

How To Make Solar Powered Walkway Lights



I sure loves me some sun jars! They incorporate several of my favorite things to mess around with: LEDs, Solar panels, hot glue, man it's all there and they look great to boot!

Here are step-by-step instructions on how to build your own!

[protected]

However, there is one big fat problem: the sun! When it's dark out, oftentimes the places I'd really like to have a little extra light are just the spots you can't leave a sun jar due to lack of direct exposure to sunlight.

The obvious solution to this dilemma is to separate the solar panel from the sun jar. I extrapolated this a bit further and realized that the only thing you actually need in the jar is the LED, and since you don't have to cram all the other electronics in there, you don't have to stay with the classic sun jar shape.

With this in mind, I combed craigslist for some suitably shaped glass blocks, went to Home Depot for the appropriate solar light, stocked up on speaker wire and came up with the Solar Powered Walkway!





The Walkway

Here is the little path that goes from my driveway to the front door. I decided this was the best place to put the lights, mostly because I wouldn't have to move a bunch of concrete, but also because I'd get to walk the path each night when I came home from work.

I figured I'd put one of the glass blocks in the path first just to see how it would look during the day. I dug a little hole, just a bit deeper than the end result would be. I poured a little fine gravel into the bottom of the hole, so you wouldn't just be looking at dirt through the glass. I filled it back in around the block, and left the top just a bit higher than the surrounding gravel, as I figured it would settle out a bit. Everyone who saw it thought it looked nice, so it was off to the next step.



Solar Power!

I found these awesome solar lights designed to clip on to a patio umbrella at Home Depot for about 8 bucks. I decided to go with these because the solar panel was separable and the batteries drove six separate LEDs. If I'd used the standard solar lights it would have meant six little solar panels and a lot more wires running around.

I separated the solar panel from the battery/circuit board case and extended the wires that connected them. The panel went on my roof just over the front door (see picture) and the battery case went under my newspaper box, with wires running

VoltsXamps | How To Make Solar Powered Walkway Lights

Copyright Jeff McDaniels webmastersof@gmail.com

<http://www.voltsxamps.com/?p=472>

discreetly along the corners and the edge of the window.

<http://www.dealextreme.com/details.dx/sku.5501>

<http://www.dealextreme.com/details.dx/sku.7491>

http://www.amazon.com/Designers-Edge-L-949-Rechargeable-Solar/dp/B0013HPNRY/ref=sr_1_fkmr0_1?ie=UTF8&qid=1264605147&sr=8-1-fkmr0

***Update 4/26/10 -- User Candor has pointed out this alternative to the lights I used, looks like it might be a good one:

<http://www.ikea.com/us/en/catalog/products/70177439>



Get to work!

Crack open the solar lights and separate the panel from the body. There are three wires that connect them, so measure the distance from where you'll be mounting the panel to where the body will be mounted, and then add several inches. Extend the three wires by that amount.

Within the body of the light, unsolder the LEDs and replace them with about 6-10 inches of speaker wire. Make sure to seal everything up well with epoxy or silicone! Mount this whole assembly on your house first, make sure it works, then prepare your glass blocks. I used epoxy (because I'm an idiot) to mount the panel to the roof and the body under the paper box, and then stapled the wires in place.

At the corner of each of your blocks, mount an LED of your chosen color, tack it in place with hot glue, then cover the whole shebang in epoxy or silicone. Make sure you leave the leads exposed!



Get to more work!

I marked the spots on my path where I wanted the bricks, and measured the distance from there to the case of the solar light, and added about a foot. I found out the hard way that I probably should have added more like three feet just to be safe!

Cut speaker wire to these lengths. Make sure you label them for easy installation later. Strip the ends of the wires and solder up one end to each of the bricks. After these are attached, epoxy or silicone any exposed wire or solder.

As described in step one, dig the holes in the path, fill the bottom with gravel, and install your blocks. In addition, you'll need to dig out a little trench between each block, to run your wires through. For this reason, I started with the one that was farthest from the solar light, accumulating more wires in the trench with each brick I added.

Eventually I ended up at the solar light and soldered each of the block wires to one of the loose wires installed where the LEDs used to be in the solar light. Let me tell you, soldering outdoors in the dark is a little bit trickier than doing it at the workbench! Make sure you coat all your exposed wires in epoxy or silicone to keep the rain out.

When you're done, bury all the wires, flip the switch, and enjoy your Solar Powered Walkway!



Final Thoughts

I guess the one downside (if you see it as a downside) to having a glowing path in front of your house and visible from the street is that it seems to draw in weirdos like moths to a flame. I have on two separate occasions gone out of my garage for a smoke and caught someone on the path--one guy was just standing there staring, and one lady (who was in her forties and clearly on LSD or maybe ecstasy) was hopping from brick to brick. On the other hand, everyone oohs and aahs over it when they come to visit and I like walking on it, so on the whole it's a good thing.

This was one of the first electronics projects I did after we bought our new house last spring. I'd been moving and unpacking and fixing up little things for a month and a half and was just sick of neglecting my more eccentric hobbies, so this was a nice entry back into doing strange things with multicolored lights.

VoltsXamps | How To Make Solar Powered Walkway Lights

Copyright Jeff McDaniels webmastersof@gmail.com

<http://www.voltsxamps.com/?p=472>

I finally rigged up some battery power for the lights so I could take some decent pictures of the path. My plan is to either repair it or replace it with one of the other ones I picked up. I hope I can repair it, as I'd like to add more lights around the yard once I've done more with the landscaping.



Enjoy!

[/protected]