ICELED

Electro Styling

EXP

user guide
installation guide

WARNING

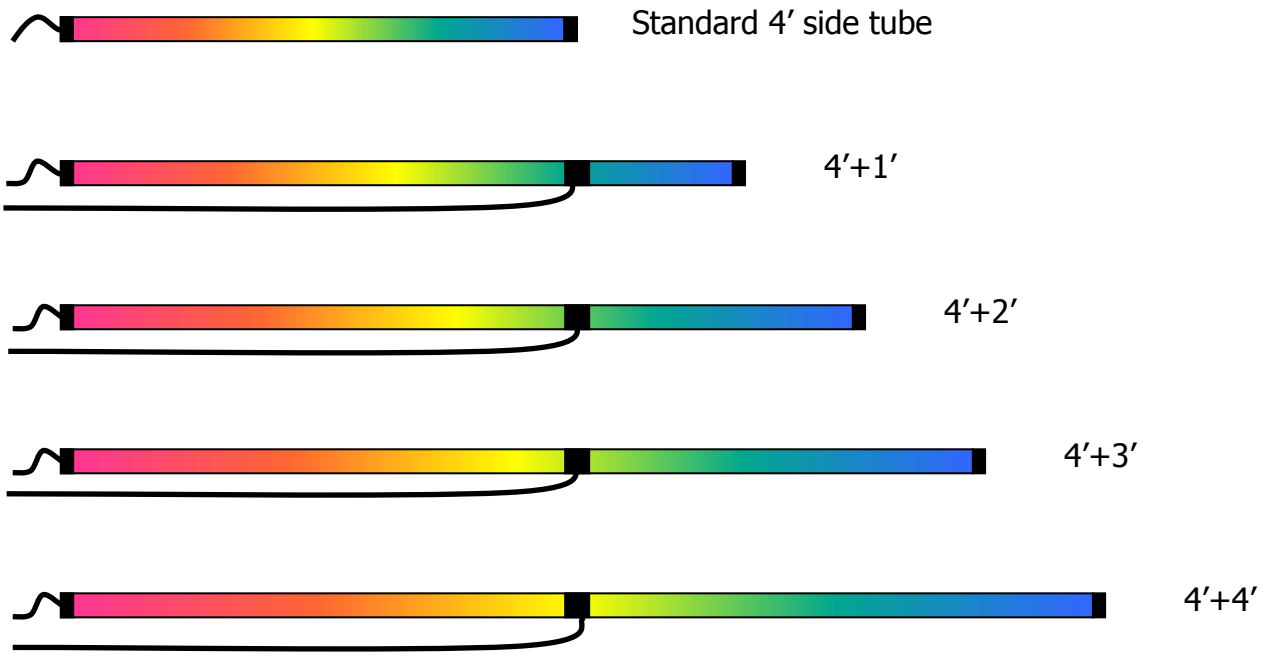
This product has been deliberately designed to create a highly noticeable lighting effect that will turn heads at car shows and exhibitions. Because of this it is EXTREMELY important that it is **not used on the public highway** to prevent the distraction of other road users.

Having issued this warning ICELED Will not accept any responsibility for issues arising from any failure to comply with this clear instruction.

ICELED Will not accept responsibility for any other issues arising from improper use or fitting of this product as these matters are beyond our control.

Features

ICELED EXP connects to ICELED UFO in order to expand the side-tube pattern to fill additional tubes. EXP can be used to extend the standard tube length to five, six, seven or eight feet by adding another one, two, three or four foot tube to the end of the standard four foot tube. Digital image processing is used to re-distribute and interpolate the original data to fill the combined length of tubing in a seamless fashion.



A separate data connection is also provided to allow other ICELED light sources such as GEM or FLOOD to be added as ‘fill-in’ lighting at the leading edge of the tube. This might be useful for illuminating front wheel-arches for example. To do this EXP provides the front-most pixel data that is not normally available, unlike the rear-most pixel data that is already accepted by all light sources automatically upon connection to any UFO channel.

(See the Installation section for detailed connection information)

Installation

The complete kit consists of:

2 x Extension tubes
1 x ECU
1 x Link cable
2 x Grommets for cables

4 x Tie-wrap bases
4 x Large tie-wraps for above
4 x Self-tapping screws for above
10 x Small tie-wraps for securing cables
3 x Self-tapping screws for mounting ECU

Please note that the controller is supplied pre-configured to match the length of extension tube ordered with the kit. A label on the rear of the ECU identifies the total length of expansion.

Step 1: Install the expansion ECU

The expansion ECU should be located as close as possible to the UFO controller – within reach of the link cable supplied. The box should be secured to a flat surface using the three short self-tapping screws provided. Ensure that the drilling of these holes will not damage wiring or other equipment on the other side. Care should also be taken not to over-tighten these fixings.

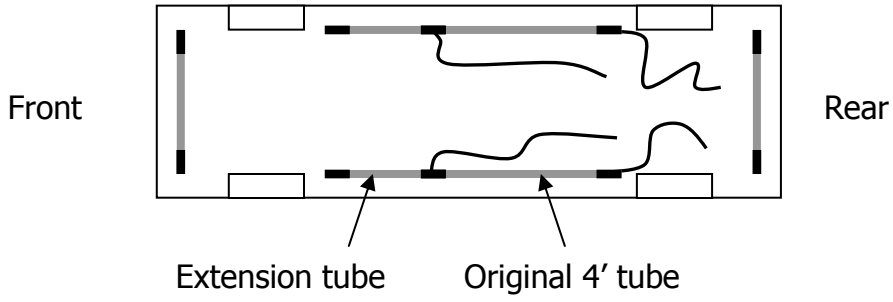
Step 2: Fit the tubes

Please note that care must be taken to observe the points emphasised in the following instructions to ensure a successful installation. Unlike most other types of lighting, UFO produces spatial effects that demand correct orientation of the LED tubes.

First, if already fitted, move back the original 4' side tubes towards the rear of your vehicle. The extension tubes should be mounted in the front-most position. **They should be mounted no lower than the lowest part of any other bodywork or suspension component**. This is to prevent damage from contact with any objects on the road.

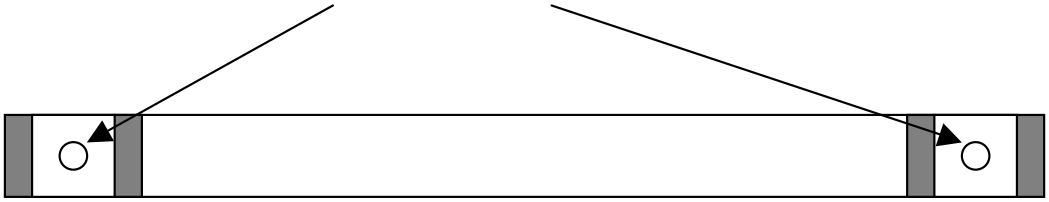
IMPORTANT:

It is vital that both side tubes are mounted with their cables exiting towards the rear of the vehicle as shown in the diagram below. This is so that effects can run around in a continuous fashion along the combined length.



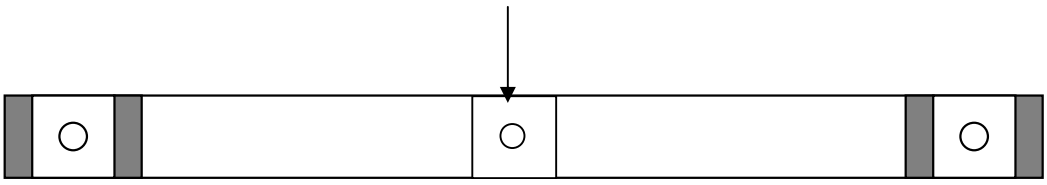
For best results make sure the side tubes butt-up tight to each other to minimise any gaps in the resultant light beam. The cable coming from the extension tube can be bent sharply over in order to allow for this.

Once suitable locations have been identified for each tube, the tie-wrap bases should be attached to coincide with the middle of the rubber end caps for maximum grip.



If this is not possible, the tie-wrap bases may be fixed further in, but care must be taken not to obscure any of the LED's when fitting the tie-wraps later on. If the tubes are examined carefully it can be seen that there is a slightly wider gap between the LED's on adjacent sections. These breaks occur every one-foot (305mm) and are the ideal location for alternative fixing points.

Longer tubes might also require one additional fixing in the middle to prevent excessive flexing. Once again, be careful to position this fixing so as not to cover any of the LED's when the tie-wrap is attached.



Once the bases are in place, the tubes should be loosely attached using the tie-wraps provided, but not pulled tight yet. This will allow the optimum angle for the tubes to be obtained by rotating them once they are lit.

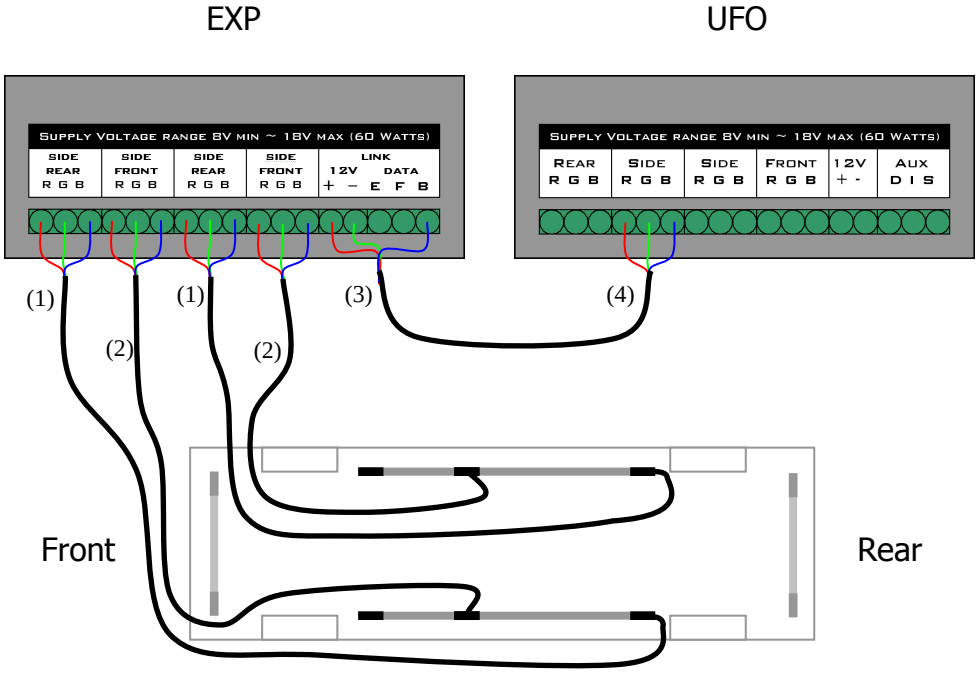
All cabling must be secured with the smaller tie-wraps supplied to prevent snagging with any objects on the ground. For this reason, it is particularly important that no cable loops should hang down.

Cables should enter the passenger compartment through holes drilled large enough to accept the grommets supplied. Ensure that the drilling of these holes will not inflict damage to wiring or other equipment. The connectors can be removed to assist with threading the wiring towards the ECU.

In the unlikely event of the cable being too short to reach the ECU, it may be extended with a similar, stranded, three-core cable. Most common three-way electrical terminal blocks will be adequate for joining the wires.

Step 3: Wiring the ECU's

Unplug the two cables belonging to the 4' tubes ([1]) from the side channels of the UFO controller and relocate them to the two connector bays marked **Rear** on the EXP controller. It doesn't matter which side cable goes into which socket, as both sockets carry identical pattern data.



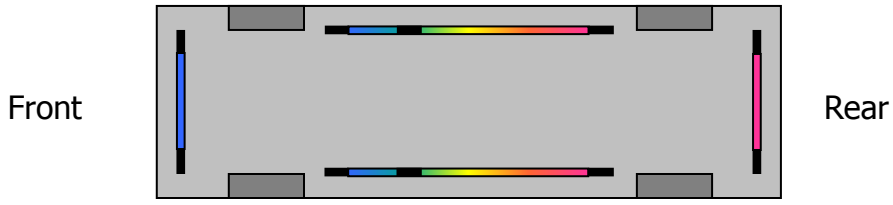
The 3-way connectors terminating the red green and blue wires from the two expansion tubes supplied should be plugged into the connector bays marked **Front** ([2]). Again there is no difference between these two sockets so either cable can go into either socket.

Take the link lead supplied and plug the 5-way connector ([3]) into the bay marked **12V Link** on the EXP controller. The red + wire should line-up with the +12V terminal.

Insert the 3-way plug ([4]) on the other end of the link lead into either of the side channel outputs marked **Side** at the UFO controller. Again these sockets carry identical signals so it doesn't matter which one is used. The red wire should line up with a terminal marked **R**.

Note: *A socket marked **remote display** is located on the rear of the ECU. This is only ever used to program different expansion lengths. As the ECU is pre-configured to match the expansion tubes provided this socket should remain unused.*

Step 4: Powering-up and testing
Switch on UFO and select pattern 1. The front tube should now light in the same colour as the front-most ends of the side tubes and the colour progression should run smoothly along the combined length of the side tubes.



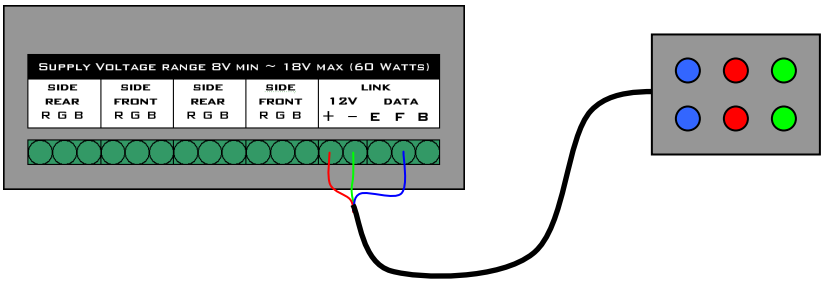
Correct appearance of Pattern 1

Step 5: Final adjustments
With the side tubes lit they should be rotated to ensure that their beam patterns match and both throw the light at the optimum angle. Once this position is found, the tie-wraps should be pulled tight and the excess cut off.

When adjusting the tubes it should be remembered that the best effect will always be achieved when the source of the light is well hidden. Stand at a distance from the vehicle and check to see if the LED's can be seen directly. If so, try rotating the tubes to a position where they can't be seen. It may be better on some vehicles to rotate the tubes so they face towards the opposite side if they are impossible to hide. This method might also be used to produce more complete illumination of the ground in some installations.

Connecting extra light sources

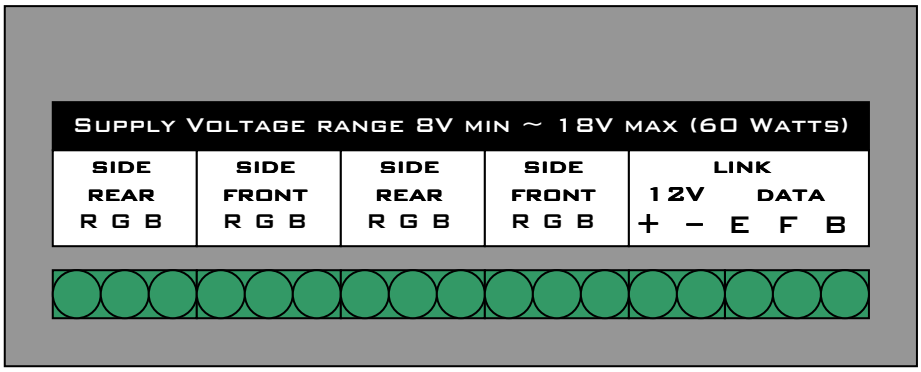
The terminal marked **F** carries the colour of the front-most pixel. This can be used to control an ICELED light source such as waterproof GEM or FLOOD to illuminate the front wheel wells for example.



The red and green power wires can be connected alongside the 12V supply as shown above or paired with any of the four red and green terminals supplying the tubes.

Specifications

Supply voltage	8-18VDC	
Max combined load	5A	(spread across all outputs e.g. 4 x 4' tubes)



Connection key:

R	Red	+12V Tube power
G	Green	Tube return
B	Blue	Tube data
+	8-18VDC @ 5A max	
-	Chassis return	
E	Enable	(optional connection)
F	Front pixel output	(optional connection)
B	Side data input	(from UFO side terminal B)

Resources

To see the full ICELED product range visit http://www.iceled.co.uk the official ICELED website.

For more suggestions and advice visit http://iceled.co.uk/area51/ the official ICELED user forums.