OceanLED

2019

INSTALLATION & OPERATION MANUAL

EXPLORE SERIES E7

Preface

READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL

CAUTION

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

WARNINGS

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 coloured lights in your area.

Do not operate lights out of water for a period longer than 5 minutes followed by an OFF period of at least 1 hour. 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, carbon fibre or wooden hull, ensure that suitable measures have been put in place to account for the effects of galvanic corrosion or wood deterioration, i.e. use of Delrin sleeve components (Isolation Kit).

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 saltwater. Some OceanLED lights contain combinations of plastic and polymer products which are impervious to saltwater 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 with power applied as irreversible damage may occur.

Ensure lights are always fully submerged and not fitted on planing / running surfaces that may impact on water since this may damage the product.

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

Remove the protectors from the connectors on the rear of the light ONLY if the connector will be used immediately. If the connectors on the light(s) are not in use, leave protector(s) on.

DANGER
RISK OF ELECTRIC 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.

Contents

PRETEST

Always test the lights prior to installation. Failure to do this may result in additional installation time and could invalidate the warranty.

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.

WARRANTY COVERAGE

2-year warranty from time of purchase, regardless of installation date. Please refer to www.oceanled.com/downloads for full warranty statement.

Installation checklist:

1. ☐   Decide on light spacing – OceanLED recommendations available.
Rear of lights must never be exposed to wet environments inside the hull.

2. ☐   Decide on light angles – OceanLED Personalised Service available on request.

3. ☐   Ensure the correct power kit is selected and installed (AC or DC power kit).

4. ☐   Ensure correct cable gauge is used (refer to relevant cable gauge chart).

5. ☐   Control system chosen (switch control, OceanLED DMX control kit, 3rd party DMX control)
Max 32 lights per DMX chain.

6. ☐   Correct length light fixture chosen (Extension kit required for hulls thicker than 55mm).

7. ☐   Preparing the hull (Isolation kit required for conductive hull materials or wooden hulls).

8. ☐   Make sure the lights have been fitted following the correct reflector orientation.

9. ☐   Correct marine sealant applied evenly around bezel.
Ensure fully watertight seal is created after sealant cures.

10. ☐   Correct clamping of light fixture onto hull. Never leave vessel unchecked for a few days after install. Always check routinely for a few days after installation to ensure the install is correct and fully sealed.

11. ☐   Light(s) correctly bonded and vessel bonding system check carried out (refer to relevant schematic and test procedures).

12. ☐   Test installation BEFORE entering water. Never connect/ disconnect lights whilst powered ON. Never leave lights ON out of water for longer than 5 minutes followed by an off period of 1 hour.

13. ☐   Trouble shooting if required - most issues can be resolved by following the guidelines.
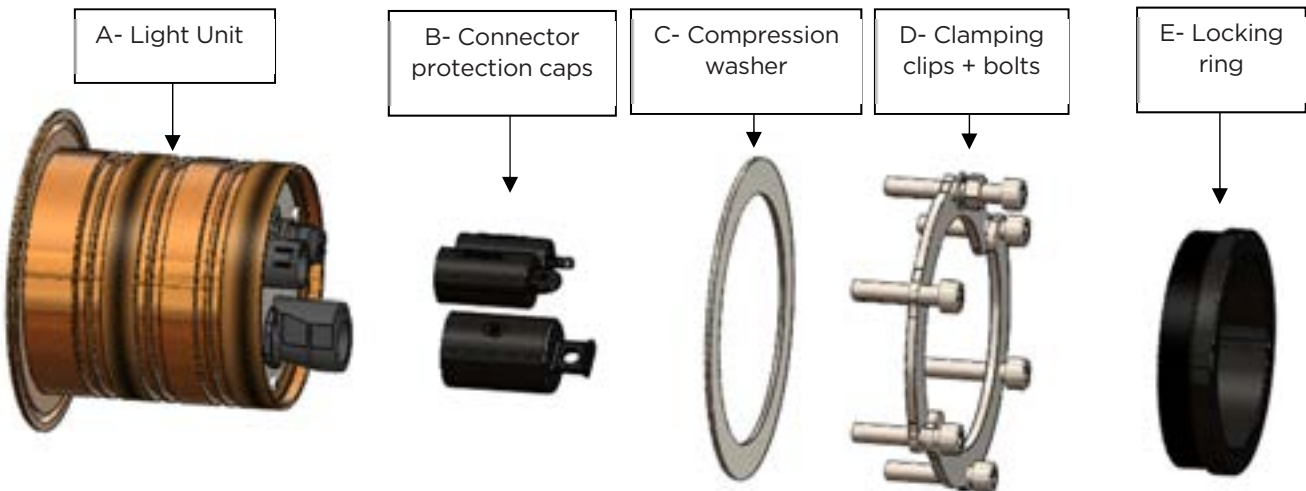
1 Overview

Identifying your model

Explore E7 Dual Blue/White   **Explore E7 Colours DMX**

Product components breakdown

A- Light Unit	B- Connector protection caps	C- Compression washer	D- Clamping clips + bolts	E- Locking ring

Power Source

Most installations will utilize on-board 12/24V DC power supply from a marine battery. However, if AC power is being used on the vessel, an Explore AC power kit must be purchased. Please check the Explore E7 Light Choice Diagram in section 6.3 to evaluate all the options currently offered by OceanLED.

Use the chart below to determine the appropriate power supply.

Power Consumption and Recommended Fuse values

Model	Current @ 12V DC	Current @ 24V DC	Max Nominal Power consumption	Minimum PSU (15% reserve)	Recommended fuse 12V/24V DC
E7 Dual White/Blue	7.8 A	4.7 A	113W	130W	10 A
E7f Colour DMX	6.8 A	3.2 A	83W	94W	10 A

2 <u>Preparing the Hull</u>

When installing an Explore unit, please ensure there is enough space on the inside of the vessel to remove the insert for maintenance/after sales services. For example, the XFM unit requires an additional 100mm / 4" from the rear of the mounting tube to allow the insert to be removed. (See overall dimensions below).

Ensure that the part of the light inside the vessel has a diameter of 100mm / 4" around it free from any insulation material.

OceanLED recommends using a qualified installer / technician when making modifications to your vessel. Please also consult the manufacturer for more detail on modifications and installation.

If lights are assembled in a conductive or wooden hull, an Isolation Kit must be used. Contact OceanLED for additional details.

Depth/Spacing

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

Spacing / Install Depth	E7
Recommended Spacing	2.5-3M (8-10')
Recommended Installation depth (From the light waterline)	15-25CM (6-10")

Hole Cut Out

Hole Cut out size - 83mm (3.25") / With Isolation Kit 89mm (3.5")

Overall Dimensions

See overall dimension schematic - section 6 appendix

3 <u>Installation</u>

3.1 Installing the Light Fixture (Hull thickness up to 55mm)

Explore E7

Kit Includes

Explore E7 Light   **Clamping Kit**   **Removal Tool**

Additional Tools needed that are not supplied 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.

DO NOT remove the light cartridge from the mounting tube during installation. The light cartridge MUST stay fitted inside the mounting tube throughout the installation process to avoid the introduction of potential contaminants that may damage the product. The light cartridge can only be removed for maintenance or after sales purposes and OceanLED must be contacted prior to any light cartridge being removed from the mounting tube.

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.

When applying sealant to the light fixture, use OceanLED packaging material such as the light cardboard box when placing the light on the ground face down to prevent lens damage.

Installation (Once hull preparation is complete)

1. Test light(s) before fitting.
2. (If using Isolation Kit) Insert the Isolation Kit front washer into the drilled hole and apply marine sealant to seal between the Front Washer and the hull.
3. Apply sealant to the rear of the mounting tube assembly's bezel to ensure a complete unbroken seal around the light.

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

Sealant

4. Ensure the light angle is correct for the location before assembling the light. If available, follow OceanLED Light Placement Chart position to indicate what light angle should be installed into each location around the hull. The LED Indicator is used as a reference point for beam direction and should be at the top of the rear face of the light body, as pictured, if installed correctly. If viewed from inside. From outside, the OceanLED logo should be in the correct orientation, as below, indicating the direction of the beam. For more details, consult Appendix 6.6.

LED INDICATOR

5. 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 behind the light to ensure good adhesion.

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.

6. (If using Isolation Kit) Insert the Isolation Kit flat washer over the mounting tube and locate it flush with the hull.
7. Insert the stainless-steel compression washer over the mounting tube.

> **The stainless-steel compression washer does not need to be flat to the hull, a slightly uneven surface can be compensated by the washer.**

8. Place the two C clips together to form a circle, ensuring you pair 1 threaded and 1 non-threaded hole together. Fix the clips together using one of the screws provided so that the clips are located approximately halfway down the length of the screw. Locate the clips into the appropriate grooves (depending on hull thickness) on outside of the mounting tube so that the end of the screw is close to the washer. Fit the screws provided into the remaining holes, fixing the two clips together. Leave the longer screw out to connect the light to the vessel's cathodic protection system. Once connected, screw down this screw to the same position as the others (see step 10)


9. Tighten the locking screws using a 5mm 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 watertight. If in doubt, remove light, re-apply sealant and re-install.

10. Connect the bonding cable to the remaining screw and lock in place with the nut and shake proof washer provided. Tighten the locking screw using a 5mm 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 – section 6 Appendix).
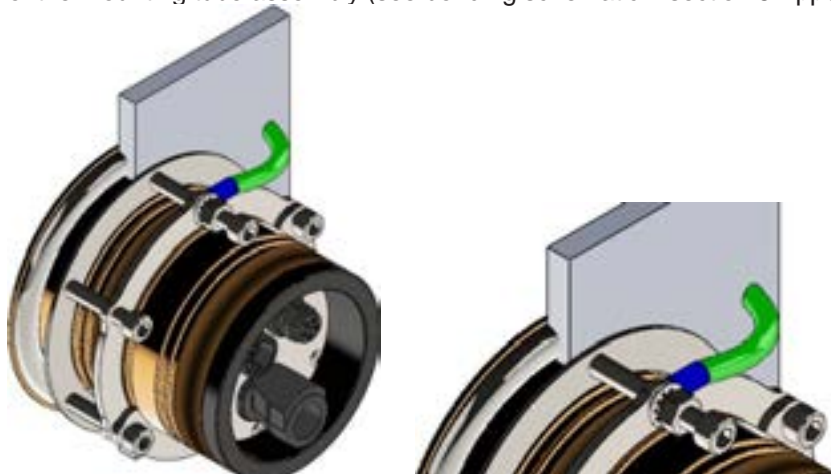
3.2 INSTALLING THE LIGHT FIXTURE (Hull Thickness above 55mm)

Extension kit

Kit Includes

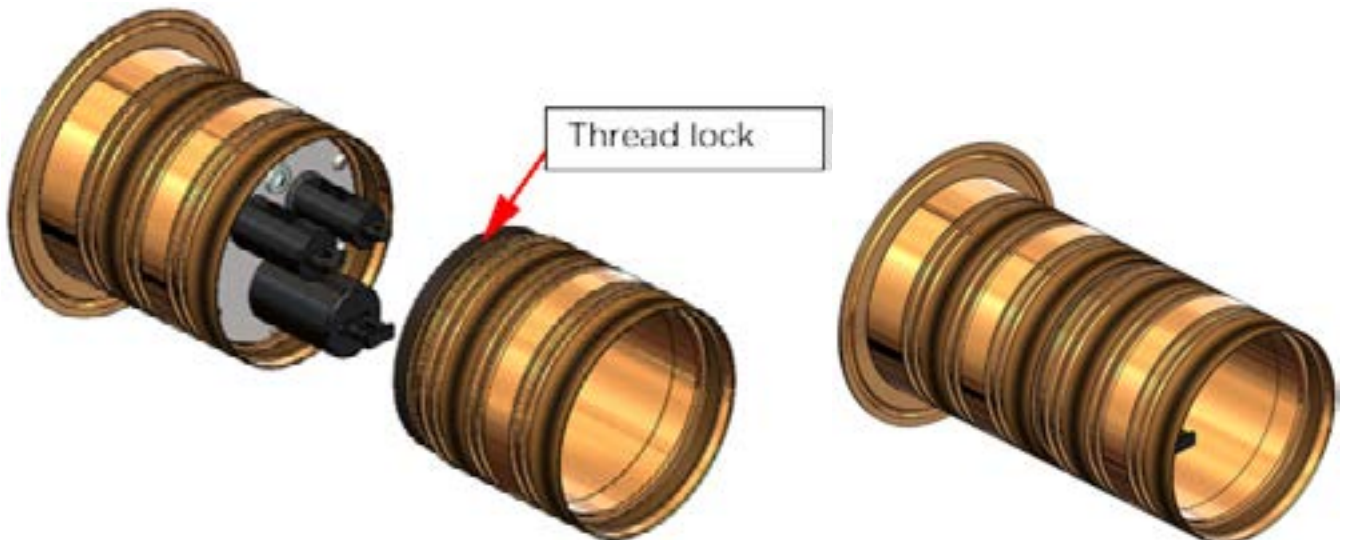

Mounting Tube   **Compression Tube**

Assemble the mounting tube extension kit on the back of the standard light mounting tube then follow the procedure above in section 3.1.

1. Remove the locking ring from the mounting tube.

2. Apply thread lock (Loctite 243 or equivalent) on the thread of the additional mounting tube then screw it all the way down onto the back of the mounting tube.

3. Fit the compression tube inside the mounting tube extension and slide it all the way down into the tube until it reaches the light cartridge.

4. Screw the locking ring back onto the mounting tube extension until tight. Now follow the steps in section 3.1.

3.3 INSTALLATION OF AC POWER KIT

Explore AC Power kit

Kit Includes

AC Power Pack   **AC Power Cable (1.5m long)**

Additional Tools needed that are not supplied by OceanLED

- Screws to secure the AC Power Pack
- Junction box / waterproof connectors
- Sufficient cable to connect to AC Power Pack
- Suitable fuse / breaker(s)

Always consult a qualified electrician when connecting OceanLED light fixtures.

Never use power tools to secure the Power Pack: hand tighten only.

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 and breakers size follow the recommendations.

Always mount Power Pack in a dry location. Drivers should not sit in standing water at any time.

The 3-core input is for power (Brown=Live; Blue=Neutral; Green/Yellow=Earth) and the two pin Deutsch Connector is for the light.

1. Depending on the model and number of lights installed, you will need to pull the correct sized power cable from the AC Power (breaker/fuse panel) to the Power Pack locations. Ensure the correct sized tinned marine grade cable is used to avoid voltage drop issues.
2. Fix Power Pack into required position. Ensure chosen Power Pack location is near enough to connect light cable without applying undue stress.

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.

3. Connect the Power Pack to the AC Power. Ensure the size fuse/breaker, cable and connector have the correct specification and are watertight. Make sure any heat shrink used completely encapsulates the outer wire sheath (the use of glue-lined heat shrink is highly recommended to ensure water tightness). Leave the connection unplugged to eliminate the danger of electrocution.

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

4. Connect the Deutsch connector from the Power Pack to the light using the Power Cable.
5. Secure cables ensuring where the cable exits the light it is not under undue stress. Finish and test the light units **BEFORE** the vessel goes into the water.

3.4 INSTALLATION OF DC POWER KIT

Explore DC Power kit

Kit Includes

DC Power Cable (1.5m long)   **Fuse kit**

Additional Tools needed that are not supplied by OceanLED

- Junction box / waterproof connectors
- Sufficient cable to connect to DC Power Pack

Always consult a qualified electrician when connecting OceanLED light fixtures.

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 follow the recommendations.

Never leave the bare cables unprotected. Take care to not leave the bare wire ends in bilge water before making the waterproof connections.
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.

For complete instructions on DC connections, please refer to ABYC codes of practice and other applicable codes and ordinates for DC connections.

1. Depending on the model and number of lights installed, you will need to pull the correct sized power cable from the DC power source (breaker/fuse panel) to the light locations to supply constant power to the light units. It is imperative that the correct sized tinned marine grade cable is used to avoid voltage drop issues.

See section 6: Appendix for recommended cable gauges.

2. Using waterproof butt splices or IP66 waterproof junction boxes, make the connections at either end of the system to attach the lights to the DC system. Make sure any heat shrink used completely encapsulates the outer wire sheath (the use of glue-lined heat shrink is highly recommended to ensure water tightness).

Never install a new light fixture then leave the vessel in the water unchecked for several days.

3. It is imperative that either the OceanLED supplied fuse on each power line to each light or a suitable protection device is used to protect the cable/light unit. Failure to do so will void the warranty. See table in section 1: Overview.
4. Secure cables ensuring where the cable exits the light it is not under undue stress. Finish and test the light units **BEFORE** the vessel goes into the water.

3.5 CONTROL SYSTEM INSTALLATION

3.5.1 Switch Control

Additional Tools needed that are not supplied by OceanLED

- Push switch (Normally Open).

To use Switch Control, the Control Input Cable and Terminator Kit is needed.

To connect the lights to enable control of all lights using a single switch, Explore E6 & E7 Control Link Cables must be used. The quantity of Control Link Cables per installation is equal to the number of lights minus 1 (Example: If 10 lights are used, 9 control link cables are needed). Please consult the Explore E7 Light Choice Diagram in section 6.3 for details.

Ensure power is disconnected before attempting to connect or solder any wire.

1. Connect/solder one end of the switch to the red wire (Switch) of the Control Cable and the other end to the black (Ground), yellow (DMX +) and brown (DMX -).
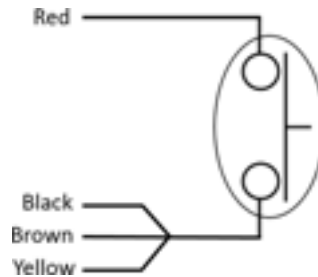
2. Plug the Switch cable to the Control In Connector of first light.
3. Using the Control Link Cable, connect the Control Out of the first light to Control In of the next light. Repeat until all the lights are connected. Check the diagram below for clarification.

4. Plug the Terminator to the Control Out of the last light.
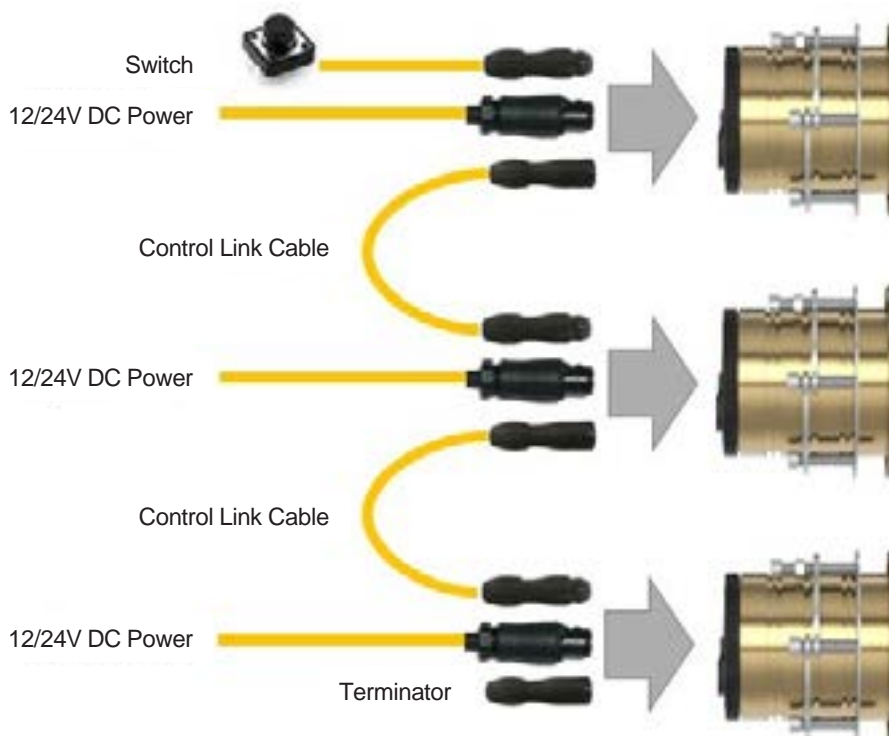
3.5.2 OceanLED DMX Control Kits

To use OceanLED DMX Control, one of our DMX kits must be purchased from OceanLED. Please consult the Explore E7 Light Choice Diagram for details.

To enable the DMX Control of all lights, Explore E6 & E7 Control Link Cables must be used. The quantity of Control Link Cables per installation is equal to the number of lights minus 1 (Example: If 10 lights are used, 9 control link cables are needed).

Ensure power is disconnected before attempting to connect or solder any wire.

Please consult the manual for the purchased DMX Control Kit for more information on installation and operation.

3.5.3 3ʳᵈ Party DMX Control

Additional Tools needed that are not supplied by OceanLED

- External DMX Control System

To use a 3rd Party DMX Control, the Control Cable and Terminator Kit is needed.

To enable the DMX Control of all lights, Explore E6 & E7 Control Link Cables must be used. The quantity of Control Link Cables per installation is equal to the number of lights minus 1 (Example: If 10 lights are installed, 9 control link cables are required).

Ensure power is disconnected before attempting to connect or solder any wire.
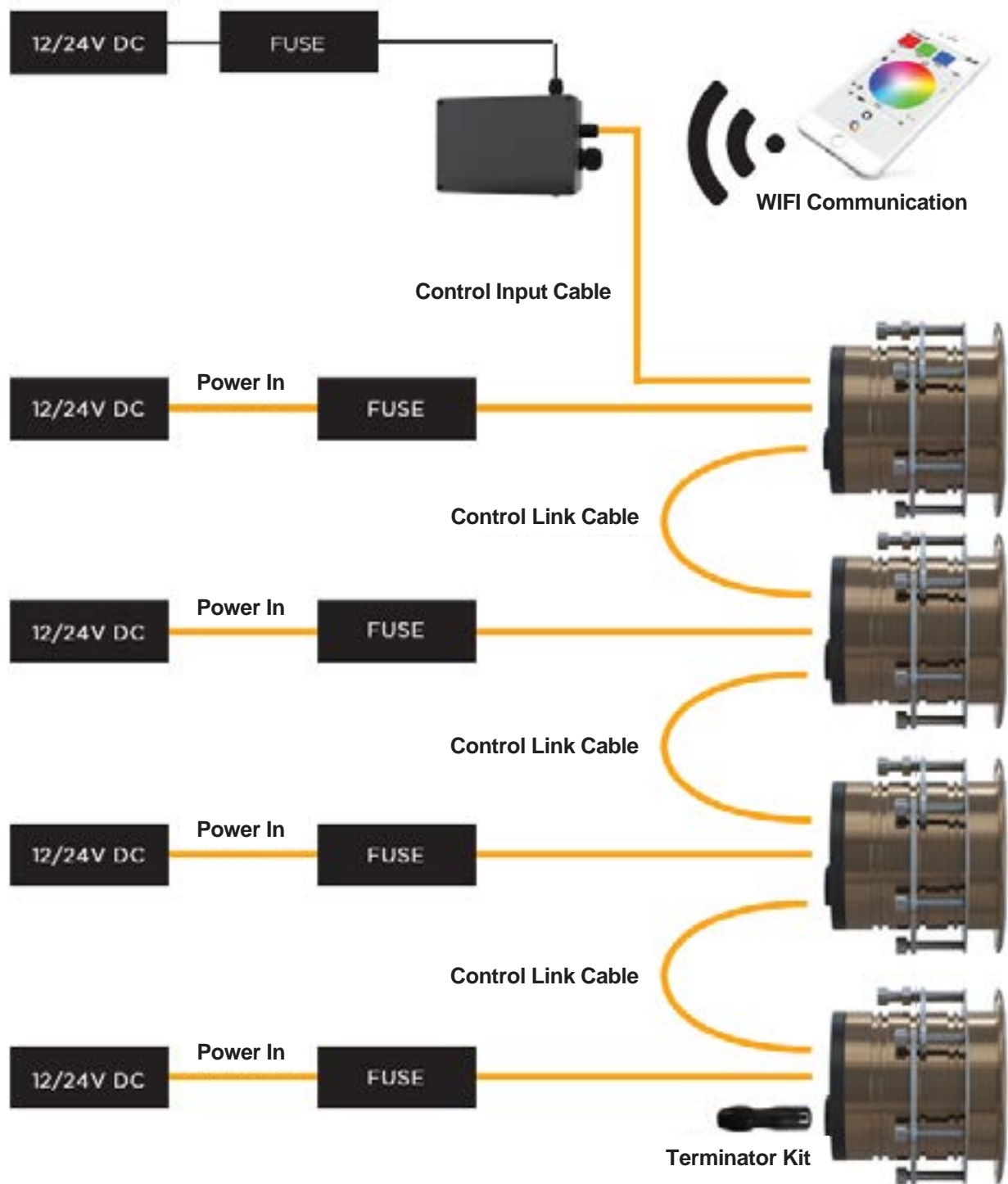
1. Connect the DMX Control unit to the Control Cable following the wiring connections below:

Cable colour	Signal
Shield	Shield
Black	GND
Yellow	DMX +
Brown	DMX -
Red	Not used

2. Plug the Control Cable to the Control In Connector of first light.
3. Using the Control Link Cable, connect the Control Out of the first light to Control In of the next light. Repeat until all the lights are connected. Check the diagram below for clarification.

The DMX standard recommends a maximum of 32 devices to be connected in one chain. If installation requires more lights than this, please contact OceanLED for advice.

Example DC Installation with OceanDMX Controller kit

WIFI Communication

Control Input Cable

Power In

Control Link Cable

Power In

Control Link Cable

Power In

Control Link Cable

Power In

Terminator Kit

Example AC Installation with WIFI DMX Controller kit

AC POWER	PSU	

Ethernet Cable

Router (For WIFI DMX)

Control Input Cable

110/220V AC	AC POWER KIT

Control Link Cable

110/220V AC	AC POWER KIT

Control Link Cable

110/220V AC	AC POWER KIT

Control Link Cable

110/220V AC	AC POWER KIT
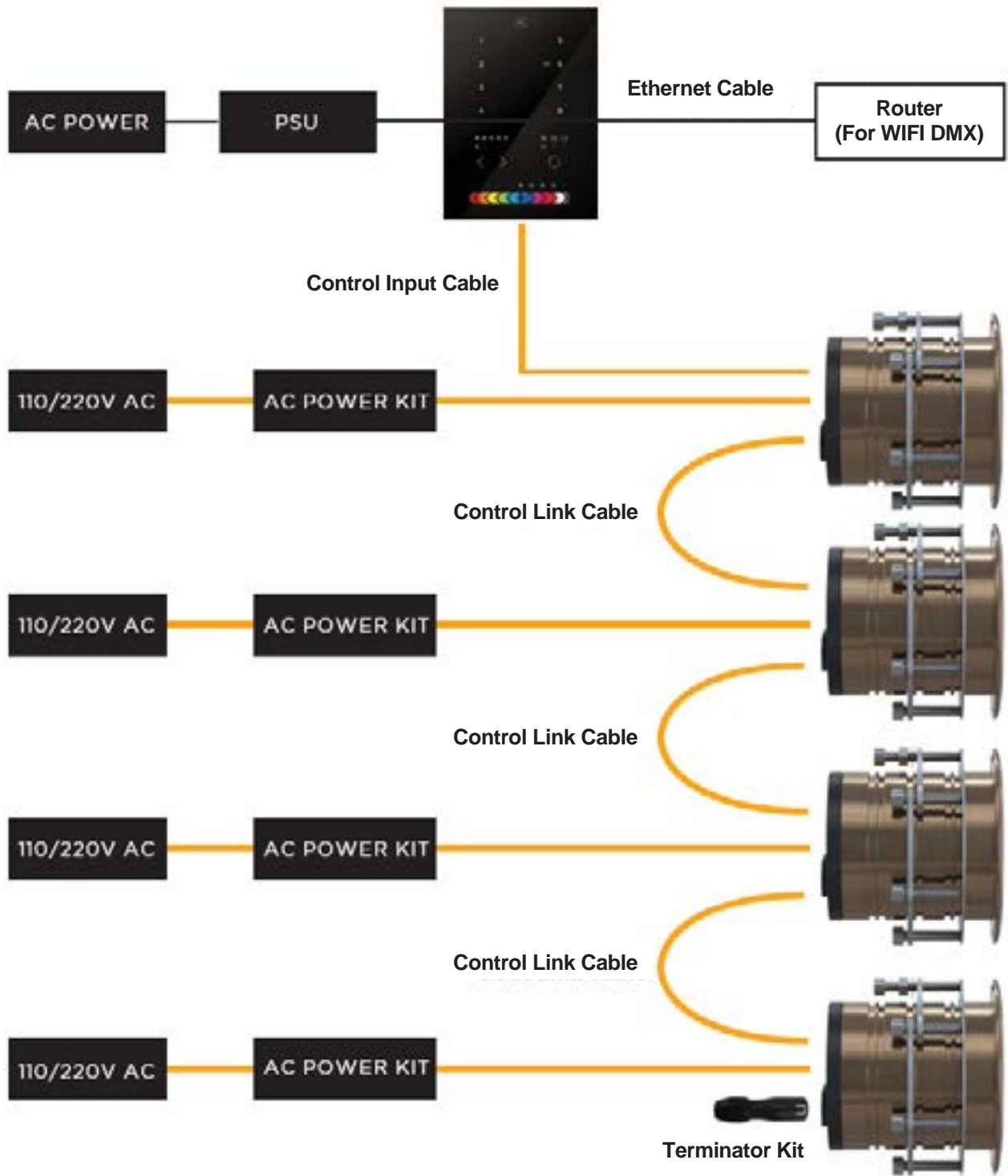
Terminator Kit

4. Plug the Terminator to the Control Out of the last light.

3.6 TEST YOUR INSTALLATION

Always test the lights **BEFORE** the vessel 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.

! **Never install a new light fixture then leave the vessel in the water unchecked for several days.**

When the vessel 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 vessel 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.

4 Operation / Maintenance

4.1 OPERATION

! **Never connect / disconnect lights with power applied as irreversible damage may occur.**

4.1.1 Switch Control

The Switch Control mode allows the user to switch between colours and strobe modes using a push switch.

The sequence for the Explore E7 Dual White/Blue is a closed loop as follows:

- Solid White
- Solid Blue
- Fade White / Blue
- Strobe Blue
- Strobe White
- Strobe White / Blue
- 50% White and 50% Blue

The sequence for the Explore E7 Colours DMX is a closed loop as follows:

- Solid Chosen Colour
- Strobe Chosen Colour
- Colour Cycle

4.1.2 DMX Control

Please refer to the purchased DMX Controller for details about how to use it.

4.2 LIGHT CARTRIDGE REMOVAL – Single Mounting Tube

! **Before proceeding with this operation, you MUST seek permission from either the manufacturer or your OceanLED representative.**

DO NOT remove the light cartridge from the mounting tube during installation. The light cartridge MUST stay fitted inside the mounting tube throughout the installation process to avoid the introduction of potential contaminants that may damage the product.

Additional Tools needed that are not supplied by OceanLED

- Allen key (2mm).

1. Turn power off and unplug all the connectors on the back of light.
2. Remove the locking ring from the mounting tube.
3. Undo one of the six screws from the back of the light cartridge to allow the removal tool to be placed (see image below).

Locking Ring
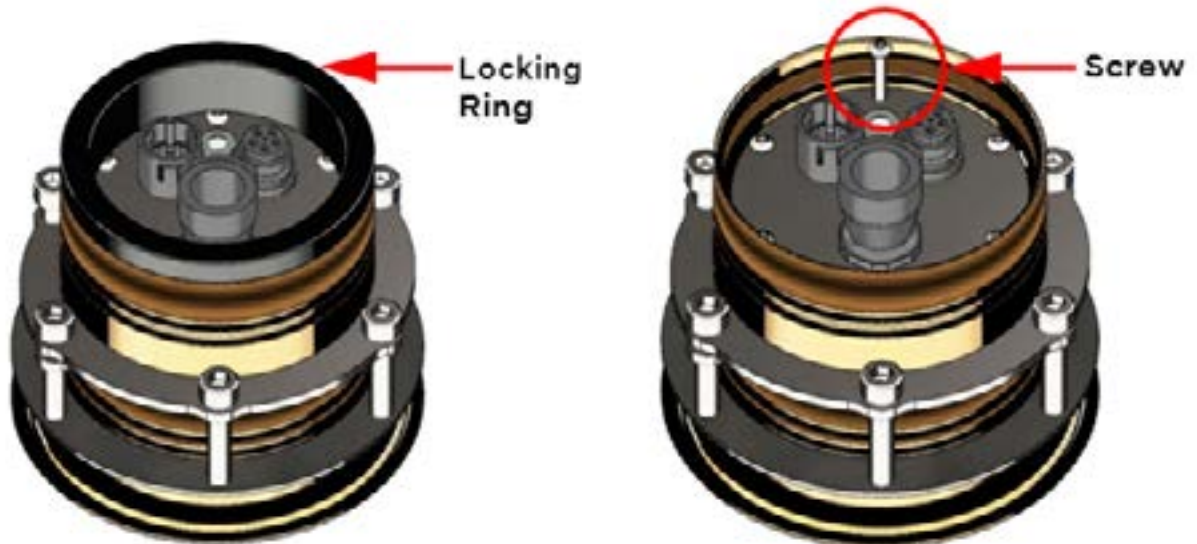
Screw

To ease the removal process, another screw can be removed to act as a breather.

4. Place the removal tool under the head of the undone screw making sure that the screw engages with the slot on the removal tool, then fasten the screw in a clockwise motion. By tightening down the screw the light cartridge will be pulled out of the mounting tube.
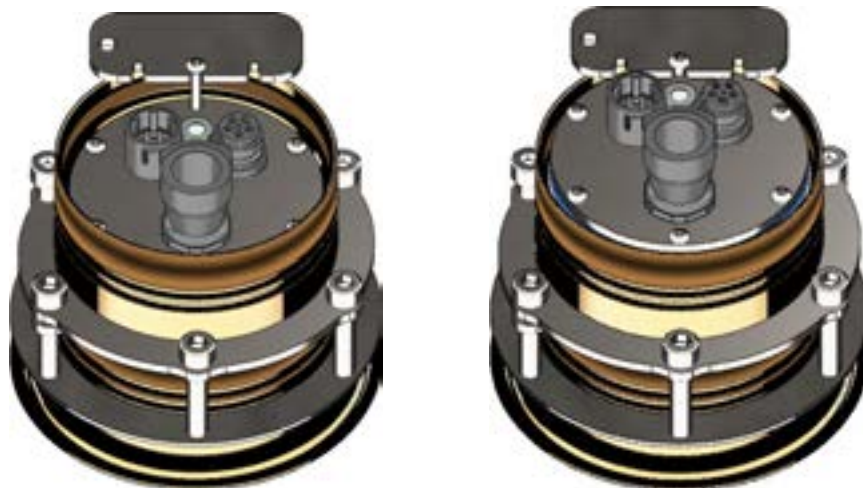
5. Finish pulling the light cartridge out by hand with the help of the tool to fully remove it from the mounting tube.

4.3 LIGHT CARTRIDGE REMOVAL – Extended Mounting Tube

Before proceeding with this operation, you MUST seek permission from either the manufacturer or your OceanLED representative.

DO NOT remove the light cartridge from the mounting tube during installation. The light cartridge MUST stay fitted inside the mounting tube throughout the installation process to avoid the introduction of potential contaminants that may damage the product.

Additional Tools needed that are not supplied by OceanLED

- T-Handle Allen key (2mm) 80mm length.

1. Turn power off and unplug all the connectors on the back of light.
2. Remove the locking ring and the compression tube from the mounting tube.

3. Undo and remove one of the six screws from the back of the light cartridge to ease removal.
4. Loosen the other 5 screws by the same height (approx. 15-20 full rotations of the Allen key) without removing them.
5. Insert the explore extended removal tool into the mounting tube ensuring the cut-outs in the tool align with the screws. Twist the tool to align.
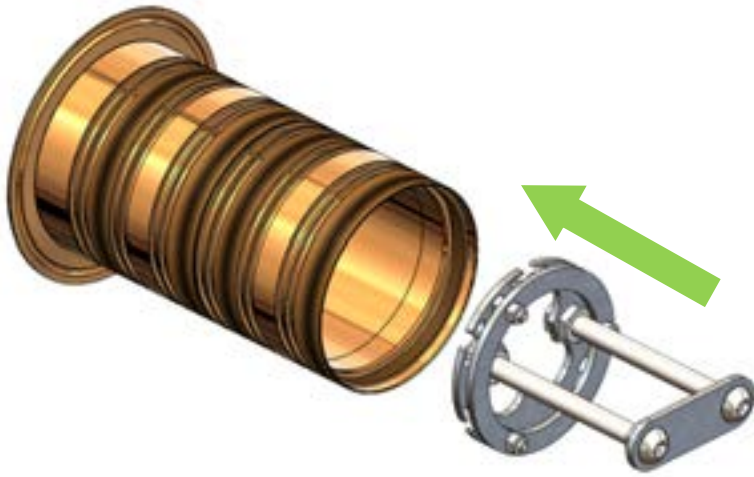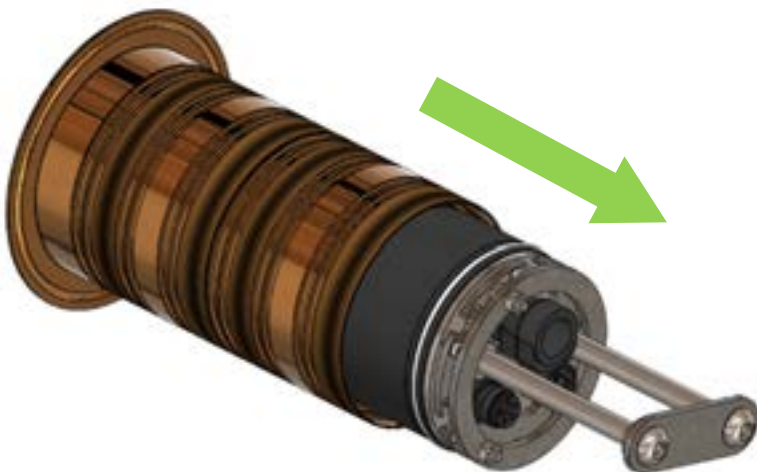
Not engaged

6. Twist the tool to engage the screw heads. Once the screw heads are engaged twist and pull the tool outwards to extract the light.

Engaged

4.4 LIGHT CARTRIDGE INSTALLATION

Additional Tools needed that are not supplied by OceanLED

- Allen Key (2mm)

Before installing the light cartridge, clean the inside of the mounting tube with isopropyl alcohol cleaner and let it dry. Failure to do this may introduce potential contaminants that may damage the product.

Lubricant substances of any kind MUST NEVER be used to ease the insertion of the light cartridge into the mounting tube. Should any help to insert the light cartridge be needed OceanLED recommend the use of a small quantity of Isopropyl Alcohol sprayed onto the O-Ring on the back of the light cartridge.

1. Inspect the mounting tube and light cartridge to ensure no contaminant (grease, debris, dirt) are present.
2. Using the 2mm Allen key, remove one of the screws on the back of the light cartridge to act as a breather. Failure to do so will make the installation process significantly harder.
3. Align the light cartridge with the mounting tube. Push the light cartridge in slowly until it bottoms against the front bezel.

Vertically align the light before fully inserting it to the mounting tube. Failure to do so will force you to remove the light cartridge. Make sure that the LED Indicator is at the top and central on the back of the light cartridge or aligned as per OceanLED custom alignment instructions.

4. Re-install the screw using a 2mm Allen key (hexagonal key). Re-install the locking screw making sure it is bottomed out against the light cartridge.
5. Connect the power cable and test the light. Re-check the light is oriented correctly.

5 <u>Troubleshooting</u>

5.1 TROUBLESHOOTING PROBLEMS AND THEIR SOLUTIONS

The Explore E7 light have a built-in Rear Indicator LED that will confirm that the light is working inside the designed parameters and will give information if one is not, helping to find the root cause for the fault seen.

The Rear Indicator should be lit when light is powered and on. When receiving DMX signal, the Rear Indicator will turn on and off approximately once per second. If light is in Firmware/Bootloader update mode, the Rear Indicator LED will flash rapidly approximately 3 to 4 times per second.

Should any flashes be observed outside of the time frames mentioned above, please refer to the table below.

The table below summarizes the fault codes the Rear Indicator LED can show:

| NO' OF FLASHES	DESCRIPTION OF FAULT	CHECK	CAUSE	FIX
		EXPLORE SERIES		
1	Driver board Temperature Sensor Failure	-	Light is faulty.	Contact your dealer.
2	LED board temperature sensor failure	-	Light is faulty.	Contact your dealer.
3	Power Issue – large Voltage drop on light power-up detected 10 times	Check wiring gauge. Check if power source can supply enough current.	Incorrect wiring. Inadequate power source.	Replace wiring with correct gauge. Replace power source.
4	Power supply Voltage too low	Check voltage supply to the light is between 11V and 32V DC (The light will still work between 9 and 11 volts however at reduced brightness)	Voltage is too low	Investigate reason for low voltage and fix
5	Power Supply Voltage too high	Check voltage supply to the light is between 11V and 32V DC	Voltage is too high	Investigate reason for high voltage and fix

If the Rear Indicator LED doesn't recognize the fault but the fault is still present, please check the table below.

EXPLORE 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 between 11V and 32V DC (The light will still work between 10 and 11 volts however at reduced brightness)	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 and recommended cable gauge has been used	Poor electrical connection	Remake connection and seal joint 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

EXPLORE SERIES			
PROBLEM	CHECK	CAUSE	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 power cable (between light and power supply) with one from a working light	Light works, faulty cable	Contact your dealer for a replacement cable
	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

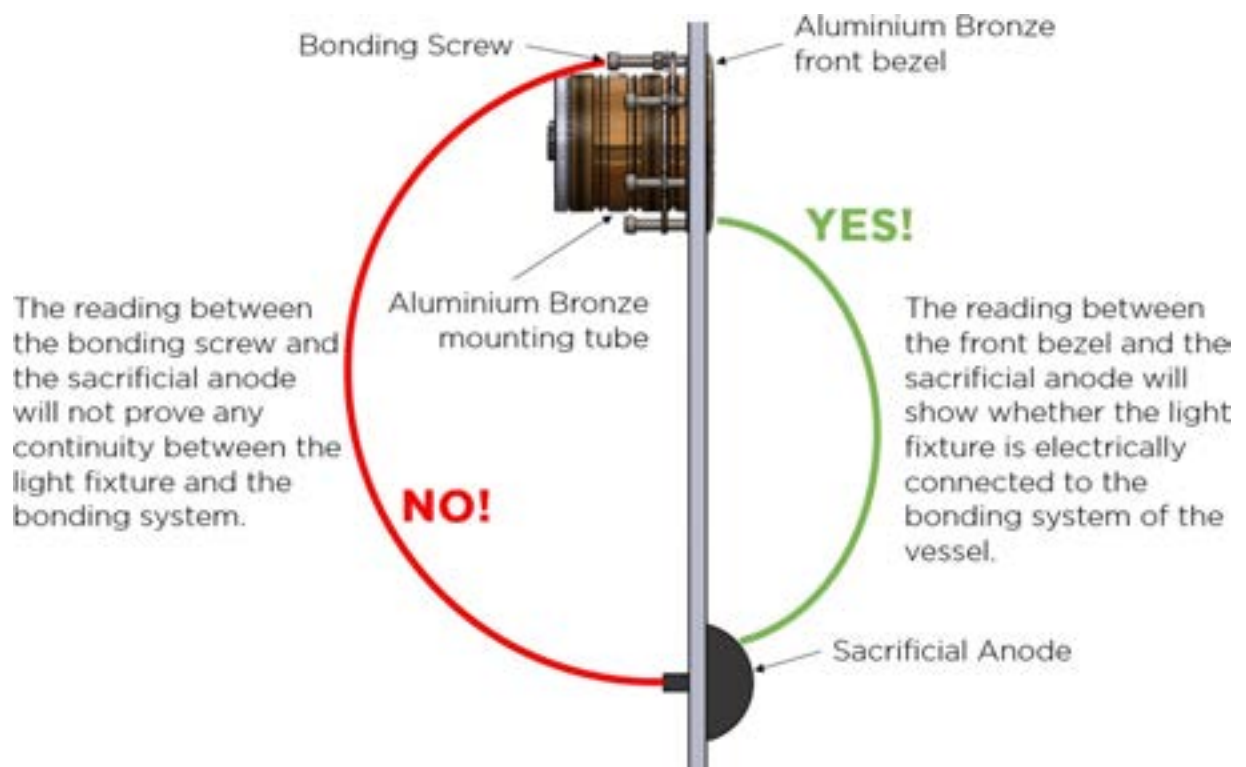# 6 <u>Appendix</u>

6.1 OVERALL DIMENSIONS
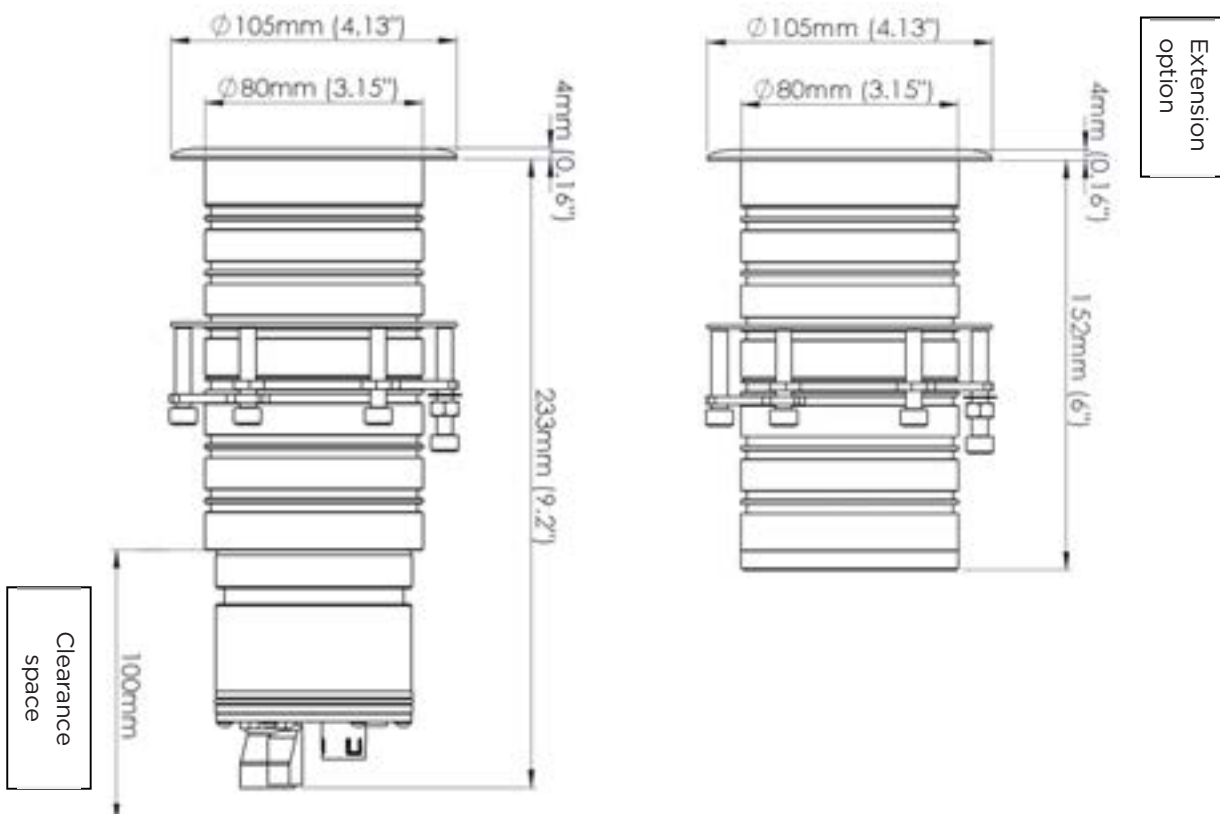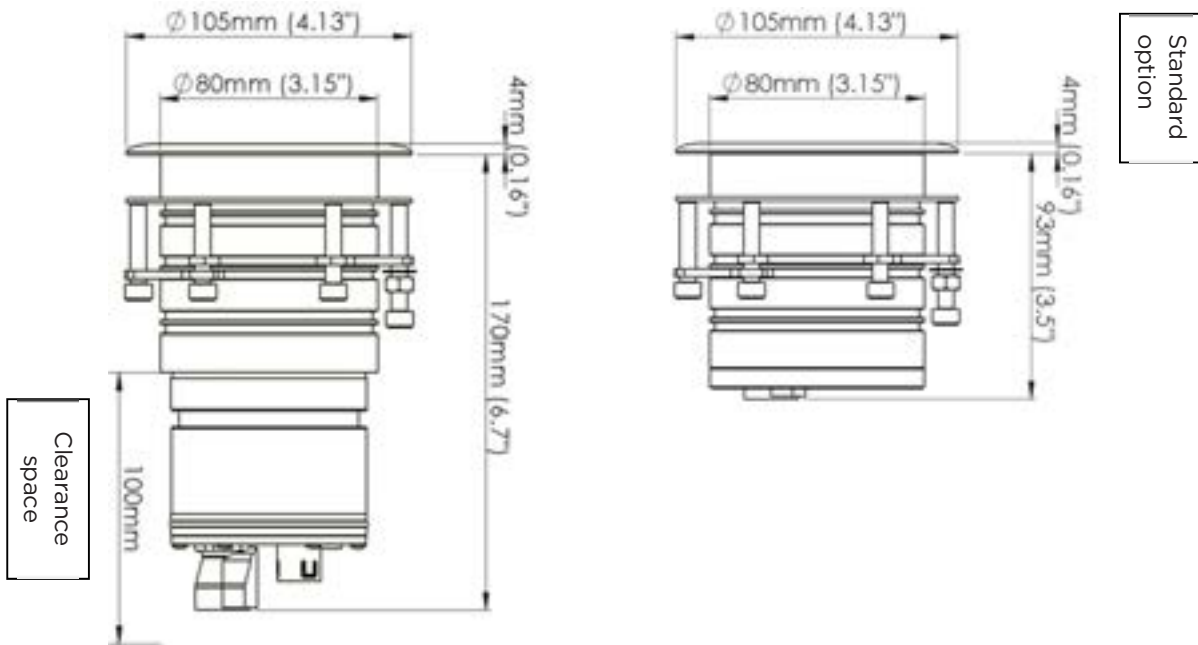
6.2 ESSENTIAL TEST

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

Refer to bonding information in the installation sections in this manual. If in doubt, please contact OceanLED.

1. Connect the light assembly to the cathodic protection system as explained in section 3.
2. Measure the electrical continuity between the front bezel and the sacrificial anode. This test should give a reading of up to 0.5 Ω (Ohms). This procedure will guarantee electrical continuity between the front bezel, the mounting tube and sacrificial anode.
3.

Bonding Screw

Aluminium Bronze front bezel

Aluminium Bronze mounting tube

YES!

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

NO!

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

Sacrificial Anode

If you have any questions regarding the above, please contact OceanLED:

+44 (0) 1455 637505 or info@oceanled.com

6.3 LIGHT SETUP

The Explore Light Choice Diagram is also available at www.oceanled.com

Choose between Dual Midnight Blue / Ultra White or RGBW Colours DMX

LIGHT

OPTION 1

Explore E7 (Dual)
• Light Assembly
• Explore Removal Tool

OPTION 2

Explore E7 (Colours)
• Light Assembly
• Explore Removal Tool

Choose Internal Beam Angling

ANGLE

OPTION 1

0°
#E6009BW
• E6 Dual - 0°
#E6009CD
• E6 Colours - 0°

OPTION 2

10°
#E7019BW
• E7 Dual - 10°
#E7019CD
• E7 Colours - 10°

OPTION 3

20°
#E7029BW
• E7 Dual - 20°
#E7029CD
• E7 Colours - 20°

OPTION 4

30°
#E7039BW
• E7 Dual - 30°
#E7039CD
• E7 Colours - 30°*

OPTION 5

40°
#E7049BW
• E7 Dual - 40°
#E7049CD
• E7 Colours - 40°

OPTION 6

50°
#E7059BW
• E7 Dual - 50°
#E7059CD
• E7 Colours - 50°

Choose either DC or AC Power Kits

POWER

OPTION 1

#019903
DC POWER KIT (1.5m)
• DC Power Cable
• Fuse Kit

OPTION 2

#019904
AC POWER KIT (1.5m)
• Power Pack
• AC Power Link Cable

Choose the method of how you control your lights
(Each Controller option comes with a 5m Control Input Cable Kit - Option 1)

✚

Choose the method of how you control your lights
(Each Controller option comes with a 5m Control Input Cable Kit - Option 1)

CONTROL

OPTION 1

#012923
Switch / 3rd Party Control Input Kit
• Control Input Cable
• Terminator

OPTION 2

#011712
OceanDMX Control Kit
• OceanDMX Controller
• #012923 Control Input Kit

OPTION 3

#013001
DMX Touch Panel Controller Kit (Colours)
• DMX Touch Controller
• #012923 Control Input Kit

OPTION 4

#013003
DMX Touch Panel Controller Kit (Dual)
• DMX Touch Controller
• #012923 Control Input Kit

OPTION 5

#013002
DMX WiFi Touch Panel Controller Kit (Colours)
• DMX WiFi Controller
• #012923 Control Input Kit

OPTION 6

#013004
DMX WiFi Touch Panel Controller Kit (Dual)
• DMX WiFi Controller
• #012923 Control Input Kit

✚

Select the quantity of Link Cables based on the quantity of lights

LINK

OPTION 1

#012924
Link Cable (3m)
Select the quantity required (N.B. 1 cable less than No. of lights)

OPTION 2

#012925
Link Cable (5m)
Select the quantity required (N.B. 1 cable less than No. of lights)

OPTION 3

#012926
Link Cable (10m)
Select the quantity required (N.B. 1 cable less than No. of lights)

OPTION 4

#012927
Link Cable (15m)
Select the quantity required (N.B. 1 cable less than No. of lights)

OPTION 5

#012928
Link Cable (20m)
Select the quantity required (N.B. 1 cable less than No. of lights)

6.4 CABLE GAUGE CHART 12V

Cable length (feet)*	Supply & Return Cable Conductor Size Chart 3% drop for when using 12V DC supply — Circuit Current										
	2 Amp	4 Amp	6 Amp	8 Amp	10 Amp	15 Amp	20 Amp	25 Amp	30 Amp	40 Amp	50 Amps
0-5	18 AWG	18 AWG	16 AWG	16 AWG	14 AWG	12 AWG	12 AWG	10 AWG	10 AWG	8 AWG	8 AWG
5-10	18 AWG	16 AWG	14 AWG	12 AWG	12 AWG	10 AWG	8 AWG	8 AWG	6 AWG	6 AWG	4 AWG
10-15	16 AWG	14 AWG	12 AWG	10 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG
15-20	16 AWG	12 AWG	10 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG
20-25	14 AWG	12 AWG	10 AWG	8 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG
25-30	14 AWG	10 AWG	10 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG
30-35	14 AWG	10 AWG	8 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG
35-40	12 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG
40-45	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG
45-50	12 AWG	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG	0/3 AWG
50-55	12 AWG	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG	0/3 AWG
55-60	10 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0 AWG	0/3 AWG	0/4 AWG
60-65	10 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG	0/3 AWG	0/4 AWG
65-70	10 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG	0/3 AWG	0/4 AWG
70-75	10 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	0 AWG	0/2 AWG	0/2 AWG	0/4 AWG	
75-80	10 AWG	6 AWG	4 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG	0/3 AWG	0/4 AWG	
80-85	10 AWG	6 AWG	4 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG	0/3 AWG	0/4 AWG	
85-90	10 AWG	6 AWG	4 AWG	4 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG	0/3 AWG	0/4 AWG	
90-95	8 AWG	6 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0/2 AWG	0/3 AWG	0/3 AWG		
95-100	8 AWG	6 AWG	4 AWG	2 AWG	2 AWG	0 AWG	0/2 AWG	0/3 AWG	0/4 AWG		

*One-way cable length from supply (usually battery) to load.

6.5 CABLE GAUGE CHART 24V

Cable length (feet)*	Supply & Return Cable Conductor Size Chart 3% drop for when using 24V DC supply Circuit Current										
	2 Amp	4 Amp	6 Amp	8 Amp	10 Amp	15 Amp	20 Amp	25 Amp	30 Amp	40 Amp	50 Amps
0-5	18 AWG	18 AWG	18 AWG	18 AWG	18 AWG	16 AWG	14 AWG	14 AWG	12 AWG	12 AWG	10 AWG
5-10	18 AWG	18 AWG	16 AWG	16 AWG	14 AWG	12 AWG	12 AWG	10 AWG	10 AWG	8 AWG	8 AWG
10-15	18 AWG	16 AWG	14 AWG	14 AWG	12 AWG	12 AWG	10 AWG	8 AWG	8 AWG	6 AWG	6 AWG
15-20	18 AWG	16 AWG	14 AWG	12 AWG	12 AWG	10 AWG	8 AWG	8 AWG	6 AWG	6 AWG	4 AWG
20-25	18 AWG	14 AWG	12 AWG	12 AWG	10 AWG	8 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG
25-30	16 AWG	14 AWG	12 AWG	10 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG
30-35	16 AWG	14 AWG	12 AWG	10 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG
35-40	16 AWG	12 AWG	10 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG
40-45	14 AWG	12 AWG	10 AWG	10 AWG	8 AWG	6 AWG	4 AWG	4 AWG	4 AWG	2 AWG	2 AWG
45-50	14 AWG	12 AWG	10 AWG	8 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG
50-55	14 AWG	12 AWG	10 AWG	8 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG
55-60	14 AWG	10 AWG	10 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG
60-65	14 AWG	10 AWG	8 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG
65-70	14 AWG	10 AWG	8 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG
70-75	12 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG	2 AWG	2 AWG	0 AWG	0/2 AWG
75-80	12 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG
80-85	12 AWG	10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG
85-90	12 AWG	10 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG
90-95	12 AWG	8 AWG	8 AWG	6 AWG	4 AWG	4 AWG	2 AWG	1 AWG	1 AWG	0/2 AWG	0/2 AWG
95-100	12 AWG	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG	2 AWG	1 AWG	0 AWG	0/2 AWG	0/3 AWG

*One-way cable length from supply (usually battery) to load.

6.6 ANGLED BEAM DETAILS

Mounting Tube follows Hull geometry while Light Optics angle the beam in the desired direction

0°

10°

Hull frame section

20°

30°

40°

50°

Representation only for explanatory purposes

The LED Indicator on the back of the light cartridge is used as reference for the Light Beam orientation as shown below

Light Beam pointing upwards

OceanLED Logo pointing upwards

LED Indicator pointing upwards

NOTE: Rotating the light by 180° on its longitudinal axis will result in a downwards orientated light beam

7 <u>Warranty</u>

Please remove this page and keep for your files

For technical assistance:

Europe: service@oceanled.com

The Americas: warranty@oceanledusa.com

Warranty Serial Code(s):

CREE◆

www.oceanled.com