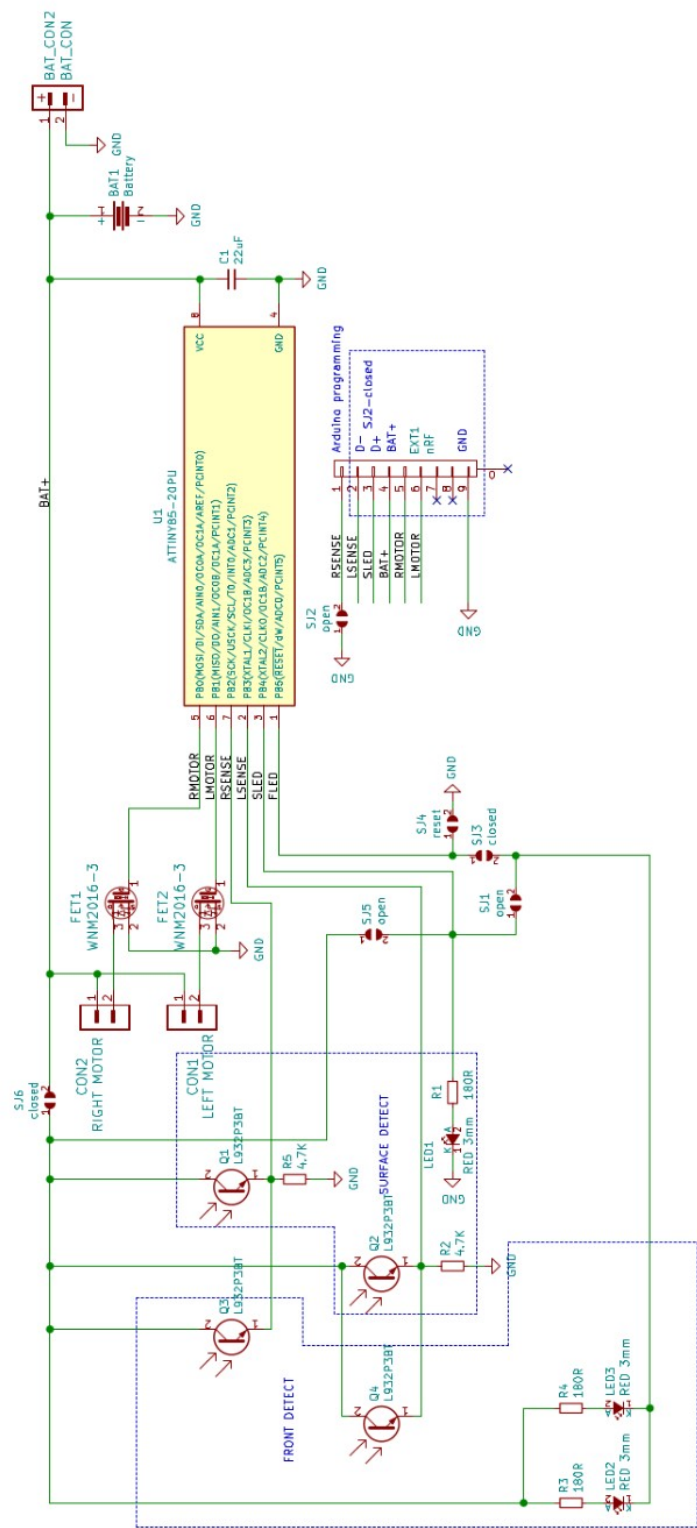# Minibot

Assembly guide

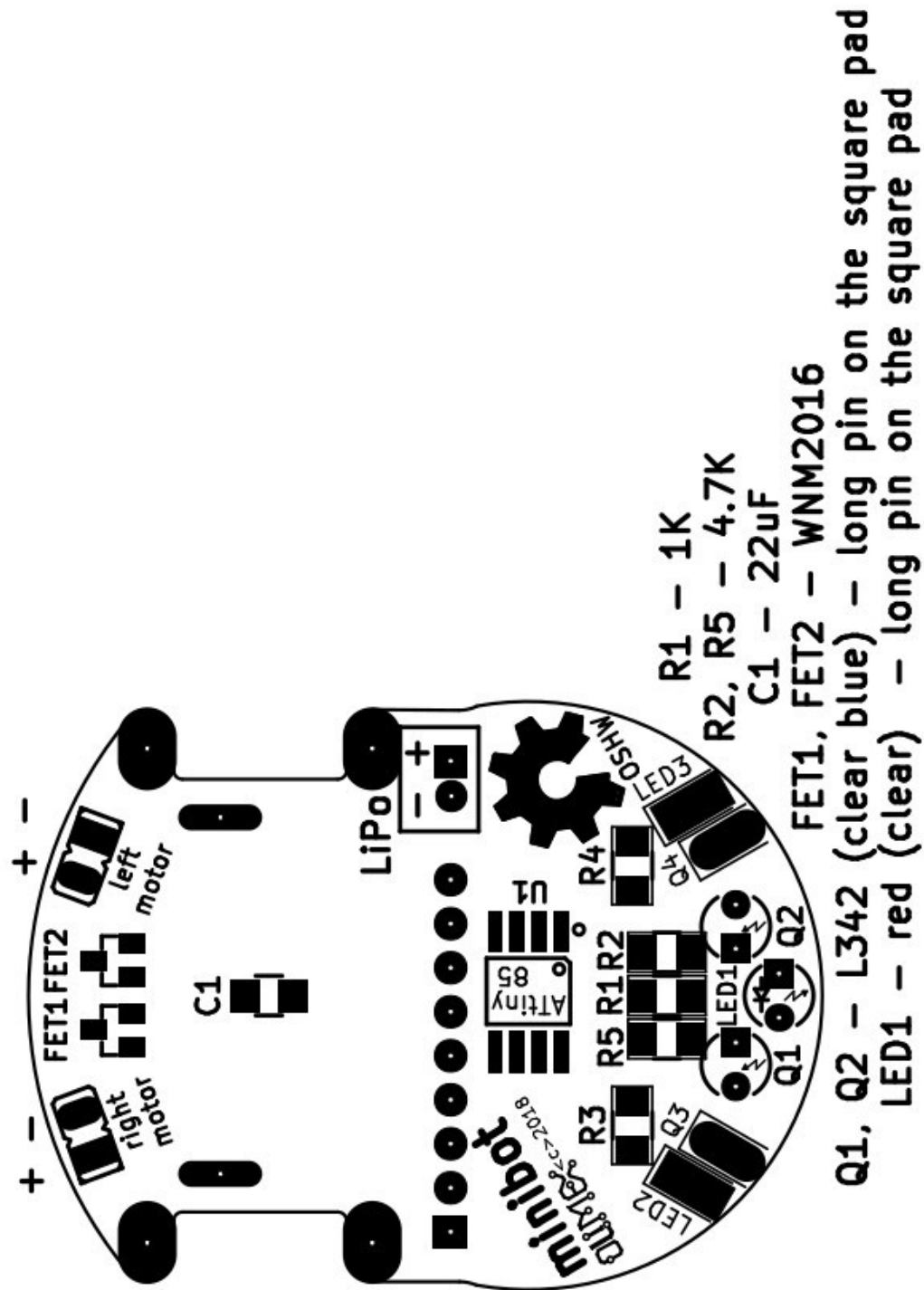**Rev.1 June 2019**

olimex.com

Board features

Minibot is Open Source Hardware small robot with two motors, four photo sensors and programmable via Arduino IDE. It's good for labyrinth escape and line follow. All documents and sources are on GitHub at

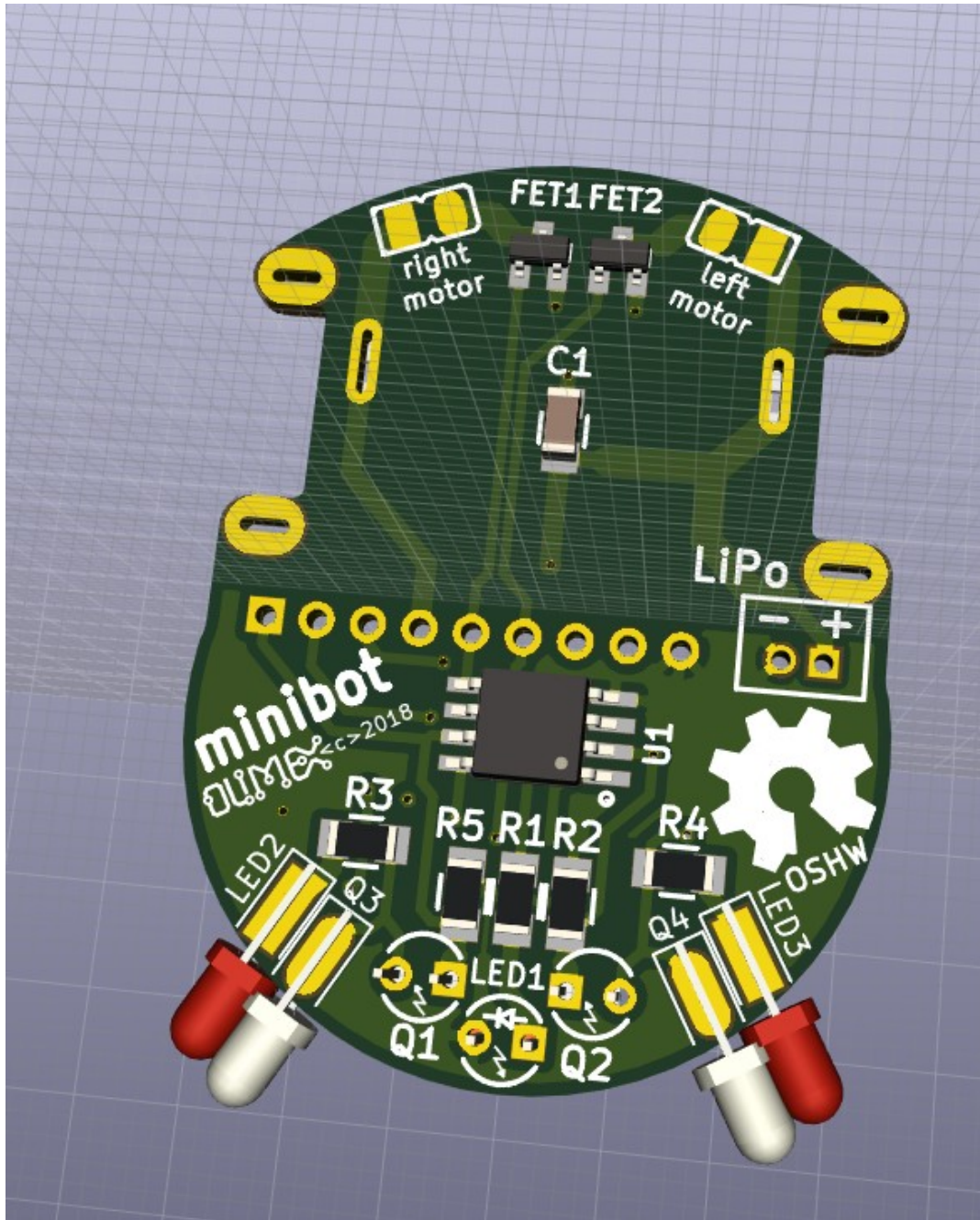https://github.com/OLIMEX/Minibot

Schematic

Component locations and assembly

R1 – 1K
R2, R5 – 4.7K
C1 – 22uF
FET1, FET2 – WNM2016
Q1, Q2 – L342 (clear blue) – long pin on the square pad
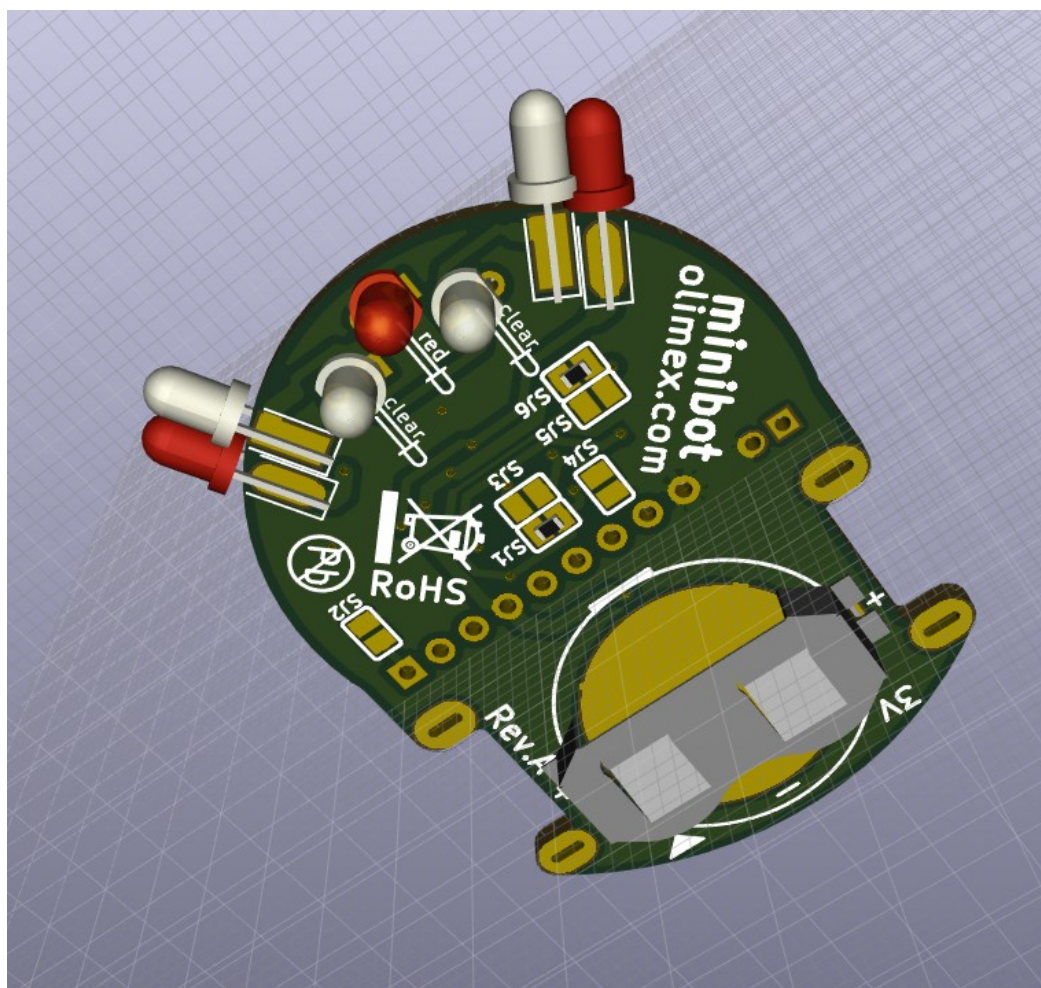LED1 – red (clear) – long pin on the square pad

Assembly notes:

LED2, LED3 and Q3, Q4 are soldered aside.

Q1, Q2, LED1 are soldering on bottom

In the kit we provide thermo shrinking tube, please cut in four part and use to shielf the photo sensors , so they receive light only in front but not from aside:

In the kit there are two rubber pads which can be used as tyres on the motors. We suggest to cut and use the small rubber tail as tyres, using the bigger pads will make robot faster but also not very stabile.
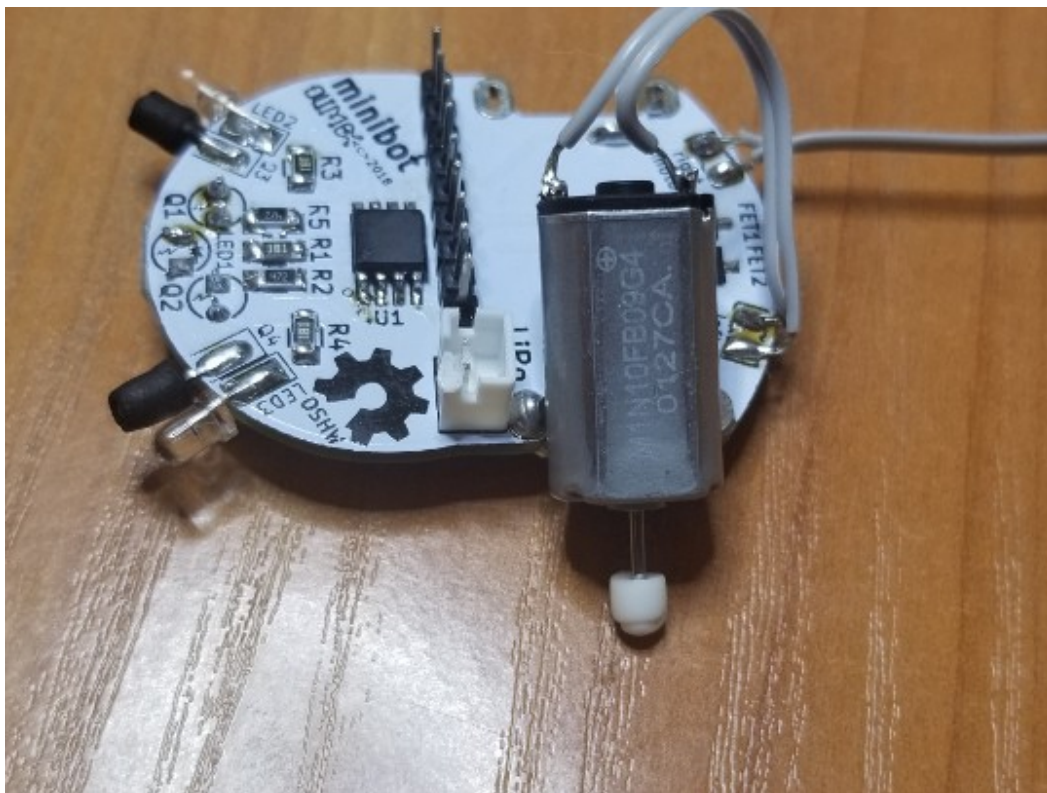
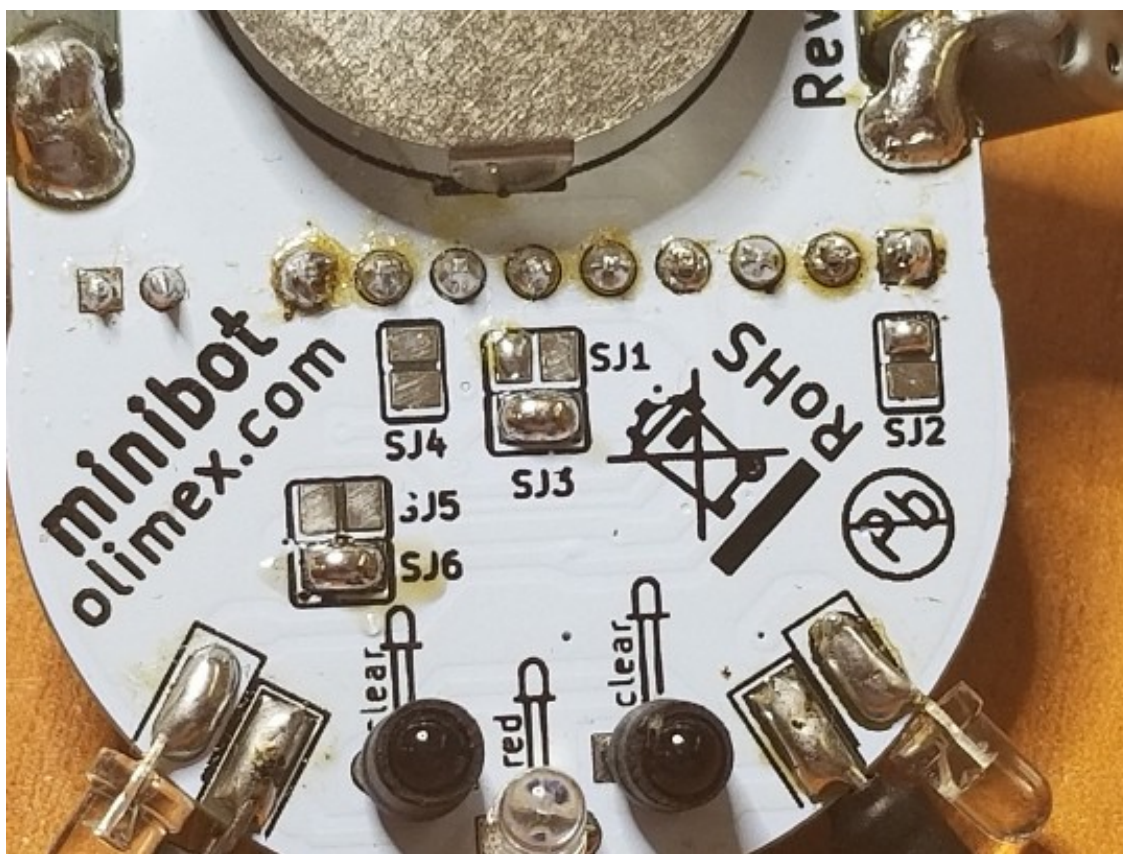Prepare the motors for soldering to the board by tining two dots on their body as shown on this picture:
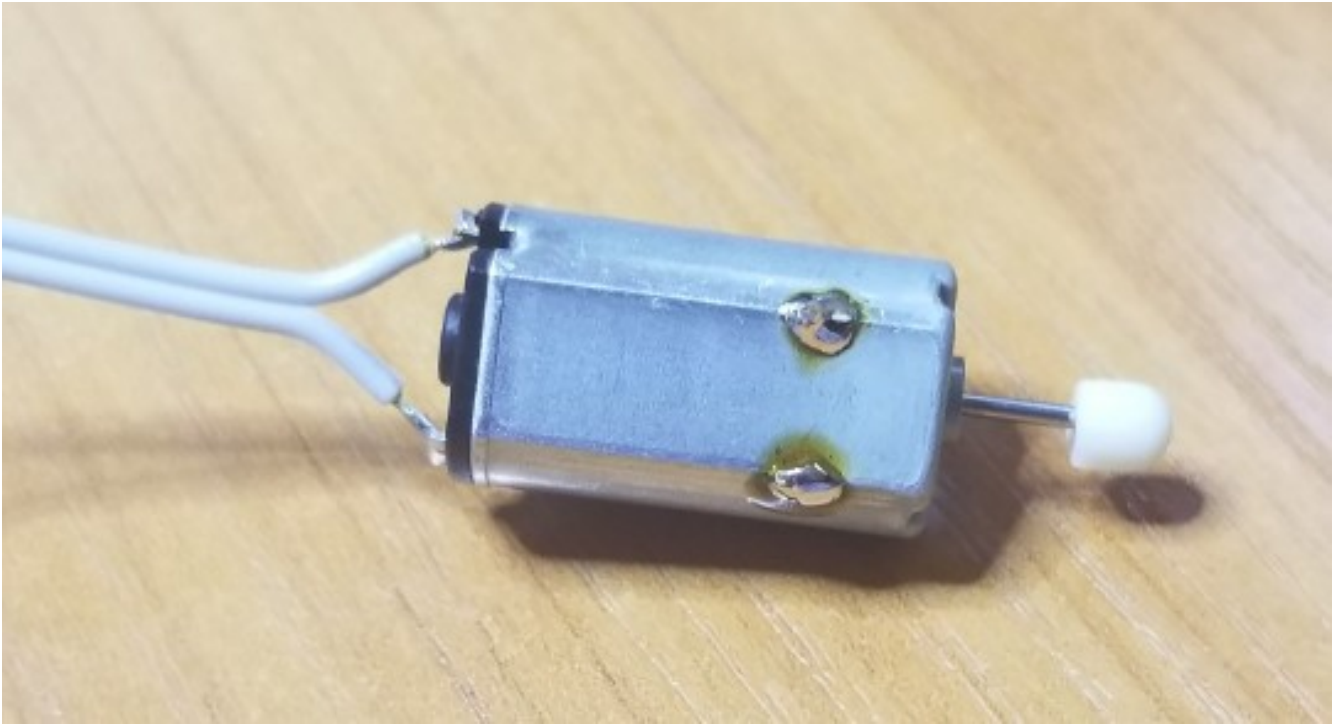
Then solder it at angle as on these pictures, note polarity motor has + and – marked on the body:
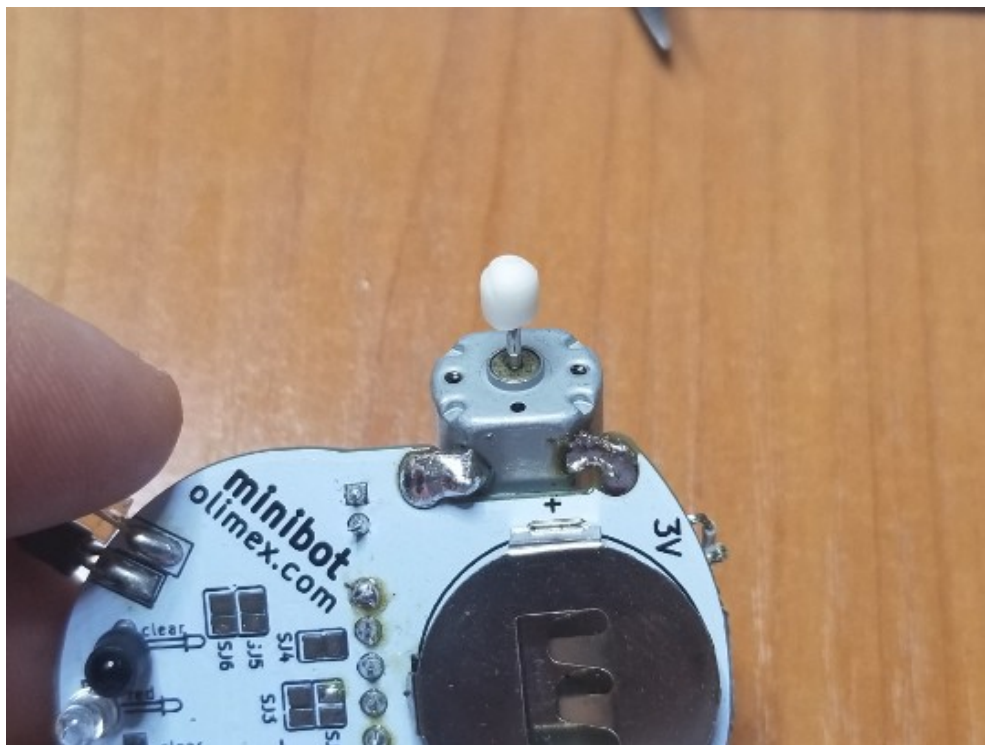
On the bottom side there are two solder jumpers SJ3 and SJ5 to be closed with solder joint:

Power supply

3V Lithium battery may be used to power the robot, but we do recommend LiPo 3.7V battery like https://www.olimex.com/Products/Power/BATTERY-LIPO250mAh/ as it may be re-charged and re-used.
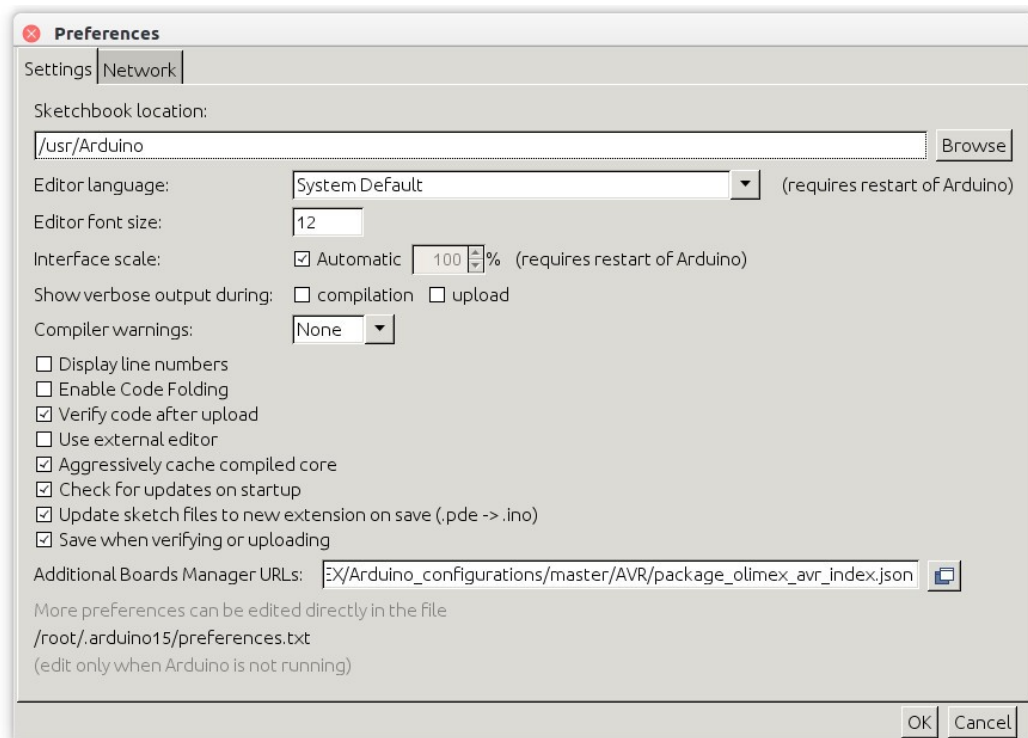
Software installation

All instructions below are for Ubuntu, but Windows installation is similar:

1. Download latest Arduino from www.arduino.cc
2. Unarchive to your Home directory. Run terminal and go to arduino directory and execute arduino scrip as superuser

$ sudo ./arduino

2. From File menu select Preferences:

In Additional Boards Manager URLs paste this:

https://raw.githubusercontent.com/OLIMEX/Arduino_configurations/master/AVR/package_olimex_avr_index.json

Then from menu Tools → Board → Boards Manager select OLIMEX AVR boards: then select Olimexino-85 as Board.

From GitHub you can download the software examples:

https://github.com/OLIMEX/Minibot/SOFTWARE

Revision History

1.0 initial