

DEEPEA
Power & Light®



SeaLaser® 100



Operator's Manual

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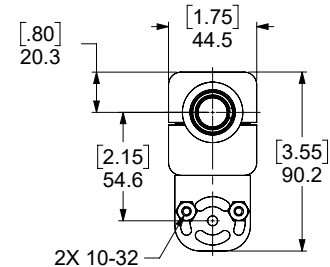
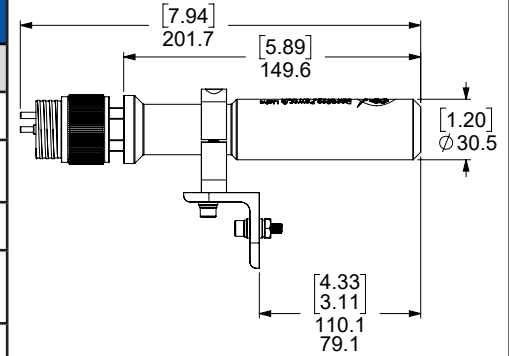
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Specification Overview

SeaLaser 100		
Laser	Red Laser	Green Laser
Type	Continuous Wave Semi-conductor laser diode Class III-A ¹	
Beam Diameter	Elliptical 1.8 mm x 0.5 mm	Circular
Wavelength	635 nm	532 nm
Beam Divergence	0.09 mRadians x 0.19 mRadians	
Beam Power	<5mW	<1.2 mRad
Beam Alignment	Beam runout 5 cm at 10 m [2 in. at 33 ft] max	
Beam Type	Dot or line	
Environmental Specifications		
Depth Rating	2,000 m	
Operational Temperature	-10°C to 50°C [14°F to 104°F]	Dot: 1°C to 30°C [32°F to 86°F] ² Line: -10°C to 50°C [14°F to 104°F] ²
Electrical Specifications		
Voltage	7~27 VDC	
Current	250 mA	
Mechanical Specifications		
Housing	Acetal plastic (Delrin®)	
Port	Acrylic	
Outer Diameter	30.5 mm [1.20 in]	
Overall Length	149.6 mm [5.89 in]	
Weight in Air	Laser: 227 g [0.50 lb] Bracket and Laser: 330 g [0.73 lb]	
Weight in Water	Laser: 67 g [0.15 lb] Bracket and Laser: 140 g [0.31 lb]	
Connector		
Default	Impulse BH2MP Contact sales for more options.	
Accessory		
Accessory	Dual SeaLaser Mount	



[inch]
mm

¹ Class III-A output power does not exceed 5 mW. Beam power density may not exceed 2.5 mW/square cm.

² For operation in cold water, DeepSea recommends turning on the green SeaLaser 100 3~5 minutes prior to use. This allows the module to reach optimum operating temperature and full intensity. Please contact DeepSea technical sales for more information.

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Safety Symbols

In this operator's manual and on the product, safety symbols are used to communicate important safety information. This section is provided to improve understanding of these symbols.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates a hazardous situation which, if not avoided, could result in death or serious injury.



WARNING indicates a hazardous situation which, if not avoided, could result in damage to the product or bodily harm.



CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTICE indicates information that relates to the protection of property.



This symbol means read the operator's manual carefully before using the equipment. The operator's manual contains important information on the safe and proper operation of the equipment.



This symbol means always wear safety glasses with side shields or goggles when handling or using this equipment to reduce the risk of eye injury.



This symbol indicates the risk of electrical shock.



This symbol indicates a risk of exposure to high brightness.



Laser radiation can cause eye injury. Avoid exposure to eyes.



This symbol indicates high voltage.



This symbol indicates a potentially hot surface that may cause burns or ignition.

General Notes & Warnings

The SeaLaser 100 is a low-cost, lightweight underwater scaling, range finding, and aiming device that uses a high-quality solid state laser diode module. It can be used in pairs or arrays of parallel-aligned beams to determine sizes and scale of viewed objects.

An internal power regulation board protects the laser diode from most voltage transients, overheat condition, reverse voltage, and cold temperature start-ups. It is internally fused. This is helpful for applications using long cables or those that might have switching transients. It has a scratch resistant SAR Acrylic optical port.

DANGER

Avoid looking directly into the laser beam, especially when wearing reading glasses or other optical magnifiers. Laser radiation is emitted from this device. Be careful of laser bounce off the water, a wet deck, portholes, and other reflective surfaces. Though generally safe, a Class IIIA laser can produce spot blindness under certain conditions. It

is recommended the laser be operated for only brief periods of time in air to provide both personnel safety and adequate heat sinking of the laser module.

WARNING

The green laser module has a higher optimum operating temperature than the red laser. DeepSea Power & Light recommends turning on the green SeaLaser 100 2 to 3 minutes prior to its intended use for the laser module to come to its stable operating temperature.

System integrators can test the SeaLaser 100 using their system under expected operational conditions to determine a more precise warm-up time for their specific application.

Pre & Post Dive Inspection

Each SeaLaser 100 is shipped ready for immediate use. To ensure that the laser will perform reliably, please observe the following maintenance guidelines:

1. Rinse the laser with fresh water after use in salt

water.

2. Always check to make sure that the rear bulkhead connector is secure before deployment.
3. After each deployment, examine the power cable and rear connector for damage.

WARNING

If a laser appears flooded, disconnect the power immediately. If water is determined to be present, carefully loosen the rear connector to vent any possible internal pressure and return to the factory for possible repair using the RMA return procedure below.

RMA Procedure for Repair

For warranty and non-warranty repairs, please contact DeepSea Power & Light for an RMA number prior to returning the item. Please have the light model number, serial number, and any other pertinent information along with a description of the problem on hand when calling, or include them in a fax or e-mail.

When shipping the item, be sure that the freight is pre-paid (CODs will not be accepted) and that the RMA number is clearly printed on the outside of the box.

All shipments should be sent to the address below:

DeepSea Power & Light
Attn: RMA #####
4033 Ruffin Road
San Diego, CA 92123-1817
U.S.A
Tel: 858-576-1261
Fax: 858-576-0219
Email: RMA@deepsea.com

Warranty Information

Limited Warranty

Seller warrants that the goods (except internal electronic components) sold under this contract will be free from defect in material and workmanship for a period of one year from the date of shipment from the factory, if they have been properly used. Internal electronic components are warranted for 90 days from the date of shipment from the factory, if they have been properly used. This warranty will be limited to the repair or replacement of parts and the necessary labor and services required to repair the goods. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL

WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY. This warranty is the exclusive and only warranty to pass with the goods under this contract. No agent, employee, or representative of the Seller has any authority to bind Seller to any information, representation, or warranty concerning the goods sold under this contract, and unless an affirmation, representation, or warranty made by an agent, employee, or representative is specifically included within this contract, it will not be enforceable by Buyer. If notice of defect is given to DeepSea Power & Light LLC within such 90 day or one-year warranty period, the sole obligation of DeepSea Power & Light LLC shall be to furnish new or repaired parts free of charge in exchange for parts which have been proved defective and does not include any other costs such as the cost of removal of the defective part, installation, labor, or consequential damages of any kind, the exclusive remedy being to require DeepSea Power & Light LLC to furnish such new parts. Under no circumstances shall the Buyer be entitled to recover any incidental damages as that term is defined in Commercial Code §2715.



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