Otto DIY build your own robot

Otto DIY

VIEW IN BROWSER

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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 by your own and even customize, It is completely open source, Arduino compatible and 3D printable.

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

Print instructions

If you bought a Builder kit you can skip ahead but if you have the Maker kit you have to 3D print the parts but Otto is very well designed for 3D printing, so wont give you trouble if you follow this common parameters:

Recommended to use a FDM 3D printer.
No need supports or rafts.
Resolution: 0.3mm or 0.2mm for better resolution
Fill density 15%
All parts in total use 100gr aprox. equivalent to 35m of regular PLA 1.75mm thickness, it should take around 5 hours to 3D print a full set of parts for one Otto even less with optimized settings depending on your printer and slicer.

Features

- Simple Programming with Otto Blockly or Arduino
- Walks & dances
- Avoids obstacles
- Makes emotional sounds and melodies

List of Parts

- Otto Nano Microcontroller + I/O board
- Micro 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
- Buzzer passive Ø12mm
- 8x DuPont female to female jumper wires
- Phillips screwdriver magnetized
- 3D Printed head
- 3D Printed body
- 3D Printed legs (2)
- 3D Printed feet (2)

How to build videoHow to code video

You could also remote control via our **WebApp**.

- 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
- **Try the new Otto in collaboration with HP Robots!**

We invested lots of time and resources to provide open source code, software and hardware, please support this project by just **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

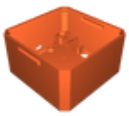
This remix is based on

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

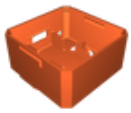
Button cap for micro switch (optional)

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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