

## Capacitive Touch Holiday Light Control

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## Materials

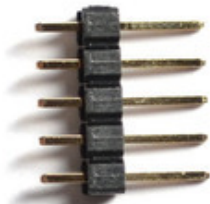
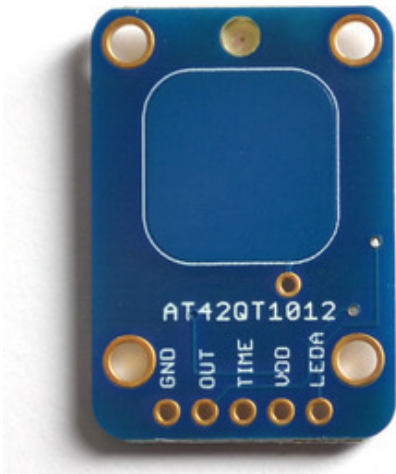
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Switch your holiday lights on and off with a wave of your hand.

This simple project can be complete in an hour or two and requires no programming at all. It combines a PowerSwitch Tail II with a stand-alone capacitive touch sensor disguised as a holiday ornament. The large area of the cap-touch sensor makes it extra sensitive. You don't need to actually touch it. It can sense your hand from an inch or more away.

To build this project, you will need:



### Capacitive Touch Toggle Switch

This will turn your holiday ornament into a touch sensor.



### Powerswitch Tail

This will switch power to your lights.



### 5v Power Supply and Adapter

Any small 3v-5v power supply will work. See the links on the right for the exact model used for the prototype.

If your power supply comes with a barrel plug, the adapter will simplify the wiring.



### A Metallic Holiday Ornament

Choose a store-bought ornament, or make one yourself out of some heavy wire or metal rod.

The only requirement is that it conduct electricity.



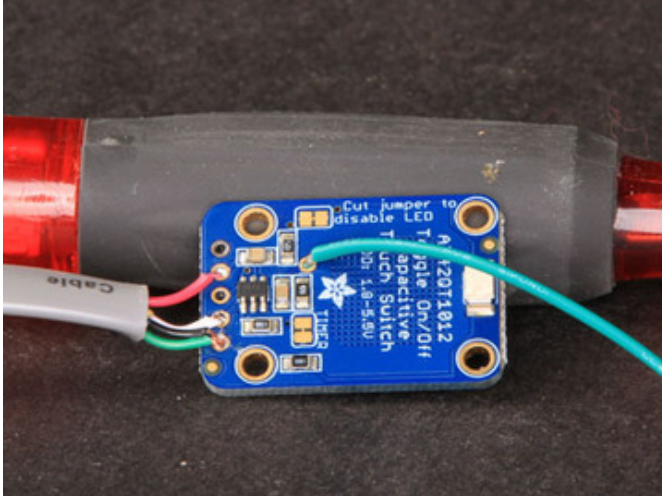


You will need some 4-conductor wire to connect the touch sensor to the Powerswitch Tail.

[Telephone modular cable \(https://adafru.it/efm\)](https://adafru.it/efm) is inexpensive and works well for this project. You may even have some around the house somewhere (Remember when telephones had cords?) Just cut the connectors off the end and strip the wires.

[Some cable ties \(https://adafru.it/efn\)](https://adafru.it/efn) will help keep all the wiring nice and organized. Electrical tape can be used instead if preferred.

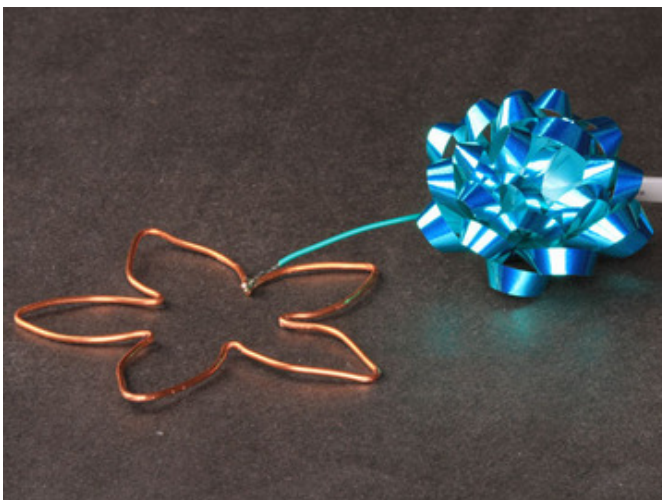
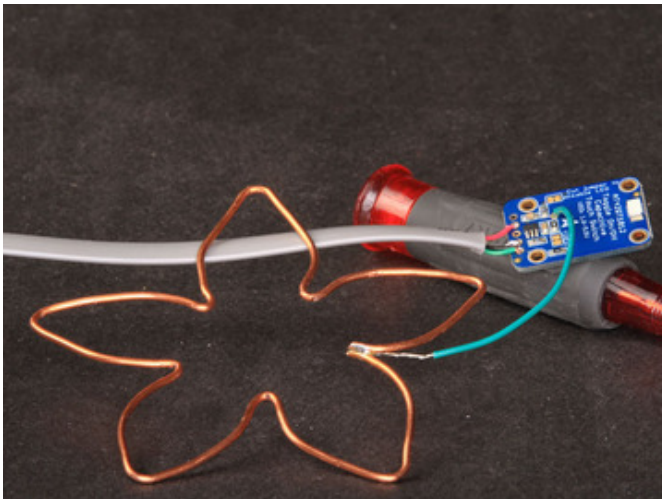
## Wire it up



### Solder the wires to the sensor

Connect the wires to the sensor breakout as shown.

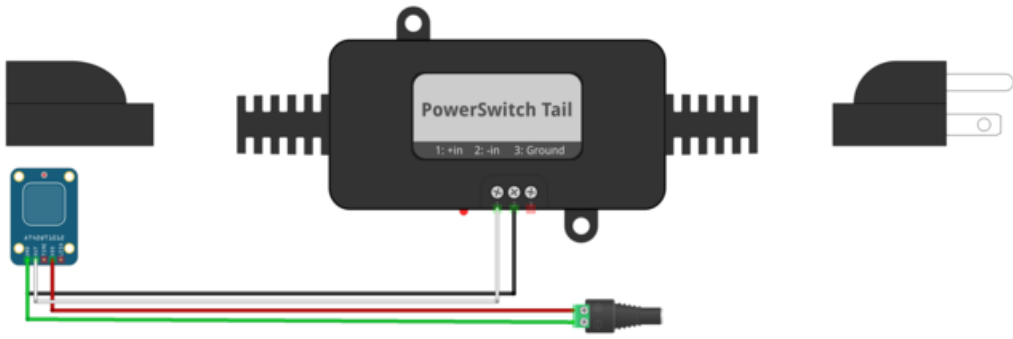
- Note that the black and green wires are twisted together and both soldered to the GND pin.
- Solder a short wire to the sensor pad and connect the other end to the ornament. Make sure that it makes good electrical contact with the ornament.
- You can disguise the sensor breakout with a bit of ribbon.



### Connect the Powerswitch Tail

Connect the sensor and the power supply adapter to the Powerswitch Tail as shown in the diagram below:

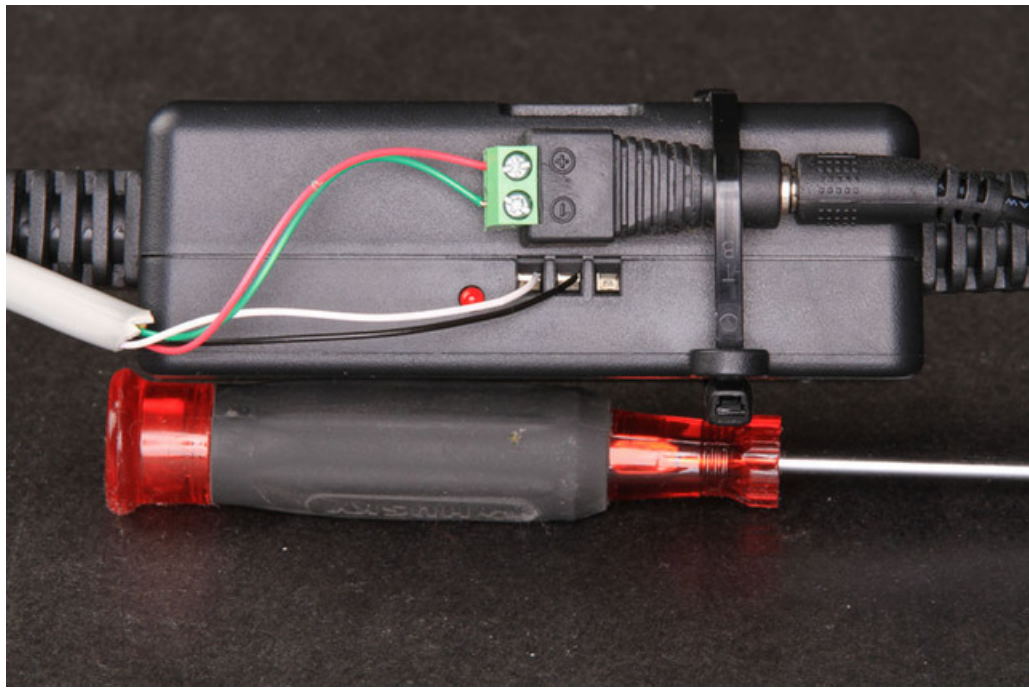




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Wrap it up in a tidy package

Plug the power supply into the adapter and secure all the wiring with some cable ties or tape.



Light it up!

Position the touch-sensor ornament



Add power

- Plug the lights into the PowerswitchTail
- Plug the Powerswitch Tail and the 5v Power Supply into an outlet



And touch to turn on!

