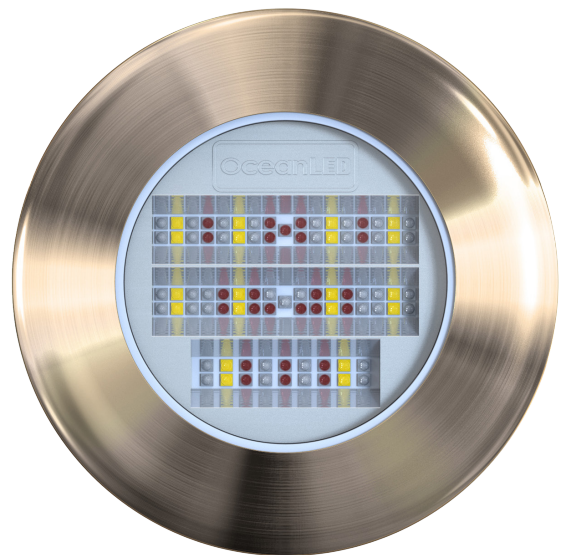
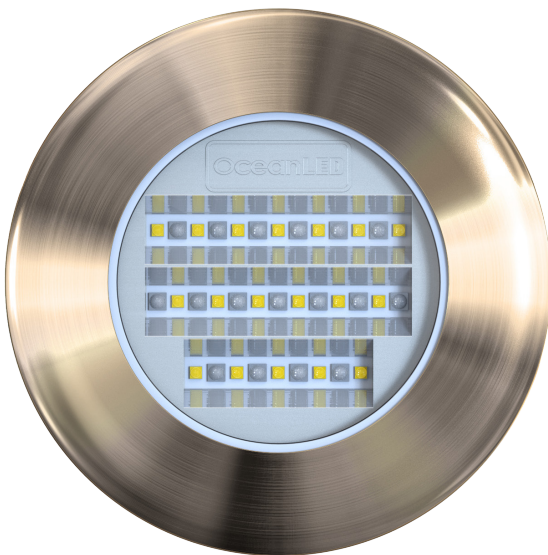




2019  
INSTALL & OPERATION MANUAL

## ***EXPLORE SERIES E6***

---



# 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 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 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, that attack many plastics greatly reducing their strength and irreversibly damaging the special lens coatings and cable sheathings.**



## **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

---

1. OVERVIEW
2. PREPARING THE HULL
3. INSTALLATION
4. OPERATION / MAINTENANCE
5. TROUBLESHOOTING
6. APPENDIX

## **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.

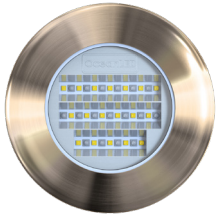
## **WARRANTY COVERAGE**

2 year warranty from time of purchase, regardless of installation date.  
Please refer to [www.oceanled.com/downloads](http://www.oceanled.com/downloads) for full warranty statement.

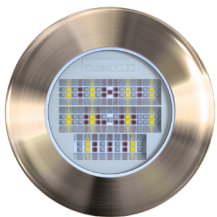
# 1

## Overview

Identifying your model



**Explore E6  
Dual Blue/White**



**Explore E6  
Colours DMX**

### Power Source

Most installations will utilize on-board 12/24V DC power supply from a marine battery. However, if an AC power supply is being used, an AC to DC power supply kit must be considered. Please check the Explore E6 Light Choice Diagram to evaluate all the options currently offered by OceanLED.

Use chart below in determining power supplies.

### POWER CONSUMPTION AND RECOMMENDED FUSE VALUES

| Model              | Current @ 12V DC | Current @ 24V DC | Power consumption in Watts @ 12V DC | 15% reserve in Watts | Recommended fuse 12V/24V DC |
|--------------------|------------------|------------------|-------------------------------------|----------------------|-----------------------------|
| E6 Dual White/Blue | 7.8 A            | 4.7 A            | 113W                                | 130W                 | 10 A                        |
| E6 Colour DMX      | 6.8 A            | 3.2 A            | 83W                                 | 94W                  | 10 A                        |

# 2 Preparing the Hull



When installing the Explore 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 85mm / 3.5" from the rear of the mounting tube to allow the insert to be removed. (See dimensions below).

Moreover, ensure that the part of the light inside the boat is free from any insulation material for at least 100mm / 4" all around it.

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.

### DEPTH / SPACING

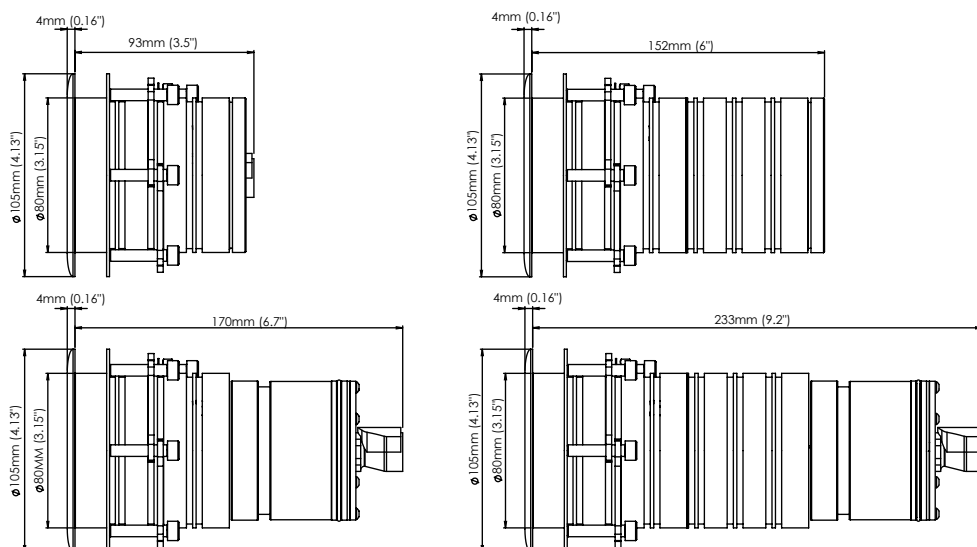
Ideally mount your lights at similar depth levels to ensure matching colour consistency through the water. Deeper lights will look duller and possibly differ in colour to shallower mounted units.

| SPACING / INSTALL DEPTH                                       | E3                 | E6                 |
|---|--------------------|--------------------|
| Recommended Spacing   | 0.5-1M<br>(2-4')   | 2.5-3M<br>(8-10')  |
| Recommended Installation depth<br>(From top of the waterline) | 15-25CM<br>(6-10") | 15-25CM<br>(6-10") |

### 2.1 HOLE CUT OUT

Hole Cut out size - 83mm (3.25") / With Delrin Sleeve 89mm (3.5")

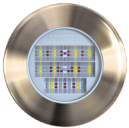
### 2.2 OVERALL DIMENSIONS



# 3 Installation

Explore E6

Kit Includes



Explore E6 Light



Locking Ring Kit



Removal Tool

## 3.1 INSTALLING THE LIGHT FIXTURE

### 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.**



**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 light fixture, use the OceanLED packaging material as a cushion when placing light on the ground face down to prevent lens damage.**

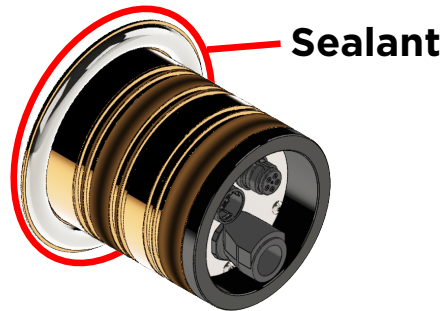
### INSTALLATION (Once hull preparation is complete)

1. Test lights before fitting.
2. (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.
3. Apply sealant to rear of mounting tube assembly's bezel to ensure a complete unbroken seal around the light.

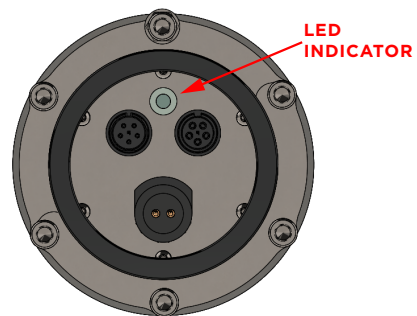
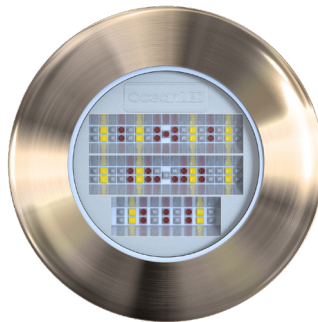
# Installation



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



4. Ensure the OceanLED logo in the reflector sits in the top side before inserting it in the hull, ensuring the light orientation is correct. If seen from the inside of the hull, the Rear Indicator LED needs to sit in the top side of the light.



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 around 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.

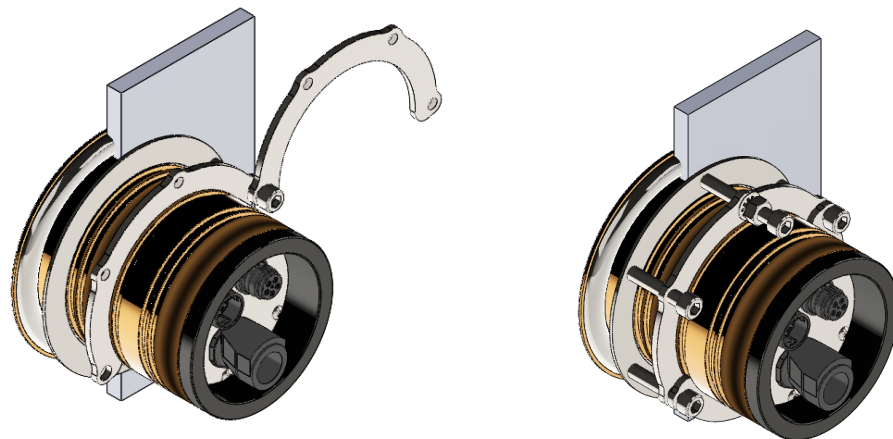
# Installation

6. (If using Delrin sleeve) insert Delrin sleeve washer over mounting tube until flush with the hull.
7. Insert the stainless steel compression washer onto the mounting tube.



**The stainless steel compression washer does not need to be flat to the hull, a slight uneven surface can be taken up 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 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 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. Screw down to the same position:



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.

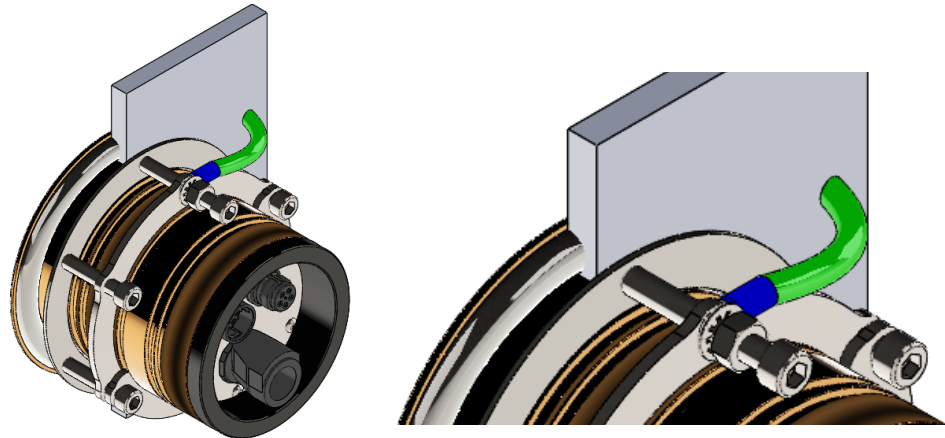
Once you are satisfied that the unit is fully tightened, you will notice that sealant has squeezed out from around the perimeter of the light. Using a thinner or cleaner, apply to cloth and wipe off excess sealant to leave a clean seal. **AVOID CONTACT WITH LENS.** If you do not see sealant squeeze out 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 water-tight. 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 - chapter 6 Appendix).



# Installation



|  |
|--|
| <b>AC Power Kit Includes</b>   |
|  |
| <b>AC Power Pack</b>   |
|  |
| <b>Power Link Cable</b>  |

## 3.2 INSTALLATION OF AC POWER KIT

### 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.

# Installation

**!** 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 Link 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 boat goes into the water.

### 3.3 INSTALLATION OF DC POWER KIT

#### ADDITIONAL TOOLS NEEDED THAT ARE NOT SUPPLIED BY OCEANLED

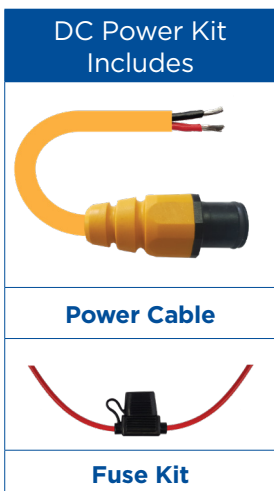
- Junction box / waterproof connectors
- Sufficient cable to connect to AC Power Pack

**!** 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. 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.

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



# Installation

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 Chapter 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 boat 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 Chapter 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 boat goes into the water.

## 3.4 CONTROL SYSTEM INSTALLATION

### 3.4.1 SWITCH CONTROL

#### ADDITIONAL TOOLS NEEDED THAT ARE NOT SUPPLIED BY OCEANLED

- Push switch (Normally Open).



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

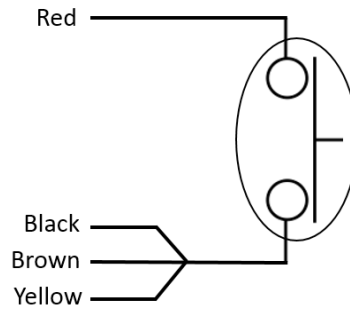
**To connect the lights to enable control of all lights using a single switch, Explore E6 Link Cables must be used. The quantity of Link Cables per installation is equal to the number of lights minus 1 (Example: If 10 lights are used, 9 link cables are needed). Please consult the Explore E6 Light Choice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



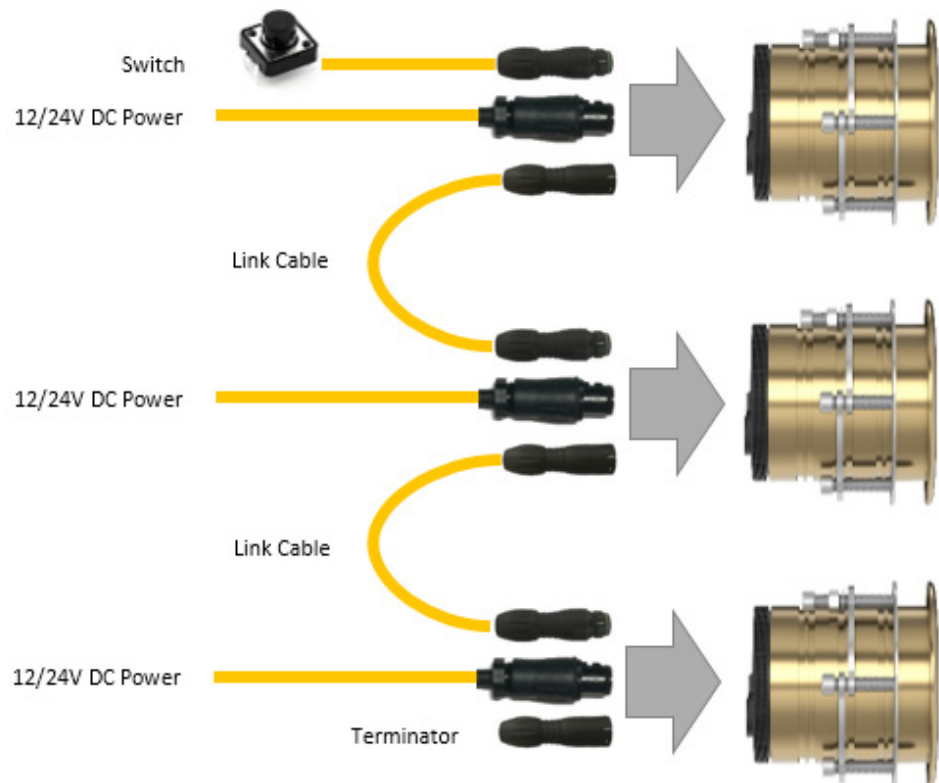
**Ensure power is disconnected before attempting to connect or solder any wire.**

# Installation

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 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.



# Installation

## 3.4.2 OCEANLED DMX CONTROL KITS



**To use OceanLED DMX Control, one of our DMX kits must be purchased from OceanLED. Please consult the Explore E6 Light Choice Diagram for details.**

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

## 3.4.3 3<sup>rd</sup> Party DMX Control

Additional tools needed that are not provided 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 Link Cables must be used. The quantity of Link Cables per installation is equal to the number of lights minus 1 (Example: If 10 lights are used, 9 link cables are needed).**



**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:

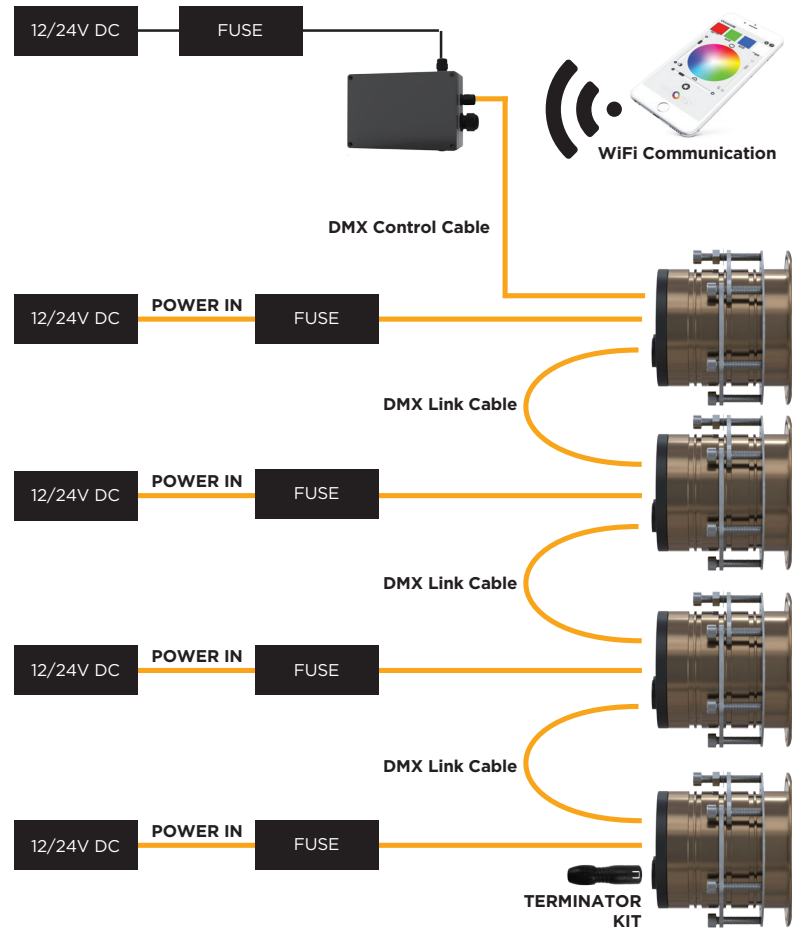
| Cable colour | Signal   |
|--------------|----------|
| Shield       | Shield   |
| Black        | GND      |
| Yellow       | DMX +    |
| Brown        | DMX -    |
| Red          | Not used |

2. Plug the Control Cable to the Control In Connector of first light.
3. Using the 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.

# Installation

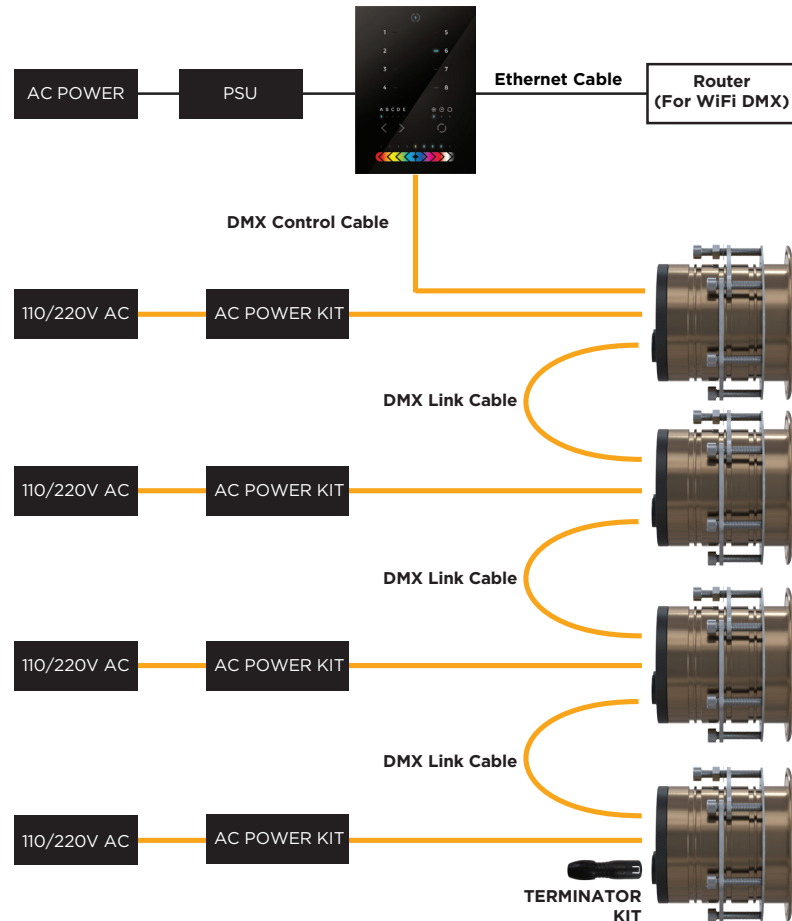
**!** The DMX standard recommends a maximum of 32 devices to be connected in one chain. If installation requires more lights than this, please contact OceanLED for advice.

## EXAMPLE DC INSTALLATION WITH OCEANDMX CONTROLLER KIT



# 4 Operation / Maintenance

## EXAMPLE AC INSTALLATION WITH WIFI DMX CONTROLLER KIT



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

### 3.5 TEST YOUR INSTALLATION

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.

**!** **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.

# 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 E6 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 E6 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

 **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.**

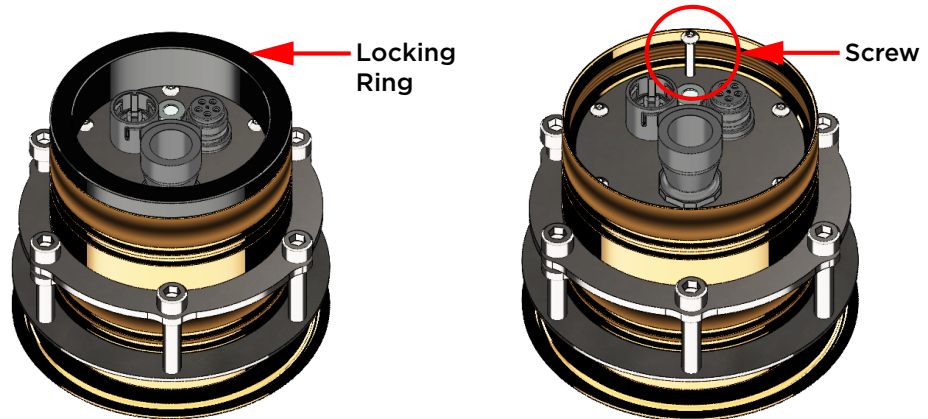
### ADDITIONAL TOOLS NEEDED THAT ARE NOT SUPPLIED BY OCEANLED

- Allen key (2mm).
1. Remove the locking ring from the mounting tube.



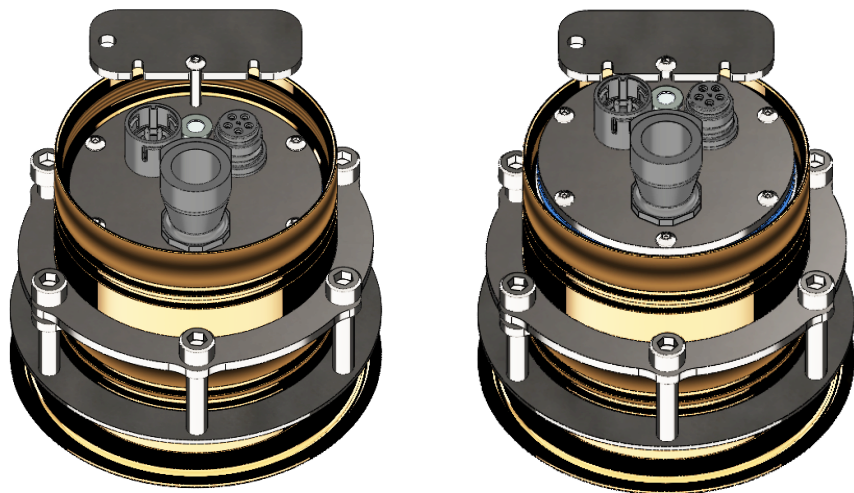
# Operation / Maintenance

2. Undo one of the six screws from the back of the light cartridge to allow the removal tool to be placed (see image below).



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

3. 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. The removal tool acts as an extractor pulling the light cartridge out of the mounting tube.



4. Pull the light cartridge out by hand with the help of the tool to fully remove it from the mounting tube.

## 4.3 LIGHT CARTRIDGE INSTALLATION

### ADDITIONAL TOOLS NEEDED THAT ARE NOT SUPPLIED BY OCEANLED

- Allen Key (2mm)

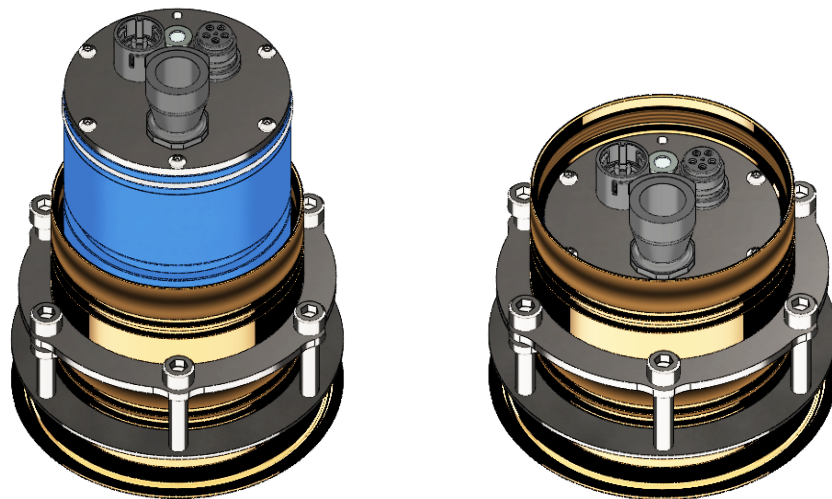
## Operation / Maintenance



**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 IPA (Isopropyl Alcohol) sprayed onto the O-Ring on the back of the light cartridge.**

1. Inspect the mounting tube and light cartridge to insure 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 insert it to the mounting tube. Failure to do so will force you to remove the light cartridge. Make sure that the LED Indicator is top and central on the back of the light cartridge or correct alignment.**

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 if the light is pointing the right way up.

# 5 Troubleshooting

## 5.1 TROUBLESHOOTING PROBLEMS AND THEIR SOLUTIONS

The Explore E6 light have a built-in Rear Indicator LED that will confirm that the light is working inside the designed parameters and will inform is a one is outside, 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.

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

| EXPLORE SERIES |  |  |  |  |
|----------------|--|--|--|--|
| NO' OF FLASHES | DESCRIPTION OF FAULT   | CHECK  | CAUSE                                      | FIX  |
| 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.

# Troubleshooting

| 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   |

# Troubleshooting

| 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 interlink 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 |

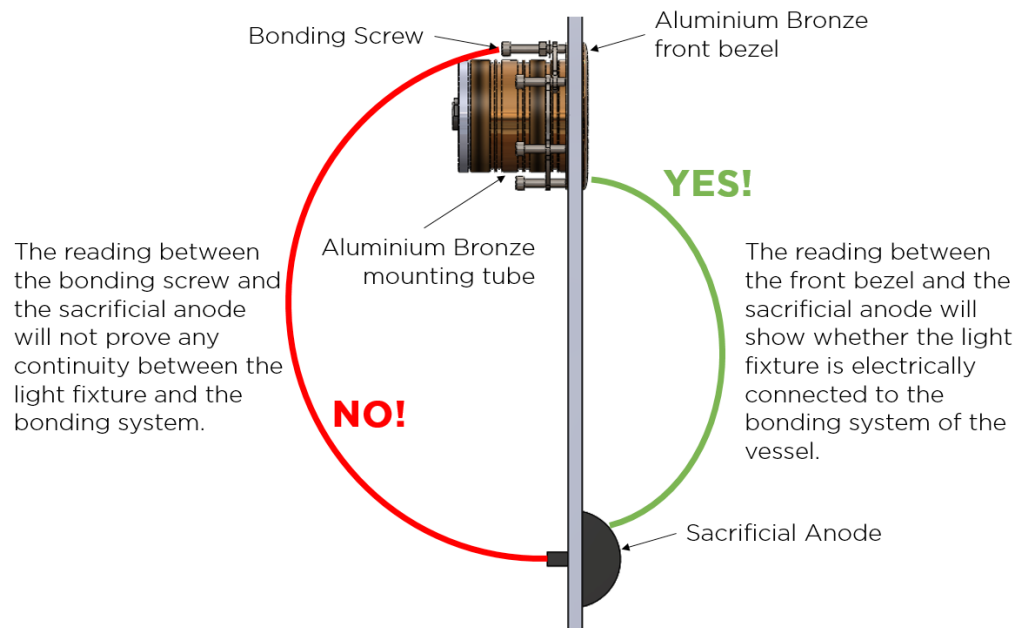
# 6 Appendix

## 6.1 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. If in doubt, please contact OceanLED.

1. Connect the light assembly to the cathodic protection system as explained in Chapter 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  $\Omega$  (Ohms). This procedure will guarantee electrical continuity between the front bezel, the mounting tube and sacrificial anode.



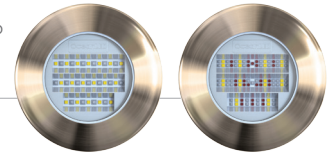
If you have any questions regarding the above, please contact OceanLED: +44 (0) 1455 637505 or [info@oceanled.com](mailto:info@oceanled.com)

# Appendix

## 6.2 LIGHT SETUP

The Explore Light Choice Diagram is also available at [www.oceanled.com](http://www.oceanled.com).

### EXPLORE E6 CHOOSE YOUR LIGHT SETUP



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

#### LIGHT



##### OPTION 1

**#E6009BW**  
Explore E6 (Dual)  
• Light Assembly  
• Explore Removal Tool

##### OPTION 2

**#E6009CD**  
Explore E6 (Colours)  
• Light Assembly  
• Explore Removal Tool



Choose either DC or AC Power Kits

#### POWER



##### OPTION 1

**#019903**  
DC POWER KIT  
• Power Cable  
• Fuse Kit

##### OPTION 2

**#019904**  
AC POWER KIT  
• Power Pack  
• Power Link Cable



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

#### CONTROL



##### OPTION 1

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

##### OPTION 2

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

##### OPTION 3

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

##### OPTION 4

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

##### OPTION 5

**#013002**  
OceanDMX WIFI  
Controller Kit (Colours)  
• DMX WIFI Controller  
• #012923 Control Input Kit

##### OPTION 6

**#013004**  
OceanDMX WIFI  
Controller Kit (Dual)  
• DMX WIFI Controller  
• #012923 Control Input Kit



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

#### LINK



##### AS MANY AS REQUIRED

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



The Explore Light Choice Diagram is also available at [www.oceanled.com](http://www.oceanled.com).

# Appendix

### 6.3 CABLE GAUGE CHART 12V

Supply & Return Cable Conductor Size Chart 3% drop for when using 12V DC supply

| Cable length (feet)* | 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.



# Appendix

## 6.4 CABLE GAUGE CHART 24V

Supply & Return Cable Conductor Size Chart 3% drop for when using 12V DC supply

| Cable length (feet)* | 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.





