Sealite®
www.sealite.com

SL-BR DC Model

Up to 4NM Bridge Light

INSTALLATION & SERVICE MANUAL

V1-3

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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 ISO9001:2015 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.

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. The company has superior in-house lens manufacturing capabilities to support outstanding optical performance.

Award-winning, Patented Technology

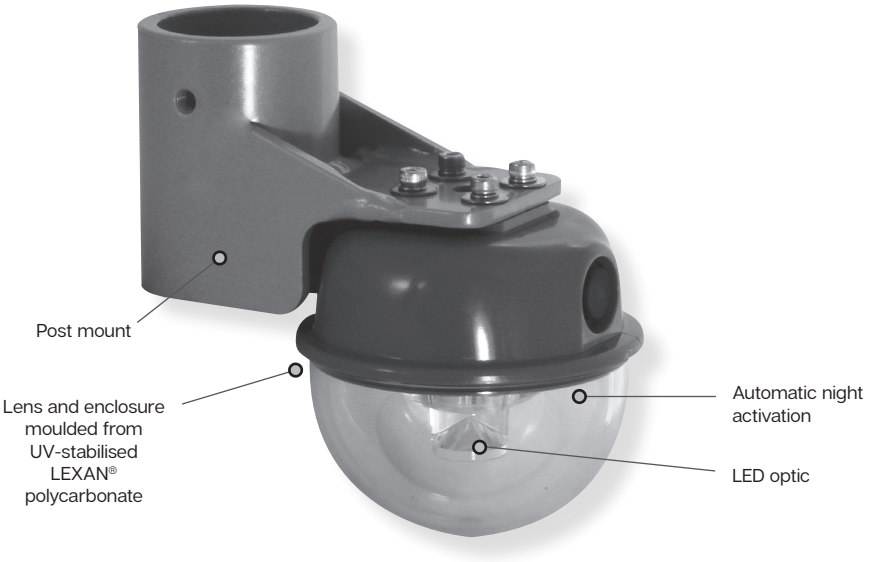
Several United States and Australian patent registrations are held on Sealite's range of innovative designs, with other regional patents pending in Canada, United Kingdom and Europe.

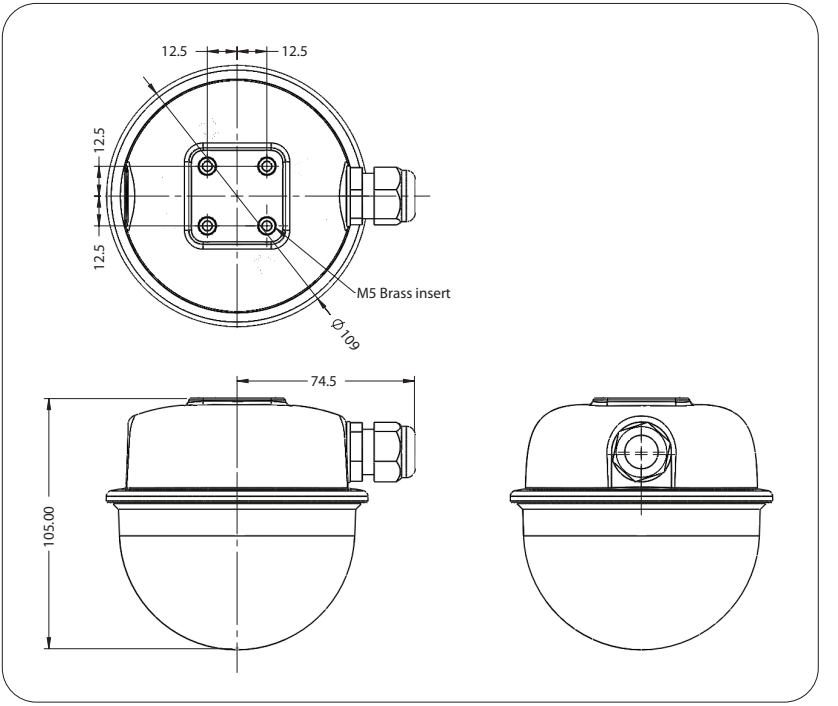
SL-BR
Bridge Light
DC Model

The SL-BR is an LED Bridge Light specifically designed to clearly mark bridges and structures extending over navigable waterways and is used extensively throughout the USA. The SL-BR has been designed to offer superior visibility with up to 4NM visible range, and operates in conjunction with existing power supplies.

The light is available as a 180° sectored red model or 360° green model and comes fixed-on as standard. The fixtures are also available with a range of factory-set flash characteristics and sectoring requirements to suit local regulations.

SL-BR


Post mount
Lens and enclosure moulded from UV-stabilised LEXAN® polycarbonate
Automatic night activation
LED optic


12.5
12.5
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M5 Brass insert
Ø 109
74.5
105.00

SPECIFICATIONS·*	SL-BR Series (2NM)	SL-BR4 Series (4NM)
Light Characteristics		
Light Source	LED	
Available Colours	Red, Green, other colours available on request	
Visible Range (NM)	AT @ 0.74: 2 (nominal) AT @ 0.85: 2.3	AT @ 0.74: 4 (nominal) AT @ 0.85: 4.6
Horizontal Output (degrees)	360 or 180	
Vertical Divergence (degrees)	9	
Available Flash Characteristics	Steady-on (standard). Other factory set flash patterns available on request	
LED Life Expectancy (hours)	>100,000	
Electrical Characteristics		
Current Draw (mA)	VDC Model: 40 @ 12 VDC	VDC Model: 80 @ 12 VDC
Circuit Protection	Integrated	
Nominal Voltage (V)	VDC Model: 12 VDC VAC Model: 110–240 VAC	
Temperature Range	-40 to 80°C	
Physical Characteristics		
Body Material	LEXAN® Polycarbonate – UV stabilised	
Lens Material	LEXAN® Polycarbonate – UV stabilised	
Lens Diameter (mm/inches)	107 / 4¼	
Lens Design	LED optic	
Mounting	50mm OD pole	
Height (mm/inches)	105 / 4	
Width (mm/inches)	109 / 4¼	
Mass (kg/lbs)	1.2 / 2⅝	
Product Life Expectancy	Up to 12 years ^	
Certifications		
CE	EN61000-6-3:2007 EN61000-6-1:2007	
IALA	Signal colours compliant to IALA E-200-1	
USCG	33 CFR Part 118	
Quality Assurance	ISO 9001:2015	
Waterproof	IP68	
Intellectual Property		
Patents	US Pat. No. 6,667,582. AU Pat. No. 778,918	
Trademarks	SEALITE® is a registered trademark of Sealite Pty Ltd	
Warranty *	3 years	
Options Available	· Mounting assemblies · Solar/battery systems · Light sectoring · Additional cable · GPS Synchronisation (DC Model) · GSM Monitoring and Control System (DC Model)	

Safety Information

- Install the light in compliance with the effective local electrical code(s).
- Mains power should always be disconnected when work is being done in close proximity to electrical fittings, and electrical work should only be done by a licensed electrician.
- Operate the light only within the indicated electrical ratings and product usage instructions.
- To ensure that the light and peripheral equipment function safely and correctly, use cable in compliance with the effective local electrical code.
- Do not stare at the LED or shine the LED into your eyes or those of another person.
- Do dispose of the product according to the local laws and regulations for your region, for example, at a recycling centre that accepts electronic devices.

Unpacking, Installation, Wiring & Setup

Unpacking

Unpack all hardware and inspect for damage. If there is any damage, please contact your Sealite Office. Retain original packing material for possible future use in shipping.

Installation & Wiring

Before proceeding with installation or service, make sure the following conditions are met:

- Ensure the tower or mast is grounded (NO RF HAZARD)
- Check the mast lighting circuit is not faulty
- Ensure power lines are not 'live' (NO ELECTRICAL HAZARD)
- Avoid touching live circuits!

NOTE:

- Make sure the mounting pole is vertically aligned to guarantee the required beam pattern of the bridge light
- Make sure the light's beam pattern is not disturbed by any nearby obstacles
- Ensure the cable gland is tightly sealed around the cable

Charging the Battery

New lanterns powered by solar 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 any solar modules are not covered and are in clear view of the sky with no shadows.

Lantern Operation

1. Lantern is activated by connecting the battery terminals:
   V_{BATT+} to +12VDC
   V_{BATT-} to -12VDC
2. The unit is now ready for normal operation, once placed in darkness.
3. To test, place dark cover (towel or jacket) on top of light to activate sensor, light will come on within one minute.
4. Ensure that the lantern is secured to the mounting unit.

Optional GPS Synchronisation

The light may be fitted with GPS and provide the user with the ability to install independently operating lanterns that all flash in synchronisation.

Note: Flash settings must be specified at the time of order.

No additional power supplies, aerials or control systems are required, and with its microprocessor-based system, the GPS option is specifically designed to provide maximum reliability and performance over a wide range of environmental conditions.

Operating Principle

Each light operates independently and requires no operator intervention. A minimum of 4 satellites need to be in view for the built-in GPS receiver to collect time data. At dusk, the light sensor will turn the light on. If time data is available the light will come on synchronised to every other light with the same selected flash code.

Synchronisation is achieved using an internal algorithm based on the highly accurate time base and time data received from the satellites. The satellite data is provided from a number of earth stations using atomic clocks as the time base. Continuous self-checking ensures that the light will continue to run in synchronisation.

Light Activation

At power-up the microprocessor checks that the internal GPS module is programmed correctly and is able to provide valid time base and time data.

Once outside with a clear view of the sky, valid data should become available within 20 minutes.

Daylight Operation

During daylight hours the microprocessor is in idle mode to reduce power consumption. Time data continues to be updated once per second. The microprocessor will automatically exit the idle mode as soon as dark conditions are detected.

Dark Operation

When dark conditions are detected the light:

- Checks for valid time data and is turned on after a delay based on the current time and the length of the selected flash code;
- If valid time data is not detected the light will turn on after approximately 10 seconds. This light will not be synchronised.
- If the light turns on unsynchronised it will continually check for valid time data. Once valid data is found the light will automatically synchronise.

Note: Lights will not synchronise if different flash codes are selected.

Optional GSM Monitoring & Control System

The light is also available with GSM Cell-Phone Monitoring and Control – enabling users to access real-time diagnostics data and change lantern settings via cell-phone. The system can also be configured to send out alarm SMS text messages to designated cellular telephone numbers. users can also have alarms and reports sent to designated email addresses.

Please contact Sealite for further information and instructions.

Maintenance & Servicing

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

- Occasional cleaning of the dome lens may be required using a cloth and warm soapy water.

Trouble Shooting

Problem	Remedy
Lantern will not activate.	• Ensure lantern is in darkness. • Wait at least 60 seconds for the program to initialise in darkness. • Ensure battery terminals and light head are properly connected. • Ensure battery voltage is above 12 volts.
Lantern will not operate for the entire night.	• Expose lantern to direct sunlight and monitor operation for several days. Sealite products typically require 2.5 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.

Sealite LED Light Warranty

Refer to Sealite website: sealite.com

Sealite®

We believe technology improves navigation™

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