

# Water-Tec.co.uk

## Operation Manual

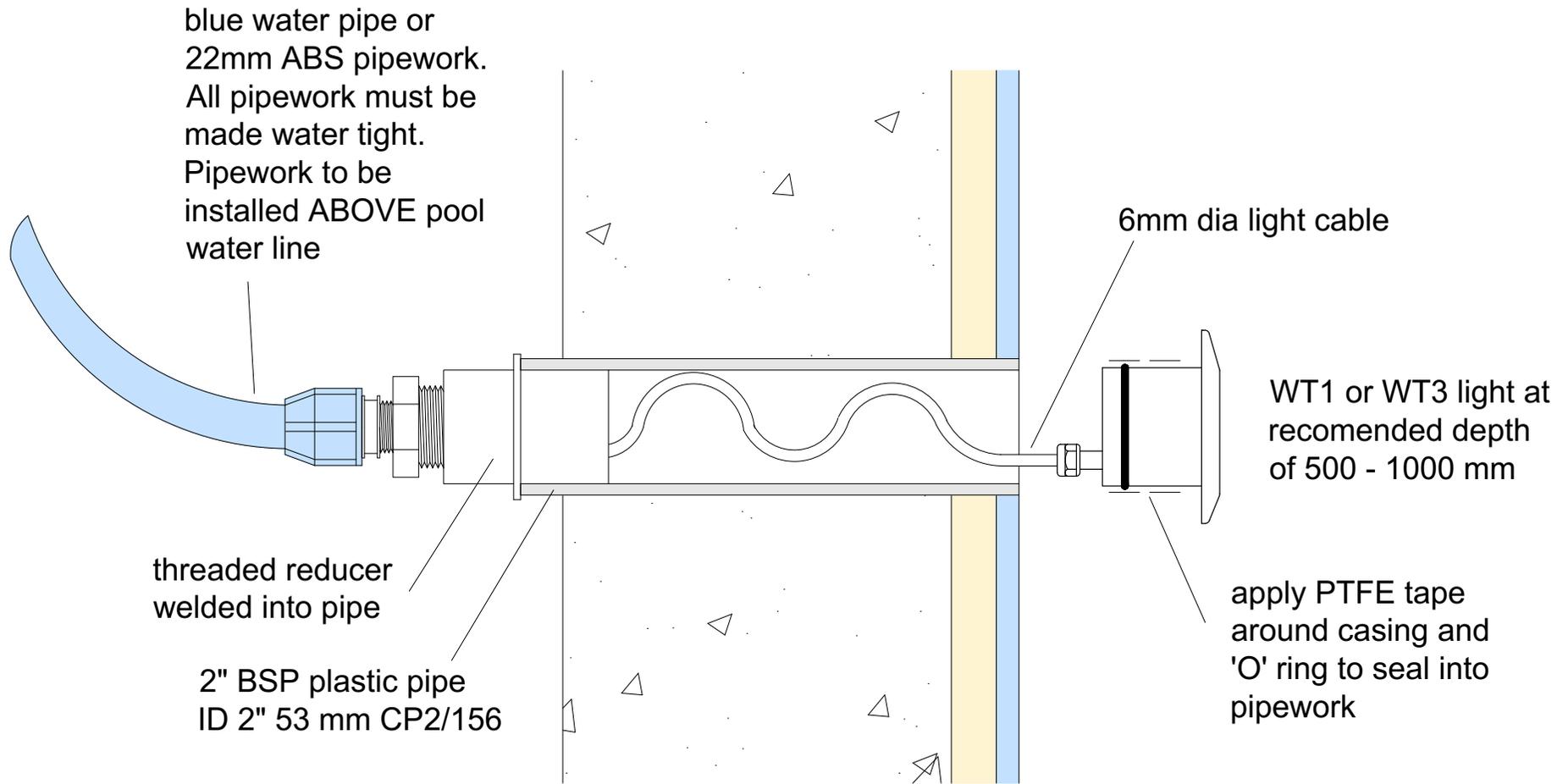


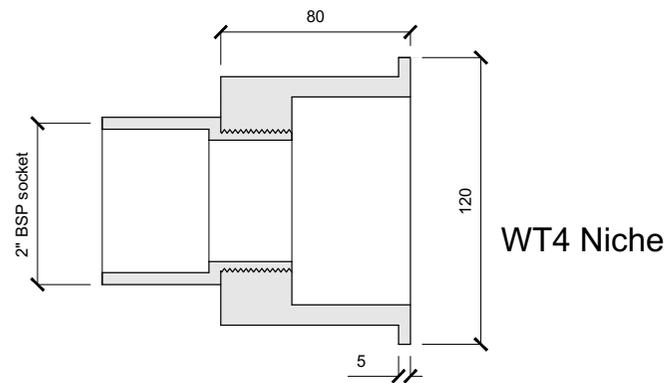
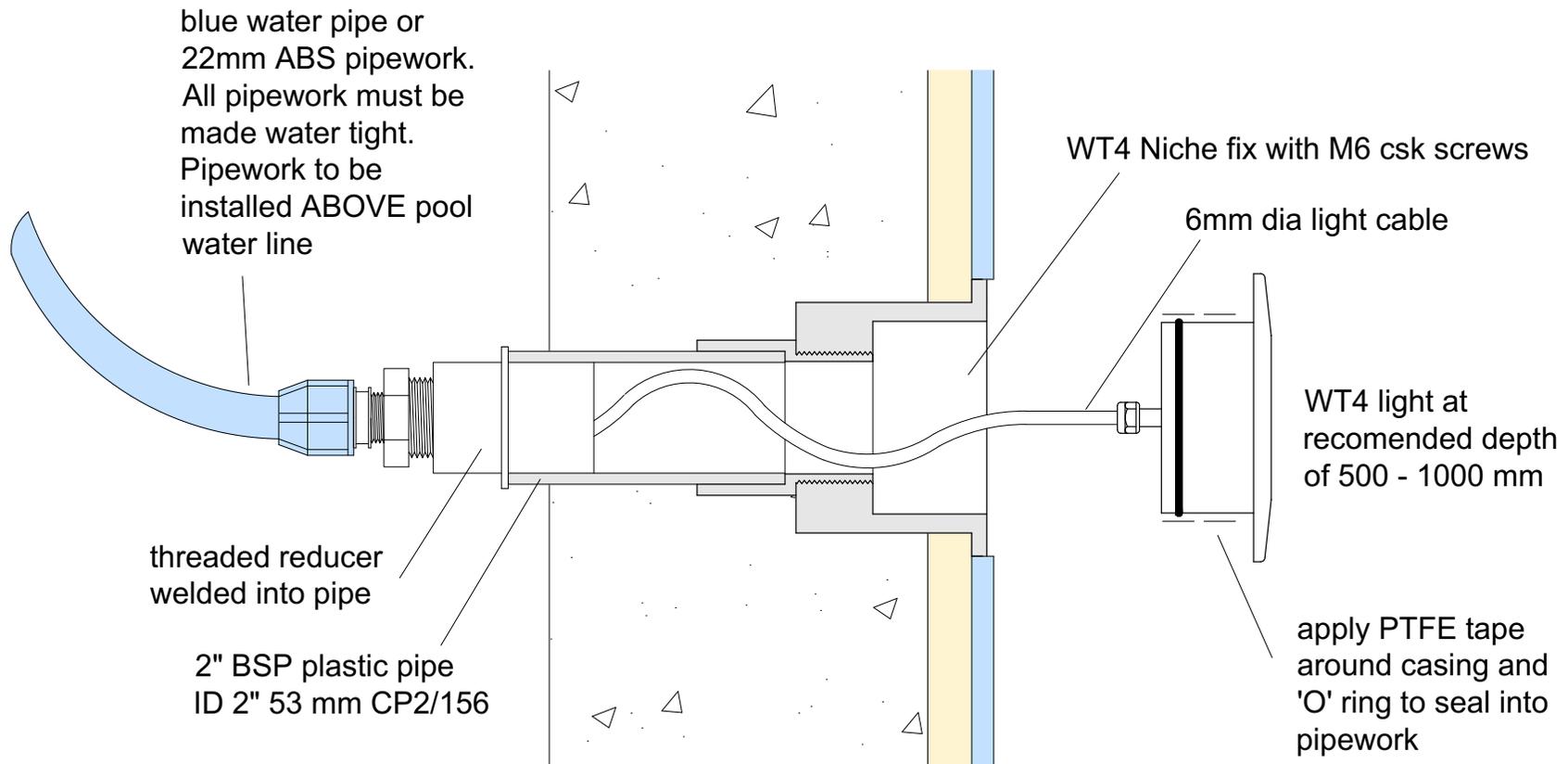
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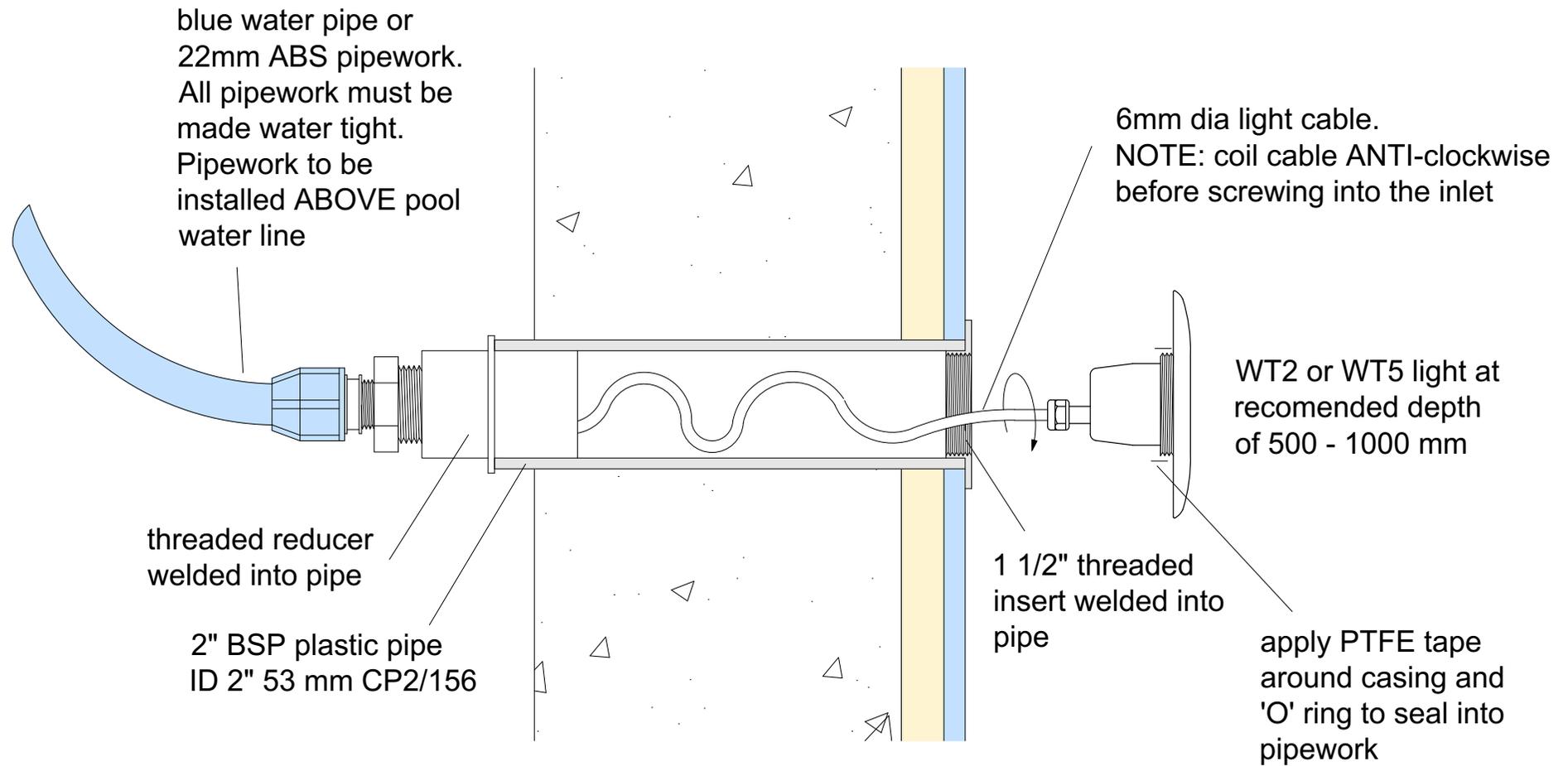
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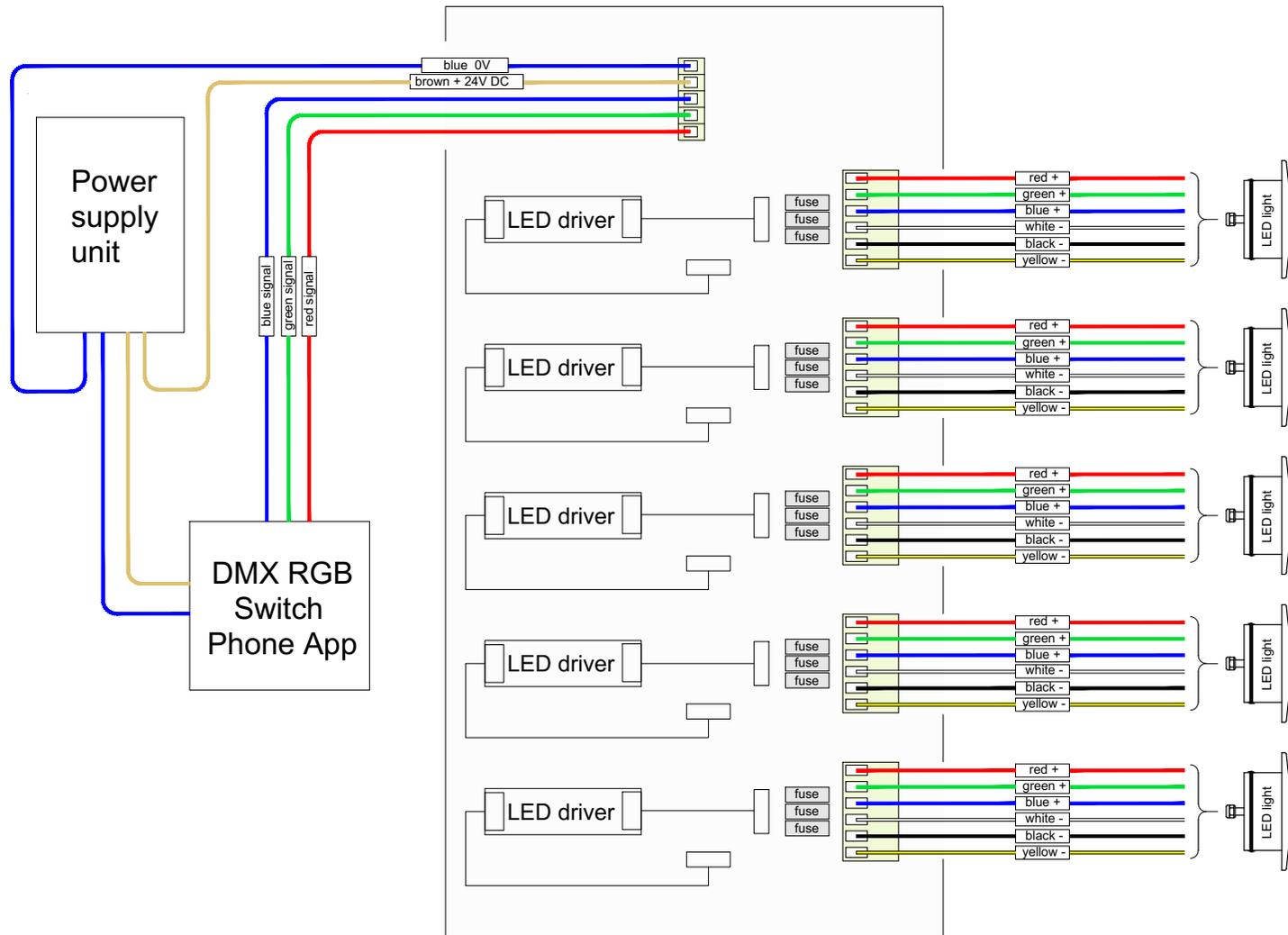
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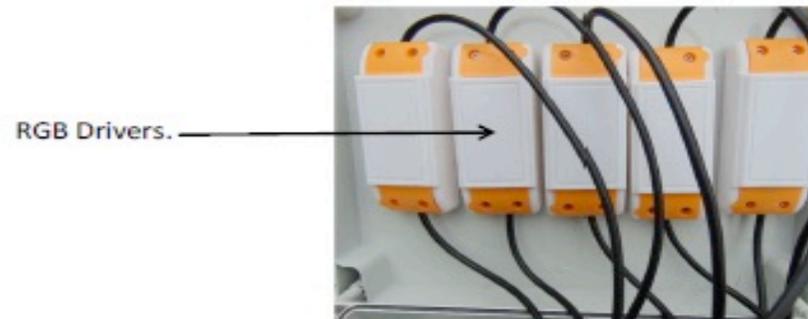
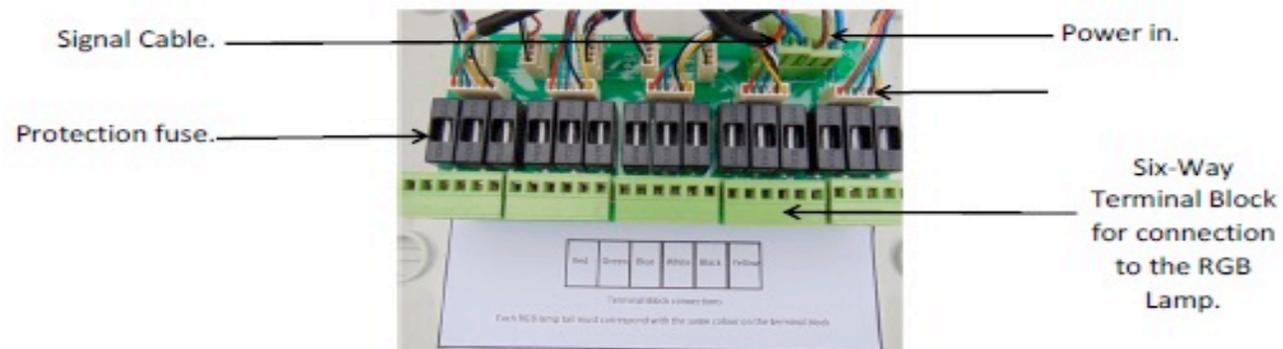


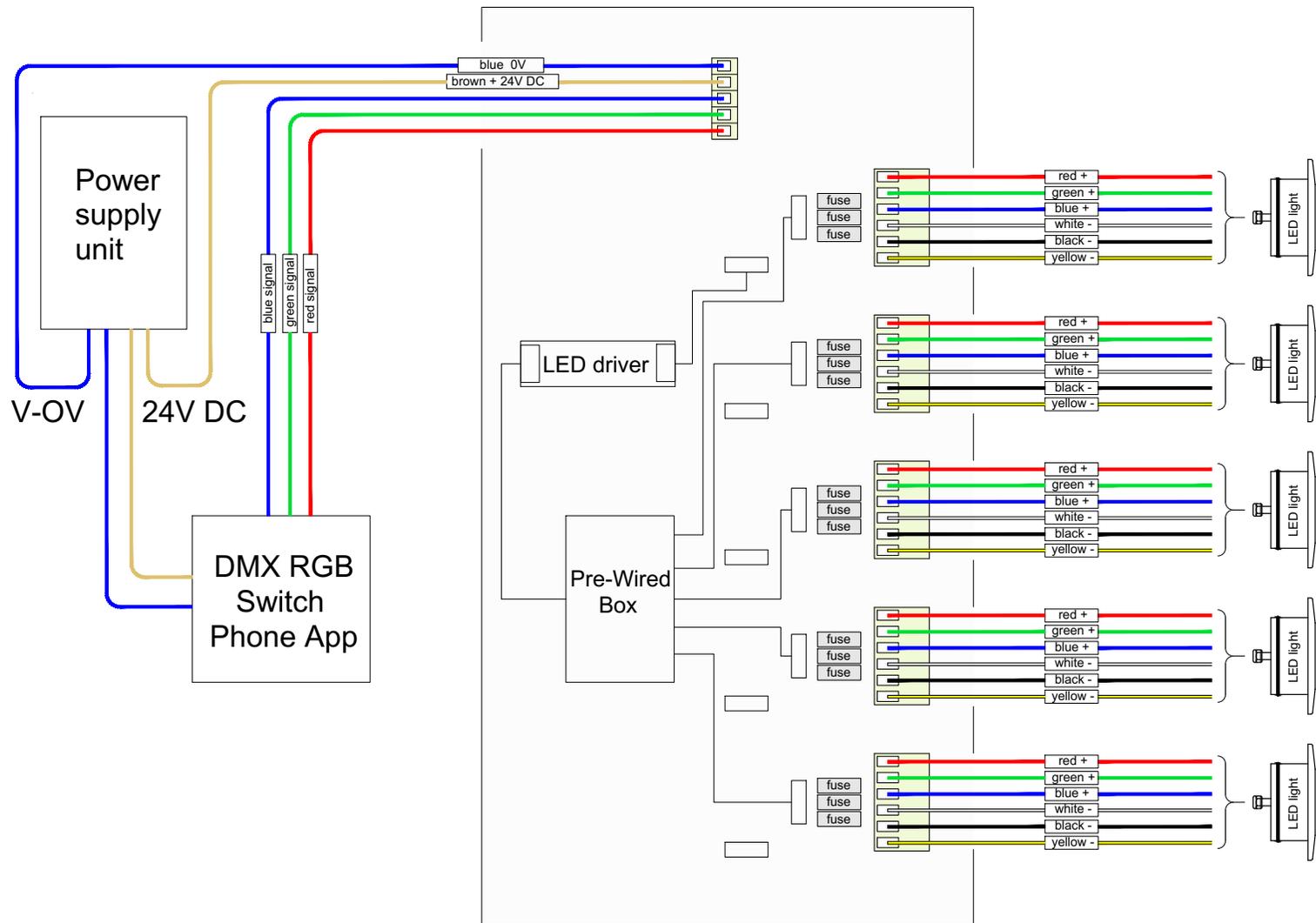


## 5 Way RGB Driver Box

## WT4-5 RGB Driver Box.

- Water-tec has designed the RGB driver box, so all the hard work is done for you. This will allow the installer quick and simple installation.
- The main function of the driver box is to cut-out miss wiring and to protect the LED lamps with Protection fuse.
- To the rear of the box you have two cables. The two-core cable is the power in Brown +24V DC and Blue 0V.
- Second is the black three-core indicated with the Red Green Blue signal cables which go directly to the RGB switch, Bluetooth or DMX controls.
- There are four versions 2-Way 3-Way 4-Way or 5 Way connection.
- Box dimensions Height-110mm Width-235mm Length-280mm



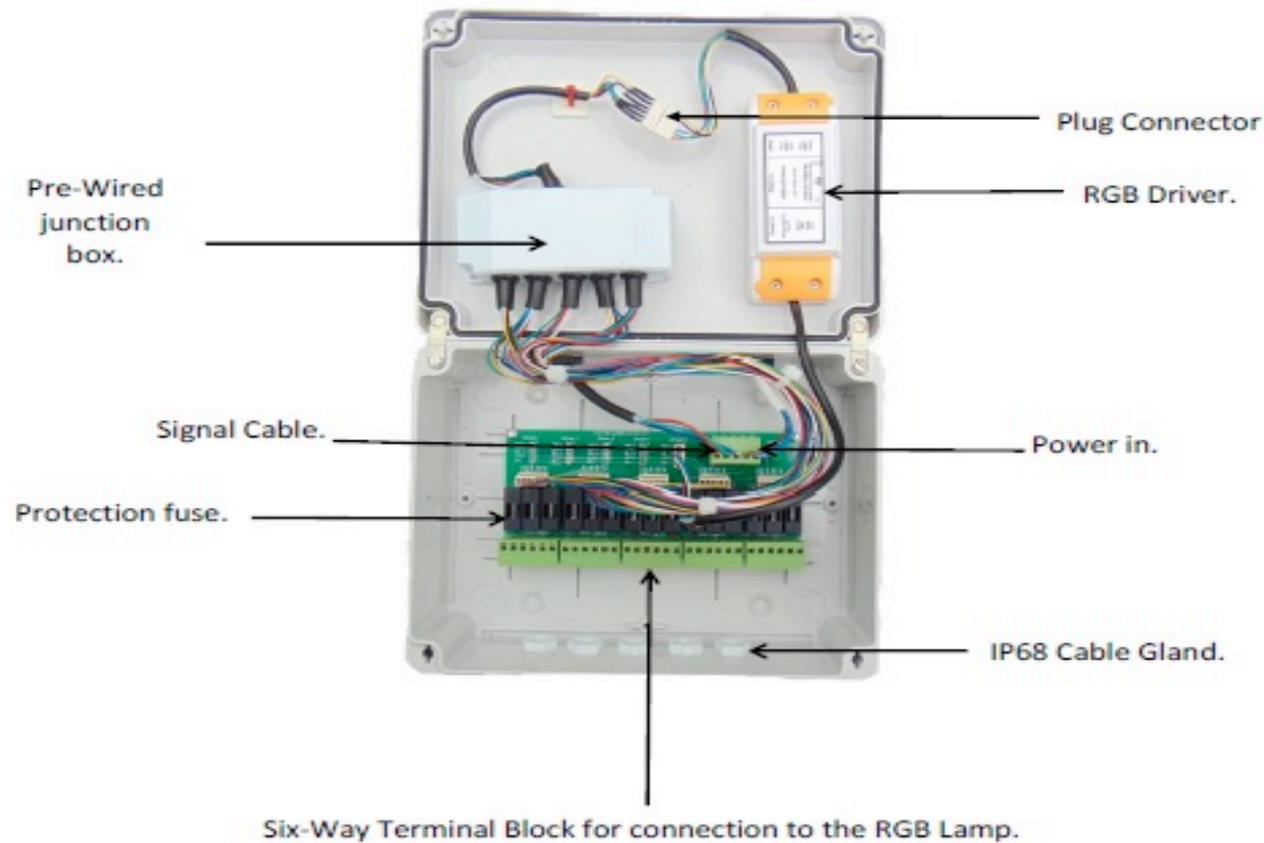


## 5 Way RGB Driver Box Wired in Series

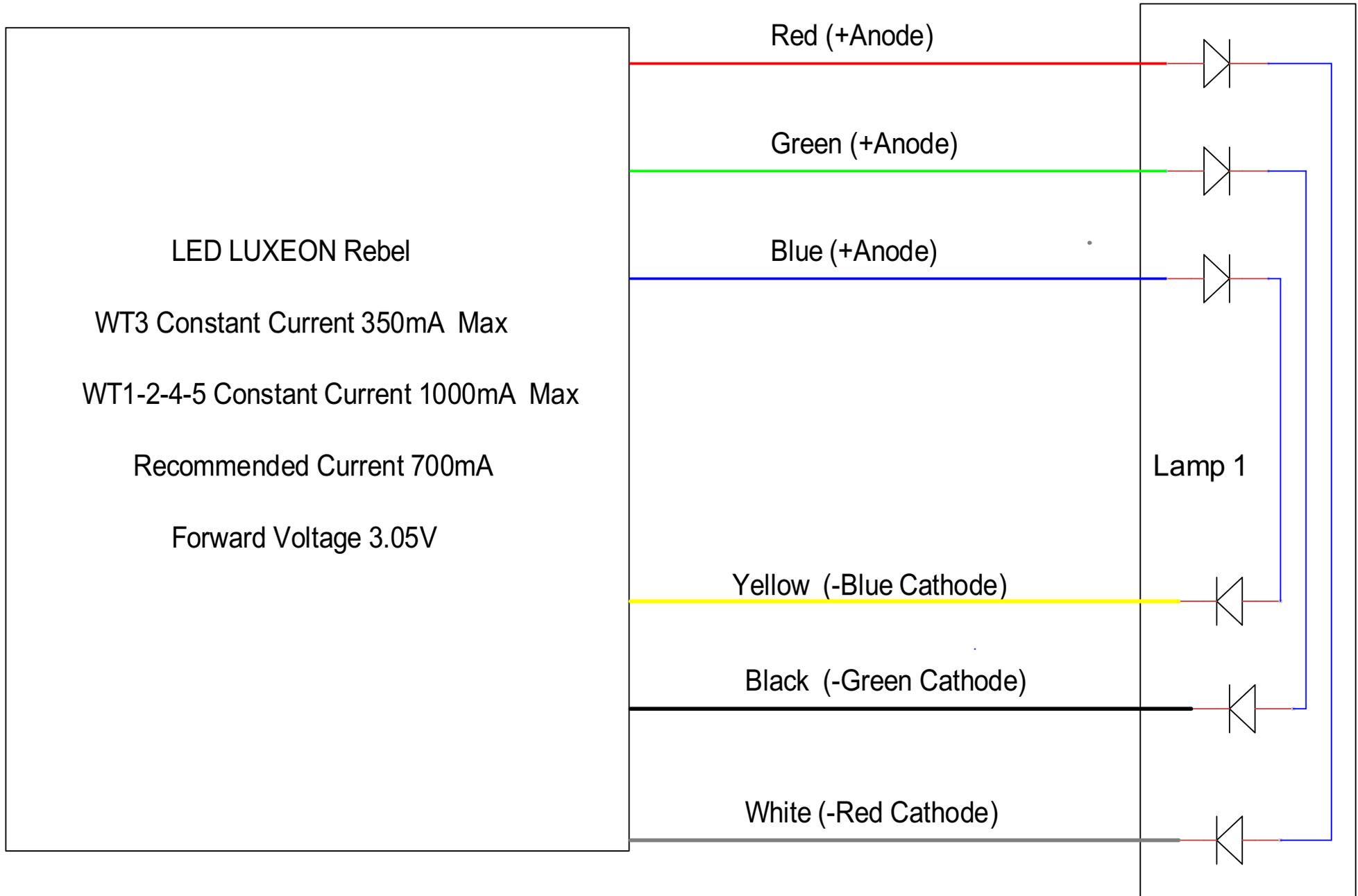
It is essential that all connections are waterproof

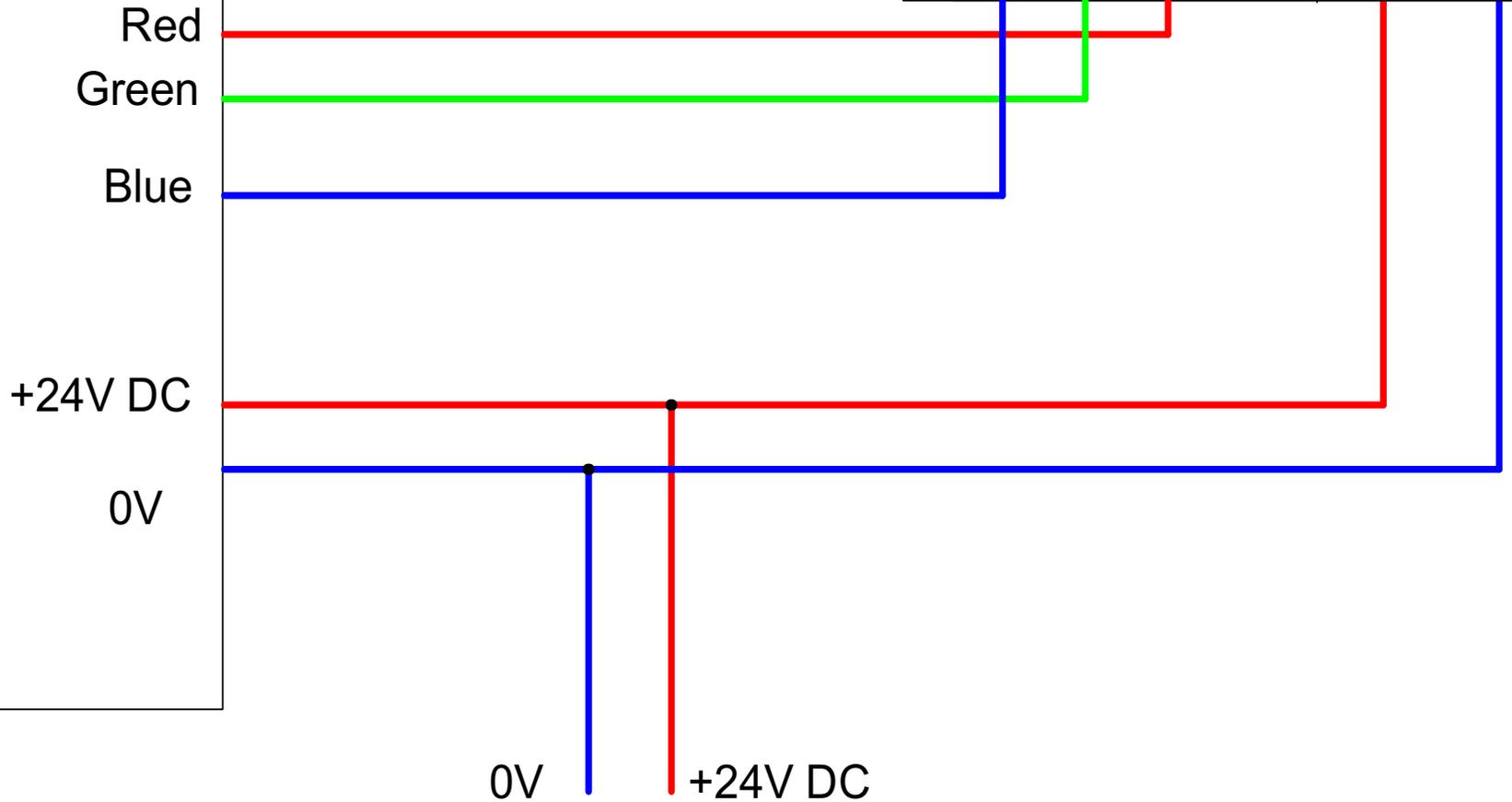
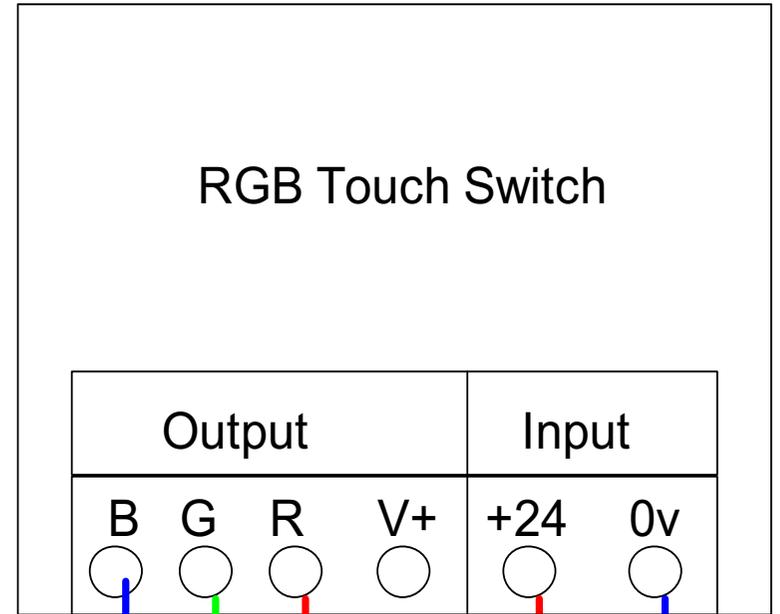
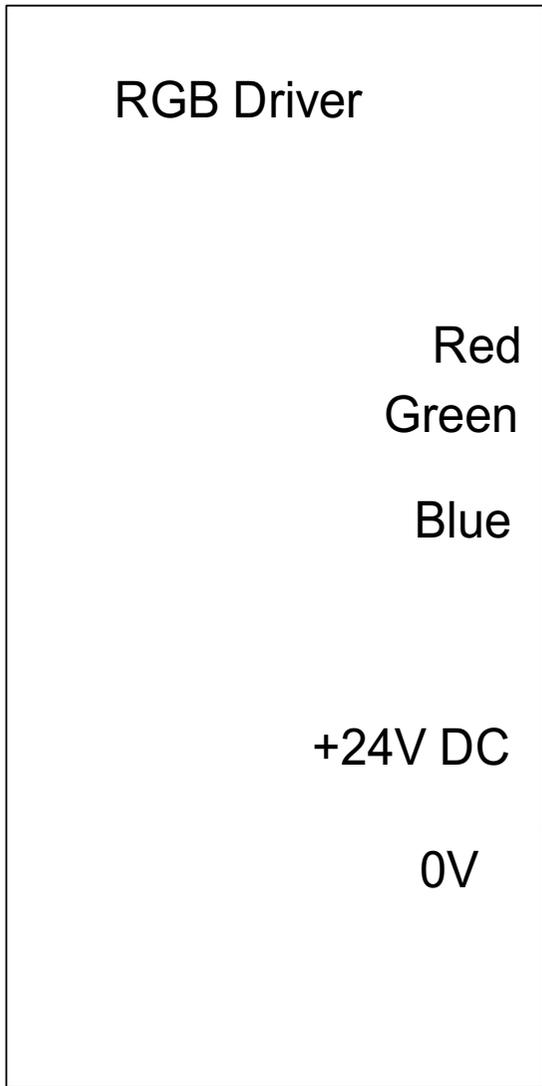
## WT1-2-3 RGB Pre-Wired Driver Box.

- Water-tec has designed the pre-wired RGB driver box, so all the hard work is done for you. This will allow the installer quick and simple installation.
- The main function of the driver box is to cut-out miss wiring and to protect the LED lamps with Protection fuse.
- To the rear of the box you have two cables. The two-core cable is the power in Brown +24V DC and Blue 0V.
- Second is the black three-core indicated with the Red Green Blue signal cables which go directly to the RGB switch, Bluetooth or DMX controls.
- There are four versions 2-Way 3-Way 4-Way or 5 Way connection.
- Box dimensions Height-85mm Width-170mm Length-220mm

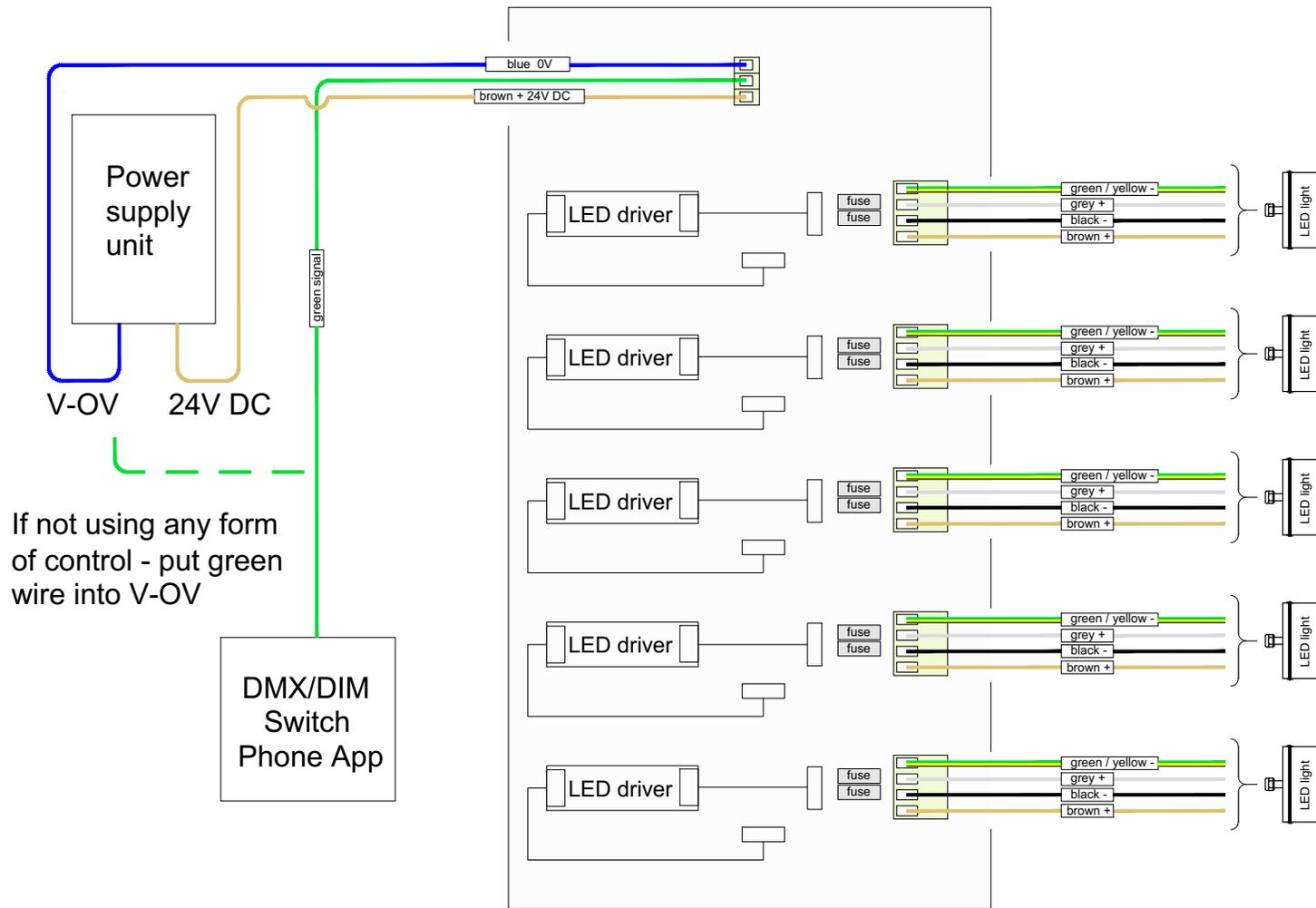


# RGB Single Lamp







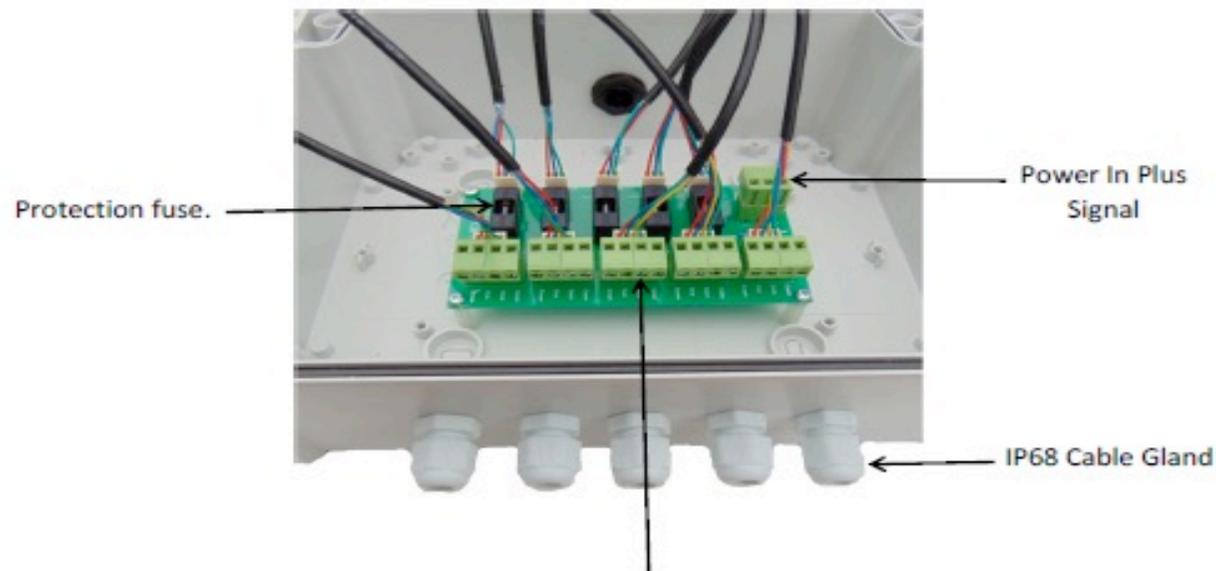


## 5 Way WHITE Driver Box WT4 & WT5

It is essential that all connections are waterproof

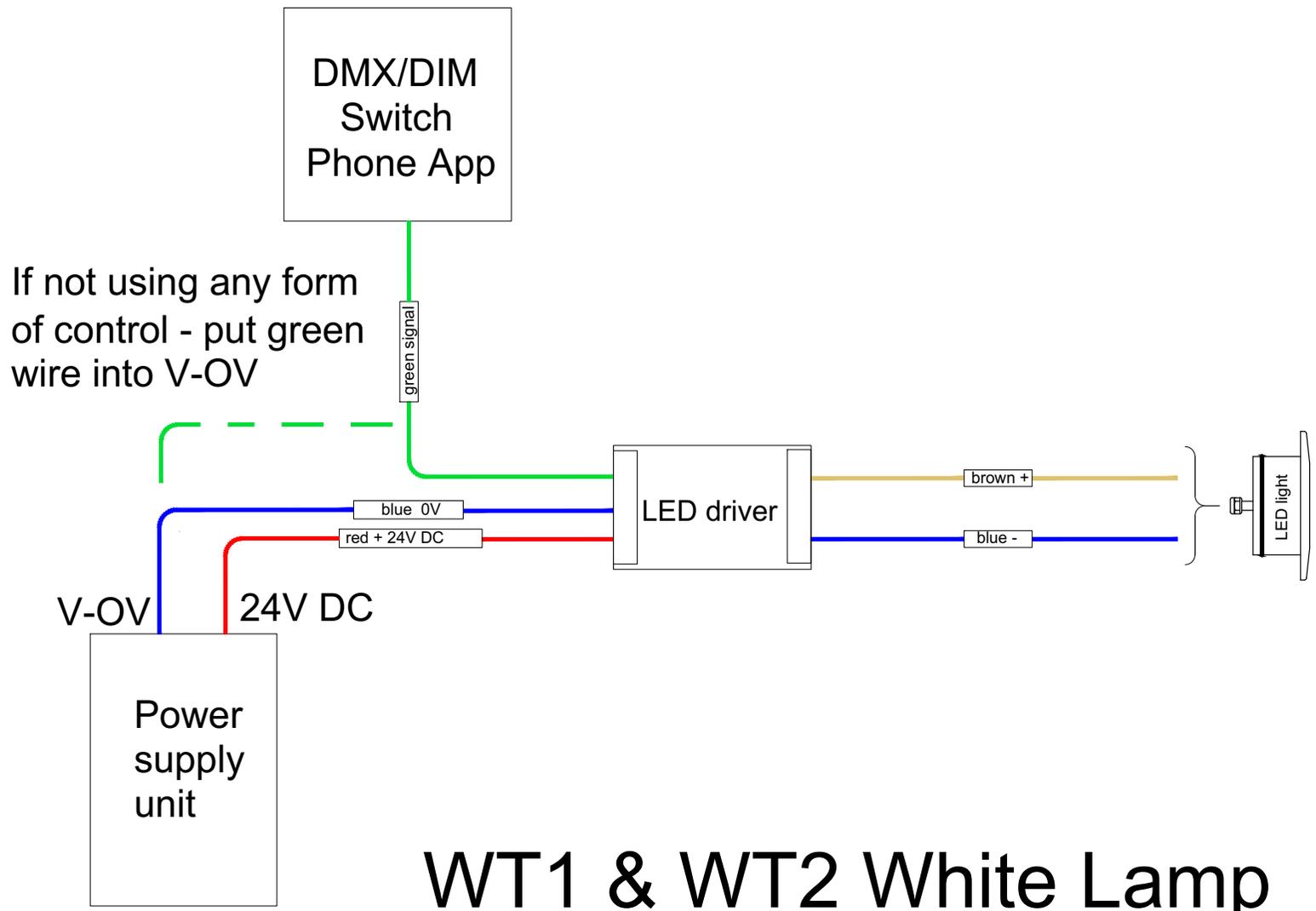
### WT1-2-4-5 White Driver Box.

- Water-tec has designed the white driver box, so all the hard work is done for you. This will allow the installer quick and simple installation.
- The main function of the driver box is to cut-out miss wiring and to protect the LED lamps with protection fuse.
- The power in plug has three terminal points Power in +24V DC 0V and Signal for Dim switch or DMX controls.
- There are four versions 2-Way-3 Way-4 Way or 5 Way connection.
- Box dimensions Height-85mm Width-170mm Length-220mm



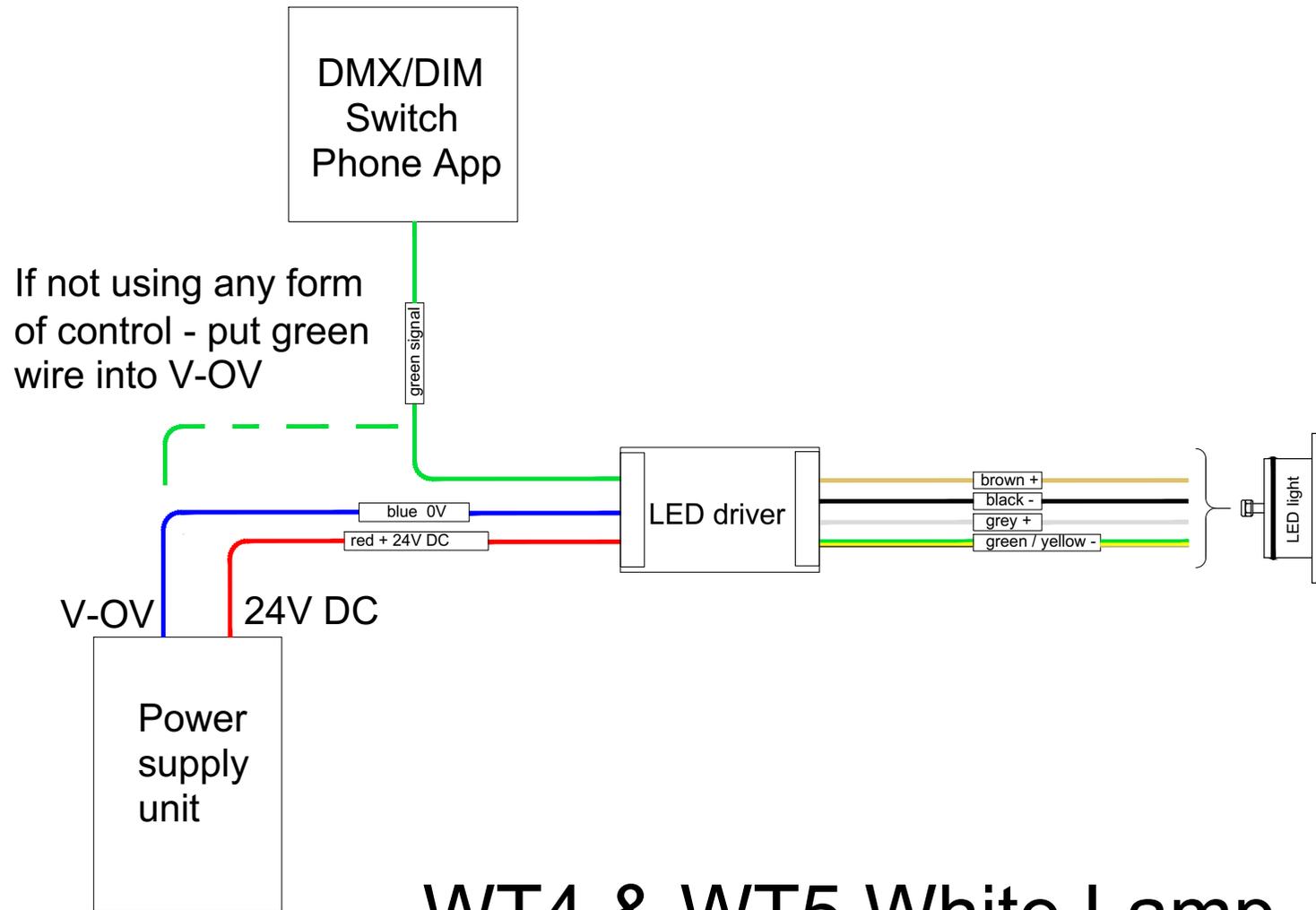
Terminal Block for connection to the White Lamp.

Two Way for WT1-2 Four Way for WT4-5.



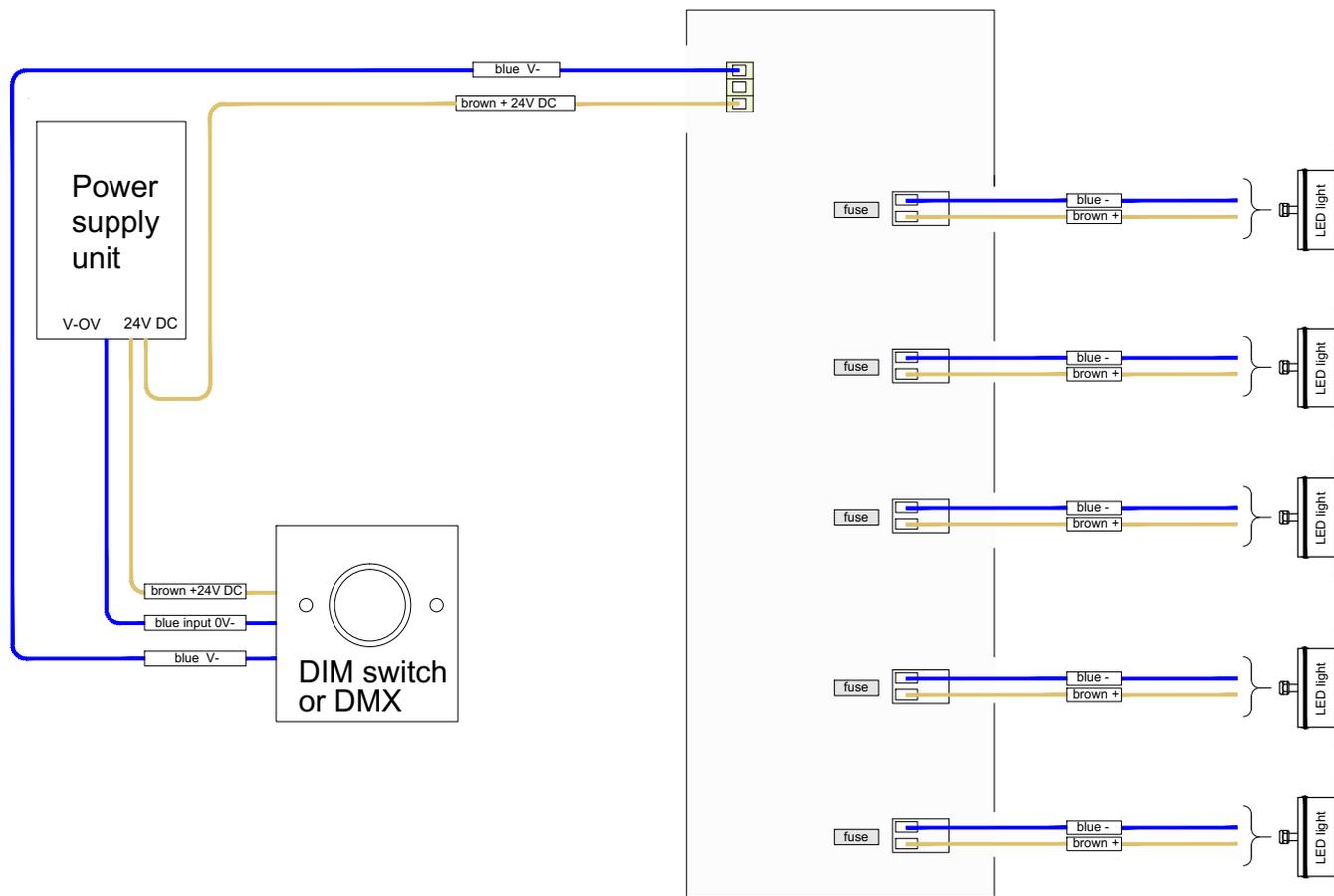
# WT1 & WT2 White Lamp

It is essential that all connections are waterproof



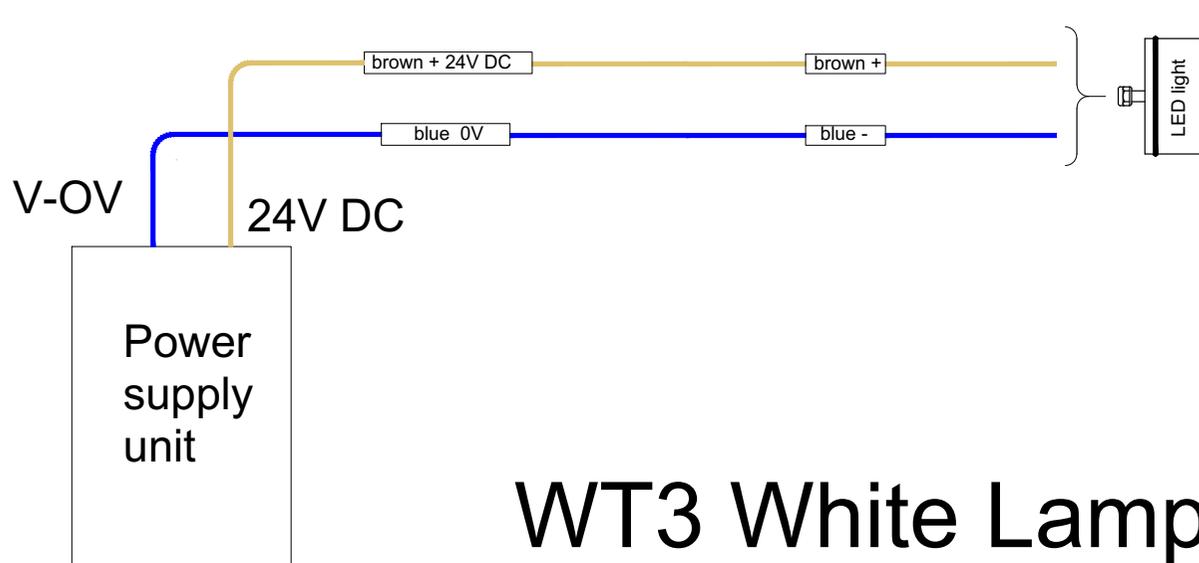
# WT4 & WT5 White Lamp

It is essential that all connections are waterproof



## WT3 White Driver Box with Control

It is essential that all connections are waterproof

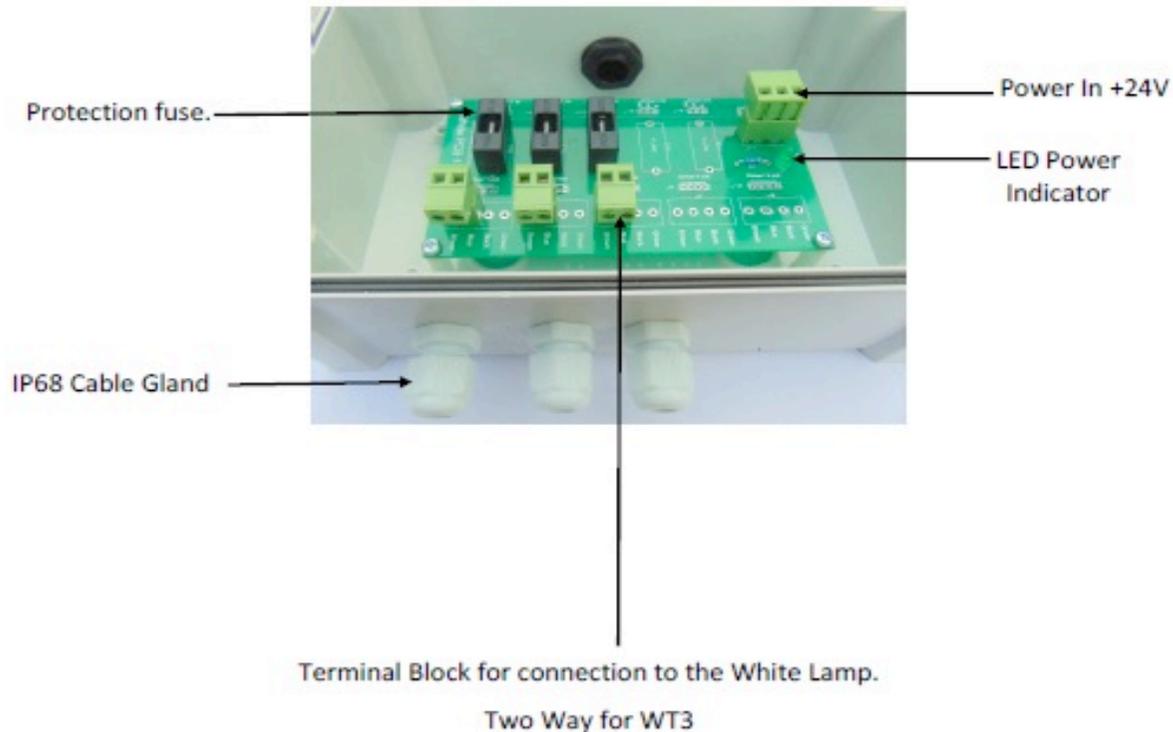


## WT3 White Lamp

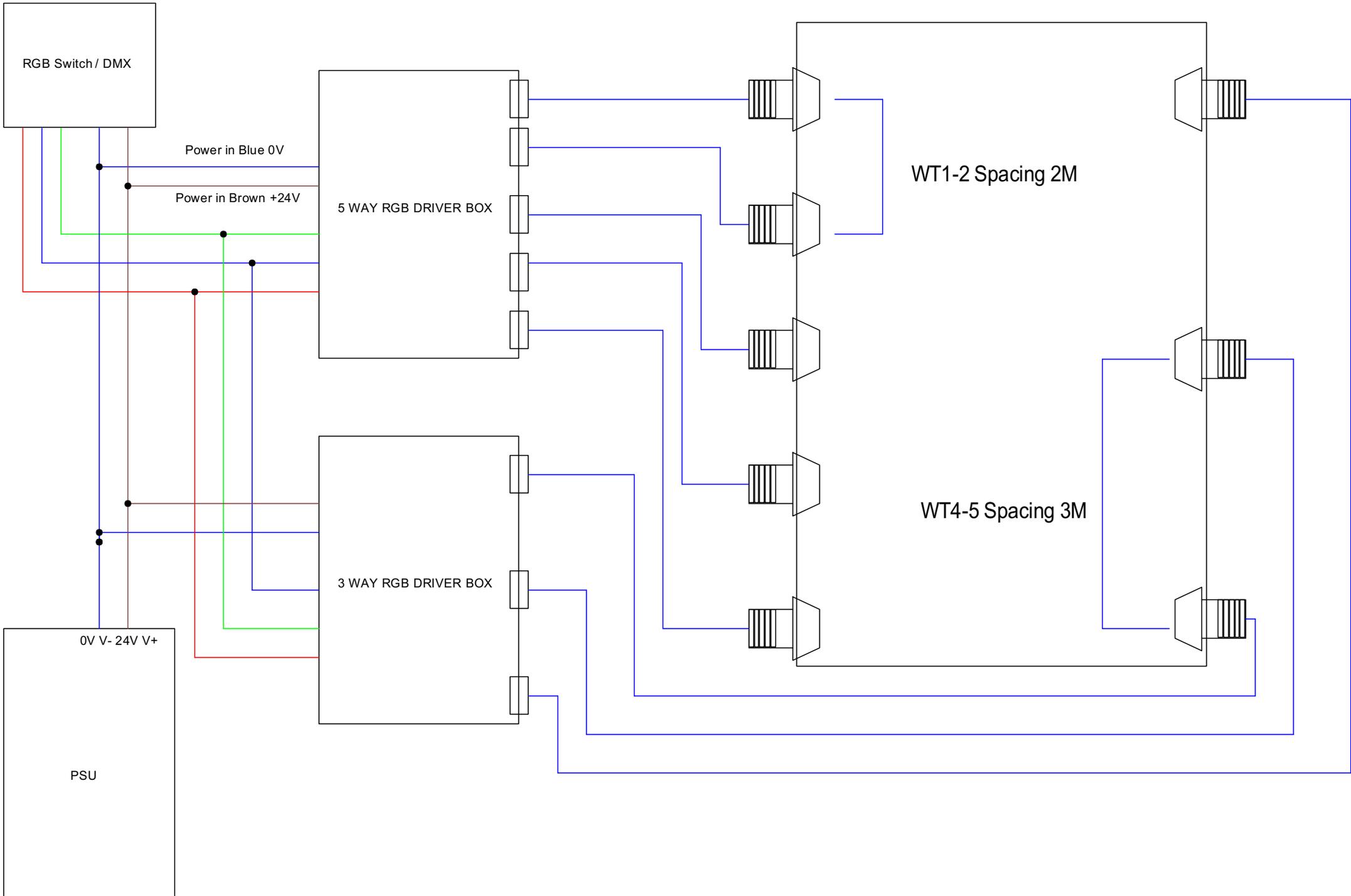
It is essential that all connections are waterproof

## WT3 White Driver Box.

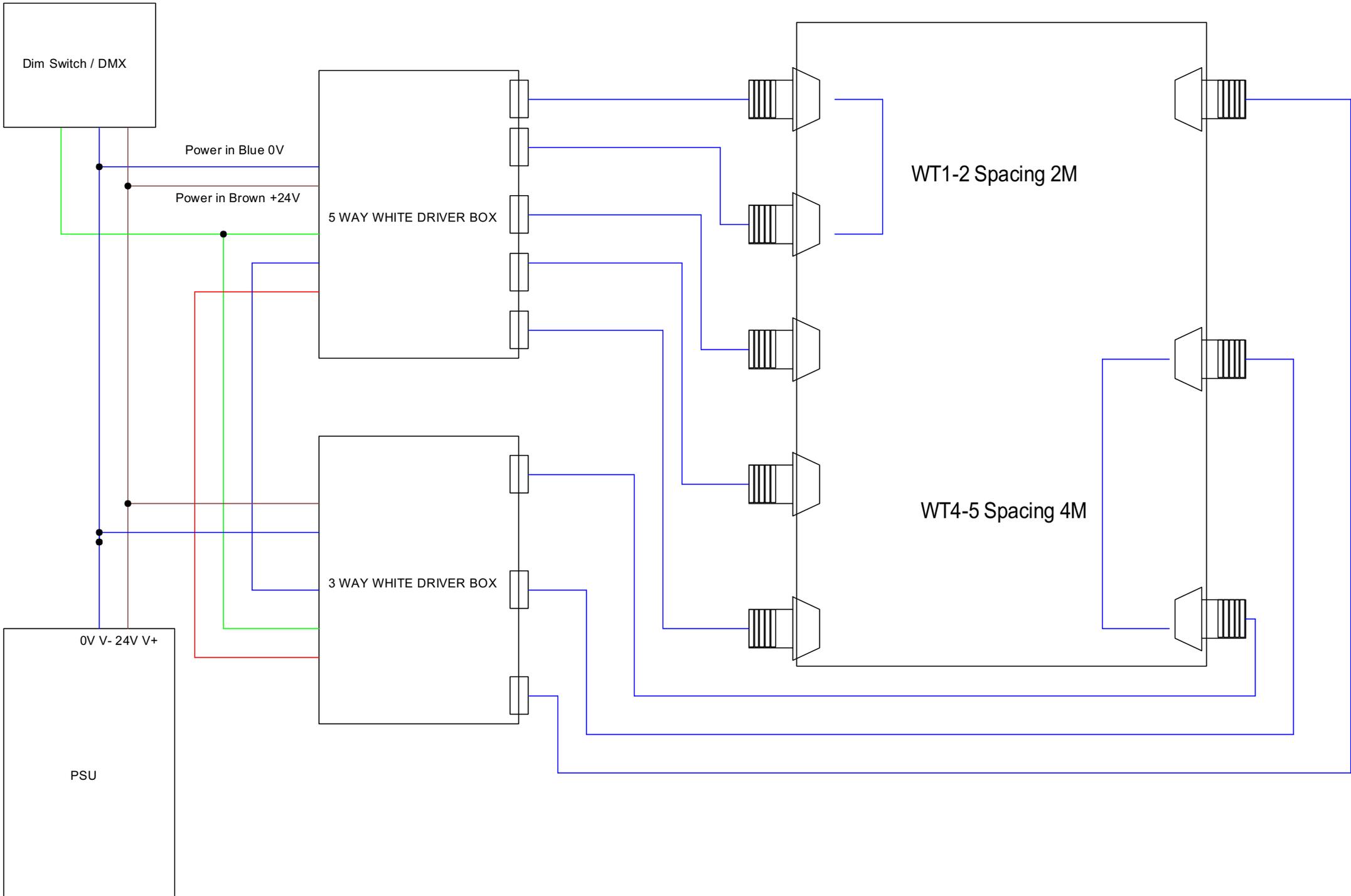
- Water-tec has designed the white driver box, so all the hard work is done for you. This will allow the installer quick and simple installation.
- The main function of the driver box is to cut-out miss wiring and to protect the LED lamps with protection fuse.
- The power in plug has three terminal points Power in +24V DC 0V The WT3 uses the Blue 0V cable if you wish to control via Dim Switch Or DMX
- There are four versions 2-Way-3 Way-4 Way or 5 Way connection.
- Box dimensions Height-90mm Width-120mm Length-185mm



# RGB Cable Six Core 20M run



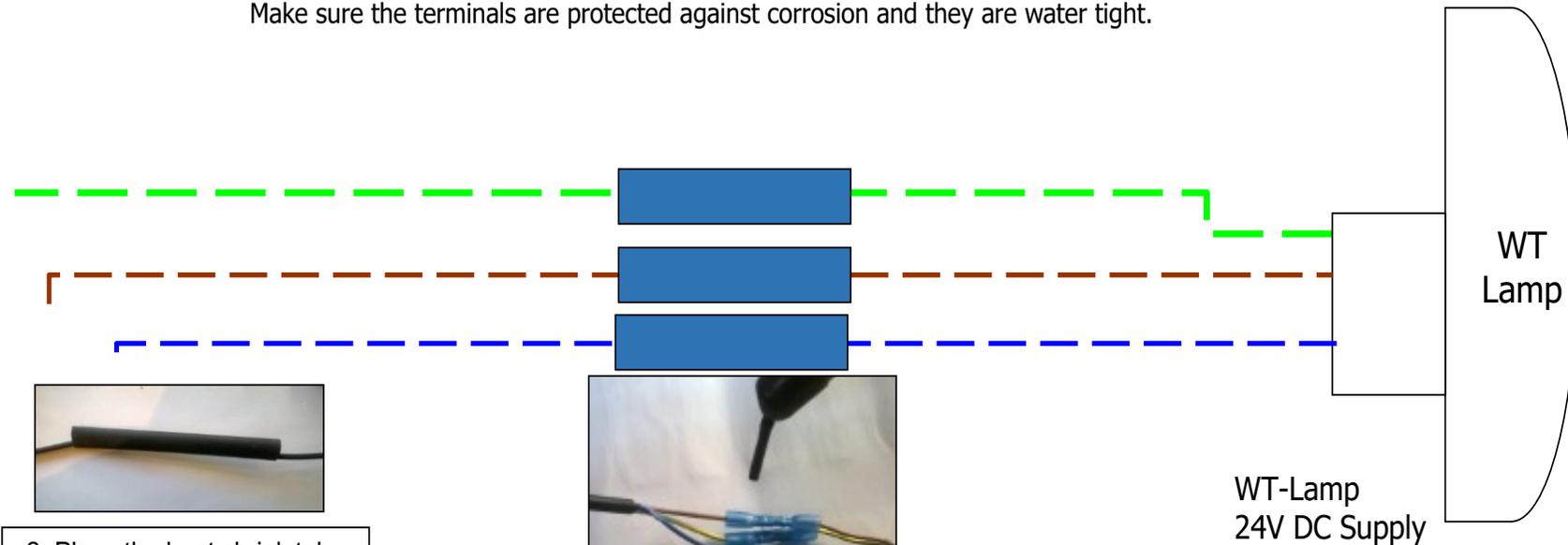
# White Cable Two Core 20M run



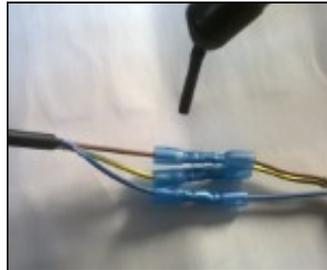
# WT-Lamp

## Joining connections

Make sure the terminals are protected against corrosion and they are water tight.



2. Place the heat shrink tube over the crimped cable and also over the black insulation



1. Cut cable and strip back black insulation. The 3 exposed wires can then be joined using the heat shrink crimps. Strip the end of each cable to expose the copper cable place the cable into the crimp, using a crimping tool crimp the end. Once all cable have been joined heat shrink the crimps



3. Put silicon sealant into the end of the heat shrink tube then heat shrink the tube to cover the cable ends, this will prevent water being pulled up through the cable to the lamp.



MAS Electronics UK Ltd  
DRG No: 00013  
Tel 01235 536616  
Date 01-01-13

# TDK-Lambda 150W, 1 Output, Embedded Switch Mode Power Supply

## Product Details

### 150W, Universal Input, Single Output, LS Series

Universal AC input 88-264Vac, LS150 models are switch selectable for 115 or 230Vac

Overcurrent/Overvoltage protection

Power factor correction to EN 61000-3-2

Withstands 300Vac surges (minimum 5s)

Very High efficiency up to 87%

Conducted and radiated EMI: EN55011/EN5502



#### Note

Operating temperatures are with de-rating

MTBF to MIL-HDBK-217F

#### Approvals

UL recognised component

#### Standards

UL 60950-1, EN 60950-1, IEC 60950-1

Output Voltage 24 V

Output Current 6.5A

Power Rating 150W

Input Voltage 248 → 273V dc

Number of Outputs 1

Package Type Enclosed

Ripple And Noise 120mV

Load Regulation 192mV

Line Regulation 96mV

Minimum Temperature -25°C

Maximum Temperature +70°C

Efficiency 86%

MTBF 505393h



20 x 30 x 13cm door enclosure that is manufactured from ABS to **IP65**. Supplied with a blank, lockable door this enclosure.

- Tough enclosures for a wide range of uses
- Supplied with lockable, blank doors
- Robust door hinges
- Fitted with galvanised steel back plate
- Door locks fitted as standard, key supplied
- Supplied with wall-mounting brackets
- Sealed to **IP65**

# How to connect to FreeColor Phone App

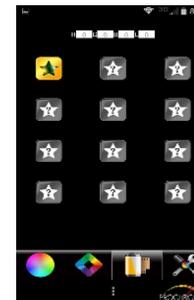
How to connect to RGB-WiFi

Step 1. First you need to download the App **FreeColor**



Step 2. You need to connect to the WiFi go to your WiFi settings find **HX001** and connect.

Step 3. Open the **FreeColor**, the first page is your Color wheel second page is your mode settings third page is your saved settings.



More information can be found in the booklet or online

About the Smart WiFi LED Controller:

*"PPCS NEW WIFI-V01 controller appeared with the installation of controlling software on mobile devices with Android or IOS system, it can remote control LED lighting products through WiFi, which makes LED control more intelligent and humanization. One WIFI-V01 controller can be used as dimmer, CT controller, and RGB controller, only need to select the right control interface in the software. In addition, this model has DIY function. Users can get any effect they want based on our controlling software. If you don't have any mobile devices with the controlling software at hand, you could also use our RF remote control to control it. This model designed for constant voltage led products, such as led strip, led modules. For controlling more led products, amplifier is available."*

# How to connect to Magic Home Phone App

## How to connect to RGB-Wi-Fi

Step 1. First you need to download the App **Magic Home**



Step 2. You need to connect to the Wi-Fi go to your Wi-Fi settings, find **LEDnet994164** and connect.

Step 3. Open the **Magic Home App**, the first page is your Colour

Along the bottom of the screen are the various functions.

Colours: for manual RGB colour change.

CCT: for white light dim control

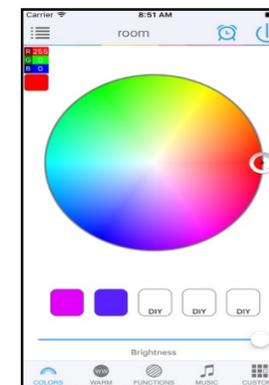
Function: for auto colour change.

Music: for selecting the lights to work along with music.

Customs: for creating your own colour mode.

MIC: for sound application working with the lights.

Camera: to capture colours to change the lights.



# Bluetooth Magic Light – BLE Phone App

This is a application software with built-in Bluetooth, version 4.0 and android OS 4.3.

Step 1. Download the **Magic light-BLE** app from the play store onto your phone or tablet.



Step 2. Turn on your Bluetooth and open the Magic home app.



Step 3. Tap on the device and your colour wheel screen will show.



Step 4. You can pick a static colour from the colour wheel, alternatively scroll along the bottom to choose Functions, Music, Customs, Disco, Camera, Scene.

This controller support iOS 6.0 version and Bluetooth version 4.0 or above.

There are 16 million colours and dozens of lights changing modes.

This controller is designed for LED strips, module etc. After easy installation and setting up, you can use your Phone (iOS 6.0 or Android system for Samsung 4.3 version or above) to control.

The remote-control distance reach 8-10 meters.

## Specifications:

Connection Methods: UFO Bluetooth Version 4.0

Suitable Phone OS: iOS version 6.0 above, Bluetooth version 4.0 or above

RGB

Please note: When using the touch switch with the WiFi or Bluetooth, you must turn off the RGB switch to use the WiFi or Bluetooth.

Both cannot work together at the same time.

## Remote control



The function of each button as below:

Name of key	Instruction	Remarks
ON/OFF	ON or OFF in any time	
Pause	Pause or Continue	
Mode	The mode will go to next, when you touch the key each time	9 modes in total.
Speed/Brightness +	The Speed/Brightness will add, when you touch the key each time	Speed for dynamic modes, Brightness for static modes.
Speed/Brightness -	The Speed/Brightness will subtract, when you touch the key each time	Speed for dynamic modes, Brightness for static modes.
Color Ring	Touch any color which you want	

Please note: When using the touch switch with the WiFi remote, you must turn off the switch to use the remote or turn off the remote to use the switch. Both cannot work at the same time.

## Blue Illuminated LED Touch Dim Switch.

Power +24V DC

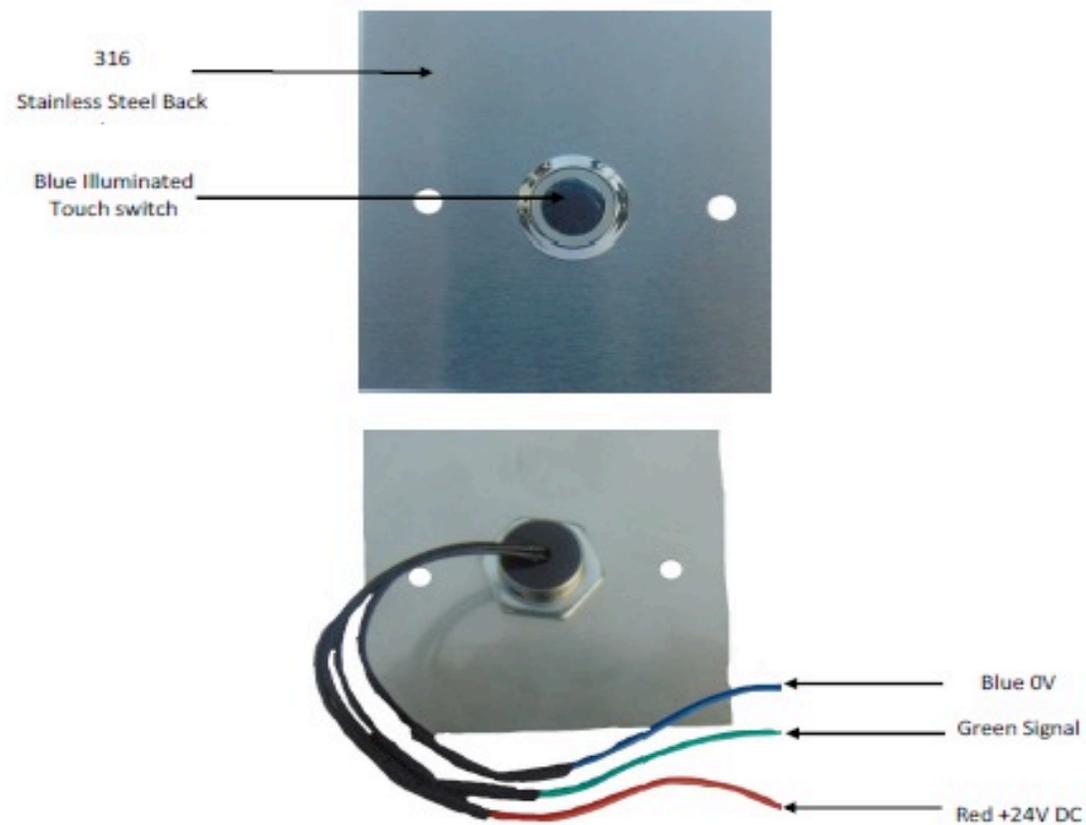
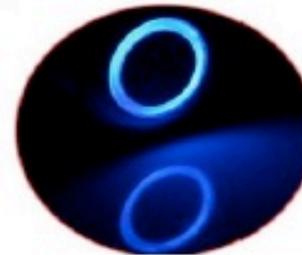
### Functions

Short touch On

Short touch Off

Press and hold to Dim down.

To increase brightness press and hold



# RGB Touch panel

## Specifications:

3 channels DC 12V-24V working voltage 8A

Lock lights to your favourite mode or brightness level immediately

Working voltage: DC 12V - 24V 4 functional buttons with a rainbow colour ring for colours and modes controlling

Working temperature: -20-60°C

Supply voltage: DC 12-24V

Output: 3 channels

Connection type: common anode

External dimension: about 86 x 86 x 37 mm (L x W x H)

Static power consumption: less than 1W

Output current: less than 4A (each channel)

Output power: 12V < 144W, 24V < 288W.

Switchable power supply.

Adjustable lighting colour, brightness.

## Mode

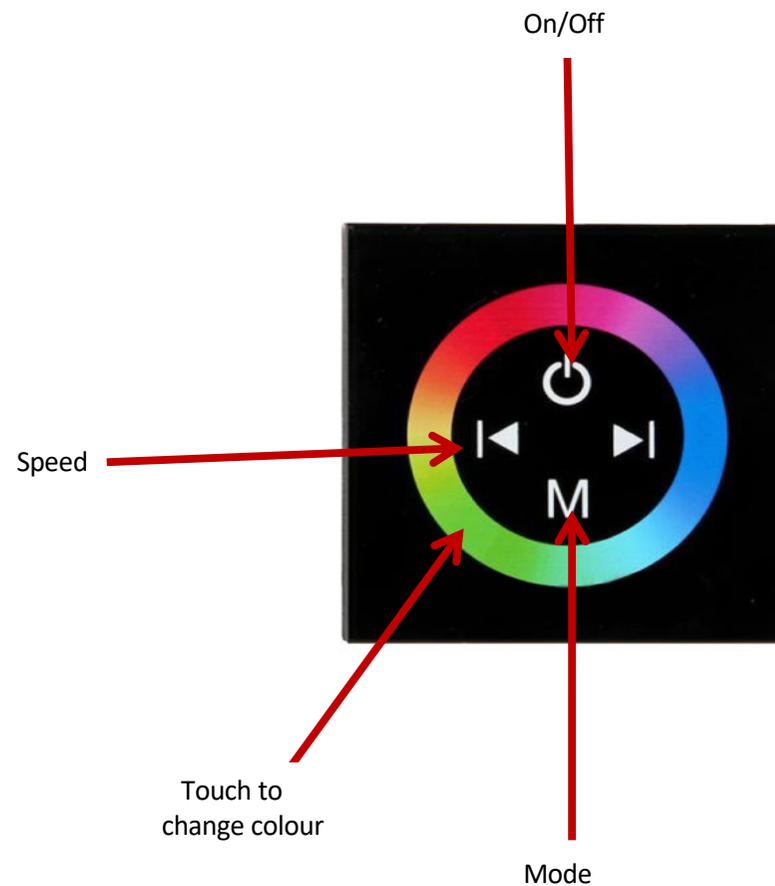
The Mode button offers multiple choice of changing colour from scrolling to dancing colour change.

## Speed

The speed button controls the speed of the scroll change.

## On/Off

On/Off powers the lamps on and off



# White Touch panel

## Features:

Touch panel controller is a new high-quality controller which adopts glass panel design, beautiful and fashionable in appearance.

It adopts high precision capacitance touch control chip, increases the sensitivity of touch panel.

It is used for controlling a variety of LED Lamp, for instance, point source of light, flexible light strip, panel lights, etc.

It has many advantages, such as convenient to connect, easy to use.

## Specifications:

Working temperature: -20-60 °C

Supply voltage: DC12~24V

Connection mode: common anode

Static power consumption: <1W

Output current: <4A

Output power: 12V<96W, 24V<192W

Controller size: approx. 8.6 \* 8.6 \* 3.6cm / 3.3 \* 3.3 \* 1.4in

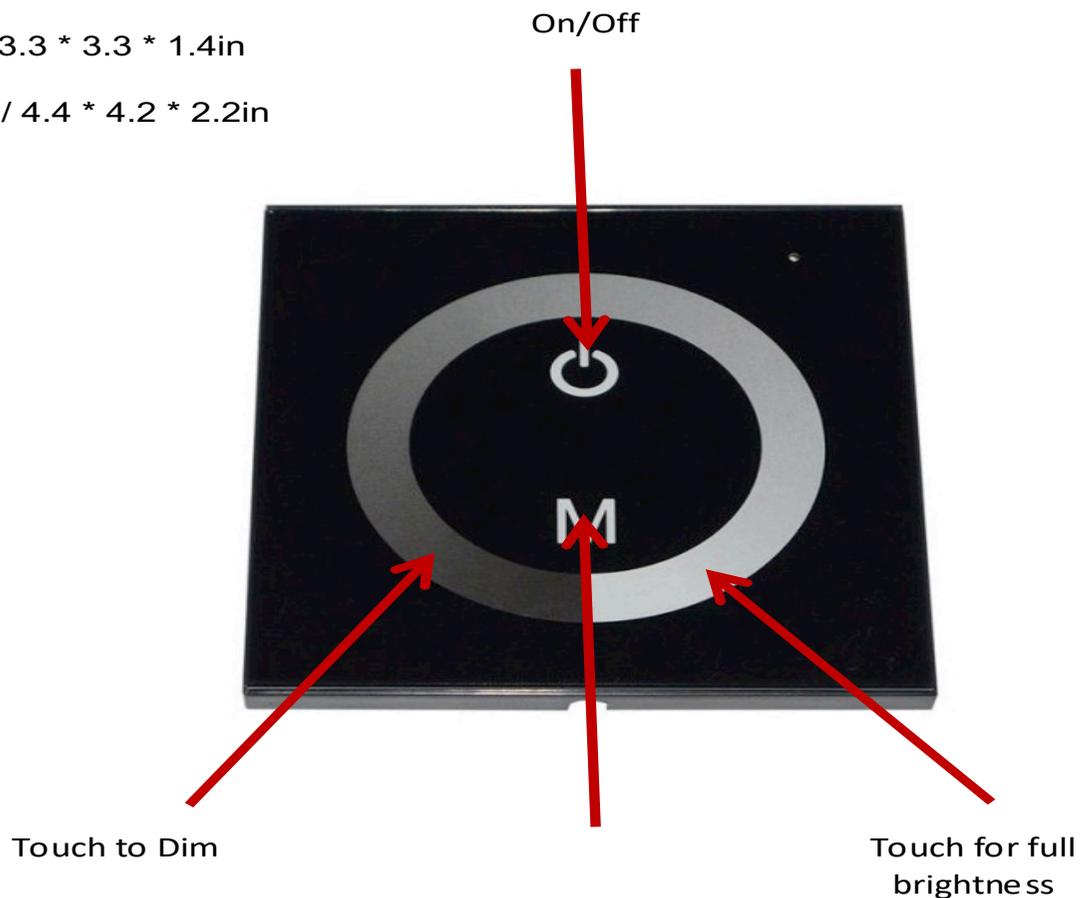
Controller weight: approx. 118g / 4.16oz

Package size: approx. 11.2 \* 10.7 \* 5.5cm / 4.4 \* 4.2 \* 2.2in

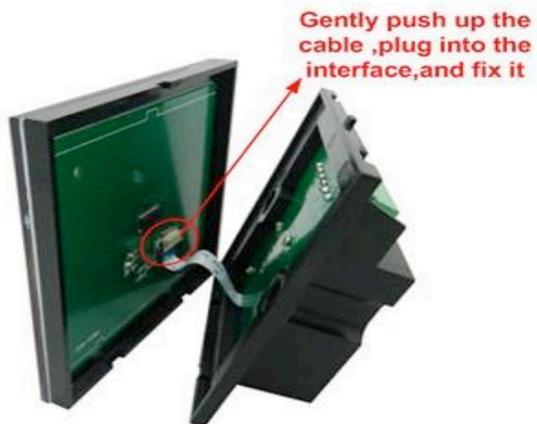
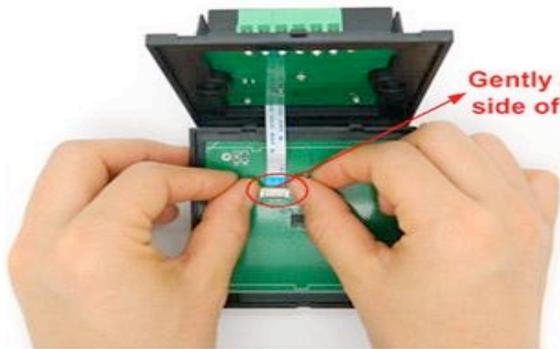
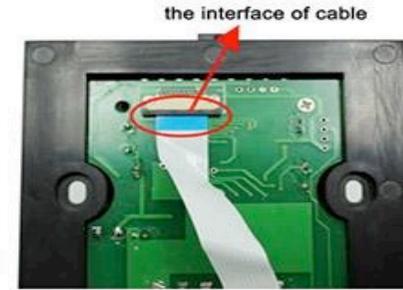
Package weight: approx. 155g / 5.48oz

## Standard brightness change

Mode	Function
1	10%
2	20%
3	30%
4	40%
5	50%
6	60%
7	70%
8	80%
9	90%
10	100%

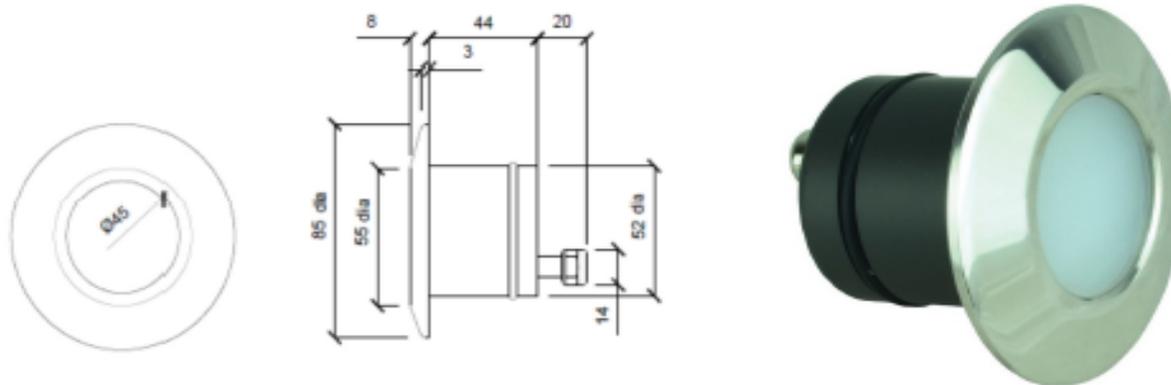


# Touch panel installation



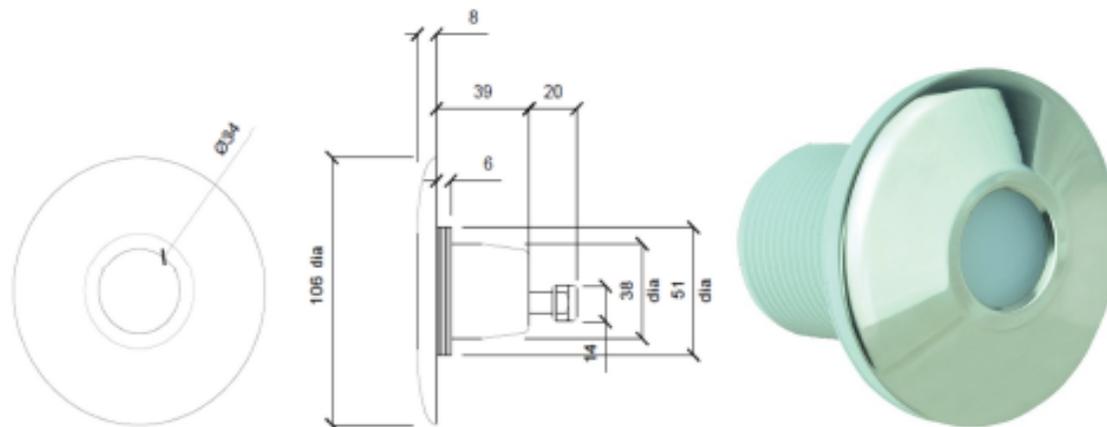
# WT1-LED-UWL

<b>Colour</b>	White, Cool Warm White RGB
<b>CCT (K)</b>	(5000K Cool White) (3000K Warm White)
<b>Lumens/Watt @ Current - Test</b>	130lm/W
<b>CRI (Colour Rendering Index)</b>	85
<b>Viewing Angle</b>	115°
<b>White Lumens</b>	1300lm
<b>White Wattage</b>	10W
<b>RGB Wattage</b>	9W-3W per colour
<b>RGB Lumens</b>	Green 172lm Red 137lm Blue 162 Total 471lm
<b>Driver Requirements</b>	500mA Constant current
<b>Light Emitting area</b>	45mm Diameter
<b>Lens Type</b>	Flat, defused
<b>Driver Control White &amp; RGB</b>	PWM
<b>Face Electro plated 316 stainless</b>	85mm
<b>Body 316 stainless</b>	65mm
<b>Fixing 2" pipe</b>	PN9 wall 3.5 I/D53mm
<b>White Cable</b>	2 cores, 0.5mm <sup>2</sup> wire size, 16/0.2mm (Blue Cathode) (Brown Anode) 6mm
<b>RGB cable</b>	6-core 7-2-6a PVC insulation 6mm



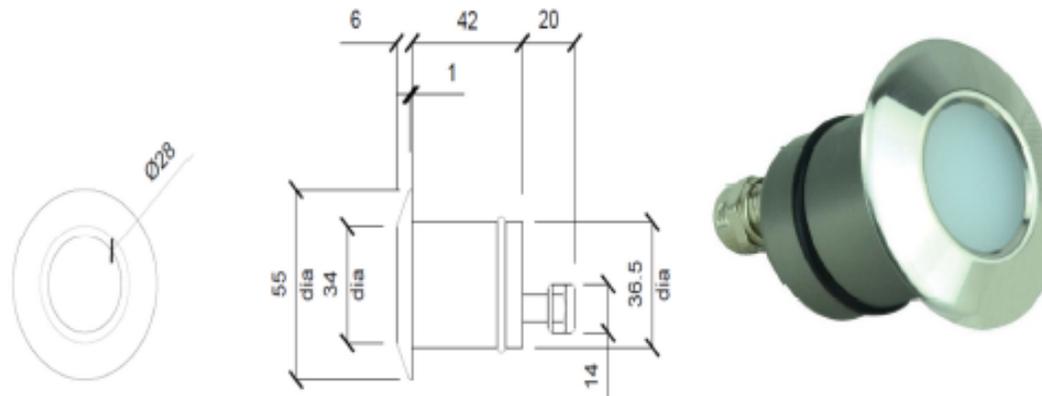
# WT2-LED-UWL

<b>Colour</b>	White, Cool Warm White RGB
<b>CCT (K)</b>	(5000K Cool White) (3000K Warm White)
<b>Lumens/Watt @ Current - Test</b>	130lm/W
<b>CRI (Colour Rendering Index)</b>	85
<b>Viewing Angle</b>	115°
<b>White Lumens</b>	1300lm
<b>White Wattage</b>	10W
<b>RGB Wattage</b>	9W-3W per colour
<b>RGB Lumens</b>	Green 172lm Red 137lm Blue 162 Total 471lm
<b>Driver Requirements</b>	500mA Constant current
<b>Light Emitting area</b>	33mm Diameter
<b>Lens Type</b>	Flat, defused
<b>Driver Control White &amp; RGB</b>	PWM
<b>Face Electro plated 316 stainless</b>	(104mm Concrete) (85mm Liner)
<b>Body 316 stainless</b>	65mm
<b>Fixing 2" pipe</b>	PN9 wall 3.5 VD53mm
<b>White Cable</b>	2 cores, 0.5mm <sup>2</sup> wire size, 16/0.2mm (Blue Cathode) (Brown Anode) 6mm
<b>RGB cable</b>	6-core 7-2-6a PVC insulation 6mm



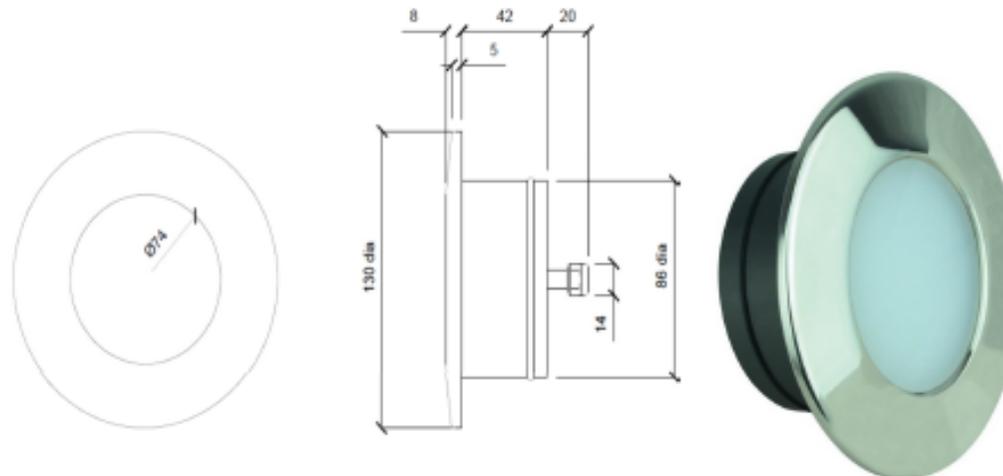
# WT3-LED-UWL

<b>Colour</b>	White, Cool Warm White RGB
<b>CCT (K)</b>	(5000K Cool White) (3000K Warm White)
<b>Lumens/Watt @ Current - Test</b>	130lm/W
<b>CRI (Colour Rendering Index)</b>	85
<b>Viewing Angle</b>	115°
<b>White Lumens</b>	390lm
<b>White Wattage</b>	3W
<b>RGB Wattage</b>	3W per colour
<b>RGB Lumens</b>	Green 50lm Red 35lm Blue 35 Total 120lm
<b>Driver Requirements</b>	No Driver required
<b>Light Emitting area</b>	28mm Diameter
<b>Lens Type</b>	Flat, defused
<b>Dimming</b>	Using 0V (Blue Cathode)
<b>Driver Control RGB Only</b>	PWM RGB Only
<b>Face Electro plated 316 stainless</b>	50mm
<b>Body 316 stainless</b>	65mm
<b>Fixing 1.25" pipe</b>	PN12 wall 2.2mm I/D37mm
<b>White Cable</b>	2 cores, 0.5mm <sup>2</sup> wire size, 16/0.2mm (Blue Cathode) (Brown Anode) 6mm
<b>RGB cable</b>	6-core 7-2-6a PVC insulation 6mm



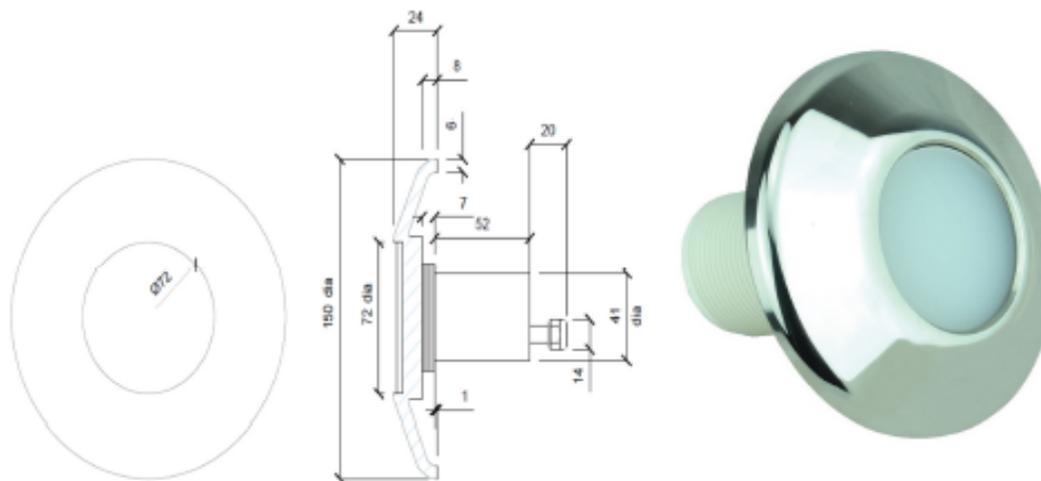
## WT4-LED-UWL

<b>Colour</b>	White, Cool Warm White RGB
<b>CCT (K)</b>	(5000K Cool White) (3000K Warm White)
<b>Lumens/Watt @ Current - Test</b>	130lm/W
<b>CRI (Colour Rendering Index)</b>	85
<b>Viewing Angle</b>	115°
<b>White Lumens</b>	2600lm
<b>White Wattage</b>	20W
<b>RGB</b>	10W per colour Total 30W
<b>RGB Lumens</b>	Green 688lm Red 548lm Blue 648 Total 1884lm
<b>Light Emitting area</b>	70mm Diameter
<b>Lens Type</b>	Flat, defused
<b>Driver Requirements</b>	Dual LED 500mA Constant current
<b>Face Electro plated 316 stainless</b>	85mm
<b>Body 316 stainless</b>	65mm
<b>Driver control White &amp; RGB</b>	PWM
<b>Fixing</b>	WT-Niche
<b>Cable</b>	4 cores, 0.5mm <sup>2</sup> wire size, 16/0.2mm
<b>LED 1</b>	(Black - Cathode) (Brown + Anode)
<b>LED 2</b>	(Green/Yellow - Cathode) (Grey + Anode) 6mm
<b>RGB cable</b>	6-core 7-2-6a PVC insulation 6mm

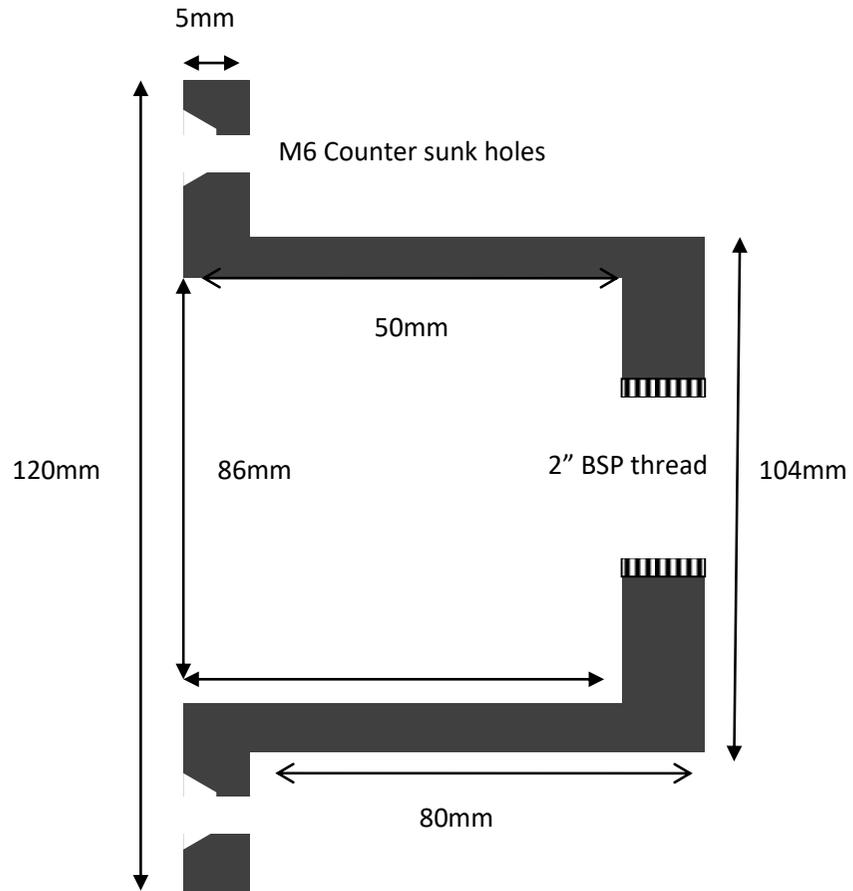


# WT5-LED-UWL

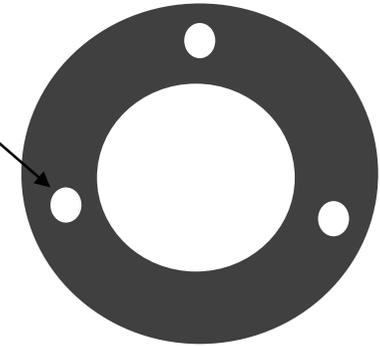
<b>Colour</b>	White, Cool Warm White RGB
<b>CCT (K)</b>	(5000K Cool White) (3000K Warm White)
<b>Lumens/Watt @ Current - Test</b>	130lm/W
<b>CRI (Colour Rendering Index)</b>	85
<b>Viewing Angle</b>	115°
<b>White Lumens</b>	2600lm
<b>White Wattage</b>	20W
<b>RGB</b>	10W per colour Total 30W
<b>RGB Lumens</b>	Green 688lm Red 548lm Blue 648 Total 1884lm
<b>Light Emitting area</b>	72mm Diameter
<b>Lens Type</b>	Flat, defused
<b>Driver Requirements</b>	Dual LED 500mA Constant current
<b>Face Electro plated 316 stainless</b>	150mm
<b>Body 316 stainless</b>	76mm
<b>Driver control White &amp; RGB</b>	PWM
<b>Fixing</b>	Thread fit into 1.5BSP
<b>Cable</b>	4 cores, 0.5mm <sup>2</sup> wire size, 16/0.2mm
<b>LED 1</b>	(Black - Cathode) (Brown + Anode)
<b>LED 2</b>	(Green/Yellow - Cathode) (Grey + Anode) 6mm
<b>RGB cable</b>	6-core 7-2-6a PVC insulation 6mm



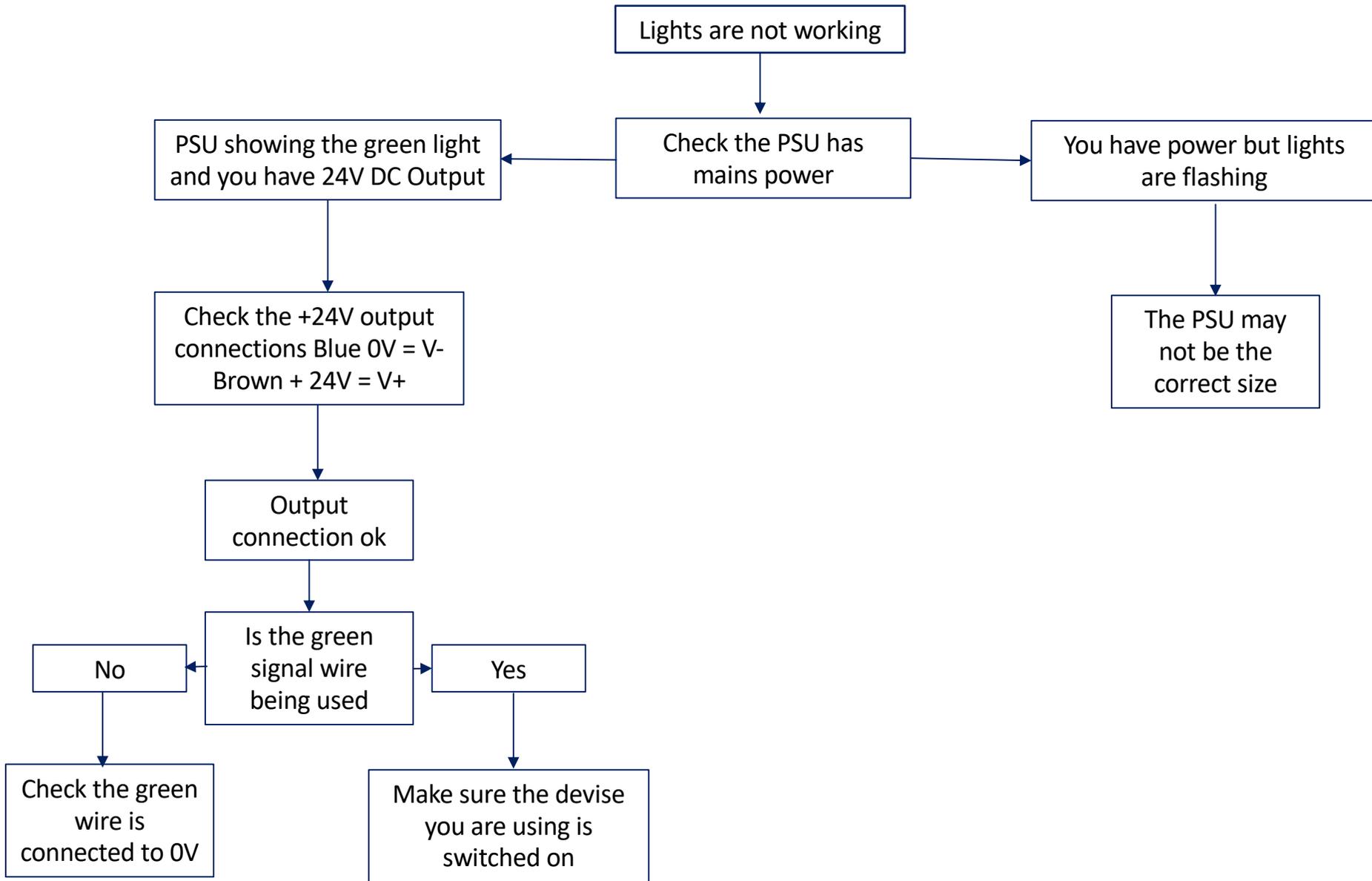
# WT4-Niche



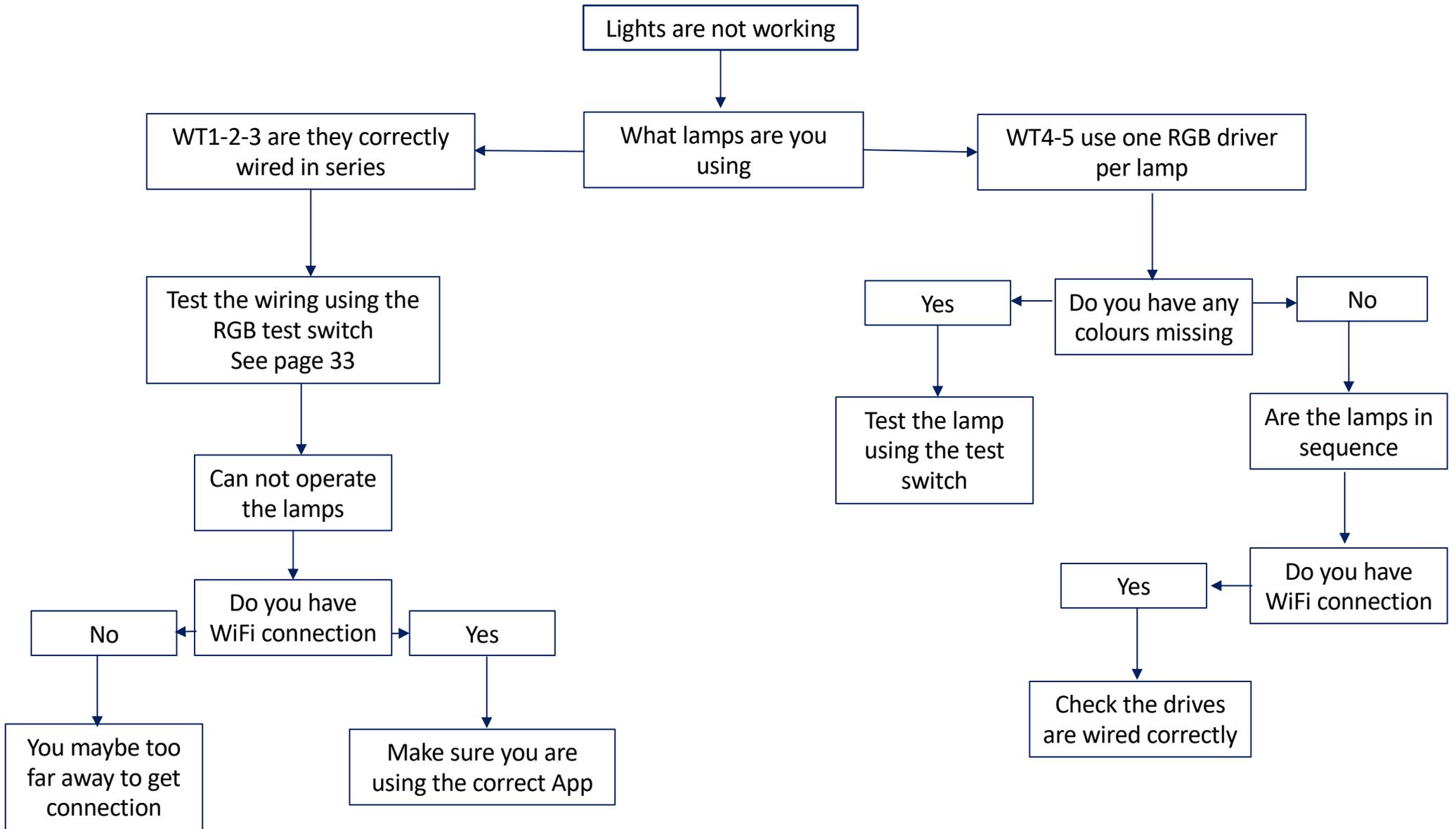
Front 3 x M6 counter sunk holes



# Trouble shooting White lights



# Trouble shooting RGB lights



## RGB Test Switch.

The RGB test switch is designed to test the wiring without subjecting the driver or LED lamp to incorrect wiring and therefore leading to blowing the driver or lamp.

The process of wiring is the same as you would wire up the drivers, this is done in series following the wiring diagram.

The RGB test switch is used in place of the driver to check that all the colours are in sink before you power up the drivers.

### Trouble shooting

If the lamps are not correctly wired, then you can have a range of options.

Turn on the Red switch and you see this



Check the Green and blue Common are not swapped

Turn on the Red switch and you see this



Any one colour not working

Check lamp the cable wiring to the colour which is not working

Turn on the Red switch and only the reds work



Check the Blue and green wire at the end of the chain are connected correctly.

The above is a sample of what may occur if the lamps have been incorrectly wire, to sum up if you see a missing colour then check the colour cable which is not working. If all the connections are correct, then test the lamp on its own with the switch to make sure the lamp is functioning correctly

### LED lamp in series

#### Red Line in series



#### Green Line in series



#### Blue Line in series



# **WT-Terms and conditions**

## **Pool Care and maintenance.**

You should avoid damage to the lamp by keeping the water at a neutral PH-value. Also the water should be free from metal attacking ingredients to avoid discolouration any material deposits on the lamp must be removed with a suitable non metallic cleaner.

The lamp must not come into contact with any metal effecting cleaners, or acids. Do not use high pressure cleaners directly onto the lamp.

## **Installation**

The Installation of the lamp must be carried out according to the instructions supplied. If any modifications are made to the lamp, the manufacture is discharged from any liability. This includes modifications to the cables; they should not be cut or re-joined. The cables are supplied with the correct lengths specified. If any problems arise after installation by your chosen installer and it is found that the fault was of poor installation the manufacture is discharged from any liability.

The Company accepts no responsibility for any direct or indirect damage as a result, of poor installation.

If the Buyer is overdue in payment for the goods or other goods supplied by the Company, the Company may recover and sell the goods.

If you are not using the WT niche fitting, the manufactures is discharged from any liability. The lamp is equipped with cable lengths requested; the installer must ensure suitable draw wires are installed through the niche/pipe work and conduit.

## **General**

The installation depth should be between 500mm to 700mm. Sufficient cable should be retained in the niche/pipe work to pull the lamp to the surface, and carry out any repairs. The lamps O ring is not a water tight seal therefore we recommend a soft sealant to be placed round the lip of the lamp prior to fitting.

If a lamp should fail then the replacement of an LED lamp should be carried out by a qualified electrician.

## **WARRANTY AND LIABILITY**

(a) Subject to the conditions set out below, the Company warrants that the goods will be free from defects in material and workmanship for a period of 24 months from the date of delivery and shall replace any goods which the Buyer proves to the satisfaction of the Company to be faulty in accordance with this condition.

(b) The warranty given in paragraph (a) is subject to the following conditions.

(i) The Company shall be under no liability in respect of any defect arising from fair wear and tear, wilful damage, negligence, abnormal working conditions, poor installation, failure to follow the Company's instructions, misuse or alteration or repair of the goods without the Company's written approval.

(ii) The Company shall be under no liability under the above warranty if the total price for the goods has not been paid by the due date for payment.

(iii) The above warranty does not extend to parts, materials or equipment not manufactured by the Company, in respect of which the Buyer shall only be entitled to the benefit of any warranty or guarantee provided by the manufacturer thereof to the Company.

(c) Subject as expressly provided in these conditions, all warranties, conditions or other terms implied by statute or common law are expressly excluded to the extent permitted by law.

(d) Except in respect of death or personal injury caused by the Company's negligence (or implied under the Consumer Safety Act 1987) the Company shall not be liable to the Buyer by reason of any representation, implied warranty, condition or other term or under the express terms of the contract for any consequential loss or damage (whether for loss of profit or otherwise), costs, expenses or other claims for consequential compensation whatsoever arising out of the supply of goods and the Company's liability for direct loss (otherwise than for death or personal injury) shall be limited to the value of the invoice for the contract.

## **WARRANTY AND LIABILITY**

All our products are covered by your statutory rights, this warranty is in addition to your statutory rights under either the Sale of Goods Act 1979 or the Supply of Goods and Services Act 1982. If you are unhappy with the service you receive from water-tec.co.uk please contact us immediately in order that we can rectify the situation. We will keep you informed of everything we are doing to correct the situation until the problem has been resolved. This warranty covers a 24 month period from the date of purchase. Conditions apply see below for details.

### **Warranty Disclaimer**

- This warranty takes immediate effect from the date of purchase.
- Water-tec and MAS Electronics UK Ltd are not responsible for any items that have been damaged due to misuse.
- We are not responsible for the installation of the items; installation must always be carried out by a qualified electrician.
- General maintenance on the Lamps must be carried out at regular intervals, to ensure the highest visibility. We do not take responsibility for any maintenance issues.
- The water should be kept at a neutral Ph-value. The water should be free from any metal attacking ingredients to avoid discolouration.
- Material deposits on the lamp must be removed with a suitable non metallic cleaner.
- Items returned and are found to be damaged by any misuse or incorrect fitting; the manufacturers are discharged from any liability. There will also be a charge to replace the item.
- This is a water cooled device; therefore, the lamps should not be run dry for long periods of time.

The warranty will be invalid if any modification