BUDDIES INSTRUCTIONS

Buddies are low voltage (24V) and completely safe to handle at all times – even when "live"

Types of Buddies

There are two different types of Buddies that must be wired accordingly (see following pages):

1. CRI95 4000K White and Phosphor-Coated (PC) Red

Specs
20x LEDs per string
2.5m length = 100mm between LEDs + two 300mm connector wires, one on each end
14.4W per string (each string is wired in parallel)
Can be cut to length or wired together with other Buddies of different colours

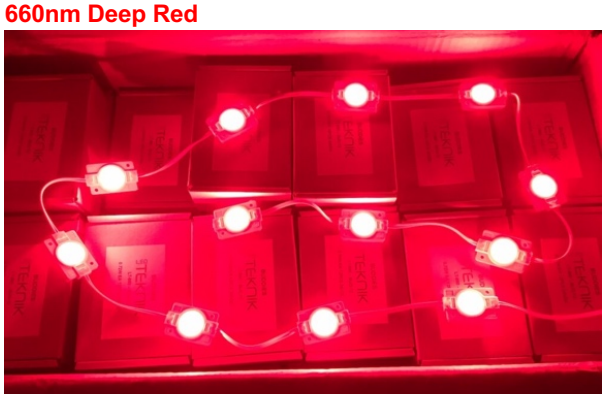
4000K White

PC Red

2. 660nm Deep Red and 730nm Far Red

Specs
12x LEDs per string
1.7m length = 125mm between LEDs + one 300mm connector wire (other end terminated)
8.4W per string (each string is wired in series)
Cannot be cut to length!
Can be wired together with other Buddies of different colours

660nm Deep Red



730nm Far Red

Drivers (Power Units)

You will normally receive either a 30W or 60W Osram driver with your kit. Other 24V constant voltage drivers can be used, but please check with us first.

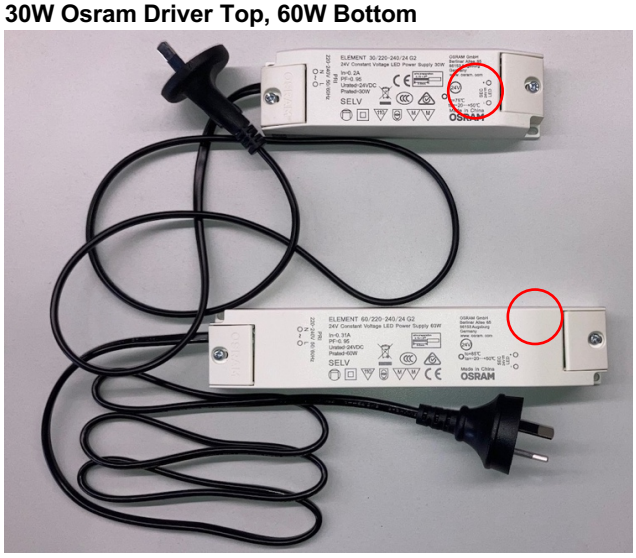
Each kit comes with 3-4m of hook-up wire. One side has a stripe, the other side is blank – the same as each string of Buddies.

In all cases, stripe goes to stripe, blank goes to blank

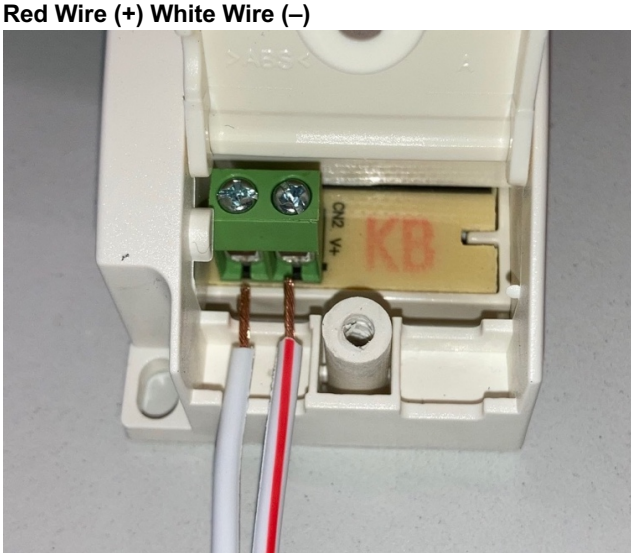
If your driver is not already wired up, unscrew the end cap (circled), twist the bare wires so they are easier to insert, and put them inside the clamps and screw them down. Put the striped wire in the + clamp nearest the middle of the driver, and the blank wire in the – clamp nearest the edge.

Secure the end cap, which will now hold the wires in place to prevent them pulling out.

30W Osram Driver Top, 60W Bottom



Red Wire (+) White Wire (–)

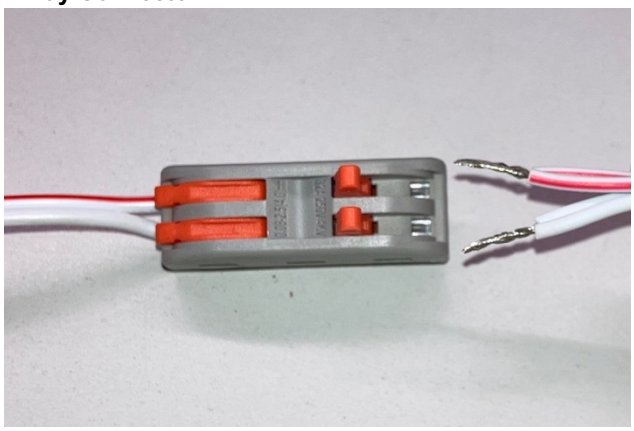


Connectors

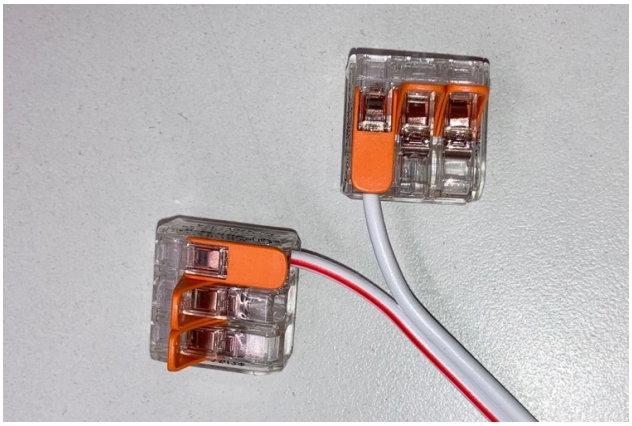
You can solder and heat-shrink Buddies to make each string waterproof (Buddies are waterproof but the supplied connectors and Osram drivers are not).

However, to make it easy to assemble you will receive one of two types of connectors with orange levers that lock the wires (and electrical connections) in place: a 2-way or a 1-way connector.

2-way Connector



1-way Connector



The **2-way Connector** carries both + and – wires: the striped wire (+) goes in one end and connects to another striped wire (+) on the opposite side. The blank wire (–) does the same.

Remember – stripe goes to stripe, blank goes to blank

The **1-way Connector** carries either multiple positive (+) wires or multiple negative (–) wires: you must use one connector for each set of striped (+) or blank (–) wires. Some 1-way connectors have two levers, some have three levers (pictured above), and some have five levers. They can be clear or grey, but the levers are always orange.

Important! Wires must be stripped before they are clamped!

This means there must be some bare wire at the ends of the insulted plastic wires before putting them into the connectors and clamping them to ensure an electrical current. You may twist or solder the bare wires together to make it easier to insert them into the clamps without fraying.

Buddies are already pre-stripped when you receive them. Hook-up wire is normally pre-stripped.

Mounting

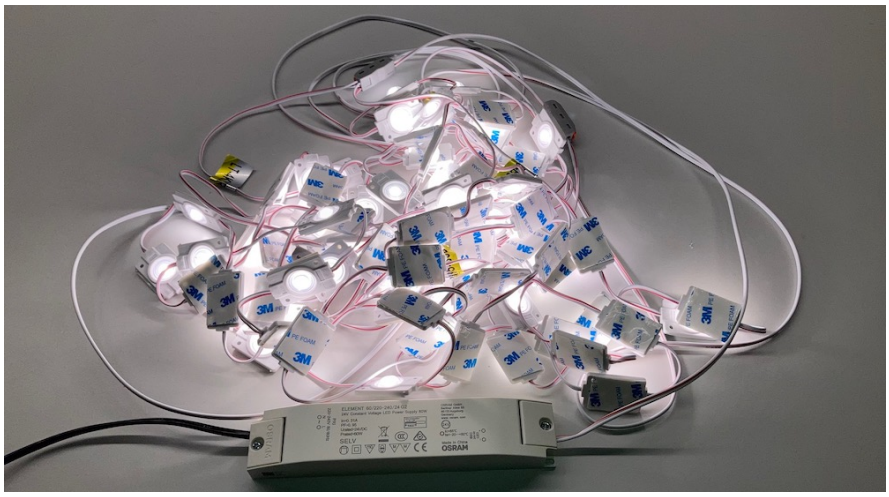
Buddies have 3M stickers that can be stuck to almost any surface. To unstick them, pull them off and wipe the surfaces with alcohol to remove the glue. You can now cut a piece of double-sided tape available from most hardware or office supplies stores to replace the old 3M stickers. We like double-sided mirror tape, as it has better resistance to moisture.

Buddies also have two small holes in each plastic housing that allow you to use cable ties, screws or nails to secure to other surfaces. How you mount them is up to your imagination!

Buddies are spaced 100-125mm apart but can be mounted closer together for a more intense spread of light.

Usually it is easier to mount individual Buddies strings to your chosen surface prior to wiring (assembly). It is also worth considering "dummy mounting" Buddies before finally sticking them to a surface to ensure they are in the correct place.

Inline Assembly



There are three ways to assemble Buddies depending on which kit you have.

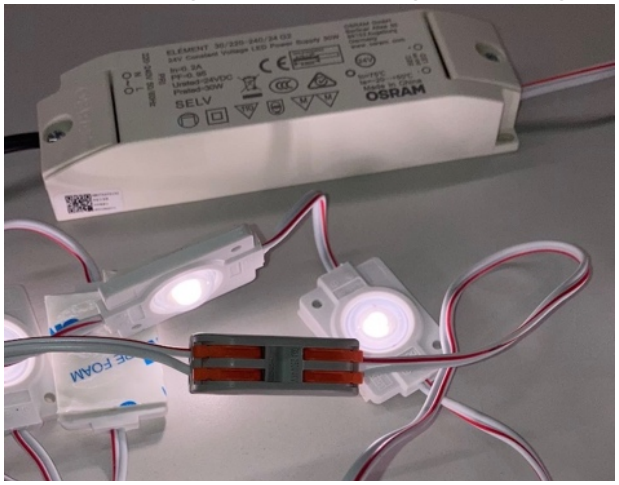
1. 30W Osram drivers with White and/or PC Red Buddies ("Twin Buddies") can be connected inline (end-to-end) for a maximum of two strings. The end of the last string can be "open" (not connected to anything), or it can be connected back to the driver.

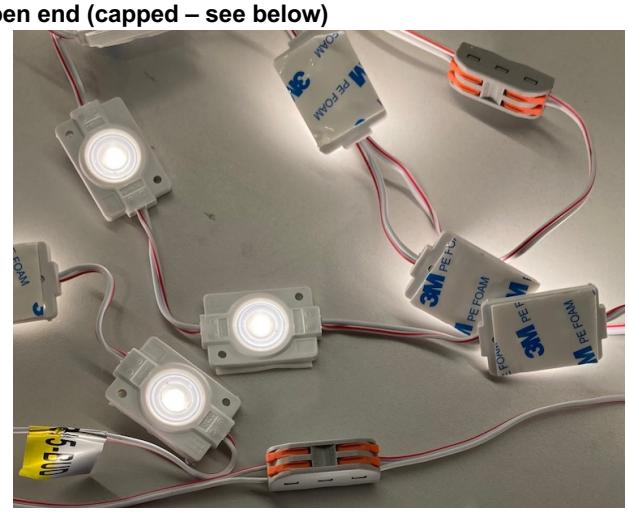
2. 60W Osram drivers with White and/or PC Red Buddies ("Quad Buddies") can be connected inline for a maximum of four strings – *but the last string must go back to the driver* (see below).

3. 30W Osram drivers with Deep Red and/or Far Red Buddies ("Twin" or "Quad" Buddies) must be wired together in parallel (see below), as they have only one end to connect.

Method 1 shows two strings of white Buddies connected to a 30W driver via two connectors

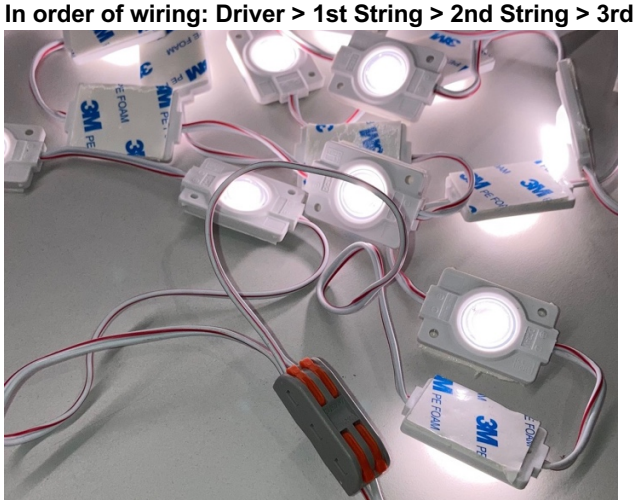
In order of wiring: Driver > 1st String > 2nd String > Open end (capped – see below)

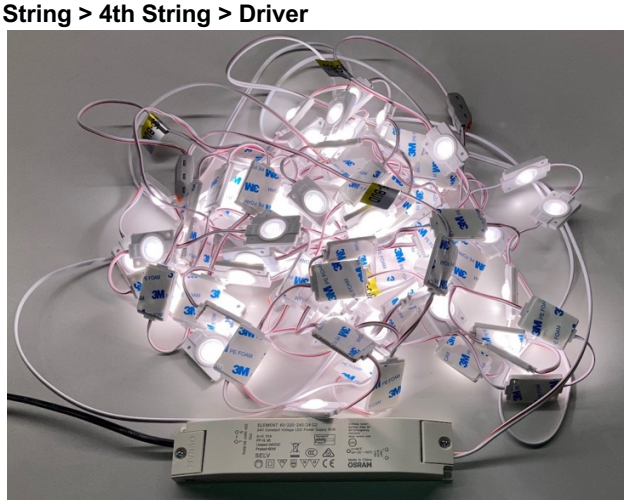




Method 2 shows four strings of Buddies connected to a 60W driver via four connectors

In order of wiring: Driver > 1st String > 2nd String > 3rd String > 4th String > Driver



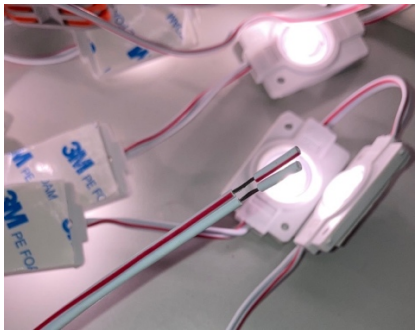


Note that the end of the last string re-attaches to the first string to form a loop. This is to prevent voltage drop to the last string. The driver is now supplying power to both ends.

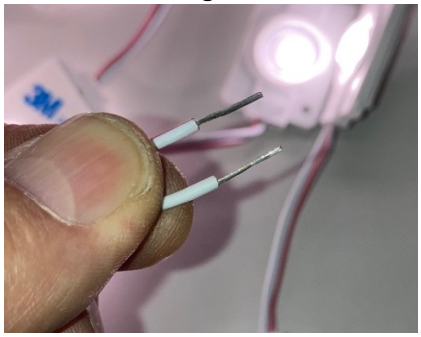
Buddies Won't Light Up!

If you have a string of Buddies that is not connected back to the driver, there will be a free end with both + and – wires. If these wires touch each other, they will short out the Buddies which won't light up. The solution is to cap the wires with masking or electrical tape, or simply cut them off. As long as the wires don't touch each other the Buddies will light up.

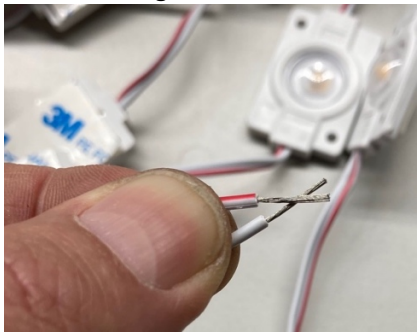
Ends not touching – OK



Ends not touching – OK



Ends touching – Not OK

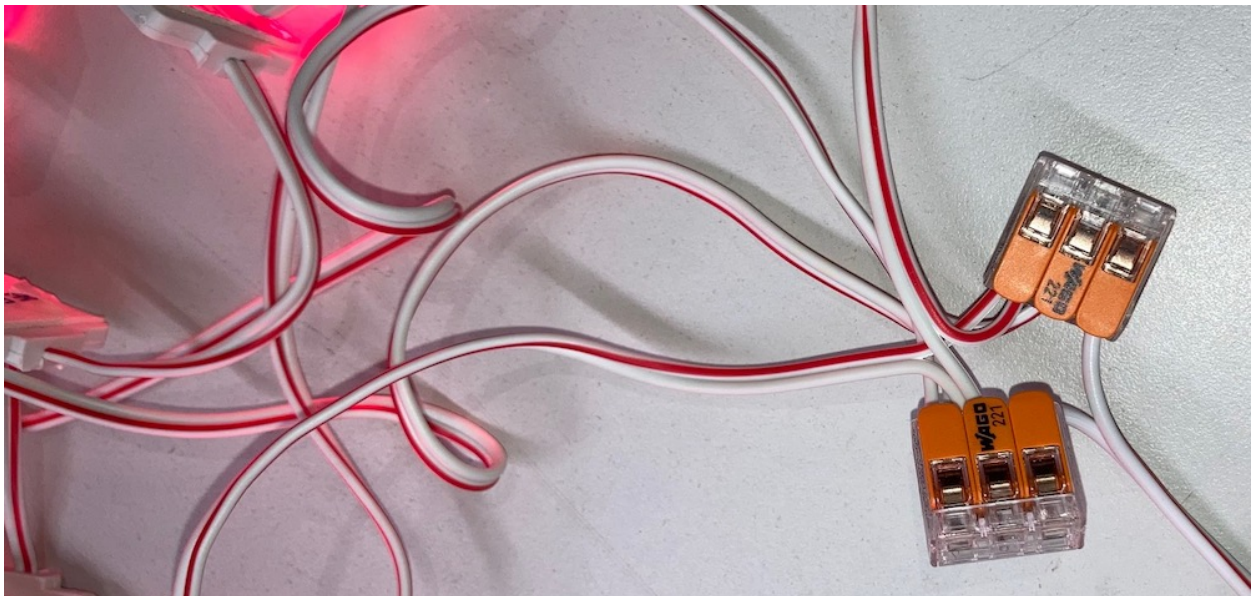


Parallel Assembly (660nm and 730nm Buddies)

The Deep Red and Far Red Buddies are a little different. There are only 12 per string as they are highly efficient. Up to four strings can be connected to a 30W driver but because each string has only one connector end, they cannot be wired inline (end-to-end). You must connect each + and – wire from each string to the driver at the same time.

Here you can see two wires (+ and –) going into the left side of the connector from the power supply (driver) and four wires coming out the right side. One pair of (+ and –) wires goes to one string of Deep Red Buddies, and the other pair to a string of Far Red Buddies. Two (+) wires are in one hole (top), and two (–) wires are in the other.

Here you can see two wires (+ and –) from the power supply each going into a different connector on the right. The striped (+) wire goes into the connector at the top, which has four striped (+) wires going to four separate strings of Buddies (one + wire each). The bottom connector has the blank (–) wires attached. It may be hard to see, but the top connector has two striped (+) wires coming out of the left hole, two striped (+) wires coming out of the middle hole, and one striped (+) wire coming into the right hole (from the driver).



In all cases the red-striped wires connect to other red-striped wires, and the blank wires connect to other blank wires. If the Buddies do not light up, check the connections as well as any free ends. Incorrectly wiring the Buddies will not harm them. If you get really stuck, please contact us.

Phone 0492 025 251 or email info@growlightsaustralia.com for help