HauntedIllinois.com - Props: Light Flicker Box

5-6 Minuten

Light Flicker Box

This project box will flicker up to 600W of lighting, to simulate problems with the wiring or the possibility that the power is going to go out. If you don't use the exact dimmer specified here, the wattage handling capacity of this circuit may vary.

Here is a list of the parts that you need:

- Lutron 600W Dimmer Switch DNG-600PH-WH (or any standard single pole dimmer switch)
- Standard Wall Socket
- Westinghouse 3W Flicker Flame Bulb (#03761 or equivalent)
- Standard 120V Candelabra Socket
- Cadmium Sulfide Photocells (Radio Shack 276-1657)
- 7" x 5" x 3" Project Box (Radio Shack 270-1807)
- Assorted Hardware / Wires

1) Remove the back cover of the Dimmer Switch:

The first thing you will need to do is remove the plastic cover off the back of the dimmer switch, so you can access the parts inside. You can do this by drilling out the rivets that hold the cover on the back of the dimmer. Once the plastic cover is off the back of the dimmer, it will look like this.

2) Hook up the Photocell wires to the Dimmer Switch:

Find the triac inside the dimmer switch (shown in the illustration below) and unsolder the wire from rightmost triac lead. Solder a wire (about 8" long) to the wire you just unsoldered. Solder another 8" wire to the rightmost lead of the triac (as shown below). These 2 wires you have just soldered into place will be connected to the photocell later.

triac

Disconnect wire from
rightmost triac lead,
represented by the dotted
line, and hook up photocell
inline as shown.
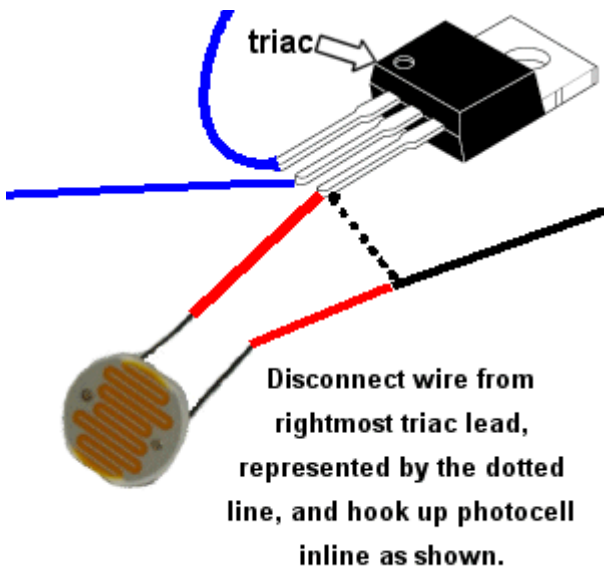
After you have done this, your connections should look something like this:

3) Put cover back on Dimmer Switch:

Next, be sure to tape up the wires so they don't short out to any other connections or the case of the dimmer switch. Now you can route the wires neatly and put the plastic cover back on the dimmer switch.Since you drilled out the rivets that held the plastic cover to the dimmer switch plate, you will need to hold the dimmer and cover together with a couple of small screws and nuts. After you have done this, your assembly should look like this:
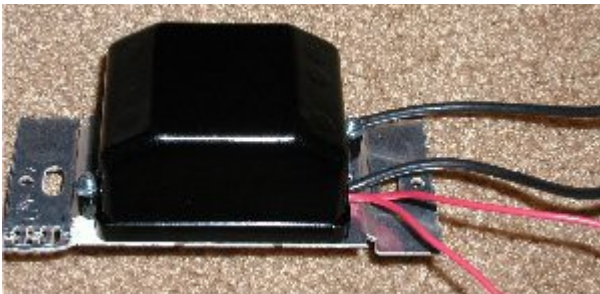
Be sure to clearly mark the wires that you added, because they will have to be connected to the photocell eventually.

4) Prepare the Photocell Mounting:

First, solder the photocell to a small piece of circuit board. Then solder the wires you added to the dimmer switch, to the leads of the photocell (polarity is NOT important). Be sure to tape up the

connections of the photocell; you don't want to get shocked when you adjust the photocell later. Next, you will want to make an angle bracket to hold the circuit board in place (see picture below). I put a slotted hole in the bottom of the bracket, so the photocell can be adjusted back and forth, after it is mounted to the bottom of the box.
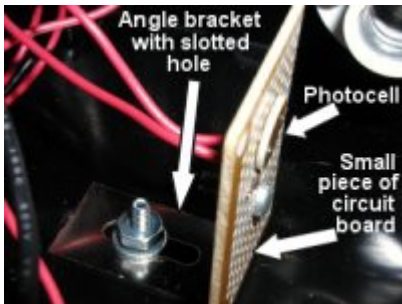

5) Mount Hardware in Project Box:

The next part of the project is the most time-consuming, mounting all of the hardware inside the project box. You will need to cut holes in the box to accommodate the dimmer switch, outlet and toggle switch. Below is a picture of how I laid out all of the parts inside of the box. Because of how tall the Flicker Flame bulb is, it will have to be mounted to one of the sides of the box, not the bottom. Mount the flicker bulb at the proper height, so that it will line up with the photocell, when it is assembled.
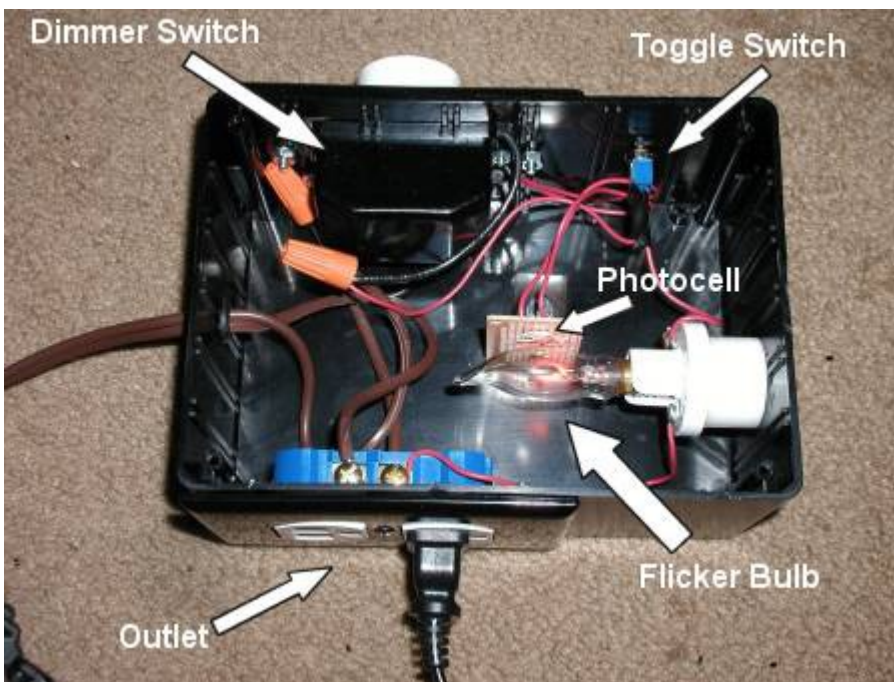
6) Wire all the components according to the schematic below:

Hook up the wiring as shown below.
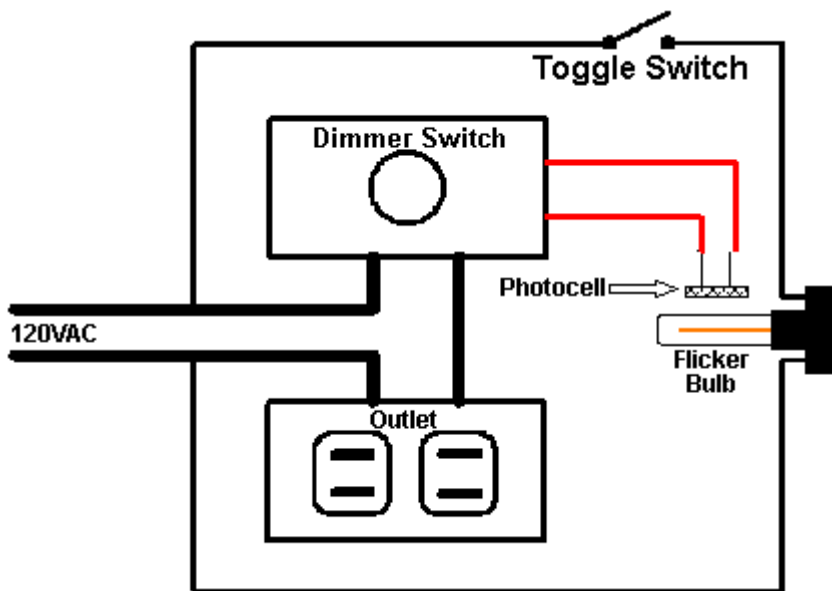
7) Test the circuit:

To conduct this test, you will need to be in a dark or very dimly lit environment. External light will interfere with the operation of the Flicker Box. Plug in the Flicker Box. Be VERY CAREFUL. You will be working with 120 Volts! Don't touch any of the live connections. Flip the toggle switch to the "on" position, turn on the dimmer switch and turn the knob all the way clockwise. Plug a floodlight into the outlet. Your flicker bulb should be "flickering" and the floodlight brightness should vary with the flickering of the flicker bulb. If the floodlight isn't lighting up, double check that you have turned on the dimmer switch. At this point, if the floodlight still isn't working, you may have to adjust the distance between the photocell and the flicker bulb (mine seemed to work the best with the photocell only 1/4" away from the flicker bulb). After you have adjusted it properly, screw the top on the box and you are done!!!