OceanLED

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This installation manual covers the following products:

ALLURE XFM HD Gen2 MK2.2
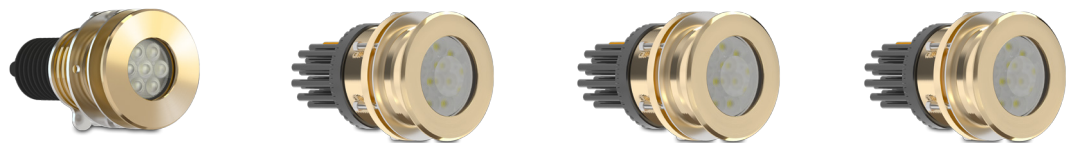
Allure Xchangeable Flush Mount (XFM) Gen2 MK2.2			
50 XFM HD	150 XFM HD	250 XFM HD	Colours XFM HD

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

PRETEST
Always test the lights prior to installation. Failure to do this may result in additional installation time and will not be covered by warranty.

GENERAL
OceanLED underwater lights are generally used for illuminating the water around a boat or yacht. Best placement for achieving the best results are described in finding the right mounting location.

WARRANTY COVERAGE
2 year warranty from time of purchase, regardless of time of installation. For full warranty statement, please refer to www.oceanled.com/warranty

OceanLED

IMPORTANT SAFETY PRECAUTIONS!

⚠ **IMPORTANT NOTICE: 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.

⚠ **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.

• Do not operate lights out of water for a period longer than 5 minutes. Exceeding this may cause damage to the light unit

• Ensure the bonding point of the light is fitted to the cathodic protection system on the vessel. Check conductivity between earth bonding point and aluminium bronze front bezel. If mounting the light to metal or carbon fibre hull, ensure that suitable measures have been put in place to account for the effects of galvanic corrosion i.e. use of delrin sleeve components.

• Salt is an inherently corrosive material. Metal parts and certain natural and man-made surfaces are particularly susceptible to corrosion and deterioration when used in and around salt water. Some OceanLED lights contain combinations of plastic and polymer products which are impervious to salt water corrosion, however, screws and fasteners used for the installation must be of a marine grade type stainless steel or equivalent and monitored annually to ensure the lights remain in service for years to come.

• Never connect/disconnect lights to the driver with power applied as irreversible damage may occur.

• 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 underwater light must be installed by a licensed or certified electrician in accordance with all applicable local codes and ordinances. Improper installation will create an electrical hazard which could result in death or serious injury to swimmers, installers, or others due to electrical shock, 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, swimmers or others due to electrical shock. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL.

Chapter 1: Overview

This handbook provides instructions to assist you in the installation and set up of the Allure underwater lights from OceanLED.

Identifying your Model and Power Source
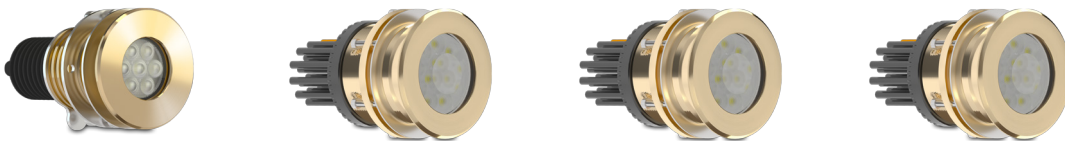
Allure Xchangeable Flush Mount (XFM) Gen2 MK2.2			
50 XFM HD	150 XFM HD	250 XFM HD	Colours XFM HD

Power Source

When identifying your power source, 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 Value 12V DC	Recommended Fuse Value 24V DC	Recommended Fuse Value 110V AC	Recommended Fuse Value 240V AC
50 XFM	38 W	44 W	5 Amps	3 Amps	1.5 Amps	1 Amp
150 XFM	64 W	74 W	7 Amps	3 Amps	1.5 Amps	1 Amp
250 XFM	90 W	104 W	10 Amps	5 Amps	1.5 Amps	1 Amp
Colours XFM	120 W	138 W	N/A	10 Amps	N/A	N/A

Optional Extras (Not available in all countries, contact your reseller for more information.)

- **2/4 Way Junction Box - Recommended**
  Warning: Insufficient sealing of wires may lead to water ingress and cause product failure. Evidence of water ingress in cable due to installation errors will invalidate warranty. OceanLED recommends using an OceanLED Junction Box to prevent this issue.

Allure Series Accessories

DELRIN ISOLATING SLEEVE - • Isolation of the metal parts of the Allure Series Light from metal hulls and engine brackets to minimise galvanic corrosion between dissimilar metals. • The isolation sleeve is easily fitted to the rear of the light fixture using a suitable adhesive. Allow drying time before installation in hull. **PART NUMBERS -** • Delrin Isolation Sleeve for 150XFM / 250XFM - 001-500638	
OCEANDMX KIT (For use with the COLOURS XFM models) Take control of your OceanLED Pro Series Colours lights via your iOS or Android device. With the new OceanDMX App for Android and iOS, you have all the control and customisation you need to create any scene or light display you wish, with full control over sensitivity, speed and brightness. Choose between standard static, cycle or strobe modes. Alternatively, use audio or wave motion modes to control the colour scheme of your choice. The OceanDMX App has been custom designed with an easy to use menu structure for use solely with the new OceanDMX Controller, which transmits its own unique WiFi network for your mobile device to connect with. To use audio control, simply attach your vessels sound system to the DMX controller via a standard audio jack. In wave motion mode, you can create a dramatic display whilst on the move upon wave impact.	
DMX TOUCH PANEL CONTROLLER - • For use with the COLOURS XFM models. Available as a fixed or wifi compatible controller. • Use to change the colour and lighting effects of the above lights and choose between a spectrum of 6 million colours to suit your mood. • The wifi controller can be easily programmed to create individual colour scenes, which can then be selected at the touch of a button. **PART NUMBERS -** • DMX Touch Panel Controller: 001-500596 • DMX Wifi Compatible Touch Panel Controller: 001-500598 • 3M Ethernet Colours Connection Cable: 001-500594 • Colours Terminator Kit: 001-500467	

Products may vary from image shown.

Finding The Mounting Location - UNDERWATER

Considerations

Design -
- Allure Series lights are suitable for Fiberglass, GRP and Wooden Hulls, as well as Aluminum/Steel Hulls using suitable mounting hardware.

- If positioning lights on a transom, more smaller sizes look better than fewer bigger sizes.

- All colours of light (except blue) are typically absorbed within the first 30 meters or 100 feet. Blue lights seem brighter than white lights with a better beam spread because they are more perceptible to the cones in the human eye.

- Blue light penetrates the furthest in blue sea water, but may appear whitish or bleached out in green or brown water due to water impurities.

- When lights are pointing downwards, the light can reflect off a sandy sea bed giving a mirrored effect, and light will bounce back creating even more illumination

- Please follow instructions with any accessories used to protect warranty coverage and ensure product longevity.

Tip: When installing the Allure XFM units, please check the inside spacing to ensure that if maintenance is required, there is enough space on the inside of the boat to remove the insert. For example, the XFM unit requires an additional 160mm / 6.3" from the rear of the mounting tube to allow the insert to be removed.

Depth -
- Ideal mounting depth is 100 - 200mm (4 - 8") from the water line to the top of the fixture, (at 50% load).

- Ideally mount your lights at similar depth levels when using underwater to ensure matching colour consistency through the water. Deeper lights will look duller and possibly differ in colour to shallower mounted units.

Spacing -
- If positioning lights on a transom, take into consideration swim platforms and obstacles that may block the initial portion of the light, it may be necessary to use the next model size up.

- The recommended transom spacing is 1 - 1.5m (3 - 5') for 50 or 150 HD models and 1 - 1.8m (3 - 6') for 250 HD models.

- The recommended hull spacing is 1 - 1.8m (3 - 6') for 50 or 150 HD models and 1.2 - 2.4m (4 - 8') for 250 HD models.

Installation -
- Test units before installation.

- Make sure that when installing any underwater light, the entire rear of the bronze flange is always coated in sealant to prevent any water ingress into the hull from rear of the unit.
(refer to Chapter 3 Fig. 1)

- When switching lights on for the first time, take into consideration water clarity, ambient light etc as first time impressions can be marred by poor conditions.

- Test units after installation.

Chapter 2: Preparing the Hull

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.

Warning: There are several different hull types most are either solid fiberglass or cored. Be sure you follow the correct procedures for the hull you are preparing since all require different preparation methods. We will cover the two most common types below. If in doubt please contact your local OceanLED representative or the boat manufacturer for assistance.

Warning: 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.

Additional tools needed that are not provided by OceanLED

• Power drill (with a hole saw sized to suit your light model, see below)

• Sand Paper

• Filler (reference boat manufacturer's specifications)

2.1 Preparing a Solid Fiberglass Hull

Tip: Always wear safety goggles and a dust mask.

1. Drill a 3mm / 1/8" pilot hole perpendicular to the waterline from inside the hull. If there is a rib, strut, or other hull 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 the correct sized hole saw (see table below), cut the mounting hole from outside the hull. Be sure to hold the drill plumb, so the hole will be perpendicular to the surface of the hull.

Solid and Cored Hull Installation Saw Size		
Product Name	Metric	Imperial
50 XFM HD Gen2	60.5mm	2.38"
150 XFM HD Gen2	83mm	3.25"
250 XFM HD Gen2 / Colours XFM	83mm	3.25"

TIP: If drilling large holes, alternate between applying pressure to the drill and relaxing the action to ensure an even cut through the hull and the saw's longevity. If cutting through Kevlar shield or metal, be careful of overheating the hole saw.

3. Sand the area around the hole using a heavy grit sandpaper to remove the previous bottom paint and to ensure that the sealant will adhere properly to the hull. If there is any petroleum residue inside the hull, remove it with acetone before sanding.

2.2 Preparing a Cored Fiberglass Hull

The core (wood or foam) must be cut and sealed carefully. The core must be protected from water seepage and we recommend that the hull be reinforced to prevent it from crushing under the locking nut which would allow the mounting tube to become loose. If unsure, please consult your local OceanLED representative.

Tip: Always wear safety goggles and a dust mask.

1. Drill a 3mm / 1/8" pilot hole perpendicular to the hull. If there is a rib, strut, or other hull 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. If the pilot hole is drilled in the wrong location, drill a second hole in a better location and repair first pilot hole.

2. Using the correct sized hole saw cut the hole from outside the hull through the outer skin only. Be sure to hold the drill plumb, so the hole will be perpendicular to the angle of the hull.

Tip: Seal core according to boat manufacturer's specifications.

3. The core material can be very soft. Apply only light pressure to the hole saw after cutting through the outer skin to cut through the material. Once you have cut through the core material, you will need to apply more pressure to cut through the liner material on the inside of the hull.

4. Remove the plug of core material so the core of the hull is fully exposed. Using heavy grit sandpaper, sand and clean the inner skin, core, and the outer skin around the hole. Then using a Dremel tool, carefully remove around ¾" of the core material from inside the outer and inner layers of hull. Be careful at this point to not damage the outer hull layers. This process should leave a ¾" recess.

5. Completely seal the hull to prevent water seepage into the core. Allow enough preparation time for several layers of epoxy to completely dry. Remember – environmental conditions can accelerate or decelerate curing times which also varies on type of epoxy used. Consult epoxy directions and test cure time before procedure.

6. Using recommended filler, generously coat the inside core material with the epoxy, making sure to evenly coat the inside surfaces.

7. When dry, gently sand and clean the area around the hole the size of the diameter of the light fixture using a heavy grit sandpaper, inside and outside, to remove excess epoxy buildup and also to remove any paint to the bare hull material to ensure that the sealant will adhere properly to the hull. If there is any petroleum residue inside the hull, remove it with acetone before sanding.

2.3 Preparing a Metal and Carbon Fibre Hull

A Delrin sleeve must be installed If mounting the light to metal or carbon fibre hulls to prevent the effects of galvanic corrosion. To install, follow the steps below:

Tip: Always wear safety goggles and a dust mask.

1. Drill a 3mm / 1/8" pilot hole perpendicular to the waterline from inside the hull. If there is a rib, strut, or other hull 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 the correct sized hole saw (see table below), cut the mounting hole from outside the hull. Be sure to hold the drill plumb, so the hole will be perpendicular to the surface of the hull.

Metal and Carbon Fibre Huil (with Delrin Sleeve)		
Product Name	Metric	Imperial
50 XFM HD Gen2	64mm	2.52″
150 XFM HD Gen2	89mm	3.5″
250 XFM HD Gen2 / Colours XFM	89mm	3.5″

TIP: If drilling large holes, alternate between applying pressure to the drill and relaxing the action to ensure an even cut through the hull and the saw's longevity. If cutting through Kevlar shield or metal, be careful of overheating the hole saw.

3. Sand the area around the hole using a heavy grit sandpaper to remove the previous bottom paint and to ensure that the sealant will adhere properly to the hull. If there is any petroleum residue inside the hull, remove it with acetone before sanding.

Chapter 3 Installation of Allure XFM HD Gen2 MK2.2 Models

Xchangeable Flush Mount
50 XFM HD Gen2 MK2.2

Kit Includes			
50 XFM HD Gen2 MK2.2 Light		Connection Cable (hard wired to the light)	
Driver V DC Gen2		Power Pigtail	
Locking Ring Kit		Fuse Kit	

3.1 Installing the Light Fixture - Allure 50 XFM Gen2 MK2.2 MODELS

**Additional tools needed that are not provided by OceanLED**

- Marine sealant - 3M 4200 or equivalent
- Cable ties
- Waterproof Cable Connectors / Junction Box (optional)
- Allen key (5mm)
- Thread lock - Loctite 243 or equivalent.

Tip: OceanLED recommends dry fitting all products. When installing, be sure that the light fits the area and secures to the hull using the appropriate hardware before applying any sealant.

Tip: When applying sealant to light fixture, use the OceanLED packaging material as a cushion when placing light on the ground face down to prevent lens damage.

Installation (Once hull preparation is complete)

1.   (If using Delrin sleeve) insert the Delrin sleeve into the drilled hole and apply marine sealant to seal between the Delrin sleeve and the hull.

2.   Unclip locking clip, remove light cartridge from mounting tube assembly as shown in the image below
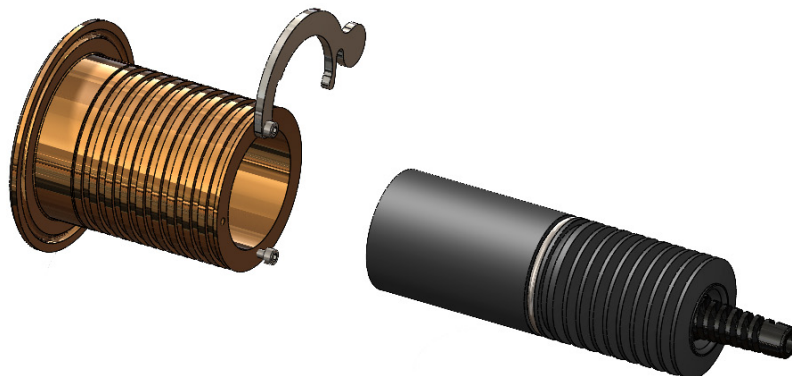
3.   Apply sealant to rear of mounting tube assembly's bezel to ensure a complete unbroken seal around the light.

Tip: Make sure sealant fills in the recess groove on the reverse of the light bezel:
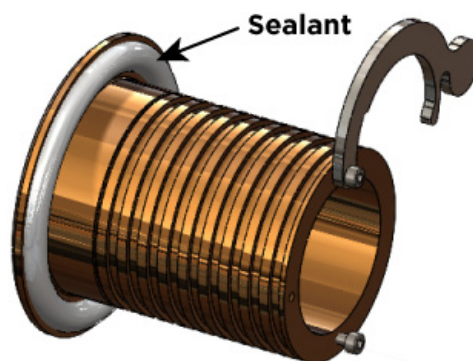
4.   Insert the mounting tube assembly into the hull, feeding the locking clip through first and seat into place. Press the light hard into the hull and twist slightly to spread the sealant around behind the light to ensure good adhesion (see image below).
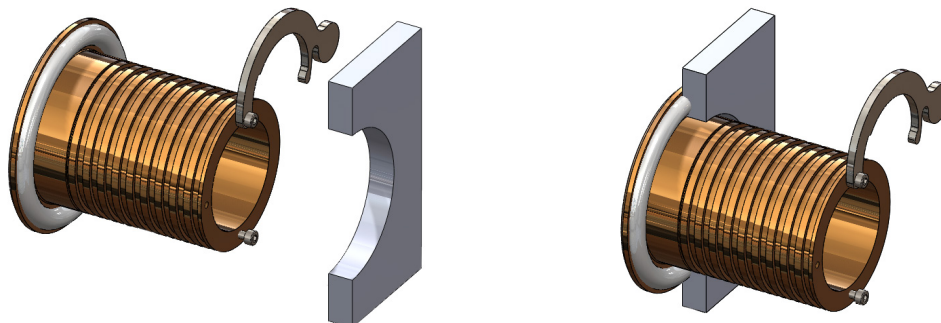

Tip: This process is made much easier if a second person is inside the hull to receive the light and install the locking equipment whilst supporting the light from the outside. Breakages due to lights falling out of the hull are NOT covered under warranty and can cause serious bodily injury as can any falling object.

5.   (If using Delrin sleeve) thread Delrin sleeve washer over light mounting tube until flush with the hull.

6.   Thread the washer onto the mounting tube.

Tip: The stainless steel compression washer does not need to be flat to the hull, an undulating surface can be taken up with the washer.

7.   Place the two C clips together to form a circle, ensuring you pair 1 threaded and 1 non-threaded hole together. Fix clips together using one of the screws provided so that the clips are located approximately half way down the length of the screw. Locate clips into grooves on outside of the mounting tube so that the end of the screw is close to the washer. Fit the second screw provided into the remaining holes, fixing the two clips together. Screw down to the same position:
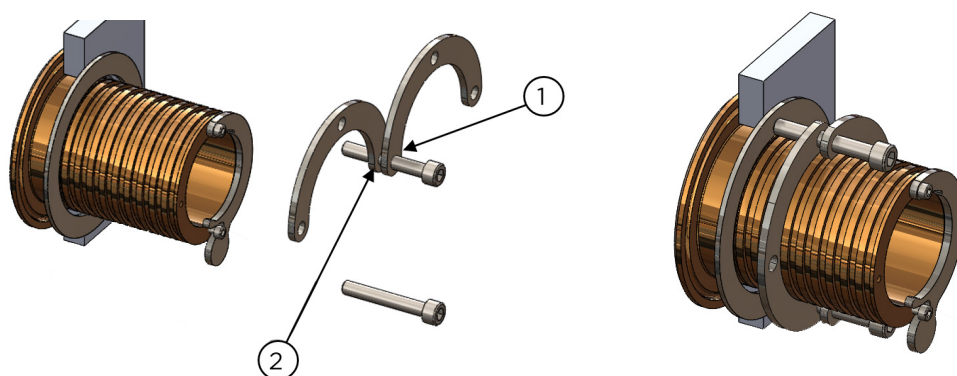
8.   Tighten the locking screws using a 5mm Allen key, applying thread lock at point of thread contact with 'C' clip. DO NOT over-tighten locking screws, as you could damage the mounting tube and this will not be covered under warranty.

Once you are satisfied that the unit is fully tightened, you will notice that sealant has squeezed out from around the perimeter of the light. Using a thinner or cleaner, apply to cloth and wipe off excess sealant to leave a clean seal. AVOID CONTACT WITH LENS. If you do not see sealant squeeze out from the body, you have not used enough sealant or tightened the unit enough to the hull. 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.

9. Replace light cartridge into mounting tube assembly and secure with locking clip as shown in the image below.
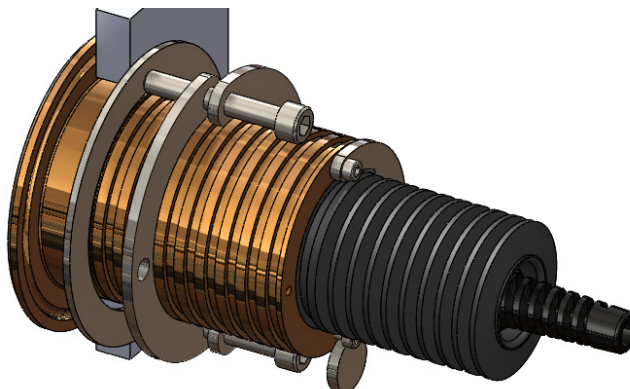
10. **Bonding**: The light **MUST** be attached to the vessels bonding / cathodic protection system. Connect the bonding cable to either one of the two free holes on t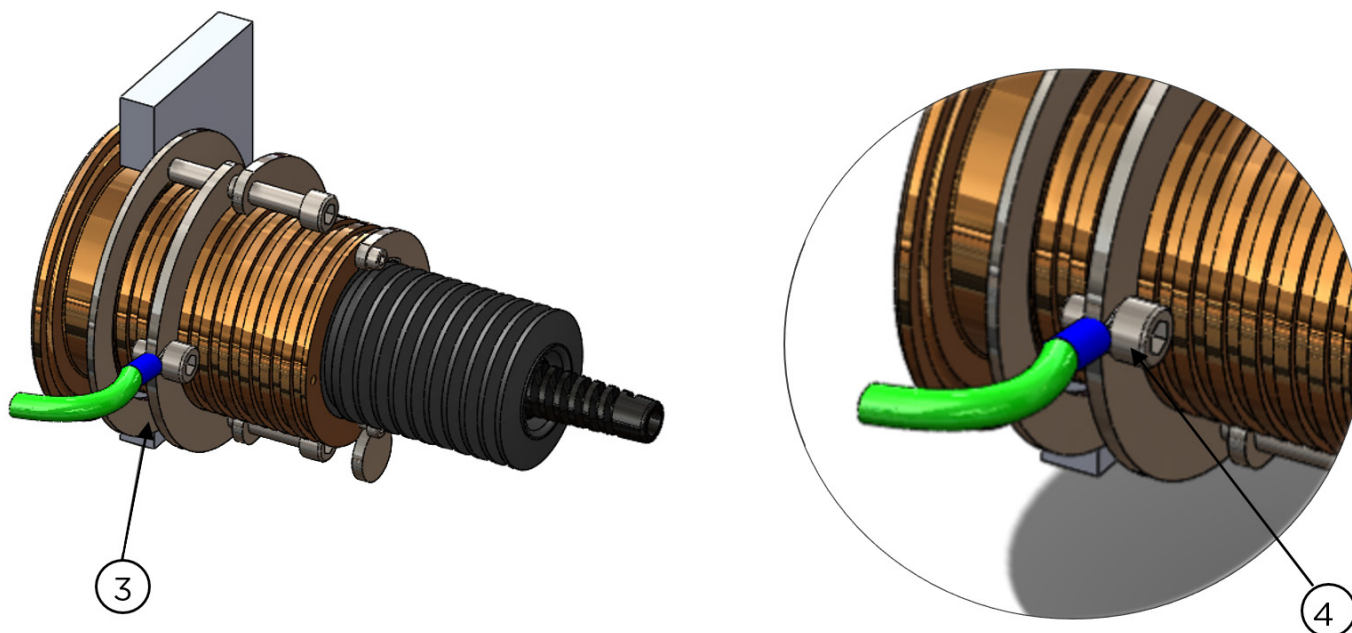he C clips (3) and lock in place with the short spare M6 locking screw provided (4). Tighten the bonding screw using a 5mm Allen key, applying thread lock at point of thread contact with 'C' clip. Once fitted it mandatory to check that there is full continuity between the vessels cathodic protection system and the outer bezel of the mounting tube assembly (see bonding schematic – chapter 7 Appendix).

11. See Chapter 5 for driver installation information.

MAINTENANCE

FOR TIPS ON REMOVING THE INSERT, PLEASE REFER TO THE MAINTENANCE AND REPAIR SECTION IN THIS GUIDE.

Chapter 4: Installation of Allure 150, 250 & Colours XFM HD Gen2 MK2.2 Models
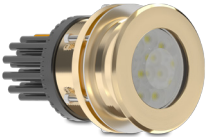
Xchangeable Flush Mount		
150 XFM HD Gen2 MK2.2	250 XFM HD Gen2 MK2.2	Colours XFM HD Gen2 MK2.2

Kit Includes			
Complete Light Unit		Connection Cable (hard wired to the light)	
Driver V DC (optional)		Power Pigtail (Single Colour DC Only)	
Driver Mains V AC (optional)		Fuse Kit (Single Colour DC Only)	
Colours DMX Driver 24V DC (optional)		DMX Cable (Colours Only)	
Colours DMX Driver AC (optional)			
Locking Ring Kit			

4.1 Installing the Light Fixture - Allure 150 & 250 XFM HD Gen2 MK2.2

Additional tools needed that are not provided by OceanLED

- Marine sealant - 3M 4200 or equivalent
- Cable ties
- Waterproof Cable Connectors / Junction Box (optional)
- Allen key (4mm)
- Thread lock - Loctite 243 or equivalent

Tip: OceanLED recommends dry fitting all products. When installing, be sure that the light fits the area and secures to the hull using the appropriate hardware before applying any sealant.

Tip: When applying sealant to light fixture, use the OceanLED packaging material as a cushion when placing light on the ground face down to prevent lens damage.

Installation (Once hull preparation is complete)

1.   (If using Delrin sleeve) insert the Delrin sleeve into the drilled hole and apply marine sealant to seal between the Delrin sleeve and the hull

2.   Remove locking cap from the mounting tube, the light cartridge must be left in place.
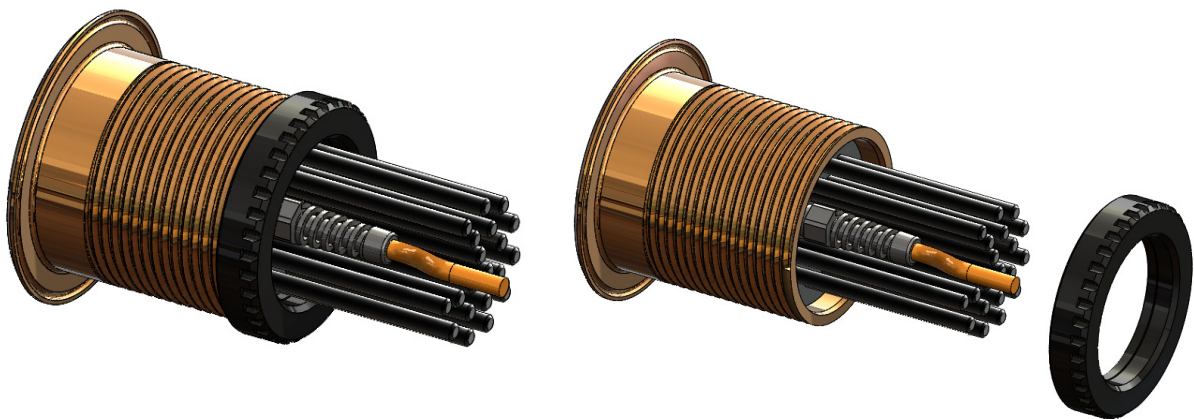
3.   Apply sealant to rear of mounting tube assembly's bezel to ensure a complete unbroken seal around the light.

Tip: Make sure sealant fills in the recess groove on the reverse of the light bezel:
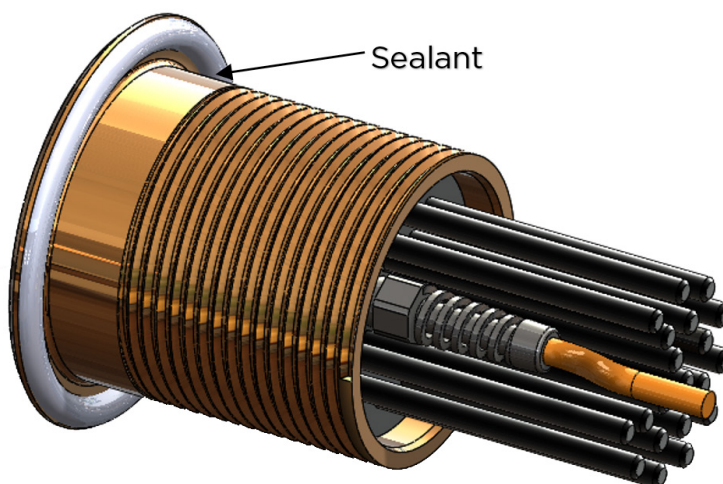
Sealant

4.   Insert the complete light unit (mounting tube assembly + light cartridge) into the hull, pressing the light hard into the hull and twist slightly to spread the sealant around behind the light to ensure good adhesion.
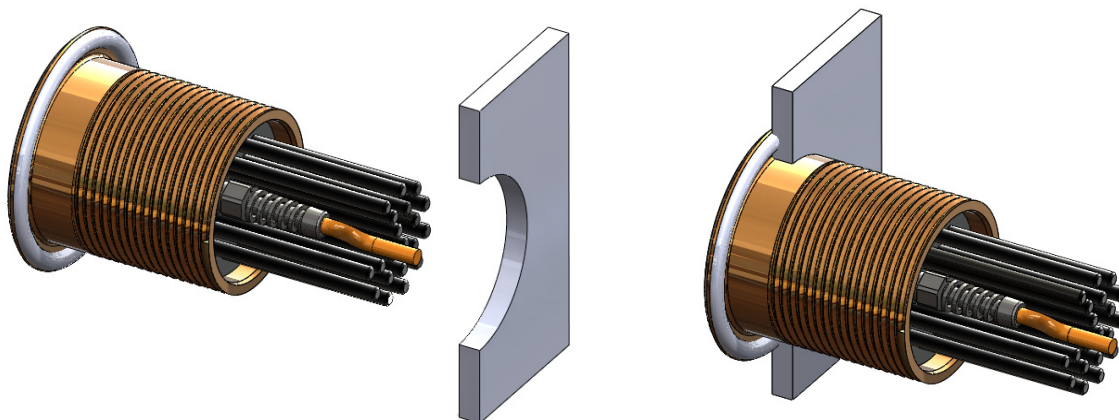
Tip: This process is made much easier if a second person is inside the hull to receive the light and install the locking equipment whilst supporting the light from the outside. Breakages due to lights falling out of the hull are NOT covered under warranty and can cause serious bodily injury as can any falling object.

5.   (If using Delrin sleeve) thread Delrin sleeve washer over mounting tube until flush with the hull.

6.   **Thread 5 of the 6 screws provided into the locking ring**, so the locking ring is positioned approximately halfway along the screw threads. **Leave one screw out** (will be used later for bonding).

7.   Place the washer over the mounting tube until in contact with the hull, then thread on the locking ring until the screws contact the washer.
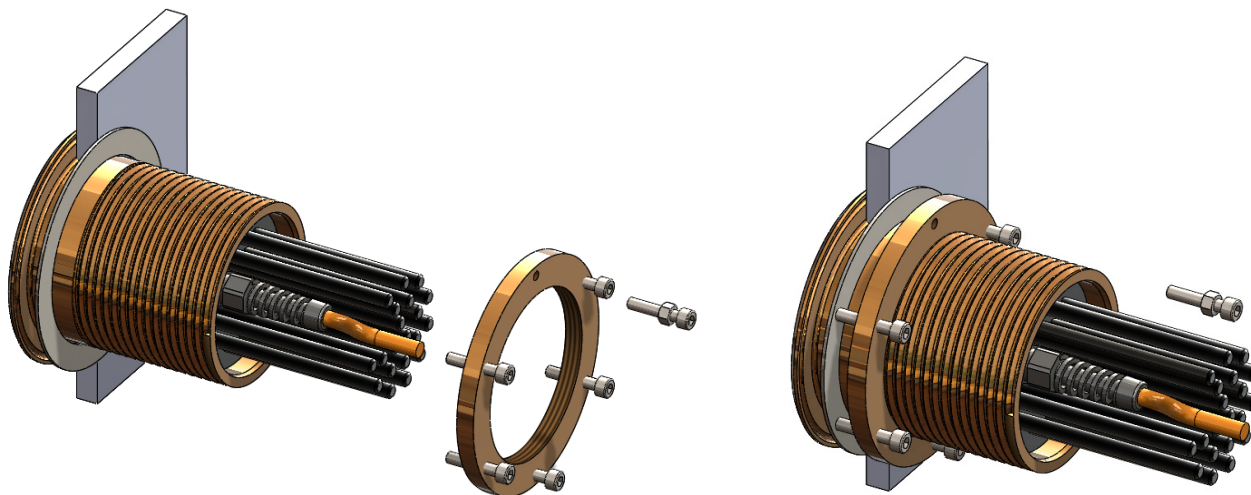

Tip: The stainless steel compression washer does not need to be flat to the hull, an undulating surface can be taken up with the washer.

8.   Tighten the locking screws using a 4mm Allen key, applying thread lock at point of thread contact with locking ring. DO NOT over-tighten locking screws, as you could damage the mounting tube and this will not be covered under warranty.

Once you are satisfied that the unit is fully tightened, you will notice that sealant has squeezed out from around the perimeter of the light. Using a thinner or cleaner, apply to cloth and wipe off excess sealant to leave a clean seal. AVOID CONTACT WITH LENS. If you do not see sealant squeeze out from the body, you have not used enough sealant or tightened the unit enough to the hull. 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.

9.   Replace the locking cap on the mounting tube and secure tight using the locking tool (2) provided with the light as shown in the image below.
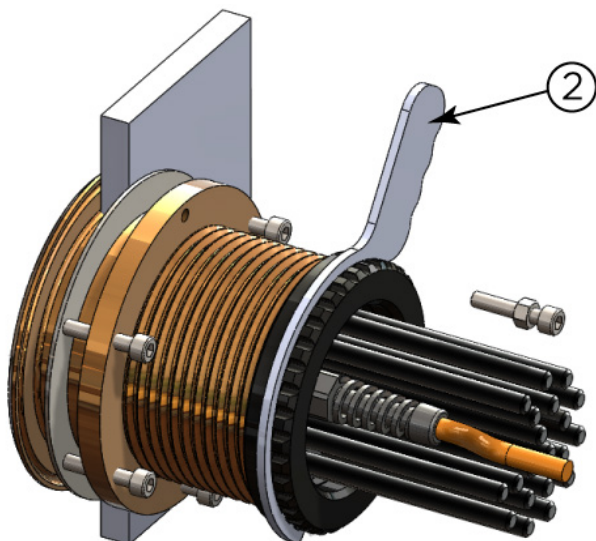
10.   Connect the bonding cable to the remaining screw (3) and lock in place with the nut and shake proof washer provided. Tighten the locking screw using a 4mm Allen key, applying thread lock at point of thread contact with locking ring. **Bonding**: The light **MUST** be attached to the vessels bonding / cathodic protection system. Once fitted it is mandatory to check that there is full continuity between the vessels cathodic protection system and the outer bezel of the mounting tube assembly (see bonding schematic – chapter 7 Appendix).
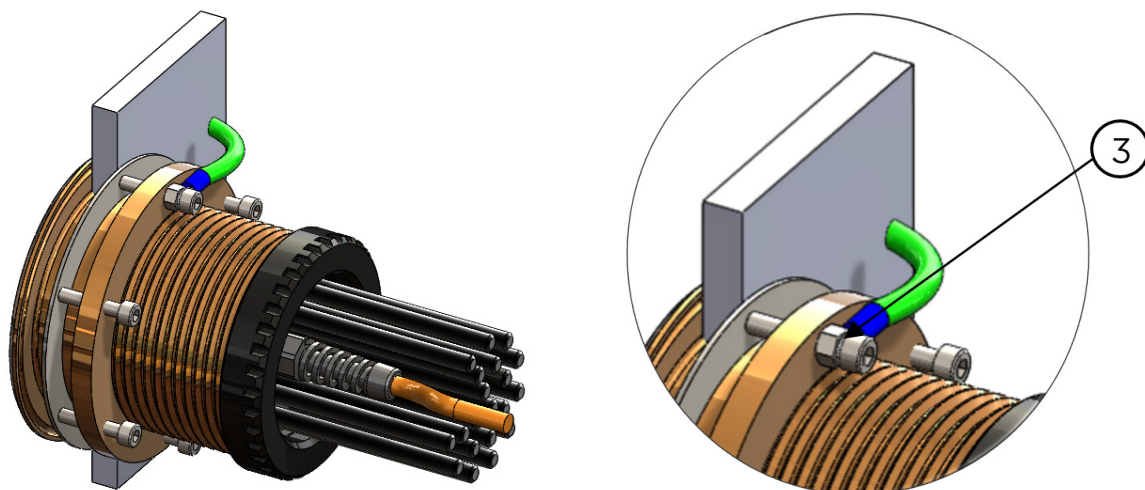
11.   See Chapter 5 for driver installation information.

MAINTENANCE

FOR TIPS ON REMOVING THE INSERT, PLEASE REFER TO THE MAINTENANCE AND REPAIR SECTION IN THIS GUIDE.

Chapter 5: Installation of V DC Driver / V AC Power Supply (optional)

Driver V DC	Power Supply V AC	DMX Driver	DMX Driver
50/150/250 XFM	150/250 XFM	24v DC Colours	AC Colours

Chapter 5.1: Installation of V DC Driver

Additional items required (not supplied)
• Screws to secure the driver
• Junction box / waterproof connectors
• Sufficient cable to connect to power lead.

Connecting lights to your V DC power source

Warning: **Always consult a qualified electrician when connecting OceanLED light fixtures.**
Warning: **Never use power tools to secure the drivers: hand tighten only.**
Warning: **Red=Positive; Black=Ground**
Warning: **When connecting light units, please note that all OceanLED lights will operate within a specific**
Warning **range. Please check the electrical information to ensure cable gauge, fuse recommendations, breaker size etc.**

Driver connections
• 2 pin is for the power pigtail.
• Multi pin is for the light (See figure below).
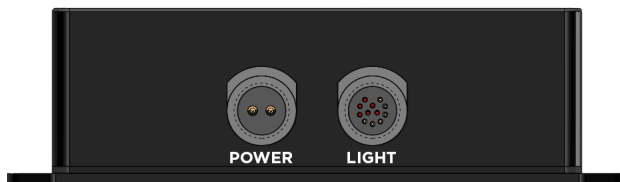
Warning: Mount drivers in a dry location. Drivers should not sit in standing water at any time.

1.   Fix driver into required position, see below diagram for mounting dimensions and clearances. Ensure chosen driver location is near enough to connect light cable without applying undue stress
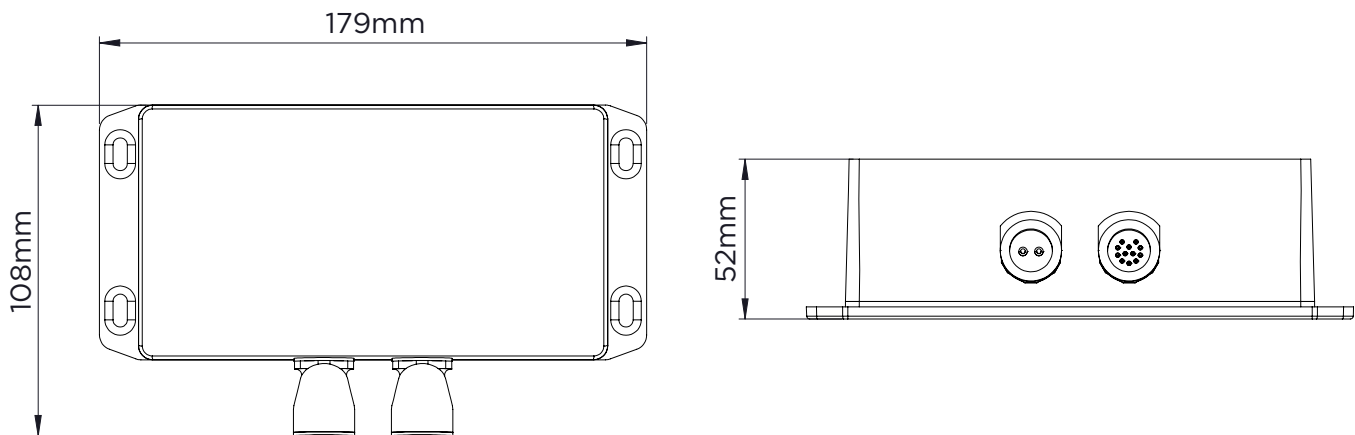
Tip: For complete instructions on V DC connections, please refer to local codes and ordinances for V DC connections. or equivalent

Warning: **Never leave the bare cables unprotected. Water deposits in the connectors and cables will corrode the cables causing the light to fail and will NOT be covered under warranty.**

2.   Depending on the model and quantity of lights installed you will need to pull the correct sized power cable from the breaker to the driver locations to supply constant power to the units. It is imperative that the correct sized tinned marine cable is used. (Refer to Cable Gauge Chart in Appendix).

Tip: Incorrect cable gauge will drop voltage along distances. Decreases in voltage will increase current demand by the driver unit and will lead to blown fuses and tripped breakers. DO NOT compensate for this by adding higher rated fuses and/or breakers. Fuses are designed to protect the wiring, not the components.

Tip: Always use dielectric grease when making the connections to the light. Corrosion of wire is NOT covered under warranty.

3   Connect the Deutsch plug from the light into the multi pin port on the driver.

4   If you are not installing a custom fuse panel, it is imperative that the OceanLED supplied fuse is installed on the power line from each light. Please consult electrical specification on page 4 to select the correct fuse, dependant on which model of light you have.

5   Using waterproof connections or a waterproof junction box, make the connections from the fused V DC power source to the 2 pin power pigtail (RED is positive, BLACK is ground). Plug the 2 pin power connector into driver

6.   Secure cables to finsh and test light units BEFORE the boat goes into the water. **NOTE:** Do not run light(s) for longer than 2 minutes to avoid damage. If you have any issues and need troubleshooting advice, please contact your local OceanLED representative.

7.   See section 5.6 for finalizing the installation of OceanLED Lights.

Chapter 5.2: Installation of V AC Power Supplies

Additional items required (not supplied)
• Screws to secure the driver
• Junction box / waterproof connectors
• Sufficient cable to connect to power lead.
• Suitable fuse / breaker(s)

Connecting lights to your AC power source

Warning: **Always consult a qualified electrician when connecting OceanLED light fixtures.**
*Warning*: **Never use power tools to secure the drivers: hand tighten only.**
Warning: **Brown=Live; Blue=Neutral; Green/Yellow=Earth**
Warning: **When connecting light units, please note that all OceanLED lights will operate within a specific voltage range. Please check the electrical information to ensure cable gauge, fuse recommendations, breaker size etc.**

Driver connections
• The 3 core input is for the power
• The multi pin Deutsch connector is for the light.

| **Allure 150 AC Driver** | **Allure 250 AC Driver** |

Warning: **Mount drivers in a dry location. Drivers should not sit in standing water at any time.**

1. Fix driver into required position, see below diagram for mounting dimensions and clearances. Ensure chosen driver location is near enough to connect light cable without applying undue stress.

Tip: For complete instructions on V AC connections, please refer to local codes and ordinances for V AC connections or equivalent.

Warning: **Never leave the bare cables unprotected. Water deposits in the connectors and cables will corrode the cables causing the light to fail and will NOT be covered under warranty.**

2. Depending on the model of lights being installed you will need to pull the correct sized power cable from the breaker to the driver locations to supply constant power to the units. It is imperative that the correct sized tinned marine cable is used.

Tip: Always use dielectric grease when making the connections to the light. Corrosion of wire is NOT covered under warranty.

Tip: Mount all drivers/power supplies in a dry location. Drivers/Power supplies should not sit in standing water at any time.

3. Connect the Deutsch plug from the light into the Deutsch connector on the AC Power Supply (multi pin).

4. If you are not installing a custom fuse panel, it is imperative that the supply to each driver is appropriately fused. Please consult electrical specification on page 4 to select the correct fuse dependant on which model of light you have.

5   Connect the 3 core input cable end of the mains power supply to the boat's fused power supply using waterproof connectors or waterproof junction box. (Brown is Live, BLUE is Neutral, GREEN/YELLOW is Earth)

6.   Secure cables to finsh and test light units BEFORE the boat goes into the water. **NOTE: Do not run light(s) for longer than 2 minutes to avoid damage**. If you have any issues and need troubleshooting advice, please contact your local OceanLED representative.

7.   See section 5.6 for finalizing the installation of OceanLED Lights.

5.3 Installation of Colours 24V DC DMX Driver

Additional items required (not supplied)
• Screws to secure the driver
• Junction box / waterproof connectors
• Sufficient cable to connect to power lead.
• Suitable fuse / breaker(s)
• DMX controller (1 per system)
• DMX terminator (1 per system)

Warning: **Always consult a qualified electrician when connecting OceanLED light fixtures.**
Warning: **Never use power tools to secure the drivers: Hand tighten only.**
Warning: **Red = Positive; Black = Negative (Ground).**
Warning: **When connecting light units, please note that all OceanLED lights will operate within a specific voltage range. Please check the electrical information to ensure cable gauge, fuse recommendations, breaker size etc.**

Driver connections
• The 2 core input is for the power
• The multi pin Deutsch connector is for the light
• 2x DMX connections (DMX in / DMX out)

Warning: **Mount drivers in a dry location. Drivers should not sit in standing water at any time.**

1.   Fix driver into required position, see below diagram for mounting dimensions and clearances. Ensure chosen driver location is near enough to connect light cable without applying undue stress

Tip: Incorrect cable gauge will drop voltage along distances. Decreases in voltage will increase current demand by the driver unit and will lead to blown fuses and tripped breakers. DO NOT compensate for this by adding higher rated fuses and/or breakers. Fuses are designed to protect the wiring, not the components.

2   Depending on the quantity of lights installed, you will need to pull the correct sized power cable from the breaker to the driver locations to supply constant power to the units. It is imperative that the correct sized tinned marine cable is used. (Refer to Cable Gauge Chart in Appendix).

Tip: Always use dielectric grease when making the connections to the light. Corrosion of wire is NOT covered under warranty.

3   Connect the Deutsch plug from the light into the multi pin port on the driver.

4   If you are not installing a custom fuse panel, it is imperative that a correctly rated fuse is installed on the power line from each light. Please consult electrical specification on page 4 to select the correct fuse.

5   Using waterproof connections or a waterproof junction box, make the connections from the fused 24V DC power source to the 2 core power cable (RED is positive, BLACK is ground).

6.   Continue to section 5.5 for DMX control connection

5.4 Installation of Colours AC DMX Driver

Additional items required (not supplied)
• Screws to secure the driver
• Junction box / waterproof connectors
• Sufficient cable to connect to power lead.
• Suitable fuse / breaker(s)
• DMX controller (1 per system)
• DMX terminator (1 per system)

Warning: **Always consult a qualified electrician when connecting OceanLED light fixtures.**
Warning: **Never use power tools to secure the drivers: hand tighten only.**
Warning: **Brown=Live; Blue=Neutral; Green/Yellow=Earth**
Warning: **When connecting light units, please note that all OceanLED lights will operate within a specific voltage range. Please check the electrical information to ensure cable gauge, fuse recommendations, breaker size etc.**

Driver connections
• The 3 core input is for the power
• The multi pin Deutsch connector is for the light
• 2x DMX connections (DMX in / DMX out)

Warning: Mount drivers in a dry location. Drivers should not sit in standing water at any time.

1.   Fix driver into required position, see below diagram for mounting dimensions and clearances. Ensure chosen driver location is near enough to connect light cable without applying undue stress

Tip: For complete instructions on V AC connections, please refer to local codes and ordinances for V AC connections or equivalent.

Warning: **Never leave the bare cables unprotected. Water deposits in the connectors and cables will corrode the cables causing the light to fail and will NOT be covered under warranty.**

2. Depending on the quantity of lights being installed you will need to pull the correct sized power cable from the breaker to the driver locations to supply constant power to the units. It is imperative that the correct sized tinned marine cable is used.

Tip: Always use dielectric grease when making the connections to the light. Corrosion of wire is NOT covered under warranty.

3. Connect the Deutsch plug from the light into the Deutsch connector on the AC Power Supply (multi pin).

4. If you are not installing a custom fuse panel, it is imperative that the supply to each driver is appropriately fused. Please consult electrical specification on page 4 to select the correct fuse dependant on which model of light you have.

5   Connect the 3 core input cable end of the mains power supply to the boat's fused power supply using waterproof connectors or waterproof junction box. (Brown is Live, BLUE is Neutral, GREEN/YELLOW is Earth).

6. Continue to section 5.5 for DMX connection.

5.5 DMX Control Connection

TIP: It is recommended to mount drivers within 10'/3m of one another in order to utilise the 3m DMX Ethernet Colours Connection Cable provided.

Warning: **Never leave the bare cables unprotected. Water deposits in the connectors and cables will corrode the cables causing the light to fail and will NOT be covered under warranty.**

1. Using the DMX cable (supplied with the OceanLED DMX controllers), connect the first driver in the series into the first DMX port. If required, the DMX control panel cable can be extended by a competent electrician.

2. If you have multiple drivers, they have to be daisy-chained; DMX out (driver 1) to DMX IN (driver 2) – See diagram below.

3. The final device in the chain needs to be terminated properly using a DMX terminator. This is essential for closing the control circuit (Included with OceanLED DMX controller kits).

4.	Secure cables to finish and test light units BEFORE the boat goes into the water. If you have any issues and need troubleshooting advice, please contact your OceanLED representative.

5.	See section 5.6 for testing the installation of OceanLED Lights

Connection Diagram
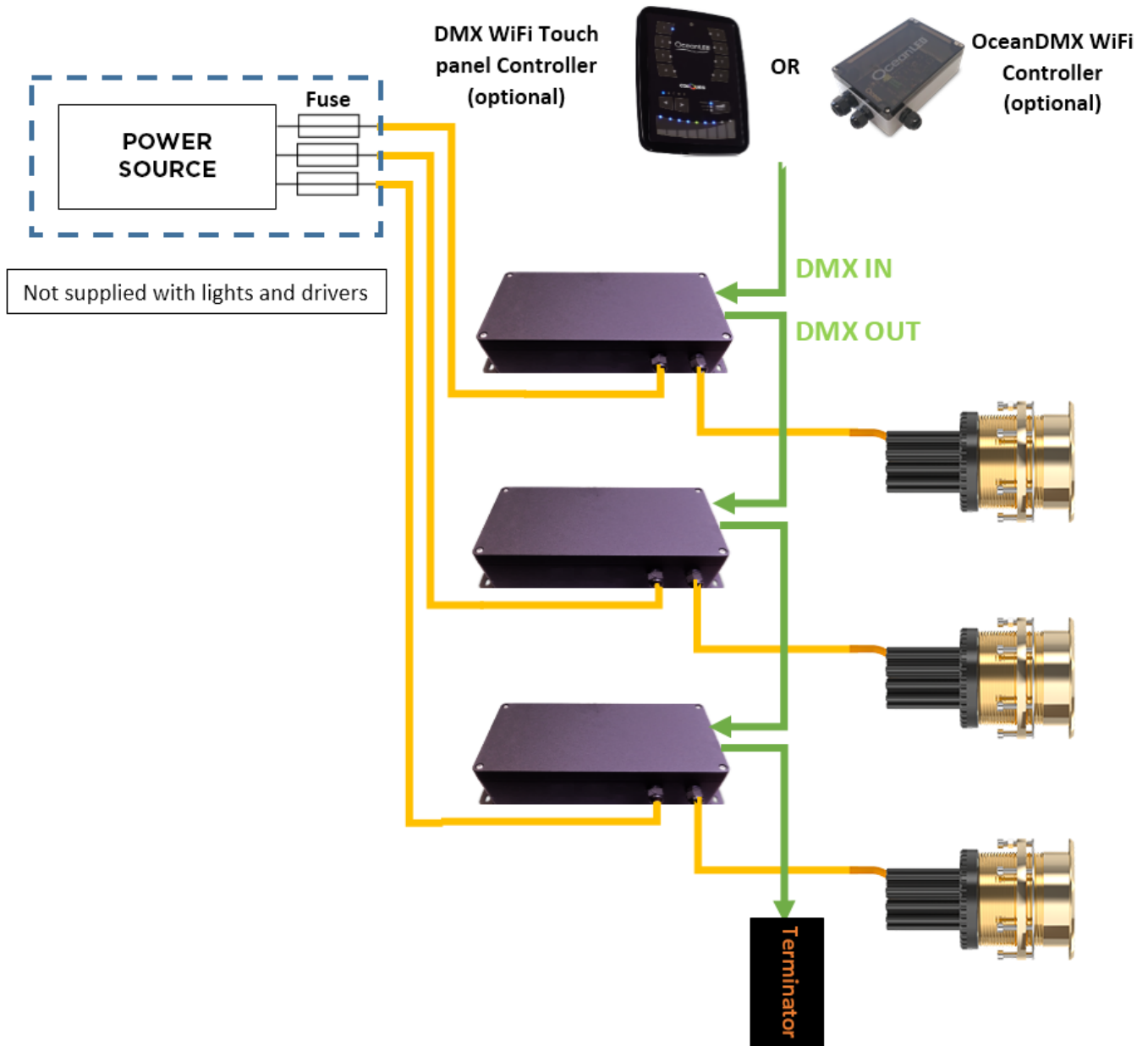
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TO CREATE INDIVIDUAL DMX ADDRESSES

For more complex custom installation requirements, please contact your local OceanLED representative

5.5 Test your installation

⚠️ *Warning* **-** Do not run out of water for a period longer than 5 minutes. Exceeding this may cause damage to the light unit.

Test your lights

Always test the lights BEFORE the boat goes back into the water. At this final stage make sure all of the system is operational. If you have any issues, please contact your local OceanLED representative.

*Warning***: Never install a new light fixture then 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 after 24 hours. If a leak is observed you must take action immediately to prevent damage.

Chapter 6: Operation, Maintenance and Troubleshooting

6.1 - Operation

Warning: **Never connect/disconnect lights to the driver with power applied as irreversible damage may occur.**

6.1.1 Single Colour

1.   Once fully installed, lights will illuminate when power is applied to the driver.

6.1.2 DMX Colours

1.   Once fully installed and power is applied, lights will illuminate dimly for approximately one second. Then turn off unless there is a valid DMX signal.

2.   For operation of Colours, consult the relevant DMX controller manual.

6.2 - Maintenance

1.   Marine growth can build up quickly on the light and can reduce the performance in just a few weeks. To help prevent this, all OceanLED lights have been coated with a specialized Tritonium® coating which makes the surface of the glass lens a non-stick layer. Lights should be cleaned with a boat brush or similar biweekly, or as needed to keep the lens of the light clean. Growth varies greatly around the world and maintenance is imperative to the proper operation and longevity of the product. If heavy fouling occurs, barnacles can be removed from the lens using a plastic scraper and moderate pressure under water. If cleaning the lens while the boat is out of the water, apply water to the lens before scraping. Never scrape or try to remove barnacles from a dry lens.

Warning: **Harsh cleaning solvents such as acetone may damage the light. Using a harsh solvent on the light may invalidate your warranty.**

2.   Check connections annually for corrosion, if necessary, replace connections.

3.   Check light installations periodically for signs of corrosion.

6.3 Removing light cartridge from mounting tube

Warning: **Before attempting to remove the Insert from the mounting tube, be sure to check that the lens on the unit has not cracked and leaked water into the light unit. If the lens or seals have been compromised, do not remove the insert whilst the boat is in the water. Contact your local OceanLED representative for more Information (If lens becomes damaged then a replacement unit is required).**

6.3.1 Removing the light cartridge 50 XFM HD

1.   Turn the power off that supplies the light units.

2.   Disconnect the light from the driver.

3.   Unclip retainer.

4.   The light insert is now ready for removal. Pull out from mounting tube twisting to break seal.

NOTE: Do not remove O ring or tamper with the mounting tube as this may cause damage.

6.3.2 Removing the light insert Allure 150 & 250 XFM HD

1.   Turn the power off that supplies the light units.

2.   Disconnect the light from the driver.

3.   Remove rear locking ring using locking ring spanner provided.

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Warning: **REMOVAL WITH INCORRECT TOOLS MAY DAMAGE THE UNIT AND INVALIDATE WARRANTY.**

4.   The light insert is now ready for removal. Pull out from mounting tube using a slight twisting motion to break seal.

NOTE: Do not remove O ring or tamper with the mounting tube as this may cause damage.

6.4 Fitting or Replacing your XFM HD light cartridge

Installing or replacing the 50 XFM cartridge

1.   Check that the O-ring is fitted on the rear of the light cartridge, not damaged and free from debris.

2.   Ensure inside of mounting tube is clean and free of any moisture.

3.   Insert the light cartridge into the mounting tube. Slide in completely until the retainer clip aligns with the groove in the light cartridge.

4.   Secure with retainer clip.

NOTE: Verify that the light assembly is still conected to the bonding/cathodic protection system of the vessel (See Chapter 3 and 4)

Installing or replacing the 150 or 250 XFM cartridge

1.   Check that the O-ring is fitted on the rear of the light cartridge, not damaged and free from debris.

2.   Ensure inside of mounting tube is clean and free of any moisture.

3.   Insert the light cartridge into the mounting tube. Slide in completely until it comes to a stop.

4.   Fit rear locking ring on to mounting tube.

5.   Hand tighten onto outer mounting tube, then using locking ring spanner secure fully.

NOTE: Verify that the light assembly is still conected to the bonding/cathodic protection system of the vessel (See Chapter 3 and 4)

Replacement Parts

Lost, broken, and worn parts should be replaced immediately and can be obtained through your dealer or from the manufacturer (Only use genuine OceanLED parts).

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Troubleshooting Problems and Their Solutions

ALLURE SERIES			
Problem	**Check**	**Cause**	**Fix**
Light does not look bright	Check that there is no marine growth on the lens	Marine growth	Clean the lens as per maintenance advice
	Check voltage supply to the light is correct	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 connection correctly
	Confirm all LEDs are illuminated	1 or more LEDs are not working	Contact your dealer.
	Check lights to see if water is present inside the light	Water present	Contact your dealer.
	Check cable connections for corrosion	If corrosion is present	It is not advised to reuse the cable if water is present inside. Contact your dealer for a replacement. This is NOT covered by the warranty
Light has water inside	Check integrity of lens	Light will require replacing	This is not covered by the warranty - Contact your dealer for a replacement light. Only use genuine OceanLED parts
	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	Cable will require replacing	This is not covered by the warranty. Only use genuine OceanLED parts
	Checked all factors that are above and the light still does not work	Light faulty	Contact your dealer for a replacement light

Troubleshooting Problems and Their Solutions

ALLURE SERIES			
Problem	**Check**	**Result**	**Fix**
Light does not light up	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
	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 in-line 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
	Exchange the interlink cable (between light and driver) with one from a working light	Light works, faulty cable	Contact your dealer for a replacement cable
	Exchange the driver with one from a working light	Light works, faulty driver	Contact your dealer for a replacement driver
	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

ALLURE - COLOURS			
Problem	**Check**	**Result**	**Fix**
The colour change trouble shooting problems and solutions are the same as above three tables for standard colours, with the addition of the below:			
Light does not respond to the controller	Check DMX connections are daisy-chained between controllers	Not daisy-chained	Daisy-chain the DMX connections
	Check all cables are connected correctly	Not connected correctly	Correct cabling connections
		Connections are correctly connected	Contact the Warranty Department

Chapter 7: Appendix

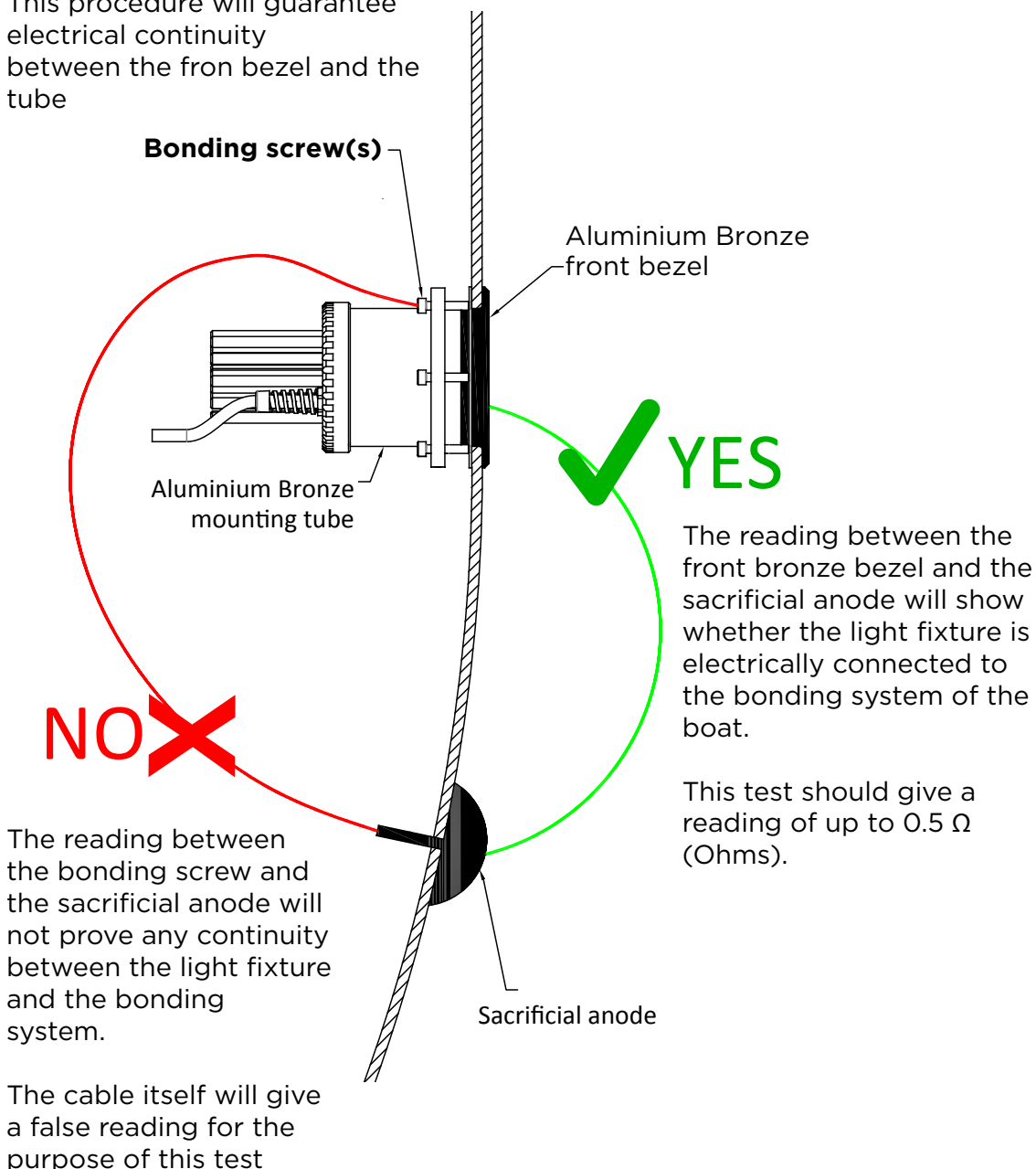| SUPPLY CABLE CONDUCTOR SIZE CHART								
CABLE LENGTH (FEET)	CIRCUIT CURRENT							
	2 AMP	4 AMP	6 AMP	8 AMP	10 AMP	12 AMP	14 AMP	16 AMP
0-5	18 AWG	18 AWG	16 AWG	16 AWG	16 AWG	14 AWG	14 AWG	14 AWG
10-15	18 AWG	18 AWG	16 AWG	16 AWG	14 AWG	14 AWG	14 AWG	14 AWG
15-20	18 AWG	18 AWG	16 AWG	14 AWG	14 AWG	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

Essential test

Perform this bonding check after installation of the light and before moving the boat back into the water.

Refer to bonding information in the installation sections in this manual. NOTE: Although the images shown in this "Esssential Test" refer to the Allure 150, 250 and colours, the same test applies to the Allure 50 too. If in doubt please contact OceanLED.

Connect the light assembly to the cathodic protection system as explained in the installation manual.

This procedure will guarantee electrical continuity between the fron bezel and the tube

Bonding screw(s)

Aluminium Bronze front bezel

Aluminium Bronze mounting tube

✓ YES

The reading between the front bronze bezel and the sacrificial anode will show whether the light fixture is electrically connected to the bonding system of the boat.

This test should give a reading of up to 0.5 Ω (Ohms).

NO ✗

The reading between the bonding screw and the sacrificial anode will not prove any continuity between the light fixture and the bonding system.

Sacrificial anode

The cable itself will give a false reading for the purpose of this test

If you have any questions regarding the above please contact OceanLED:
+44 (0) 1455 637505 or info@oceanled.com

NOTES

Please remove this page and keep for your files

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