

Thank you for your purchase of the DC Dual Variable Flasher Unit. This device is intended to cycle between one device and another, (typically a lamp) alternately at a variable speed between about 20 cycles per second 1 cycle per second. This means that Lamp A will illuminate for half of the cycle, then Lamp B will illuminate for the other half of the cycle.

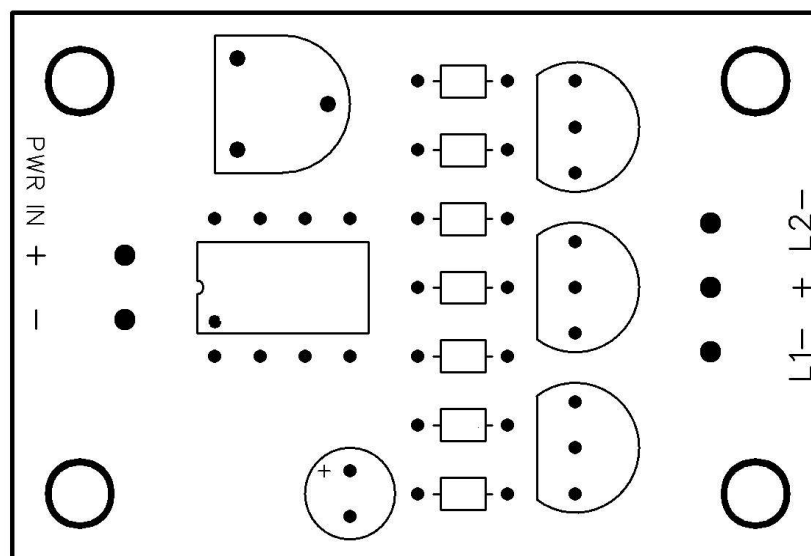
Connecting your DC Dual Flasher unit

Make sure the compression terminal is loose and set your wire (AWG18 or smaller) inside the terminal. Tighten the terminal lug with minimal torque, finger-tight only. You should be able to gently pull on your wire to test and ensure it is fastened to the terminal. Do not attempt to connect your wires to the unit while it is energized.

The Flasher unit is designed to operate on a DC power supply source of 6 to 18 volts. Please observe the polarity of the device printed on the board where the terminals are located. Below is an enlarged print of this unit for clarification.

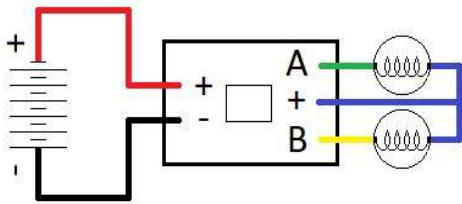
****WARNING**** Attempting to connect power in reverse of the indicated polarity will damage the unit. Connecting the unit to more than 18 volts will also damage the unit. Never attempt to connect this unit to commercial power. (120v/240v AC)

The Flasher unit is designed to provide a DC output to two devices (typically lamps) which will run on DC power, relative to the supply voltage. Therefore if you provide DC 12 volts in, the output should be as close to 12 volts out. The maximum output power for this unit should not exceed 0.6 Amps, or 600mA at full duty cycle. Exceeding this current will damage the unit. Positioning the unit in such a way as to short-circuit the output terminals will surely exceed the 600mA output capacity. The output uses a Common Anode output, meaning two lamps or devices share a Positive Terminal, and the Negative Terminals are switched. Below is an enlarged print of this unit for clarification. The unit is capable of driving LEDs and incandescent lamps as well as small, low-power solenoids, relays or motors.

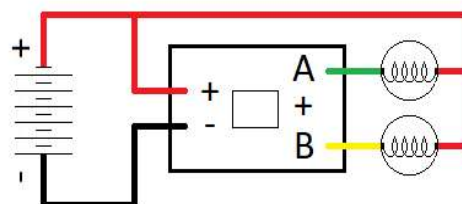


Connecting your DC Dual Flasher unit (Cont'd)

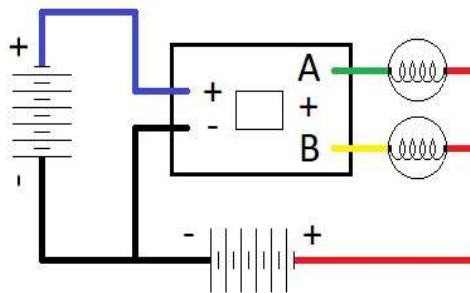
The DC power supply connects to where the board is marked + POWER IN – where the pole on the left, marked with + connects to positive and the pole on the right, marked with – connects to negative. Please remember to not reverse these as it will destroy the flasher unit. The lamps or other controlled devices connect to where the board is marked LAMP A and LAMP B, with the center pole being the Common Positive, or Common Anode for the lamps. Lamp A Cathode or Negative is on the left side of the terminals and the Lamp B Cathode or Negative is on the right side of the terminals. You may also choose to disregard the center pole on the output and attach your lamps or other devices directly to the power supply on the Positive terminal. In the beginning of the cycle, Lamp A will begin illuminated and then go dark as the cycle changes, whereas Lamp B will begin dark and then illuminate as the cycle changes.



Standard Connection using 3 poles on output



Standard Connection using Common Positive from Battery



Use this method of connection when you need one source to drive the flasher circuit but another source to power the lamps. (I,e 3-Volt lamps, 12-Volts to operate flasher)

Adjusting your Flasher's speed

On the edge of the board is a Trimmer Potentiometer, which gives you the ability to adjust your flasher's speed. After you have connected your flasher as indicated by the illustrations above, you should observe your lamps flashing alternately. You can then take a small flat or phillips screwdriver and adjust the speed to your desired flash rate. Turning the Pot Counter-Clockwise will slow your flasher while turning the Pot Clockwise will increase the speed. The potentiometer is a single-turn tapered device, meaning you are only capable of turning it less than 360 degrees to cover the full range of it's ability. Do not attempt to turn it past the range it is capable of turning. The pot should easily spin for you, like a loose screw, therefore minimal force should be exerted to turn the head of the pot.

Mounting your Flasher unit

The unit is equipped with a 1/8th inch (3.175mm) mounting hole on each corner. You will need to give approximately 1/4th inch clearance or more between any panel or board you are fastening it to, otherwise the tracks, leads and wire terminals will press into the back and it will cause stress to the PC board of the unit, which may lead to failure. You can use 1/8th inch, 3/16th inch or 1/4th inch PVC tubing cut to the same length at least 1/4-inch or more to use as stand-offs for the board. Just be aware that too much force on the holes will cause the PC board to stress and fracture. You may also use 1/4-inch studs that are fastened into a board or panel and then secure your unit to the studs from there. These holes are insulated from the circuitry, so you may want to use a grounding ring on at least one of the screws if it becomes necessary. You may wish to fasten the board in another manner entirely or not fasten it at all. The only warning I have for those who do not want to secure the device is to be aware that the printed circuits on the bottom of the unit are like bare wires. If you are going to leave them exposed, they may short circuit and possibly start a fire. Even if you are leaving the unit in an enclosure but not fastened, you should at least cover the exposed circuitry with an insulative property such as Electrical tape or non-conductive foam padding.

Notes

One other fact of the behavior with this flasher is during initial power-up, Lamp A will stay on approximately 40-50% longer on the first cycle before switching to Lamp B. After the first cycle has completed, the following cycles should remain normal and continuous to the desired flasher output. The mechanics of the logic used in this flasher causes this behavior. The delay is caused by the ramp-up voltage to the timing capacitor. For more details on how it works, ask me to send you my tutorial on the 555 timer IC as an Astable Multivibrator circuit.

Your DC Dual Variable Flasher is guaranteed!

I promise that you will receive a fully functional and working flasher unit. You should be able to follow these simple instructions to connect them to your application and get the desired results right away. I promise to ship the unit to you in a manner that will arrive to your door safely, even if the carrier used the package as a football for the peewee league. If your flasher unit arrives broken, does not work appropriately when you connect it, or if you are just not satisfied with it, I will replace it or refund you 100% of your purchase cost with no questions asked. If you should have any questions, please email me at JasonTurcyn@yahoo.com

Thank you for your business!