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

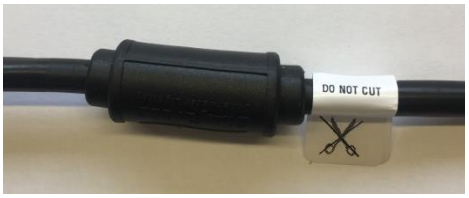


Fig 2

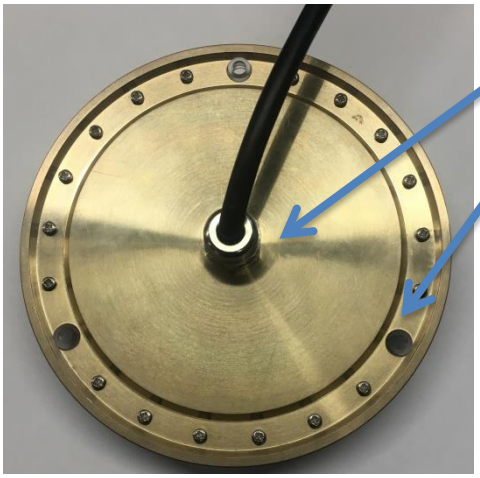


Fig 3

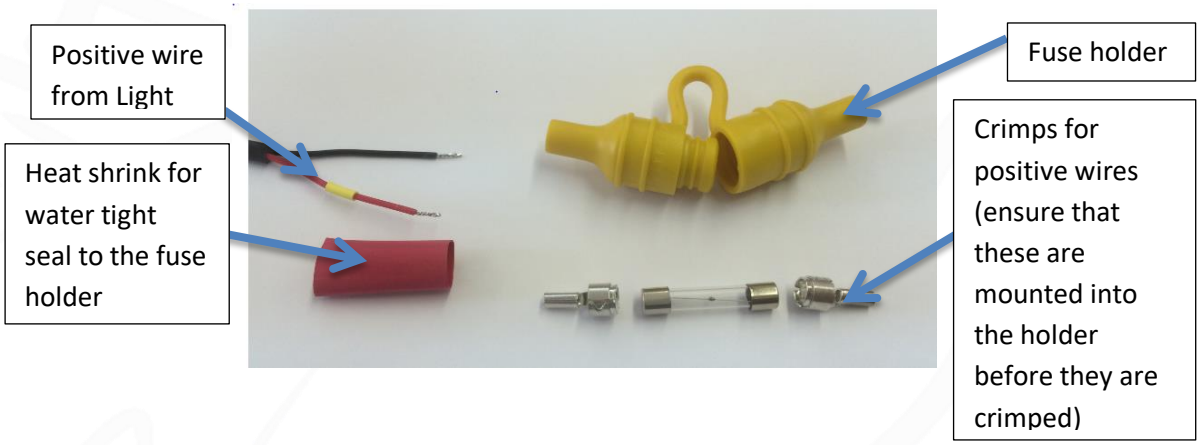


Fig 4 showing how the Gel connector is wired up.
Fig 5 showing how the finished Gel connector should look when finished.
Ensure that the black outer sheath is inside the gel connector.
The IP68 GEL CONNECTOR MUST BE INSTALLED OR YOU WARRANTY WILL BE VOID

Fig 4

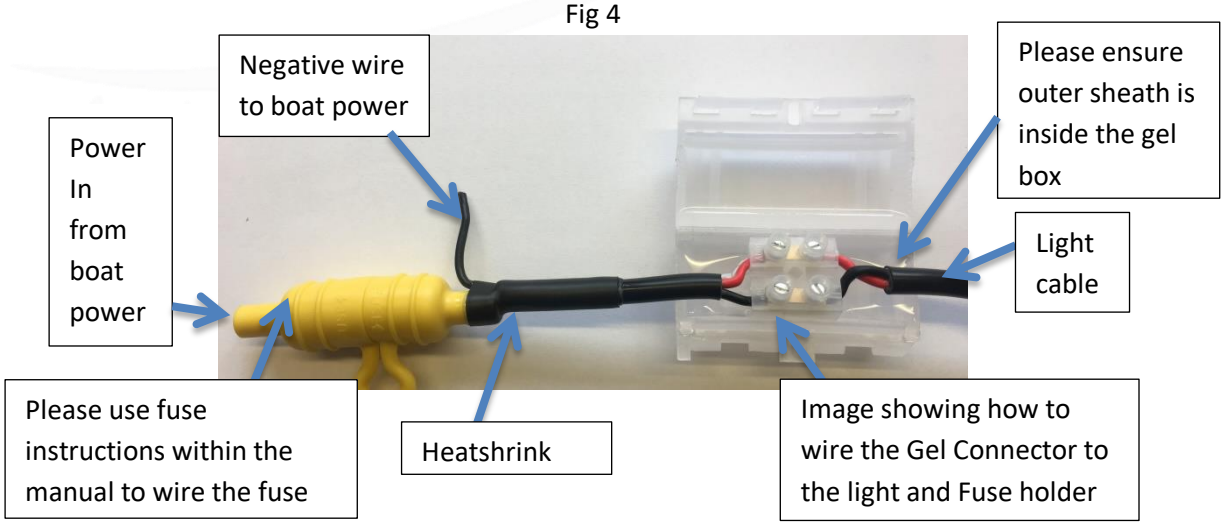
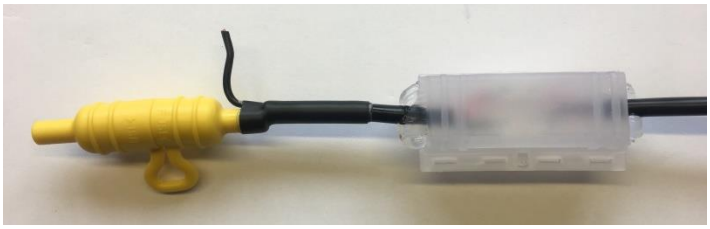


Fig 5



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 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

Bluefin LED
Cottage Farm, Cottage Lane,
Norton Juxta Twycross, Atherstone. CV9 3QH
Sales - Tel: 07950 909048 **Email:** simon.steadman@bluefinled.com
Service - Tel: 01827 880450 **Email:** mark.branson@bluefinled.com
Administration - Tel: 01827 880450 **Email:** samantha.barrie@bluefinled.com
Registered Address: Square Rig Limited, t/a Bluefin Led, Cottage Farm, Cottage Lane, Norton Juxta Twycross, Atherstone, CV9 3QH
Company Registration Number: 08871451 **VAT Number: 179 2690 64**

Bluefin LED
Underwater Lighting

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	6ft	2m	16 AWG	1.5mm CSA	16AWG	2.5mm CSA	14AWG	4mm CSA	14AWG	4mm CSA	12AWG	4mm	10AWG	6mm CSA	8AWG	10mm CSA	6AWG	16mm CSA	6AWG	25mm CSA
30ft	9m	10ft	3m			14AWG		12AWG		12AWG		10AWG	6mm								
50ft	15m	15ft	5m			12AWG	4mm CSA	10AWG	6mm CSA	10AWG	6mm	8AWG	10mm CSA	8AWG	10mm	6AWG	16mm CSA	4AWG	25mm CSA	4AWG	40mm CSA
65ft	20m	20ft	6m	14AWG	2.5mm CSA	10AWG	6mm CSA			8AWG	10mm CSA			6AWG	16mm CSA	4AWG	25mm CSA	2AWG	40mm CSA	2AWG	70mm CSA
80ft	24m	25ft	8m	12AWG				8AWG	10mm CSA	6AWG	16mm CSA	6AWG	16mm CSA	4AWG	25mm CSA	2AWG	40mm CSA	1AWG	70mm CSA	1AWG	
100ft	30m	30ft	9m			8AWG	10mm CSA	6AWG	16mm CSA		25mm CSA	4AWG	25mm CSA	2AWG	40mm CSA	1AWG	70mm CSA	0AWG		0AWG	
130ft	40m	40ft	12m	10AWG	4mm CSA	6AWG	16mm CSA	4AWG	25mm CSA	4AWG	40mm CSA	2AWG	40mm CSA	1AWG	70mm CSA	0AWG		2|0 AWG		2|0 AWG	
165ft	50m	50ft	15m				25mm CSA	2AWG	40mm CSA	2AWG		1AWG	70mm CSA	0AWG		2|0 AWG		3|0 AWG		3|0 AWG	
200ft	61m	60ft	18m	8AWG		6AWG														4|0 AWG	
		70ft	21m		4mm CSA					1AWG	70mm CSA	0AWG		2|0 AWG		3|0 AWG		4|0 AWG			
		80ft	24m				40mm CSA														
		90ft	27m	6AWG		4AWG		2AWG	40mm CSA												
		100ft	30m																		
		110ft	34m		6mm CSA																
		120ft	37m				40mm CSA														
		130ft	40m			2AWG															

To use for BluefinLED underwater lights select the appropriate current Colum 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 Colum & row crosses read the cable suggestion in US or EU gauges 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.