



Otto DIY build your own robot



Otto Robot

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Summary

An interactive robot that anyone can make, program with Arduino or Blockly software, App control and expandable.



5.58 hrs



2 pcs



0.28 mm



0.40 mm



PLA



92 g



Prusa MINI /
MINI+

[Hobby & Makers](#) > [RC & Robotics](#)

Tags: [toy](#) [robot](#) [steam](#) [diy](#) [stem](#) [biped](#) [arduino](#) [iot](#)
[ottodiy](#)

An interactive robot that anyone can make!

Otto walks, dances, makes sounds, avoids obstacles, you can code on your own and even customize, it is completely open source, Arduino compatible and 3D printable.

Features

- Programmable with [Otto Blockly](#) or Arduino IDE
- Walks & dances
- Avoids obstacles

- Makes emotional sounds and melodies

more details in <https://www.ottodiy.com/>

Print instructions

Otto is very well designed for 3D printing, so won't give you trouble if you follow these common parameters:

FDM 3D printer, PLA is enough.

No supports or rafts.

Resolution: 0.2mm

Fill density 15%

All parts in total use 100gr aprox. equivalent to 35m of regular PLA 1.75mm thickness, it should take around 4 hours to 3D print a full set of parts for one Otto even less with optimized settings depending on your printer and slicer.

List of Parts

- Otto Nano Microcontroller + I/O board
- USB cable
- Rechargeable 16340 battery booster **do NOT use Alkaline not enough power or use (soldering required)**
- Toggle or 8x8 push switch depending on the body your print
- ⚙ 4 x micro servo motors with set of screws.
- Ultrasonic sensor **HC-SR04**
- Buzzer passive Ø12mm
- 8x DuPont female to female jumper wires
- Small Phillips screwdriver magnetized
- Bluetooth module (optional, must be BLE compatible [for the webapp](#))
- 3D Printed head
- 3D Printed body
- 3D Printed legs (2)
- 3D Printed feet (2)

How to build videoHow to code video

- Looking for more stable legs? print these: [alternative robot biped legs](#)
- Expand into a [Humanoid robot](#) or [Smart robot](#)
- Change the legs to [Wheels robot](#) or [Quadruped robot](#)
- Change the head to [Emotional LED eyes robot](#)
- Make the head rotate with this [rotating head expansion](#)
- or simply decorate with these [robot face accessories](#)
- **Avoid hassles with the new [HP Robots Otto!](#)**

We invested lots of time and resources to provide open-source code, software, and hardware, please support this project by just **following us, giving us a ♥ Like and share** and you are **welcome to be a part of this friendly community** of robot builders, teachers, and makers.

Join today our **Otto Builder community**

This remix is based on



Otto DIY is a 3D printable open source robot

Model files



ottodiyheadv13_nanoshield.stl

☐ Head to use when having the Arduino Nano + I/O Shield



ottodiybodyv11_booster-square-switch.stl

☐ Body for booster + charger battery module (compatible with toggle switch)



ottodiylegv13.stl

☐ Print x2



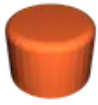
ottodiyfootrv13.stl

☐ Foot Right



ottodiyfootlv13.stl

☐ Foot Left



power_switch_button.stl

☐ Button cap for micro switch (optional)



ottodiyhead_esp8266.stl

☐ Alternative when having NodeMCU ESP8266 + I/O Shield



ottodiyhead_ninjaboard.stl

☐ Alternative when having diymore PCB



ottodiybody_9vbattery.stl

☐ Alternative when having the 9V Lithium rechargeable batteries



ottodiybody_booster-toggle-switch.stl

☐ Alternative when having toggle switch



otto-diy-cad-step.step

☐ CAD export neutral



ottodiy-v129.f3z

☐ CAD source Fusion 360 (version differs from STL)

Print files



ottodiyhead_028mm_pla_mini_1h28m.gcode

🌀 PLA 🌀 0.40 mm ≡ 0.28 mm ⌚ 1.46 hrs ⚖️ 26 g 🖨️ Prusa MINI / MINI+

☐ Head only

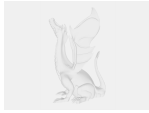


ottodiybodylegsfeet_028mm_pla_mini_4h7m.gcode

🌀 PLA 🌀 0.40 mm ≡ 0.28 mm ⌚ 4.12 hrs ⚖️ 66 g 🖨️ Prusa MINI / MINI+

☐ Body legs and feet together

Other files



ottodiy_manualsparkfun_shieldnano.pdf

📄 this one is specifically for the standard kit

[Find source .stl files on Thingiverse.com](#)

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