



Solar Tracker-Arduino



ElectricOasis

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Summary

An Arduino powered Solar Tracker

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This is an Arduino Uno Based solar Tracker- it uses 90% 3d printed parts with a 20x20 aluminum extrusion frame.

you will need:

2 micro servos

1 stepper - 28-byj48

1- 300 mm gt2 belt

1 Arduino uno

1- board from the gerber file

3 - photo sensors with appropriate resistors to get the values to 500 in the Arduino code

an assortment of m3 & m4 hardware and t nuts

2 m6 x 15mm bolts

2 skateboard bearings

1- 5/16 (8mm) x 1.5" (38 mm) bolt

an assortment of wire (20AWG)

a crimp tool for JST terminal ends

5-2 pin JST ends

2-3 pin JST connectors

2 - micro limit switches (buy the ones with the cables and then depin the one side and attach a two pin in place of the three pin with the common and NO on the limit switch)

1 95x95 mm solar panel

**code will be updated in the future current version at time of posting is Version .7

- updates will include:

- removing all the serial commands as they were for debugging
- adding in a section for ease of changing certain parameters such as limits for angles and delay between searches
- adding in sleep function as it will currently just continually search for the sun
- adding in a homing function for morning alignment and a night-time detection system

any other features feel free to ask but I am usually very busy so I cannot guarantee the requests can be implemented in a timely manner.

Model files



light-sensor-holder-old-version.stl



light-sensor-holder-larger-old-version.stl



main-body.stl



upper-shell.stl



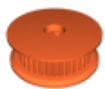
end-plate-mount.stl



18-tooth-pulley-current-gear-in-code.stl



three-peg-light-sensor-new-version.stl



small-gear-old.stl



limit-switch-holder-1-old.stl



lower-shell.stl



micro-limit-switch-holder-2-new.stl



limit-switch-holder-old.stl



stepper-mount.stl



micro-limit-switch-holder-1-new.stl



arduino-holder.stl



main-mount.stl



big-gear.stl

Other files



gerber_solar-final.zip



solar_panel_moving.ino

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