



## **Bluefin Led Underwater lights.**

### **P24 Single/Dual and Colourchange Installation manual.**

Thank you for choosing Bluefin LED underwater lights, our products have been designed and tested rigorously to ensure optimum performance and longevity.

All Bluefin Led lights are water tested so please be aware there may be moisture present on the light.

Please ensure that your product is installed as per our instructions below, failure to do so may invalidate your warranty.

### **Specs: electrical/fuse ratings**

	Voltage	Current	Fuse rating
P24 SINGLE/DUAL /COLOURCHANGE	12/24v only	12v10amp 24v5amp	10amp

### **Warnings:**

- Do not attempt to install the lights whilst the boat is in the water.
- Ensure that the correct voltage is used for the light.
- Ensure that an in line fuse is installed with the correct fuse rating per the light installed.
- Ensure that you use the Screws provided with the o-ring fitted and only hand tightened **(failure to do so will invalidate your warranty).**



- Ensure all connections are made watertight.
- Do not remove the Inline Moisture Guard.
- Do not hold the light by the cable.
- Do not use abrasives on the lenses.
- Do not look directly into the light at close proximity.

### **Tools required for installation:**

- 2.5mm(3/32") drill bit
- 17mm(17/25") drill bit
- Drill
- Posi head hand screwdriver
- Marine sealant 3M 4200 or equivalent

## **Installation:**

**Before installation please ensure the red line is horizontal (the label is fitted to the face of the light), this is to ensure you install the light perpendicular to the water line. Ensure that all lights are fitted the same. If the lights are not all orientated the same way the light will not appear even (different angles) in the water (see fig 6)**

For optimum affect effect the light should be positioned between 8-12" (200-300mm) below the water line and at a 90 deg angle. Recommended spacing from 1.65 ft(0.6mtr) to 4.92ft (1.5mtrs) between the lights.

Drill a 17mm (17/25") hole for the cable access through the hull, ensuring that there are no obstructions internally in the hull.

Drill 2.5mm ( 3/32") pilot holes to match the mounting holes on the light. (Within the packaging there is a mounting template for drilling these holes)

Key the area to where the light is to be mounted with abrasive sand paper to ensure there is a clean area for the marine sealant to bond to.

Apply marine sealant to the rear of the light on the circumference of the light and around the base of the cable gland to ensure a complete continuous bead of sealant is applied in both areas. (see fig 2)

Feed the cable through the hole and mount the light to the hull using the **screws provided**.

Wipe off any excess sealant and ensure the light is seated correctly without any gaps in the sealant. (It is good practice to have excess marine sealant to clean off as this will help assure a water tight seal to the hull)

## **Electrical connection:**

**Ensure you use the IP68 GEL CONNECTOR supplied to connect to the boats wiring or you Warranty will be void (fig 4/5).**

**You will notice an inline moisture guard attached to your cable (Fig 1). If this guard is removed your Warranty will be void.**

Care should be taken when planning your electrical feeds/cables to the lights so as to ensure voltage drop between the batteries or power supply is minimised, on 12V systems this is especially important as the lower system voltage means a high current requirement which in turn means the potential for more voltage drop in the cable runs & connections.

If the cable gauge & connections are not sufficient for the lighting load attached you may experience incorrect operation of the lights & intermittent illumination as the supply dips below specification.

Please see the wire gauge guide attached to the instruction manual.

For help with calculations always consult with a qualified professional or contact Bluefin LED directly.

Attach the light cable to the VDC power on the boat ensuring that you use the GEL CONNECTOR and in line fuse supplied connected to the positive(red) wire, ensure that you use the heat shrink provided to create a water tight fit into the fuse holder. (see fig 3)

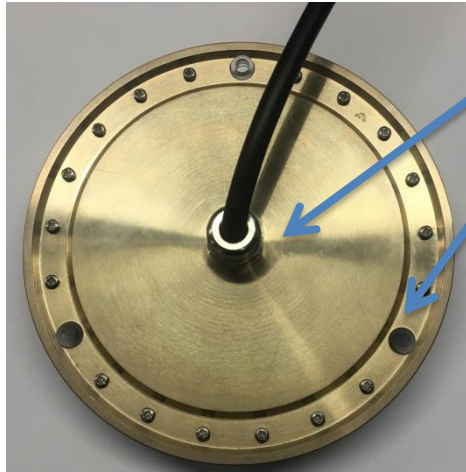
## **P24 Dual and CC Colour Only**

When installing P24 Dual Colour and Colour change lights it is advised to wire the lights up to a single switch so that all of the lights operate in sequence with each other. It is also advised that you choose an appropriate switch that has the correct power rating for the amount of lights being installed (please see the P24 Dual Colour current values above).

Fig 1

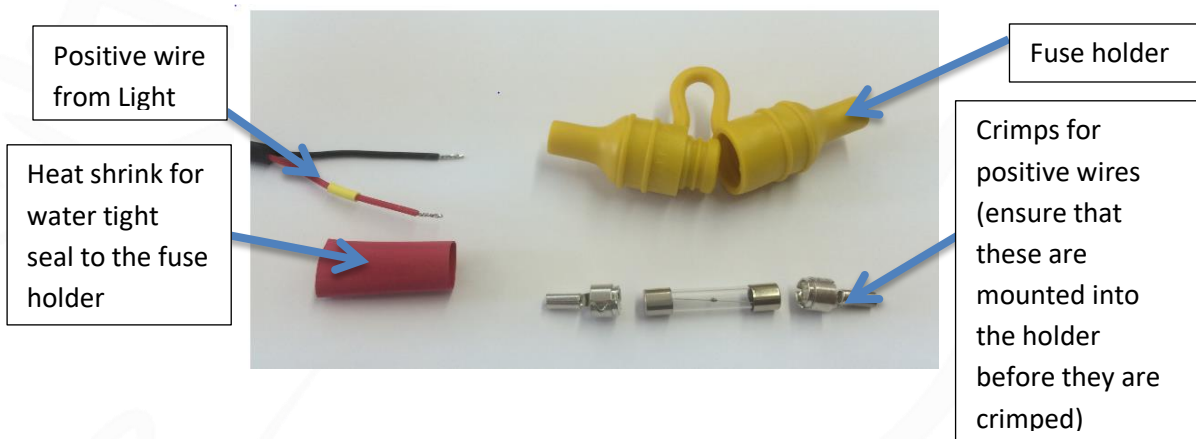


Fig 2



Apply Sealant around this edge and around the cable gland

Fig 3



Positive wire from Light

Heat shrink for water tight seal to the fuse holder

Fuse holder

Crimps for positive wires (ensure that these are mounted into the holder before they are crimped)

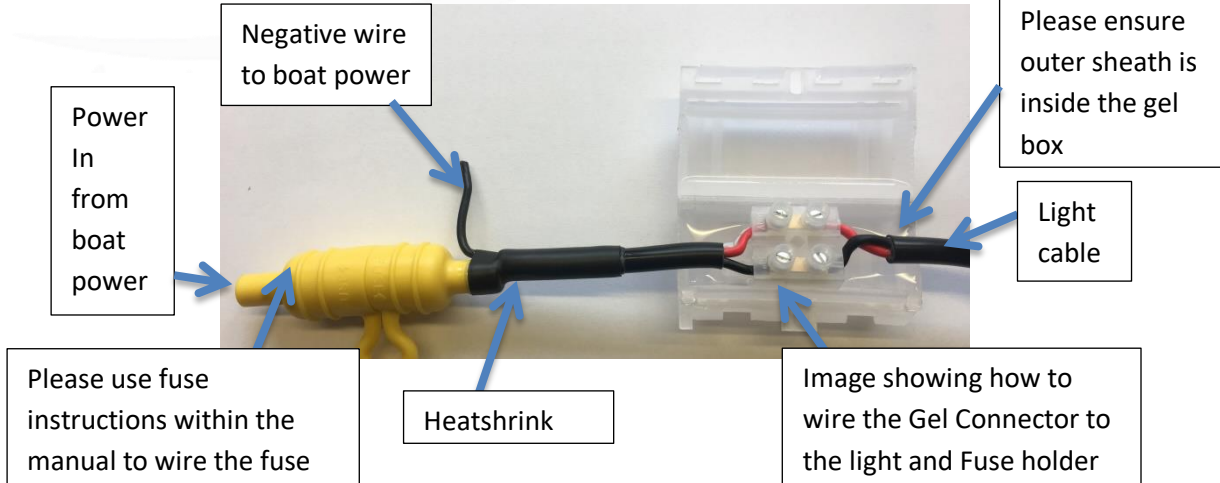
Fig 4 showing how the Gel connector is wired up.

Fig 5 showing how the finished Gel connector should look when finished.

Ensure that the black outer sheath is inside the gel connector.

**The IP68 GEL CONNECTOR MUST BE INSTALLED OR YOU WARRANTY WILL BE VOID**

Fig 4



Power In from boat power

Negative wire to boat power

Please ensure outer sheath is inside the gel box

Light cable

Please use fuse instructions within the manual to wire the fuse

Heatshrink

Image showing how to wire the Gel Connector to the light and Fuse holder

Fig 5



### Testing:

Test the light before installation ensuring that you use the correct voltage and the light is illuminated correctly.

After installation ensure again that the light is illuminated correctly before the boat goes back into the water and the lens label is removed.

After you boat goes back into the water check internally for water ingress around where the light is installed.

### P24 Dual Colour Operation

1. When first turned on the light will start up in Dual Blue/White mode, if you turn the light off and on again quickly it will then go to Blue mode. If you turn the light off and on again quickly it will then go to White mode. If you turn the light off and on again quickly it will go to Dual Blue/White Strobe mode. If you turn the light off and on again quickly it will strobe on blue. if you turn off and on again quickly it will strobe in white. If you turn off and on again quickly it will strobe alternate blue and white.
2. When the light is turned off for more than 5 secs it will return to standard mode.
3. The light output will adjust itself dependent on the surrounding temperature conditions.

### P24 Single colour Operation.

1. When powered up for the first time or from reset, the light will appear in the standard on mode. When turned off and on again quickly it will then go to strobe mode.
2. Switch off the light and leave for over 5 seconds, when the light is switched back on the light will reset back in the standard mode.

### P24CC (Colour change) Operation.

3. When powered up for the first time or from reset, the light will appear in white and scroll through the colour range and keep scrolling until stopped by any of the steps below.
4. To pick a particular colour turn the light off and then on again quickly and the chosen colour will be selected (approx. 1 Sec power cycle, this may take a little practice as too fast or slow will not detect).
5. If you switch off and on again quickly for the second time the light will start to strobe.
6. Switch off the light and leave for over 5 seconds, when the light is switched back on the light will reset back in the white mode.
7. When the light colours become out of sync simply repeat step 4 to re-set to initial colour cycle mode, the more lights installed this process may need to be more frequently repeated.

The light has internal indicator LED's for fault finding, these are as follows:

- Over voltage will flash red.(check the voltage to the light)
- Under voltage will show a constant red. (check the voltage to the light)
- Over temperature will show amber.(allow the light to cool down and check if submerged)
- The light output will adjust itself dependent on the surrounding temperature conditions.

Fig 6



Ensure Red line is Horizontal to the waterline on all lights.

**Maintenance:**

Regularly check the installation for water ingress.  
Only clean the light with a soft bristle brush.

**Warranty:**

Your product has a 2 year limited warranty for defects.  
For any warranty issues please contact your point of sale retailer or go to [www.bluefinled.com](http://www.bluefinled.com) for further advice.

**Installer please ensure that the SERIAL NUMBERS of the lights are written below and the manual is handed over to the end user.**

**Please make a note of the serial numbers of the lights here.**

**SERIAL NUMBERS**

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**Bluefin LED**

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Wire Gauge selection guide using information from ABYC E-11 & US Coast Guard guidelines for marine electrical installations

Circuit Type		Current flow in Amps									
10% V Drop Low-Power Non Critical (P series Single colour)	3% V Drop High-Power/Critical (H, S & GW Plus colour change Series)	5A	10A	15A	20A	25A	30A	40A	50A	60A	
20ft	6m	16 AWG	16AWG	14AWG	14AWG	12AWG	10AWG	10AWG	8AWG	6AWG	6AWG
30ft	9m	10ft 10ft	14AWG	12AWG	12AWG	10AWG	10AWG	8AWG	6AWG	16mm CSA	6AWG
50ft	15m	15ft 5m	12AWG	10AWG	10AWG	8AWG	8AWG	6AWG	6AWG	25mm CSA	4AWG
65ft	20m	20ft 6m	10AWG	8AWG	8AWG	6AWG	6AWG	6AWG	4AWG	4AWG	4AWG
80ft	24m	25ft 8m	8AWG	6AWG	6AWG	6AWG	6AWG	6AWG	4AWG	4AWG	4AWG
100ft	30m	30ft 9m	6AWG	4AWG	4AWG	4AWG	4AWG	4AWG	4AWG	4AWG	4AWG
130ft	40m	40ft 12m	4AWG	2.5mm CSA	2.5mm CSA	2.5mm CSA	2.5mm CSA	2.5mm CSA	2.5mm CSA	2.5mm CSA	2.5mm CSA
165ft	50m	50ft 15m	2.5mm CSA	10mm CSA	10mm CSA	10mm CSA	10mm CSA	10mm CSA	10mm CSA	10mm CSA	10mm CSA
200ft	61m	60ft 18m	10AWG	8AWG	8AWG	6AWG	6AWG	6AWG	4AWG	4AWG	4AWG
		70ft 21m	8AWG	6AWG	6AWG	4AWG	4AWG	4AWG	4AWG	4AWG	4AWG
		80ft 24m	4mm CSA	6AWG	6AWG	4AWG	4AWG	4AWG	4AWG	4AWG	4AWG
		90ft 27m	4mm CSA	4AWG	4AWG	4AWG	4AWG	4AWG	4AWG	4AWG	4AWG
		100ft 30m	6mm CSA	25mm CSA	25mm CSA	25mm CSA	25mm CSA	25mm CSA	25mm CSA	25mm CSA	25mm CSA
		110ft 34m	6mm CSA	40mm CSA	40mm CSA	40mm CSA	40mm CSA	40mm CSA	40mm CSA	40mm CSA	40mm CSA
		120ft 37m	6AWG	2AWG	2AWG	2AWG	2AWG	2AWG	2AWG	2AWG	2AWG
		130ft 40m	2AWG	1AWG	1AWG	1AWG	1AWG	1AWG	1AWG	1AWG	1AWG

To use for BluefinLED underwater lights select the appropriate current Column for you lights, power & quantity from the top row.  
 then the cable distance run in one direction i.e. from panel or batteries to the light placement or group.  
 Then at the point the Column & row crosses read the cable suggestion in US or EU gauge s for your installation.  
**Failure to install the correct power feeds may invalidate your warranty, if in doubt please consult with BluefinLED or a qualified professional.**