

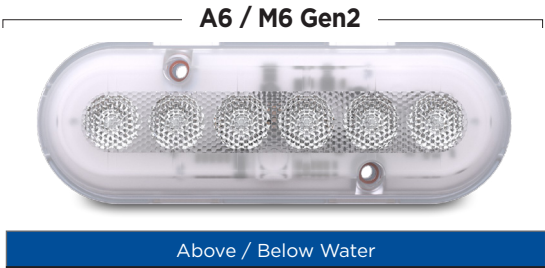


OceanLED Marine  
Product Support

# A6 / M6 Gen2 INSTALLATION MANUAL

## OceanLED

This installation manual covers the following products:



**Kit Includes**  
M6 or A6 Gen2 Light, Mounting Screws, Fuse Kit



**IMPORTANT:** Please read the instructions completely before proceeding with the installation. These instructions supersede any other instructions if they differ.

**Chapter 1**.....4  
An overview of the installation.

**Chapter 2**.....5  
Detailed instructions on how to mount and connect the light.

**Chapter 3**.....8  
Maintenance and troubleshooting tips.

**Chapter 4**.....10  
Appendix

**Chapter 5**.....11  
Warranty statement.

**PRETEST**

It is always recommended to test the lights prior to installation.

**WARRANTY COVERAGE**

2 year warranty from time of purchase.

**WARNING!**

**Never Use Solvents!** Cleaners, fuel, paint, sealants, and other products that may contain strong solvents, such as acetone, that attack many plastics greatly reducing their strength and irreversibly damaging the special lens coatings and cable sheathings.


**WARNING!**


**Light is for mounting directly to a flat surface on the rig, with the cable passing through a 1/2" (12.5mm) hole.** Do not submerge your cable in water; cable and connections exposed to underwater submersion will not be covered by warranty. Mounting the light in any other configuration, other than those described in this guide, will invalidate its warranty.



## IMPORTANT SAFETY PRECAUTIONS!

**ATTENTION INSTALLER:** This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner and/ or operator of this equipment.


 **CAUTION: Risk Group 2** Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

 **CLASS 3:** This equipment is designed to operate at voltages of less than 50v DC.

### **WARNING:**

- Before installing your OceanLED Light, read and follow all warning notices and instructions which are included. Failure to follow safety warnings and instructions can result in property damage, severe injury or even death.
- Before installing your OceanLED Light, check local laws for restrictions regarding the use of colored lights in your area.
- Never Use Solvents! Cleaners, fuel, and other products that may contain strong solvents, such as acetone, that attack many plastics greatly reducing their strength and irreversibly damaging the special lens coatings and cable sheathings.

### **DANGER! Risk of electrical shock or electrocution!**

 This M6/A6 light must be installed by a Licensed Marine Electrician in accordance with ABYC (American Boat and Yacht Council), NMMA, and any other applicable standards. Improper installation will create an electrical hazard which could result in death or serious injury to installers, or others and may also cause damage to property. Always disconnect the power to the light at the circuit breaker before servicing the light. Failure to do so could result in death or serious injury to serviceman or others.

**READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL**



## Chapter 1: Overview

CHAPTER

1

ONE

### 1.1 Identifying your model

To identify if your light is an M6 (Mast light) or an A6 (Underwater light) please refer to the packaging or label on the rear of the PCB.



### 1.2 DC Power / Fuse Ratings

The majority of installations will utilize onboard 12/24v DC power supply from a marine battery. However, if AC to DC power supply is being used, allow at least 15% reserve for voltage fluctuations due to variables beyond your control such as ambient temperature and supply voltage fluctuations to ensure your lights are always receiving the proper voltage and to ensure the power supply is not “overworked” causing premature failure. Use chart below in determining power supplies.

Model	Power Consumption in Watts	15% reserve in Watts	Recommended Fuse Values.	
			12vDC	24vDC
M6	6	6.9	3 Amp	3 Amp
A6	12	13.8	3 Amp	3 Amp

### 1.3 Tools and Materials

- Phillips head screwdriver
- Drill
- Marine sealant - 3M 4200 or equivalent
- Zip-ties
- Waterproof Cable Connectors / Butt Splices and Waterproof Heat Shrink
- Sandpaper

### 1.4 Finding The Mounting Location - (Both A6 Gen2 Lights)

OceanLED M6/A6 lights are suitable for installation on aluminum, steel or composite structures. Check compatibility between fixing screws and mounting surface. The M6 light should be placed on mast spreaders for the best rig illumination. The A6 light should be placed 10-20cm / 4-8” below the waterline.

### 1.5 Spacing

When installing multiple lights, even spacing is important for the best visual appearance.

**M6** - Ensure lights do not foul with any rigging hardware to avoid damage.



## Chapter 2: Installation

CHAPTER

2

TWO



**Note:** OceanLED makes every effort to protect our marine and fresh water environment as well as our natural resources. Please take care to keep packaging away from and out of the water by ensuring loose packaging materials are secured and not susceptible to being blown into the water. Please recycle all packaging materials as the sustainability of our environment is everyone's responsibility.

### 2.1 Preparing the mounting surface

**TIP:** Always wear safety goggles and a dust mask

1. Drill a 3mm / 1/8" pilot hole square to mounting surface from inside the mounting surface if possible. If there is a rib, strut, or other irregularity near the selected mounting location, this will need to be taken into account in the planning phase and the location adjusted accordingly, or the obstruction safely removed or modified.
2. Using a suitable drill, make a 1/2" (12-13mm) hole. Ensure the light will fit flush and will be square to the mounting surface.
3. Sand the area around the hole using a heavy grit sandpaper. Ensure that the sealant will adhere properly to the mounting surface.
4. Place light fixture into position or use mounting template provided. Mark the screw hole position and pilot drill using correct sized drill bit for included screws.
5. Always dry fit units before applying any sealant.

### 2.2 Installation

**WARNING:**

- Only use screws provided. Never use power tools to secure your light; hand tighten only
- Please check all components prior to installation. If there is any damage to connectors, cables, and/or any other component, please notify OceanLED BEFORE installation. Failure to notify OceanLED of damage in transit prior to installation will lead to violation of warranty.
- Light is for mounting directly to a flat surface on the spreader for M6 or Mounting surface for A6, with the cable passing through a 1/2" (12.5mm) hole. Do not submerge your cable in water; cable and connections exposed to underwater submersion will not be covered by warranty. Mounting the light in any other configuration, other than those described in this guide, will invalidate its warranty.
- Use existing holes where possible.
- When drilling holes, consideration should be given to structural integrity when determining light positioning.

**TIP:**

- Always wear suitable safety equipment.
- Use a suitable marine sealant such as 3M™ Marine Adhesive Sealant Fast Cure 4200FS. When applying sealant to light fixture, be careful to protect the lens from any abrasive surface/floor so as not to remove the protective Tritonium coating.



1. Apply generous amounts of the sealant you are using to the back perimeter of the light body. Make sure to generously coat the cable of the light where it meets the back of the light. There should be an unbroken bead of sealant around the perimeter of the light unit.
2. Insert the light on to the mounting surface, feeding the cable through first and seat into place. Press the light hard into the mounting surface and ensure good adhesion.
3. Once you are satisfied that the unit is fully tightened to the mounting surface, you will notice that sealant has squeezed out from around the perimeter of the light. Using a cloth wipe off excess sealant to leave a clean seal. If you do not see sealant squeeze out from the body, you have not used enough sealant or tightened the unit enough to the mounting surface. Carefully examine the installation to make sure the seal you have installed on the unit is fully water-tight. If in doubt, remove light, re-apply sealant and re-install.
4. Ensure the cabling is secure

## 2.3 Connecting the light fixture

### Connecting lights to your VDC power source

#### **WARNING:**

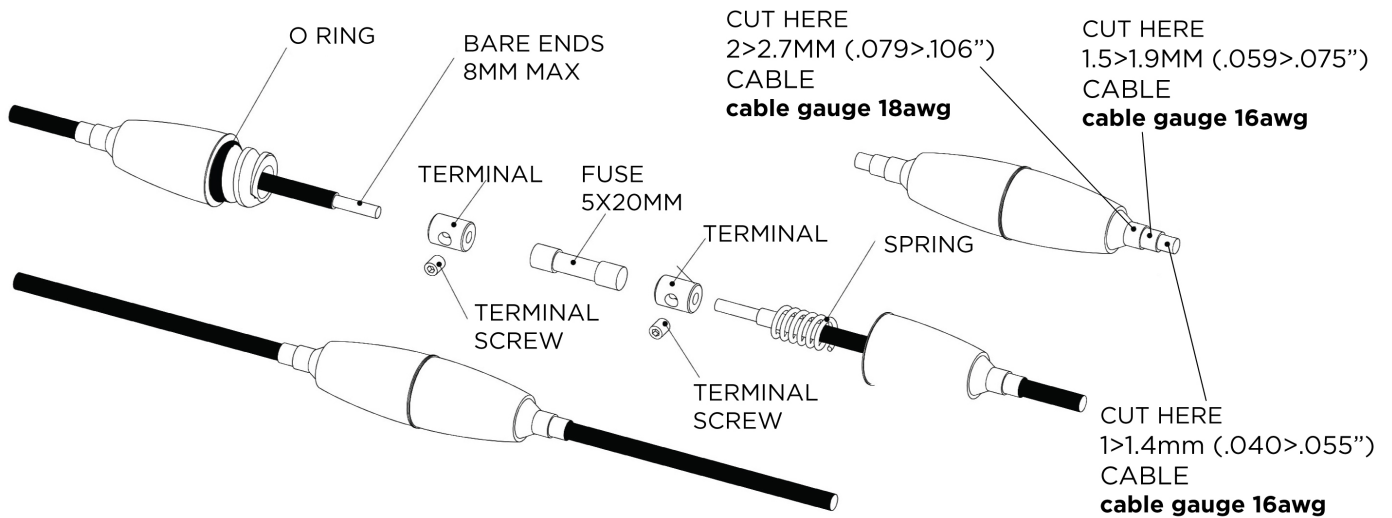
- OceanLED M6/A6 Lights are not suitable for dimming
- Always consult a qualified electrician when connecting OceanLED light fixtures.
- When connecting light units, please note that all OceanLED lights will operate to within a specific voltage range.
- Never leave the bare cables unprotected. Take care to not leave the bare wire ends in bilge water before making the waterproof connections. Water deposits in the connectors and cables will cause corrosion. Over time water can also work its way into the unit along the inside of the cable due to capillary action causing the light to fail. This will NOT be covered under warranty.

It is recommended to connect the light to the DC power source using a two pole, screw type terminal block with a minimum voltage rating of 50V and a current rating of at least 5A. The ends of the cable should be stripped back (if required) and suitable ferrules fitted. The terminal block should be fixed inside a waterproof enclosure (IP66 minimum).

#### **TIP:**

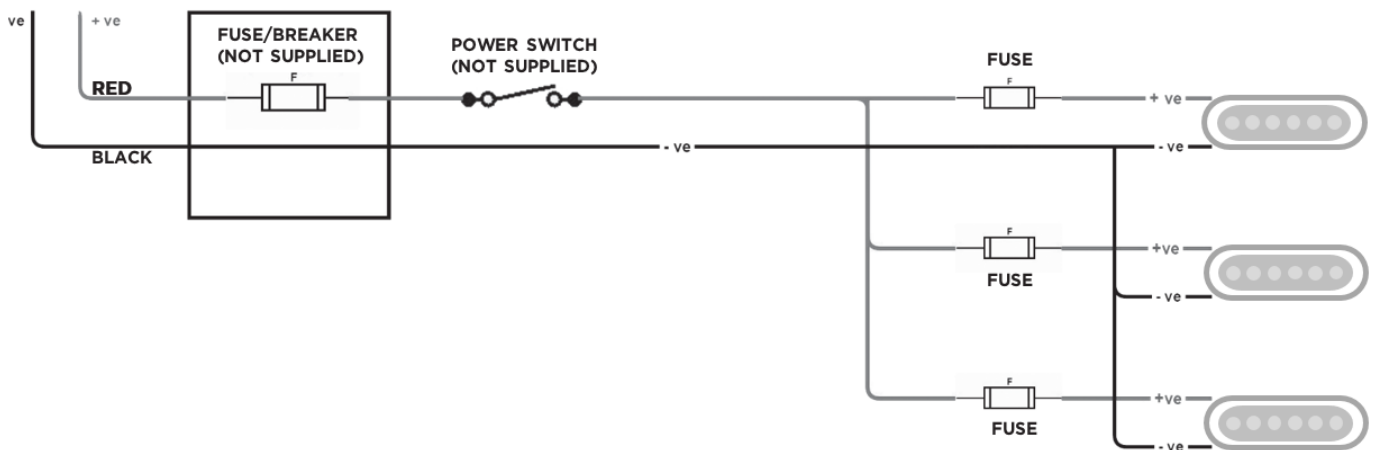
- Switch and breaker need to be robust enough to support light.
  - For complete instructions on VDC connections, please refer to ABYC codes of practice and other applicable codes and ordinances for VDC connections.
1. Depending on the model of lights currently installed you will need to pull the correct sized power cable from the breaker/fuse panel to the light locations to supply constant power to the units. It is imperative that the correct sized tinned boat cable is used. (Please Refer to Cable Gauge Chart in the Appendix)
  2. Using waterproof connections or a waterproof junction box, make the connections at either end of the system to attach the lights to the VDC system. Red is +Ve, Black is -Ve.

**NOTE:** Corrosion of wire, and/or water ingress into the light unit via cable is NOT covered under warranty.



3. If you are not installing a custom fuse panel, it is imperative that the OceanLED supplied fuse is installed on each power line from each light. Please consult electrical specification on page 4 to select the correct fuse.
4. Apply generous amounts of the sealant you are using to the back perimeter of the light body. Make sure to generously coat the cable of the light where it meets the back of the light. There should be an unbroken bead of sealant around the perimeter of the light unit.

#### Connection Diagram



## 2.4 Finalize your OceanLED installation

### Test your lights

Always test the lights BEFORE the boat goes back into the water. Failure to test prior to launch may require boat to be re hauled out. If you have any issues, please contact your local OceanLED representative.

#### WARNING:

- Never install a new underwater light and leave the boat in the water unchecked for several days.
- When the boat is placed in the water, immediately check for leaks. Note that very small leaks may not be readily observed. It is best not to leave the boat in the water for more than 3 hours before checking it again. If there is a small leak, there may be considerable bilge water accumulation.



## Chapter 3: Maintenance, Repair, & Parts



**NOTE:** M6/A6 lights have active thermal protection. This means that under normal ambient conditions they run at full power. Moderate dimming may be noticeable if high ambient temperatures are reached to avoid damage.

### 3.1 Cleaning Instructions

**CAUTION:** Harsh cleaning solvents will damage the light and Tritonium coating.

Sea growth can collect quickly on the light and this can reduce the performance in just a few weeks. To prevent the build-up of sea growth, all OceanLED lights have been coated with a specialized Tritonium coating which makes the surface of the lens a non-stick layer which helps ward off long term barnacle buildup. Lights should be cleaned with a boat brush or similar biweekly or as needed to keep the lens of the light clear. Growth varies greatly around the world and maintenance is imperative to the proper operation and longevity of the product. This can be done in the water using a plastic scraper. If out of water, moisten the growth before wiping.

### 3.2 - Replacement Parts

Lost, broken, and worn parts should be replaced immediately and can be obtained through your dealer or from the manufacturer.





## Troubleshooting Common Problems and Their Solutions

M6 / A6 Gen2 Light			
Problem	Check	Result	Fix
Light does not look bright.	Check light is clean	Dirty light	Clean light.
	Check voltage supply to the light is between 9 volts and 28vDC.	Voltage is either too high or too low.	Investigate reason for high or low voltage and fix.
	Check voltage supply is stable and does not fluctuate.	Voltage is fluctuating.	Investigate reason for voltage fluctuation and fix.
	Check that the electrical connections between the light and the supply cable have been made correctly.	Poor electrical connection.	Remake connection and seal joint correctly.
	Confirm all LEDs are illuminated.	1 Or more leds are not working.	Contact your dealer. If the installation instructions have not been followed and as a result the light has been damaged. This is not covered by the warranty.
	Check lights to see if water is present inside the light.	Water present.	If water is present contact your dealer. If the installation instructions have not been followed and as a result the light has been damaged. This is not covered by the warranty.
Light does not light up.	Check that the electrical connections between the light and the supply cable have been made correctly.		Remake connection and seal joint correctly.
	Check that the wiring polarity is correct, red to positive and black to negative.	Polarity incorrect.	Change the wiring polarity and seal joint correctly.
	Check that there is power supply to the light cable connection.	Poor electrical connection.	Trace the cables back, checking at joints until break has been located. Then rectify the problem and seal joint correctly.
	Check that the electrical connections between the supply cable and the light circuit breaker or fuse have been made correctly.	Poor electrical connection.	Remake connection and seal joint correctly.
	Check that the inline fuse is intact and not blown.	Replace fuse.	If fuse keeps blowing then there is a short circuit in the light system that must be traced and rectified. If no external short can be located contact your dealer.
	Check that the light supply circuit breaker is closed or the fuse has not blown.	Close circuit breaker / replace fuse.	If breaker / fuse keeps blowing then there is a short circuit in the light system that must be traced and rectified. If no external short can be located contact your dealer.
Light has water inside.	Check connections to make sure they are not submerged in water.	Light will require replacing.	This is not covered by the warranty.
	Check cable to make sure there is no damage to the cable.	Light will require replacing.	This is not covered by the warranty.



## Chapter 4: Appendix

SUPPLY CABLE CONDUCTOR SIZE CHART								
CABLE LENGTH (FEET)	CIRCUIT CURRENT							
	2 AMP	4 AMP	6 AMP	8 AMP	10 AMP	12 AMP	14 AMP	16 AMP
0-5	18 AWG	18 AWG	16 AWG	16 AWG	16 AWG	14 AWG	14 AWG	14 AWG
10-15	18 AWG	18 AWG	16 AWG	16 AWG	14 AWG	14 AWG	14 AWG	14 AWG
15-20	18 AWG	18 AWG	16 AWG	14 AWG	14 AWG	14 AWG	12 AWG	12 AWG
20-25	18 AWG	16 AWG	14 AWG	14 AWG	12 AWG	12 AWG	12 AWG	10 AWG
25-30	18 AWG	16 AWG	14 AWG	12 AWG	12 AWG	10 AWG	10 AWG	10 AWG
30-35	18 AWG	14 AWG	14 AWG	12 AWG	10 AWG	10 AWG	10 AWG	8 AWG
35-40	18 AWG	14 AWG	12 AWG	12 AWG	10 AWG	10 AWG	8 AWG	8 AWG
40-45	16 AWG	14 AWG	12 AWG	10 AWG	10 AWG	8 AWG	8 AWG	8 AWG
45-50	16 AWG	14 AWG	12 AWG	10 AWG	10 AWG	8 AWG	8 AWG	8 AWG
50-55	16 AWG	12 AWG	10 AWG	10 AWG	8 AWG	8 AWG	8 AWG	4 AWG
55-60	16 AWG	12 AWG	10 AWG	10 AWG	8 AWG	8 AWG	4 AWG	4 AWG
60-65	14 AWG	12 AWG	10 AWG	8 AWG	8 AWG	8 AWG	4 AWG	4 AWG
65-70	14 AWG	12 AWG	10 AWG	8 AWG	8 AWG	4 AWG	4 AWG	4 AWG
70-75	14 AWG	12 AWG	10 AWG	8 AWG	8 AWG	4 AWG	4 AWG	4 AWG
75-80	14 AWG	10 AWG	10 AWG	8 AWG	4 AWG	4 AWG	4 AWG	2 AWG
80-85	14 AWG	10 AWG	8 AWG	8 AWG	4 AWG	4 AWG	4 AWG	2 AWG
85-90	14 AWG	10 AWG	8 AWG	8 AWG	4 AWG	4 AWG	2 AWG	2 AWG
90-95	14 AWG	10 AWG	8 AWG	8 AWG	4 AWG	4 AWG	2 AWG	2 AWG
95-100	12 AWG	10 AWG	8 AWG	4 AWG	4 AWG	4 AWG	2 AWG	2 AWG