

ICELEDTM

ELECTRO STYLING

ZAP+ INSTALLATION GUIDE OPERATING 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 RESPONSIBILITY FOR ANY ISSUES ARISING FROM 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.

THIS PRODUCT IS CAPABLE OF PRODUCING STROBOSCOPIC LIGHTING EFFECTS WHEN CONNECTED TO ICELED LIGHTSOURCES.

Features

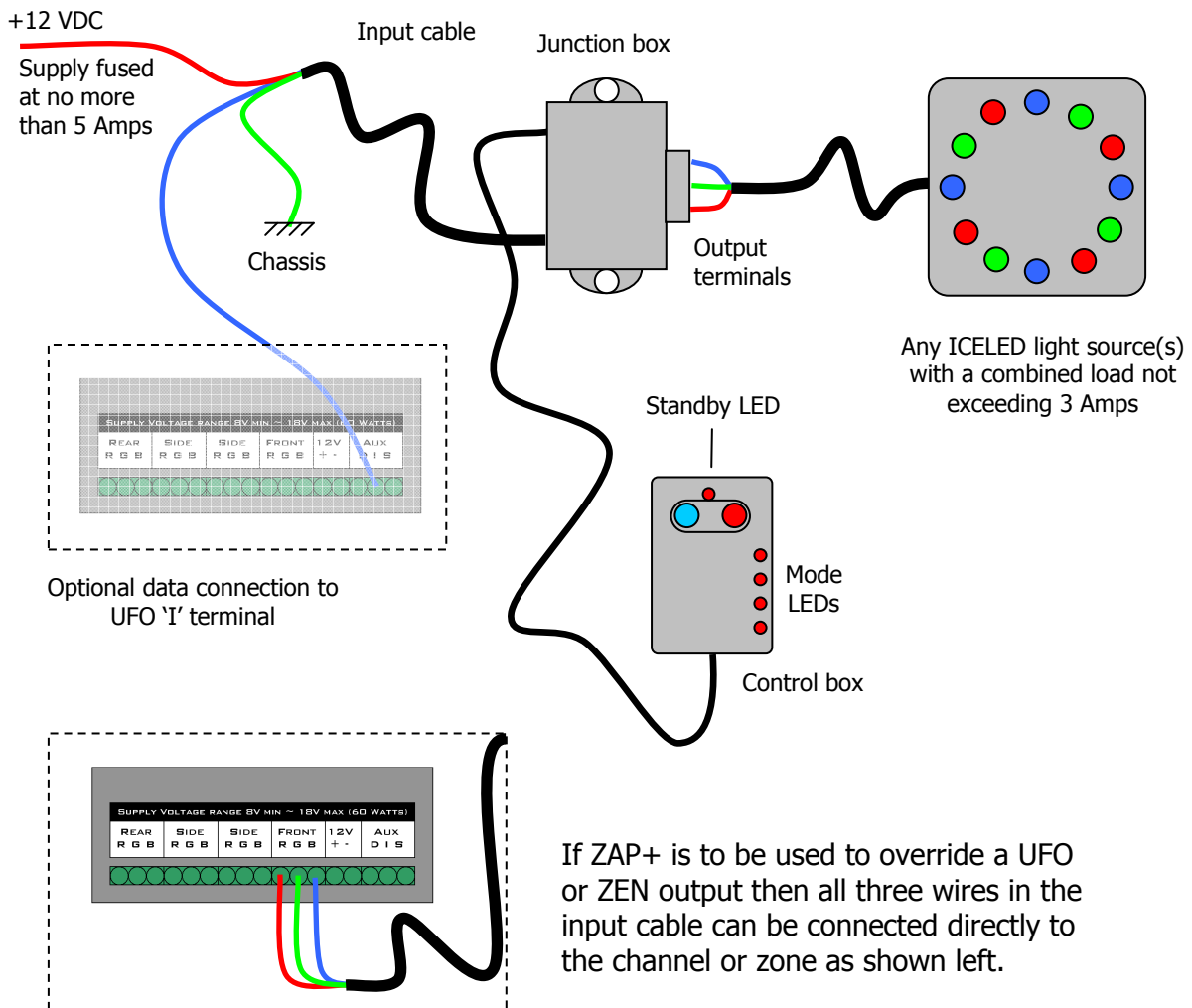
ICELED ZAP+ is a compact handheld controller for use with all ICELED light-sources. It is capable of generating a number of automated lighting programs as well as providing direct manual control of the colours displayed. The modular nature of ICELED products also allows ZAP+ to be connected in-line with any other ICELED controller in order to provide instant access to overriding effects.

ZAP+ can also be used to operate the ICELED full-colour scanner, providing access to several built-in patterns and sound reactivity (see the Scanner manual for details).

Installation

The junction box should be secured to a suitable panel somewhere out of sight. It should be located in a position that will make the control box accessible without stretching the lead joining the two.

Two out of the three wires from the input cable should be attached to a 12 Volt DC supply. Red is for connection to a fused +12 Volt source and Green for connection to chassis earth. The Blue wire is an optional data input for connection to another ICELED controller. If this is unused it should be left unconnected. ICELED light-sources connect to the three-way output terminals as shown:



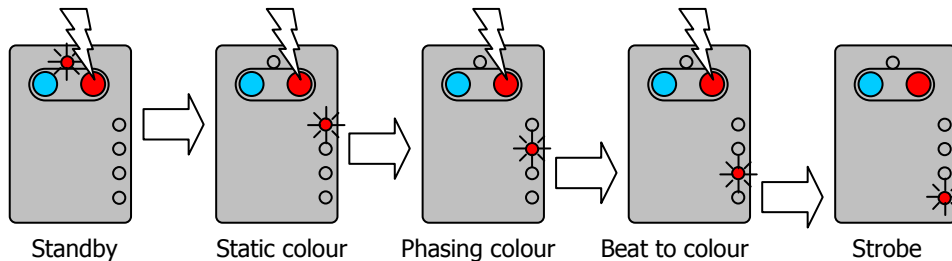
Operation

All operations are performed using a simple two-button interface. There are five distinct modes to select from:

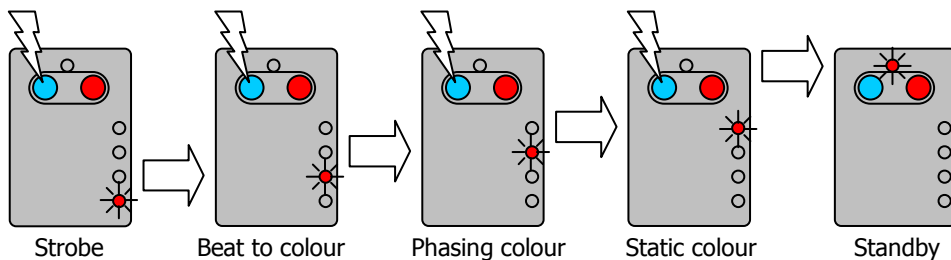
- **Standby/Bypass** *Effectively turns off light-sources by blacking them out or passes through external ICELED data if present*
- **Static colour** *Provides fine-tuning of any particular hue or shade*
- **Phasing colour** *Automatically creates smooth sweeps through one of four different colour ranges*
- **Beat to colour** *Sequences random colours in time with an audio beat, with adjustable fade-out*
- **Strobe** *Produces maximum intensity flashes in time with an audio beat or from an adjustable time-base*

Changing mode

Briefly press either of the two buttons to shift to the next mode in turn, as indicated by the LEDs. The Red button shifts away from Standby, through each mode eventually reaching the Strobe mode:



The blue button shifts back through the modes eventually reaching Standby again:



Standby/Bypass

When switching to Standby the controller will automatically fade-out slowly for a more dramatic effect. However, one more press of the blue button will always force the light-source to switch-off **instantly** if required.

Note that the most recent operating mode is automatically resumed on power-up even if though the power has been removed.

Adjusting mode settings

As supplied, each mode is preset with default settings chosen by ICELED to provide an interesting display. However, all settings may be altered to suit individual tastes. (Note that the factory defaults can also be recalled at any time - see page 6).

- Settings for any given mode can be adjusted by keeping the button(s) **held down** until the required effect is obtained. The corresponding mode LED will flash to confirm that adjustment is taking place.
- When the buttons are released the mode LED will remain off for two seconds until such time as the buttons return to their normal mode selection function. During this period further adjustment may be resumed.
- All settings for each mode are retained in non-volatile memory for recall every time the controller is powered-up. The Standby LED flashes to show when settings are being stored.



Starting from Standby the following descriptions cover each mode in detail:

Standby/Bypass

In this mode all connected light-sources are blacked-out completely unless data from another controller is present (**bypass**). In this case the Standby LED lights brighter than normal and the light source responds to the external controller. The LED serves as a useful indication that the light source is receiving external colour data.





*When in **bypass***, another press of the blue button will inhibit the light source from responding to the external controller altogether. The light source will remain off until the next time the red button is pressed. The dim standby LED and control unit consume very little power when in Standby mode (see specifications).

For a more dramatic effect light-sources can be made to fade up and down at a variable rate when switching to and from Standby. The time taken to fade can be adjusted by holding down one of the two buttons while in Standby mode:

<p> Fade-out time</p> <p>Press and hold the blue button until the Standby LED goes out. From this moment on, the time taken before the button is released will be used in future as the time taken to fade-down to black when Standby mode is selected.</p>	<p> Fade-in time</p> <p>Press and hold the red button until the Standby LED goes out. From this moment on, the time taken before the button is released will be used in future as the time taken to fade-up to the static colour when that mode is selected.</p>
<p>In both the above cases, if the button is released the instant the LED goes out this will set the minimum time available.</p> <p>Conversely, if the button is held for more than 15 seconds (the maximum delay) the LED comes back on and 15 seconds are stored as the fade time.</p>	



Static colour

This mode displays a single, fixed, colour. Colour can also mean lighter or darker shades of a particular hue. The static colour can be adjusted to virtually any colour imaginable using the two buttons:



























<p> Hue shift </p> <p>Press and hold either button to change the hue of the colour. While pressing either button pure (saturated) colours are always produced so the effect is similar to choosing one of the colours from the rainbow.</p> <p>The adjustment will continue to loop seamlessly through the rainbow in either direction.</p>	<p> +  Other shades</p> <p>Once the required hue has been set, to obtain de-saturated or whiter shades, press and hold both buttons together.</p> <p>The first time they are pressed increasing amounts of white will be added to the colour while the buttons are held down.</p> <p>If both buttons are released and pressed together again white will be subtracted from the colour providing darker shades instead.</p>
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Phasing colour

This mode automatically sweeps the colour through one of four possible ranges. The sweep speed is adjusted using the two buttons:



<p> Sweep speed </p> <p>Press and hold either button to change the speed of the colour sweep. Blue slows it down, red speeds it up. Note that the flash pattern of the mode LED changes when either the maximum or minimum speed are reached.</p>
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By default the colours will sweep continuously through the entire rainbow but it is also possible to restrict the colours to three smaller ranges:

<p> +  Sweep range</p> <p>Press and hold both buttons to change the range of the colour sweep. All connected light-sources will step through the available ranges indicated by the following four colours:</p>												
<table><tr><td></td><td>Magenta (blue to red)</td><td></td></tr><tr><td></td><td>Yellow (red to green)</td><td></td></tr><tr><td></td><td>Cyan (green to blue)</td><td></td></tr><tr><td></td><td>White (entire rainbow)</td><td></td></tr></table>		Magenta (blue to red)			Yellow (red to green)			Cyan (green to blue)			White (entire rainbow)	
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	Cyan (green to blue)											
	White (entire rainbow)											
<p>When the buttons are released the sweep will resume within the chosen range</p>												

Beat to colour


In this mode a microphone inside the control box is used to pick up the beat of a music track and change the colour in time with the beat. In between beats it is possible to have the light fade away to a reduced level. The two buttons can be used to adjust this level:

 Fade level 

Press and **hold** either button to change the level to which the light fades between beats. Blue reduces the level while red increases it. Note that the flash pattern of the mode LED changes when either the maximum or minimum levels are reached.

Strobe

This mode provides a variable rate strobe function. It is also sensitive to sound so that it can be seen to react to a music beat. Each music beat doubles the flash rate on the beat to make it stand out. The basic flash rate is set using the two buttons:

 Flash rate 

Press and **hold** either button to change the strobe rate. Blue slows down the strobe while red speeds it up. Note that the flash pattern of the mode LED changes when either the maximum or minimum levels are reached.

Factory reset

To restore the default values for **all settings** hold down both buttons when in Standby mode. Initially the standby LED will go out, then, after a pause of several seconds it will light once more. At this point the settings have been returned to the factory defaults and the buttons can be released.

Specifications

Nominal supply voltage:	12 Volts DC ⁽¹⁾
Standby current drain:	0.01 Amps
Maximum load current:	3 Amps
Audio sensitivity:	54dB to 102dB
Data input:	Any ICELED controller output

⁽¹⁾ Voltage range of between 8 and 18 Volts. Reverse polarity and over-voltage protection are built in.

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.

ICELED ZAP+ Conforms to:
EMC Directive (2004/108/EEC)
