

**DEESEA**  
POWER & LIGHT



# Sealite® Sphere

3000, 5000, 5500HV, 6000



## Operator's Manual

SeaLite® Sphere 3000, 5000, 5000HV, 6000

Record product serial number below as it appears on the nameplate.

Serial #

Pin-outs

- Positive = Pin \_\_\_\_
- Negative = Pin \_\_\_\_
- Ground = Pin \_\_\_\_
- Dimming (if applicable) = Pin \_\_\_\_

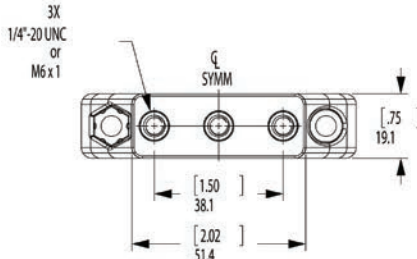
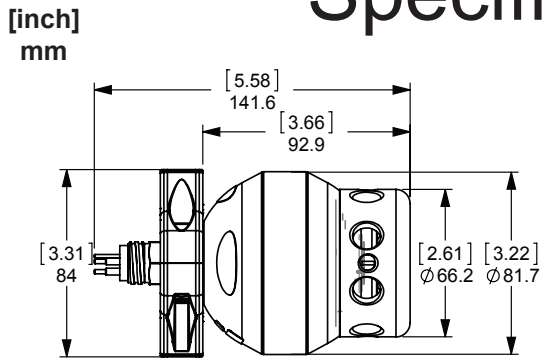
T: (858) 576-1261  
F: (858) 576-0219

4033 Ruffin Road  
San Diego, CA  
92123- 1817 USA

www.deepsea.com  
sales@deepsea.com



## Specification Overview



**MCBH3MP**  
(High Voltage AC/DC)

- 1 = Hot (DC +)
- 2 = Neutral (DC -)
- 3 = Chassis

**MCBH5MP**  
(Low Voltage DC)

- 1 = Positive
- 2 = Negative
- 3 = Chassis
- 4 = Not Used
- 5= 0-5 V DC Control (0-5Vdc Control ground to Pin 2)

\*Other connectors and pin-out options are available upon request.

	SLS-3000	SLS-5000	SLS-6000	SLS-5000 HV
<b>Electrical Specifications</b>				
<b>Input*</b>	10-36V DC 1.7A @ 24V DC 41 W	20-36V DC 3.3A @ 24V DC 80W	110-140V AC 120-150V DC 1.5A @ 120V AC Nominal (140V AC Max), 150W Max 1.0A @ 135V DC Nominal (150V DC Max), 150W Max	215 - 275V AC 275 - 375V DC 0.62A @ 220V AC Nominal (275V AC Max), 130W Max 0.32A @ 280V DC Nominal (375V DC Max), 130W Max
<b>Dimming</b>	0-5V Control Loop (Standard) Variable Voltage (Optional)		AC Phase Control Dimmer & Variable Voltage (Variac)	
<b>Optical Specifications</b>				
<b>Lumens in Water (Flood Lights)</b>	3000 Lumens typical	5000 Lumens typical	6000 Lumens typical	5000 Lumens typical
<b>True Lumens/Watt</b>	73 lm/w	62.5 lm/w	40 lm/w	35 lm/w
<b>True Lumens/Weight in Water</b>	13.6 lm/g	22.7 lm/g	21.4 lm/g	17.9 lm/g
<b>Color</b>	White 6K mix; other color options available			
<b>Color Temp</b>	Standard: 6000K (White 6K) Optional: 9000K (White LED's)			
<b>Beam Pattern in Water (FWHP)</b>	Flood: 75°/Medium: 38°			
<b>Color Rendering Index (CRI)</b>	77 (Standard White LED's)			
<b>Mechanical Specifications</b>				
<b>Body Material</b>	Hard Anodized 6013-T8 Aluminum (Standard) Beryllium Copper (Optional)			
<b>Window Material</b>	Sapphire			
<b>Mounts</b>	High Strength Mounting Collar with Titanium inserts (1/4"-20 or 6mm Thread Sizes)			
<b>Weight in Air</b>	654g (1.44 lbs) for standard AI housing		710g (1.56 lbs) for standard AI housing	
<b>Weight in Salt Water</b>	220g (0.49 lbs) for standard AI housing		280g (0.62 lbs) for standard AI housing	
<b>Impodible Volume</b>	160 cm <sup>3</sup> (9.76 in <sup>3</sup> )		125 cm <sup>3</sup> (7.63 in <sup>3</sup> )	
<b>Environmental Specifications</b>				
<b>Depth Rating</b>	6,000m (20,000ft)			
<b>Test Pressure</b>	8,700 psi			
<b>Crush Depth</b>	8,964 m (29,578 ft)			
<b>Operation Temp</b>	-10°C - 40°C (14°F - 104° F)			

\*DeepSea Power and Light offers a Universal SeaLite Sphere option with an input range of 90-250 VAC (50/60Hz) and 80-350 VDC. Please contact DeepSea for additional details.

# Table of Contents

Specification Overview.....	2
Table of Contents .....	3
Safety Symbols .....	4
General Notes & Warning .....	4
Pre & Post Dive Inspection .....	4-5
Troubleshooting .....	5
Flooded Light Repair .....	5
RMA Procedure for Repair .....	5
Warranty.....	5-6
Appendix A Dimming Response Curves.....	7-9
Appendix B Low-Voltage DC Step Response Curve .....	10-11

## Safety Symbol

**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.

## General Notes & Warning

Your SeaLite® Sphere is designed and built for years of maintenance-free operation. Simple pre- and post-cruise maintenance is all that should be done.

There should be no reason to ever open the body of your SeaLite® Sphere light. There are no user serviceable parts inside your new underwater light. Your SeaLite® Sphere was thoroughly pressure tested prior to leaving the factory to confirm the integrity of the complete assembly. Opening the housing may cause potential problems when resealing.

You may run your SeaLite® Sphere at full power in air. This light is equipped with thermal sensing circuitry which will automatically fold back the light output and prevent it from overheating. The light will return to full brightness once it is submerged and allowed to cool.



Tampering with the lighthouse in any way may damage the light and void your warranty.

Do not clean any part of the lighthouse with any type of alcohol.



When the SeaLite® Sphere is operated in air the body may reach temperatures in excess of 65° C (150°F). These temperatures may be enough to cause burns if the light is handled without protective clothing.

Do not operate any high voltage electrical equipment in or around water without using a Ground Fault Circuit Interrupter (GFCI) and an isolation transformer, especially when divers are in the water.

## Pre & Post Dive Inspection

Check to make sure that the rear bulkhead connector is secure before deployment.

Check the following areas for previous damage, wear or corrosion: rear bulkhead connector, power cable, front window, and cowl.

Rinse your SeaLite® Sphere in fresh water after use in saltwater.

**⚠ WARNING**

After each deployment, carefully check to make sure the light is operational and has not flooded. If it gets flooded, upon surfacing, the light can become internally pressurized, which may be potentially dangerous. Additionally, if the power remains on when the light has partially flooded, it is possible for electrolytic generation of an explosive mixture of hydrogen and oxygen gases. If a light appears flooded upon removal from the water, it should be treated as potentially dangerous. Point the light away from persons and valuable equipment and make sure that the power is disconnected. See the Flooded Light Repair procedure for more information.

**Troubleshooting**

If the light stops working while underwater assume that it has been flooded. See Flooded Light Repair procedure below.

Once it has been determined that the light is not flooded, or if it does not turn on during pre-deployment checks, check the input power cable/inline connector to make sure that correct voltage is being supplied, and that the correct pin-out is being used. See page 2 of this manual for electrical specs and connector pin assignments.

If the light still does not work, return it to DSPL using the RMA Procedure for Repair below.

**Flooded Light Repair**

If the light stops working while underwater, you should assume that it has been flooded. When working on a potentially flooded light, it is important to use appropriate personal protective equipment to include, at a minimum, eye and hand protection.

1. Place the light face down on a table making sure that the connector side is facing up.
2. Slowly unscrew the connector until the face O-ring seal no longer touches the back of the body. This will vent any internal pressure to atmospheric pressure. Listen for venting gases from around the threads. Soapy water will help show any leaking gas.
3. Once it is determined that the light is not or no longer internally pressurized, it is recommended that the light be returned with the connector partly unscrewed as in step 2 above, to DeepSea Power & Light for evaluation and repair using the RMA Procedure for Repair below.

**NOTICE**

DeepSea Power & Light cannot be responsible for any damage incurred during emergency field repairs. Evidence of opened housings will void the warranty. Such repairs should be undertaken only as a last resort and by qualified personnel.

**RMA Procedure for Repair**

Should it be necessary to return your SeaLite® Sphere to the factory, follow the procedure for the Flooded Light Repair above, leaving the connector partially unscrewed.

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

When shipping your 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**  
**e-mail: RMA@deepsea.com**

**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, Inc. within such 90 day or one year warranty period, the sole obligation of DeepSea Power & Light, Inc. 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, Inc. 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.



www.deepsea.com  
sales@deepsea.com

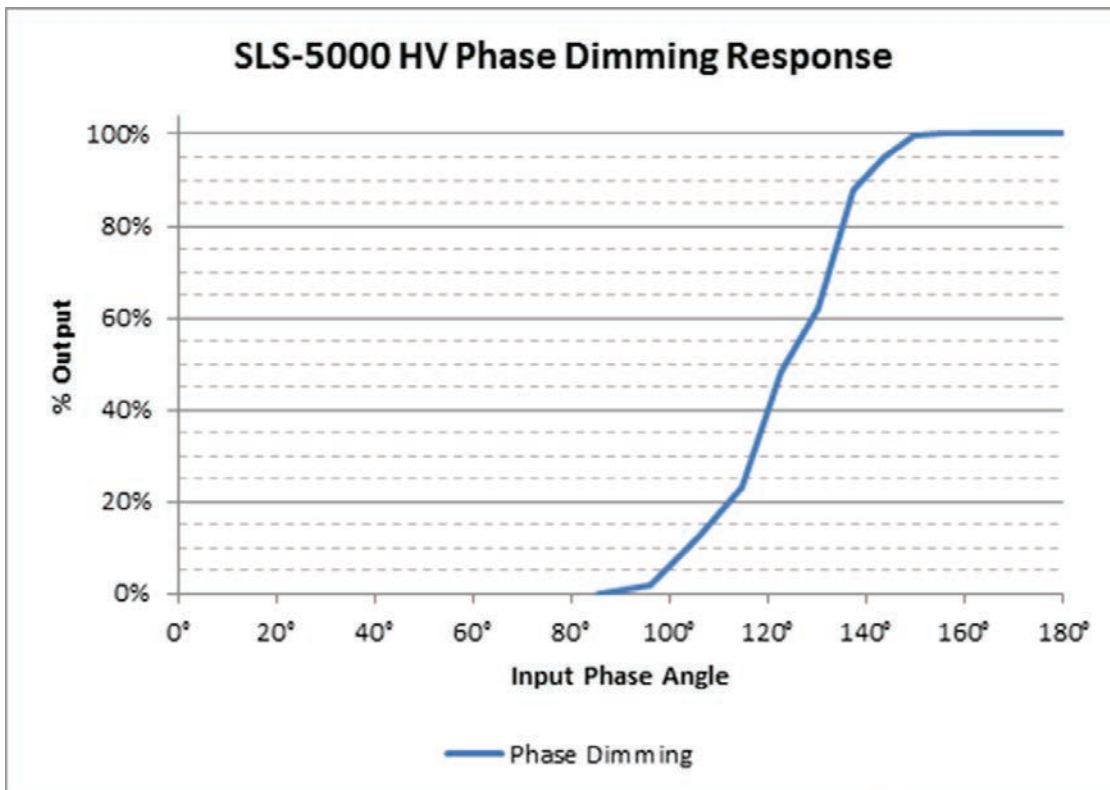
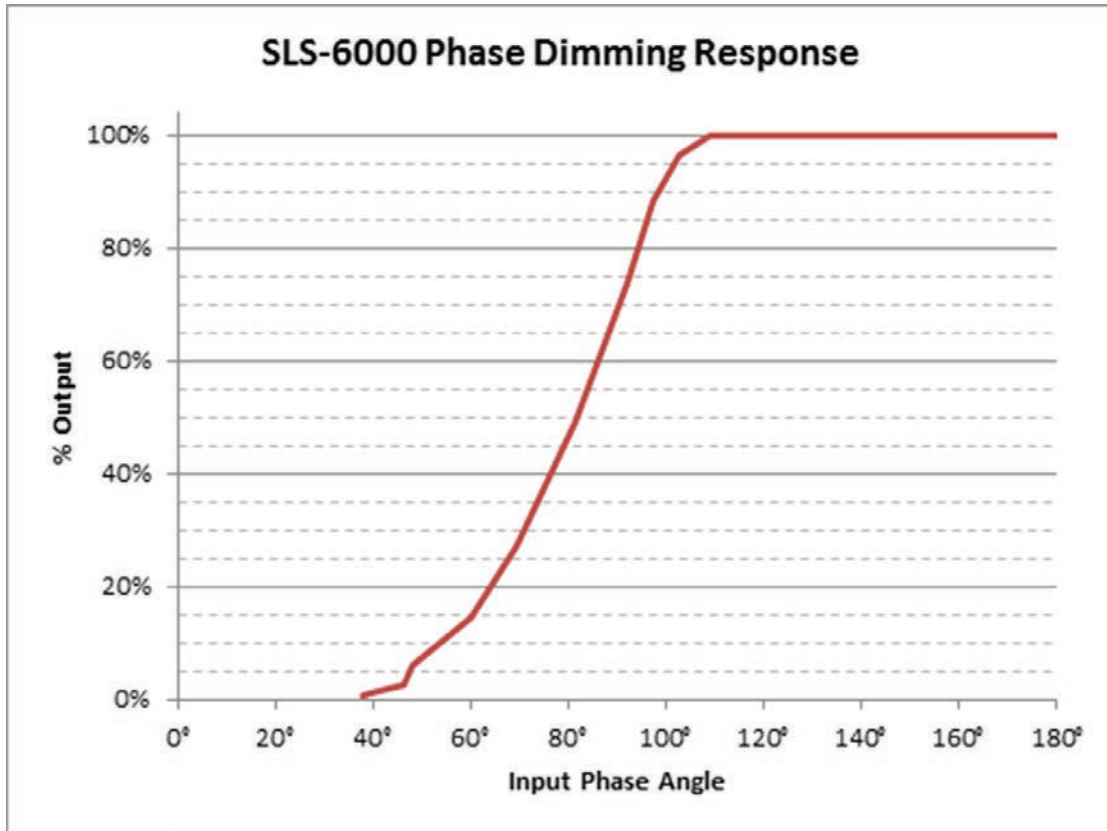
4033 Ruffin Road  
San Diego, CA  
92123-1817 USA

T: (800) 487-3775  
F: (858) 576-0219

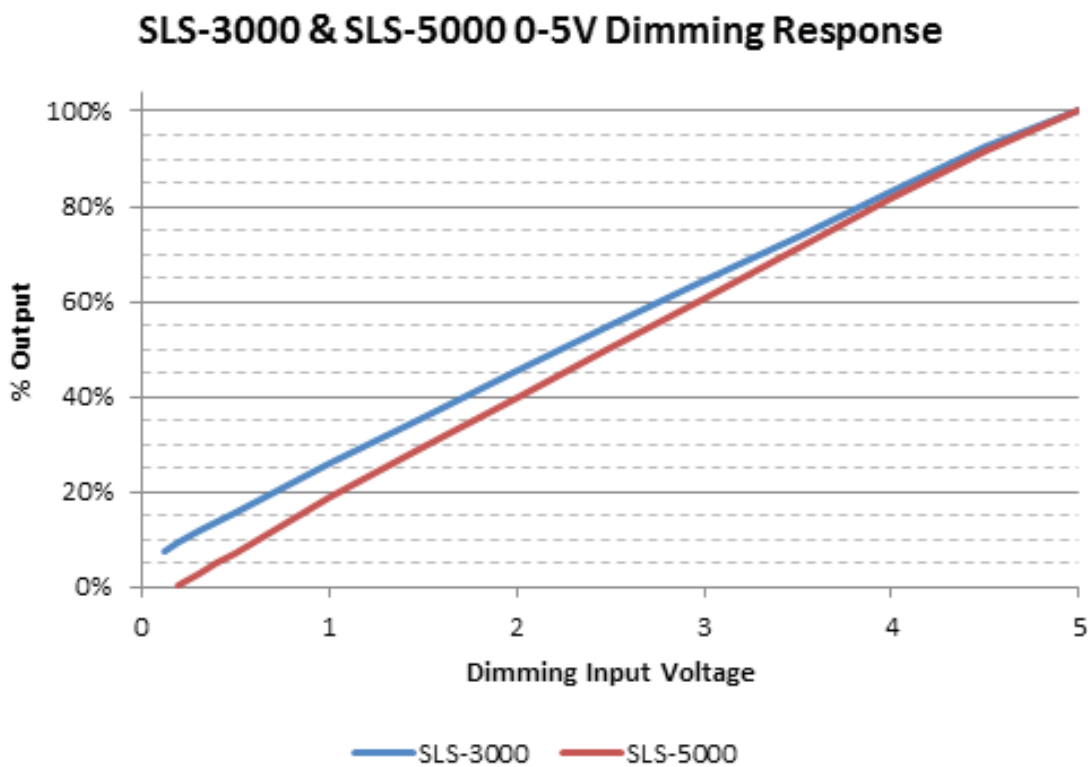
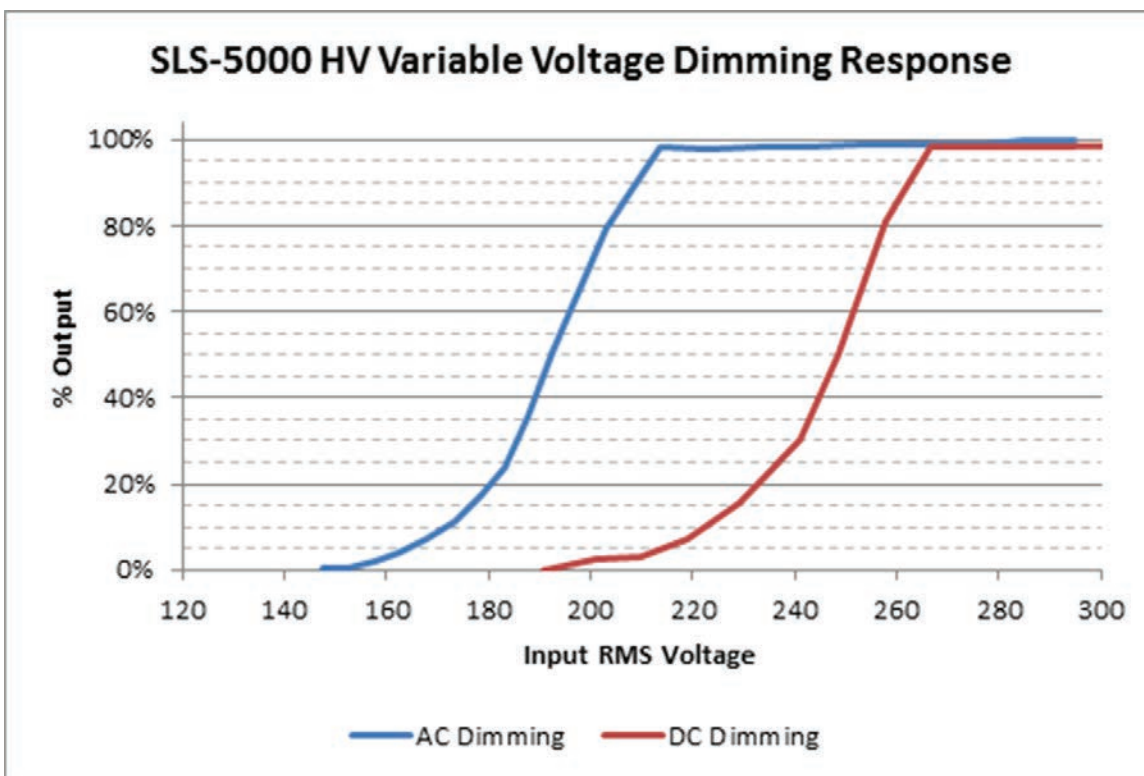


# Appendix A

Dimming Response Curves







# Appendix B

Low-Voltage DC Step Response Curve

Low-Voltage DC Step Response Curve for both SLS-3000 & SLS-5000

