

Introduction

This Taillight is easy to use and install. We use the latest high power LEDs to provide exceptionally bright white position and flash/strobe functions.

Using state of the art LED driver circuitry, we here at Ztron Labs have managed to provide the highest possible output in the smallest package. With the latest design techniques we can provide all the required functions with an elegantly simple unit.

This light provides both a constant positional white output and an intense white strobe in a single unit in the lowest weight in the industry.

Your choice of strobe pattern and flash rates is just a button press away.

Customization

Ztron Labs' Position Lights-Strobes include a button on the underside that allows the customer to change both the flash pattern and flash speed. A simple push will increment the speed, while a lengthy hold of a second or longer will increment the pattern. There is also an option to strobe only!

Immediately upon pressing the button, a unit will reduce to low intensity (if it has not done so already). This will keep your eyes from being stressed by the high intensity of the lights. After 10 seconds from the last button press a unit will return to maximum intensity.

The available settings are as follows:

With Steady On (Position)	
Patterns	Speeds
1 Flash	Once every 0.60 s (100 / min)
2 Flashes (<i>default</i>)	Once every 0.75 s (80 / min)
3 Flashes	Once every 1.00 s (60 / min) (<i>default</i>)
	Once every 1.50 s (40 / min)

With Steady Off	
Patterns	Speeds
1 Flash	100 cycles / min
2 Flashes	80 cycles / min
3 Flashes	60 cycles / min
	40 cycles / min

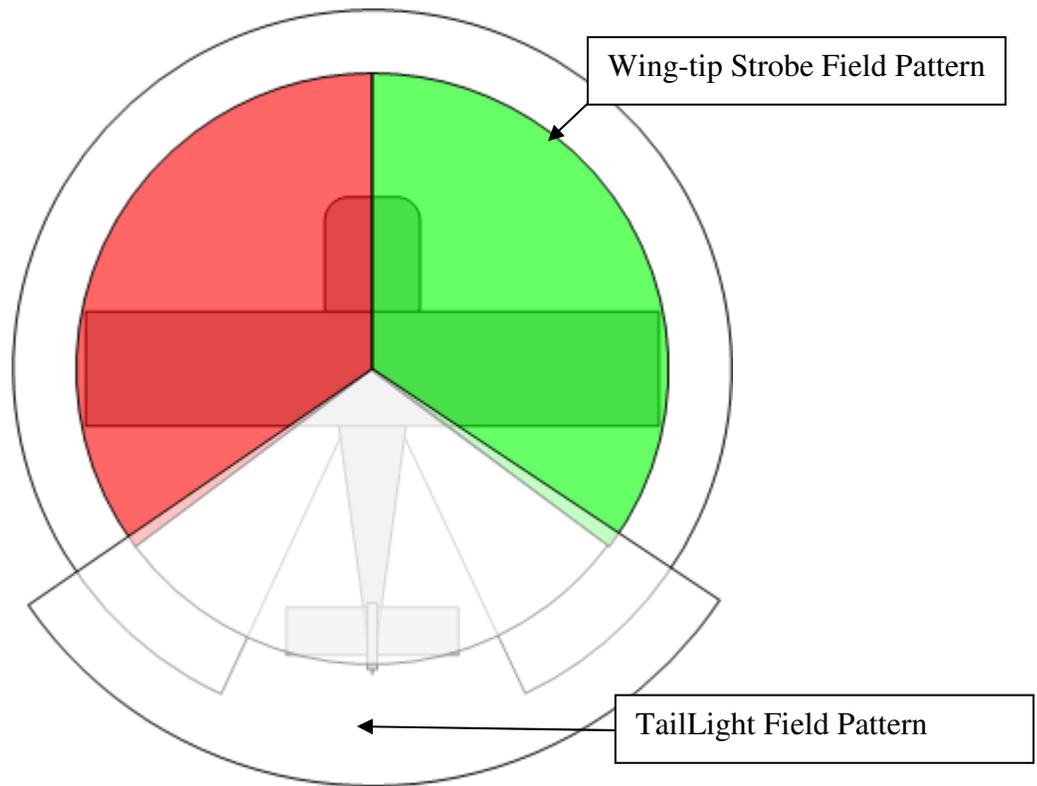
For example, you can customize your strobe to let out a 3 pulse flash 40 times a minute, or even 1 flash 100 times a minute.

Holding down the button for 4 seconds or longer will put the unit into a Strobe-Only mode. In the Strobe-Only mode, the unit will use the same flash patterns and speeds as before, but the steady position lights will be turned off and each flash will go completely off. You may change the flash settings in the same way you would when the position lights are on, and just hold the button for 4 or more seconds again to turn the position lights back on.

The last setting you selected will be used every time the unit powers up, retained in the units non-volatile memory, until you choose to change the settings again.

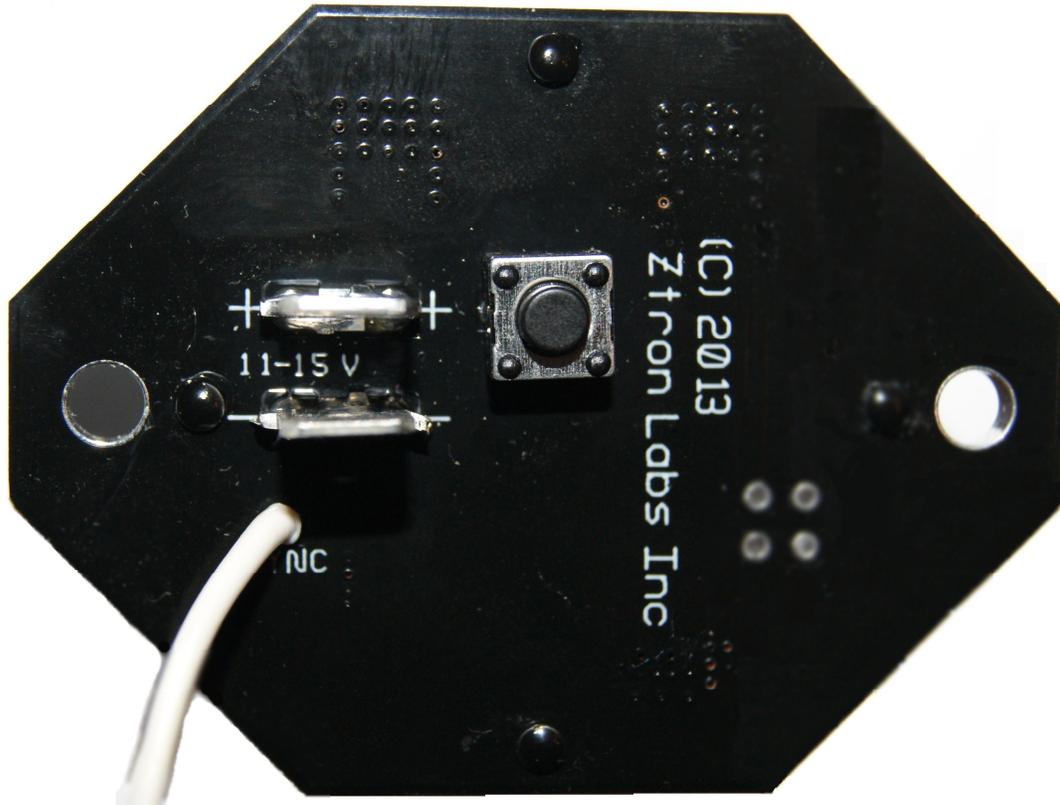
If two or more units are wired with their sync signals in common, they will flash at the exact same interval. However, the pattern will remain as you last selected. This allows a tail-light (ZL-PSTLB) to have a single flash per interval and the wing-tips to use three, all while repeating on the same beat.

Field Pattern



The ZL-PSTLB augments properly installed wing tip lights (ZL-PSLR + ZL-PSRG) to give a complete 360° of coverage.

Installation



ZL-PSTLB Back side

There are no fancy installation extras required, just two 5/32" holes for mounting and a small, approximately 0.75" x 1.0" cutout for the power studs and programming button. Because the ZL-PSTLB has potentially longer life than your aircraft's it is not unadvisable to rivet these units onto the tail of your aircraft as opposed to using bolts and nut-plates.

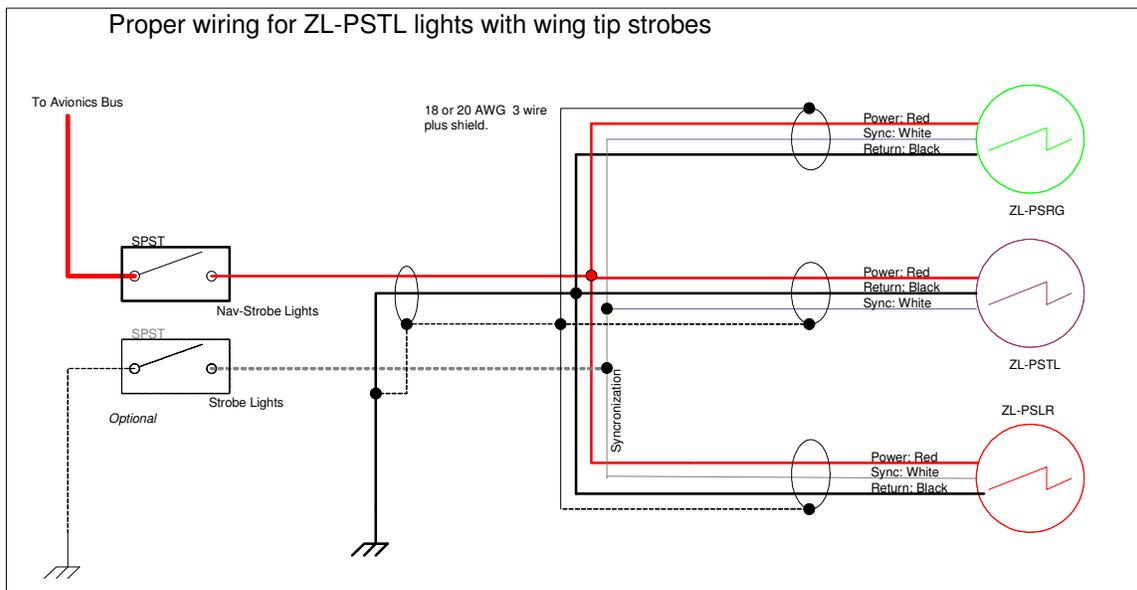
The power to the unit is connected to the two 1/4" male spade studs. It is recommended that the customer use 20 AWG color-coded wiring. This gauge of wire has approximately 0.016 Ohms per foot. We expect that 20 feet or less, per power-conductor will be used by the builder. This gives $20 \times 2 \times 0.016 = 0.64$ Ohms of resistance drop for the combined supply and return legs of wiring. At 1.0 Amps peak this results in a maximum 0.64 Volt drop in the circuit during the brief strobe flashing. We consider a 0.75 Volt drop or less to be best practice for these strobes. However, the units will operate properly if 22 AWG was used instead for a 20 or less feet of wiring path (use our wire size calculator on the Support page of our Web Site).

If possible use Red and Black color-coded wires for your power. The sync wire (White) uses extremely low current and standard 24 AVW wire is normally used (26 AWG is also suitable). Please ensure that all Sync wires between the lights are connected to each other and not hanging loose. ***Reversing the supply connections will not result in harm to the units. However do not connect the Sync wire to a positive supply line.***

The Sync line can also be used to switch the Strobes function off while in flight. In order to do this, first please make sure all Sync wires connect to one another, and then connect the Sync line to a switch that switches to ground. Do not switch the Sync line to any power source, as this will damage the units.

The front surfaces of the ZL-PSTL are sealed from moisture. However, the backside is not. When attaching the back to the mounting surfaces of the tail fin, use of Silicone caulking is **necessary**. Please use GE Silicone II (GE 284 3TG) (it is metal safe and mildew resistant). Loctite 5045 is also a choice but it is substantially more expensive. A thin layer over the entire back will form a reasonable gasket to seal out rain from corroding the wires of the ZL-PSTL.

The ZL-PSTLB generates no radiated RF energy, and the use of shielded wiring is **not necessary (but recommended)**!



Specifications

Dimensions	2.0"x 1.75"x 0.8"
Weight	0.5 oz (20 grams)
Input Voltage	11-15 V DC
Current Draw	300mA average, 0.8A peak
Power	4.2 Watts average
Light source(s)	3 high-power White LEDs, 140° field pattern
Output	600 lumens peak
LED Lifetime (operating time)	> 50,000 hours
Warranty	3 years