy of the original purchase receipt. This receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorised dealer and the price paid by the purchaser. On receipt of the product, Sealite Pty Ltd will assess the product and advise the customer as to whether the claimed defect is covered by this warranty.
8. Sealite Pty Ltd reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.
9. Input voltage shall not exceed those recommended for the product.
10. Warranty does not cover damage caused by the incorrect replacement of battery in solar lantern models.
11. This warranty does not cover any damage or defect caused to any product as a result of water flooding or any other acts of nature.
12. There are no representations or warranties of any kind by Avlite or any other person who is an agent, employee, or other representative or affiliate of Avlite, express or implied, with respect to condition of performance of any product, their merchantability, or fitness for a particular purpose, or with respect to any other matter relating to any products.

Limitation of Liability

To the extent permitted by section 68A of the Trade Practices Act 1974 (Cth), the liability of Sealite Pty Ltd under this Warranty will be, at the option of Sealite Pty Ltd, limited to either the replacement or repair of any defective product covered by this Warranty. Sealite will not be liable to Buyer for consequential damages resulting from any defect or deficiencies.

Limited to Original Purchaser

This Warranty is for the sole benefit of the original purchaser of the covered product and shall not extend to any subsequent purchaser of the product.

Miscellaneous

Apart from the specific warranties provided under this warranty, all other express or implied warranties relating to the above product is hereby excluded to the fullest extent allowable under law. The warranty does not extend to any lost profits, loss of good will or any indirect, incidental or consequential costs or damages or losses incurred by the purchaser as a result of any defect with the covered product.

Warrantor

Sealite Pty Ltd has authorised distribution in many countries of the world. In each country, the authorised importing distributor has accepted the responsibility for warranty of products sold by distributor. Warranty service should normally be obtained from the importing distributor from whom you purchased your product. In the event of service required beyond the capability of the importer, Sealite Pty Ltd will fulfil the conditions of the warranty. Such product must be returned at the owner's expense to the Sealite Pty Ltd factory, together with a photocopy of the bill of sale for that product, a detailed description of the problem, and any information necessary for return shipment.

Other Sealite Products Available



**Marine Lanterns
(1-12nm+)**



**Monitoring
& Control Systems**



Bridge & Barge Lights



**Marine Buoys
(up to 3mt in diameter)**



Area Lighting



**Mooring Systems
& Accessories**



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