



Anemometer with Hall sensor and magnet

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VIEW IN BROWSER

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Summary

This is a simple (almost) fully printed anemometer with a small magnet and a Hall sensor.



4.35 hrs



5 pcs



0.20 mm



0.40 mm



PET



48 g



Prusa MINI /
MINI+

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Tags: [sensor](#) [wind](#) [anemometer](#)

I created this simple and (almost) fully printed anemometer for students in local high-school programming classes.

3D printed parts (PETG):

1. Top dome
2. Top core (this is where a small magnet is placed)
3. Bottom body (this part contains a Hall sensor with a wire)
4. Bottom leg
5. Cup (printed 3 times, need support in the middle of the cup)

Mechanical and electronic parts:

1. Ball bearing 625RS (ID: 5 mm, OD: 16 mm, height: 5 mm)
2. Neodymium magnet $\varnothing 4$ mm, height 1-3 mm
3. Hall sensor OH137 in TO-92 package
4. Wire 3 core
5. Few centimetres of a heat-shrink tube.
6. Resistor 1 k Ω and capacitor 22 pF for connecting the Hall sensor to an Arduino.

Assembling:

1. Print all parts.
2. Press a magnet into a cavity in the “top core” part. It's a press fit, no need for glue.
3. Put all three cups into “top core” and press “top dome” over the assembly. It's a good idea to put a little bit of glue between “top core” and “top dome” parts.
4. Press the ball bearing into “bottom body” part. It should be a press fit, no need for glue.
5. Solder wire on the Hall sensor (use a heat-shrink tube to protect metal legs from touching) and push it through the hole in “bottom body” part.
6. Screw “bottom leg” into “bottom body”.
7. Press “top” assembly into the ball bearing inside “bottom” assembly.
8. Done. Now you can connect the Hall sensor to Arduino or any board you are using.

Model files



anemometer_all.3mf

☐ All pieces to be printed.

Print files



anemometer_leg_02mm_petg_mini_42m.gcode

⊗ PET ⊗ 0.40 mm ≡ 0.20 mm ⌚ 0.70 hrs ⚖ 5 g 🖨 Prusa MINI / MINI+



anemometer_core_02mm_petg_mini_42m.gcode

PET 0.40 mm 0.20 mm 0.71 hrs 9 g Prusa MINI / MINI+



anemometer_cup_02mm_petg_mini_51m.gcode

PET 0.40 mm 0.20 mm 0.85 hrs 9 g Prusa MINI / MINI+

Print 3 pieces.



anemometer_dome_02mm_petg_mini_46m.gcode

PET 0.40 mm 0.20 mm 0.76 hrs 10 g Prusa MINI / MINI+



anemometer_body_02mm_petg_mini_1h20m.gcode

PET 0.40 mm 0.20 mm 1.33 hrs 16 g Prusa MINI / MINI+

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