



Bluefin LED Underwater lights.
MR20TH/MRS48CCTH Installation manual.

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

All Bluefin Led lights are water tested so please be aware there may be moisture present on the light This light is designed for use on fibre glass hulls only and **not to be mounted to any Metal hull or your warranty will be void. If you are mounting to a Metal hull boat a Delrin isolation sleeve can be purchased.** Please ensure that your product is installed as per our instructions below, failure to do so may invalidate your warranty.

If you are installing a MR48CCTH please refer to the Driver instructions for electrical installation.

Specs: electrical/fuse ratings

	Voltage	Current	Fuse rating
Stingray MR20TH	24V only (Absolute min of 19V under load @ light).	24v-5.1Amp	8amp

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 the supplied gel connector is used to make a watertight connection or your **warranty will be Void.**
- **Do not remove the inline HYDRO LOCK or your warranty will be void.**
- Do not hold the light by the cable.
- Do not use abrasives on the lenses.
- Lights must be mounted a minimum of 300mm from any Anodes.
- Do not mount lights directly underneath Anodes.
- Do not bond directly to Anodes.
- Only bond to the vessels DC bonding system & ensure all connections are in perfect condition & are regularly checked.
- When mounting on any type of conductive surface or hull material full electrical isolation between the light & mounting surface must be provided & maintained at all times throughout the lights life.
- Failure to adhere to any of these requirements will invalidate warranty.
- As Galvanic currents & corrosion are external factors any type of damage caused by galvanic affects are not covered by BluefinLEDs warranty policy.

Tools required for installation:

- 30mm(1.1/4") drill bit
- Drill
- Marine sealant 3M 5200/4000UV, Sika flex 291i or equivalent (**do not use 3M 4200**)

Installation:

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 3-3"(1mtr) to 5-11" (1.8mtrs) between the lights. Drill a 30mm(1.1/4") hole for the cable and stem access through the hull, ensuring that there are no obstructions internally in the hull.

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 too.

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

Feed the cable through the hole and stem and clamp internally in the hull using the clamping ring and washer supplied ensuring a tight fit using nuts and bolts supplied. (see fig 3)

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 can ensure that there is 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 5/6).

You will notice an inline HYDRO LOCK attached to your cable (Fig 1). If this guard is removed you warranty will be void

It is advised that if installing MR20 and MR48CC Models no more than 6 lights should be installed on your low voltage system and Mains Power Units should be installed (contact BluefinLED for advice).

Only attach the light cable to a waterproof connection or junction box, the cable must have a watertight connection otherwise 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.

Fig 1



Please see the wire gauge guide which is attached to this manual.

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

Attach the light cable to the VDC power on the boat ensuring that you use the in line fuse supplied connected to the positive(red) wire, ensure that you use the heatshrink provided to create a water tight fit into the fuse holder. (See fig 4)

Ensure that an earth bond cable is attached to the earth bolt on the locking ring and is attached to the earth bonding system on the boat. (See fig 3)

Fig 2

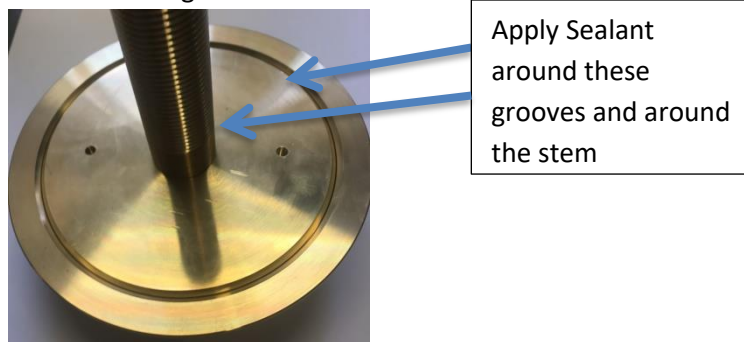


Fig 3



Fig 4

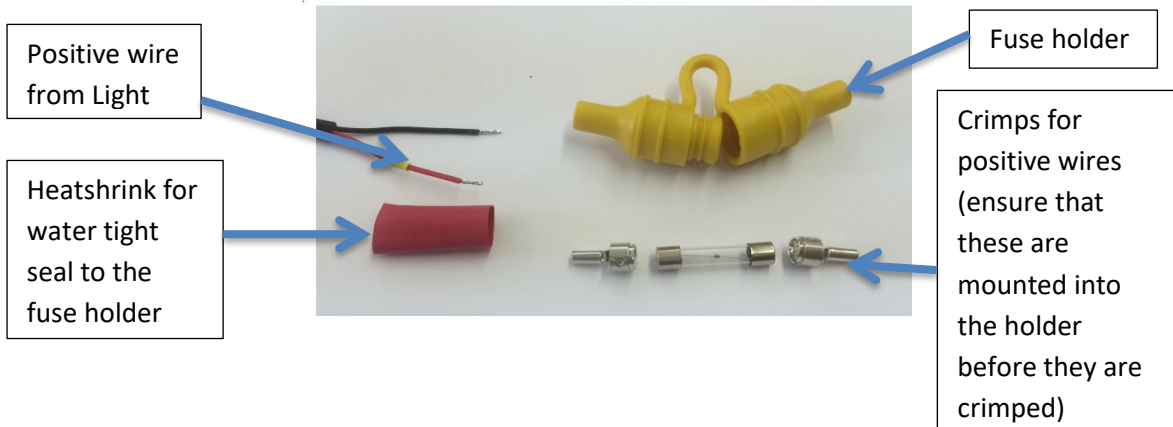


Fig 5 showing how the Gel connector is wired up.

Fig 6 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 CORRECTLY OR YOU WARRANTY WILL BE VOID.

Fig 5

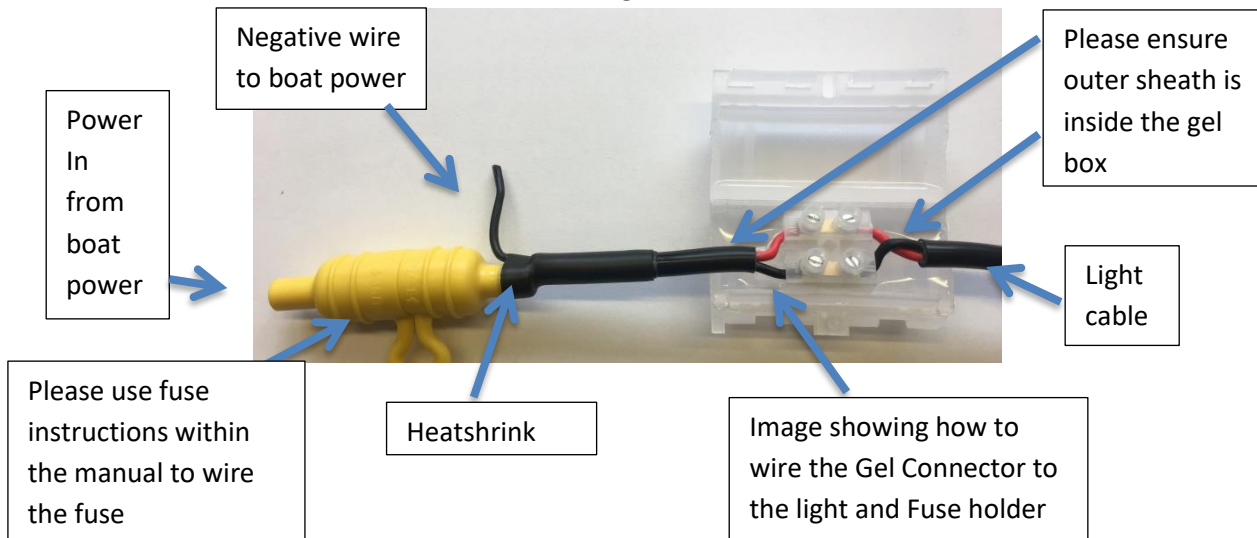


Fig 6



Bluefin Led Underwater lights.

LM48CC Driver Installation manual.

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

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
LM48CC Drivers	24V only	24V-6.5	8amp

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 and Driver.
- Ensure that the in line fuse is installed with the correct fuse rating per the Driver installed.
- Ensure that the supplied gel connector is used to make a watertight connection or your **warranty will be Void**.
- If you wish to connect your Colour change lights and drivers to your own DMX Controller please contact BluefinLED beforehand for further advise.

Installation:

Electrical connection:

- Ensure that the supplied gel connector is used to make a watertight connection or your **warranty will be Void (see fig 6/7)**
- Attach the Driver power cable to the VDC power on the boat ensuring that you use the in line fuse supplied connected to the positive(red) wire, ensure that you use the heatshrink provided to create a water tight fit into the fuse holder. (see fig 2)
- Plug the Light cable connector to driver as per Fig 1 aligning the white lines on the connectors to ensure the connector pushes home correctly.
- Plug the DMX controller cable (if supplied fig 3) into the first driver DMX IN connector as per Fig 1.
- Plug the DMX Interlink cable (Fig 4) into the DMX OUT connector on the first driver Fig 1.
- You can now daisy chain the drivers using the DMX Interlink cables going from the OUT DMX to the IN DMX on the next driver.
- When completing a circuit you must plug the DMX Terminator plug (Fig 5) into the last drivers DMX OUT to complete the circuit.

Fig 1 (Driver)



Fig 2 (Fuse connection)

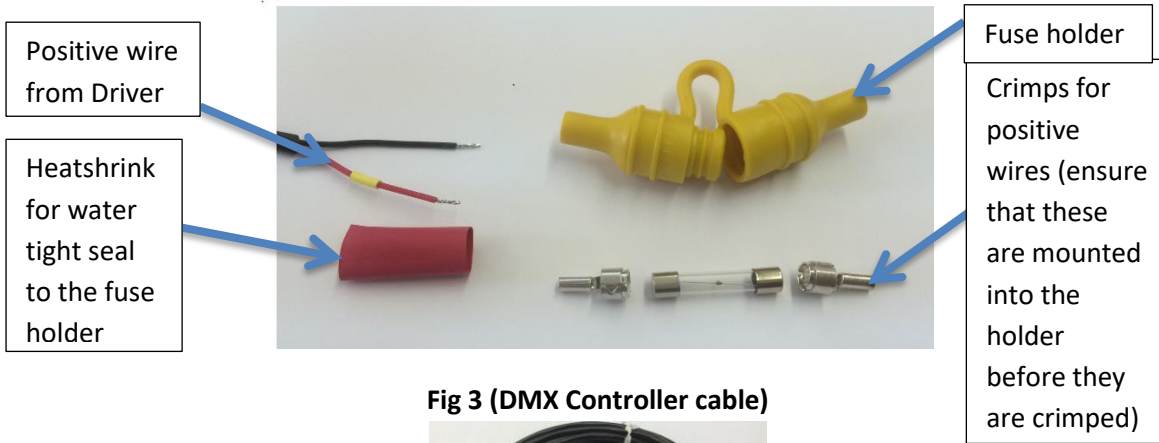


Fig 3 (DMX Controller cable)



Fig 4 (DMX Interlink cable)



Fig 5 (DMX Terminator)



Fig 6 showing how the Gel connector is wired up.

Fig 7 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 CORRECTLY OR YOUR WARRANTY WILL BE VOID.

Fig 1

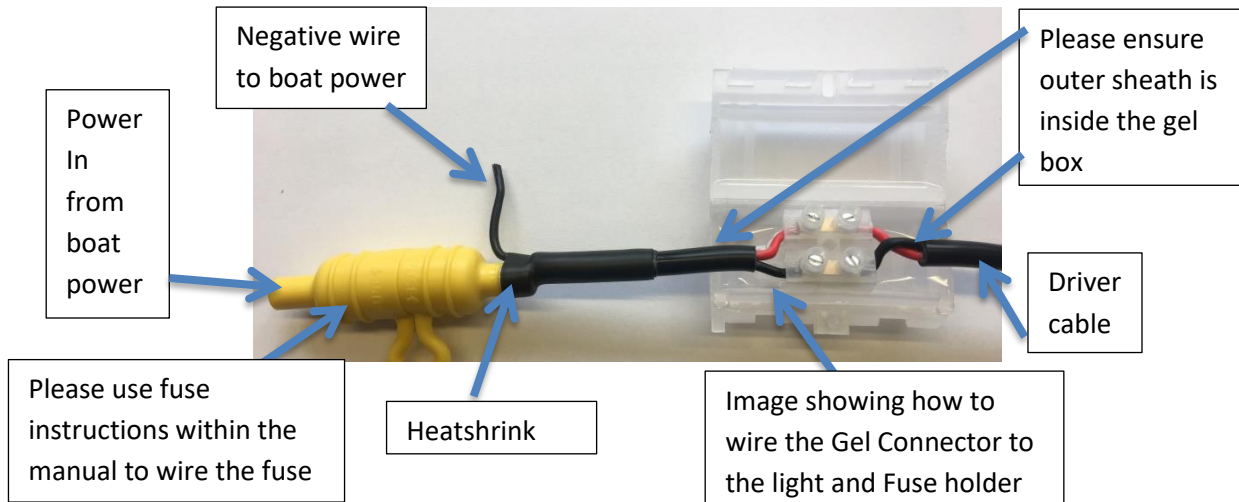


Fig 2



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 you remove the lens label.

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

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)

Maintenance:

Regularly check the installation for water tightness

Only clean the light with a soft bristle brush

Warranty:

For any warranty issues please contact your point of sale retailer or go to www.bluefinled.com for further advice.

Bluefin LED LTD warrants the lights/hardware it manufactures and produces to be free from defects in workmanship and materials for a period of two years, starting from the date of original purchase, as recorded on the sales receipt.

The warranty is non-transferable and limited to the original purchaser of the product. During the two year warranty period Bluefin LED will repair or replace the defective item (at its option) at no additional charge on a “like for like” basis. Products either repaired or replaced under this warranty shall only be warranted for the unexpired portion of the warranty applying to the original product(s).

Bluefin LED is not responsible for labour charges to remove or replace lights or for haul-out fees. No refunds will be given.

This limited warranty does not extend to any products which have been damaged as a result of misuse, abuse, improper installation/modification, galvanic corrosion, failure to follow and adhere to installation instructions provided by Bluefin LED, improper shipping, neglect, damage caused by disasters such as fire, flood, lightning “acts of god”, installation by unqualified personnel.

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

Service - Tel: 01827 880450

Administration - Tel: 01827 880450

Email: simon.steadman@bluefinled.com

Email: mark.branson@bluefinled.com

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

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

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 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.