ArduiBox Open

construction manual

Rev.	Date	Description
A	2015-11-30	First release (translated from German document)
B	2019-02-18	Changed to ArduiBox Open Version 2.x

Tools:

agregulated soldering iron (25..40W) with small tip

a wet sponge to clean the tip

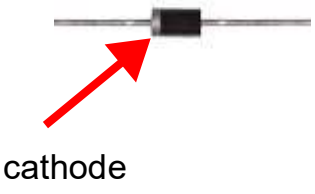
thin solder wire

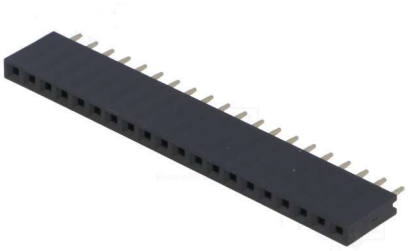
Side cutting pliers

Needle nose pliers

Medium cross slot screwdriver

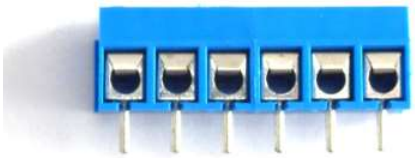
Parts Basic Version:

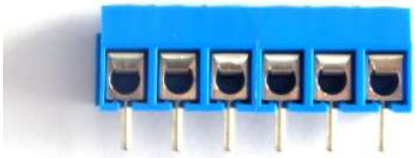
 1x 2pole terminal block	 4x 3pole terminal block	 1x 6pole male header
 2x 8pole male header	 1x 10pole male header	 1x 6pole female header
 2x 8pole female header	 1x 10pole female header	 cathode 1x Diode SB260

		
2x self-tapping screws	2x 15 - 20pole female header (option)	1x capacitor 100nF (C3) (option)

1.) Prepare the terminal blocks

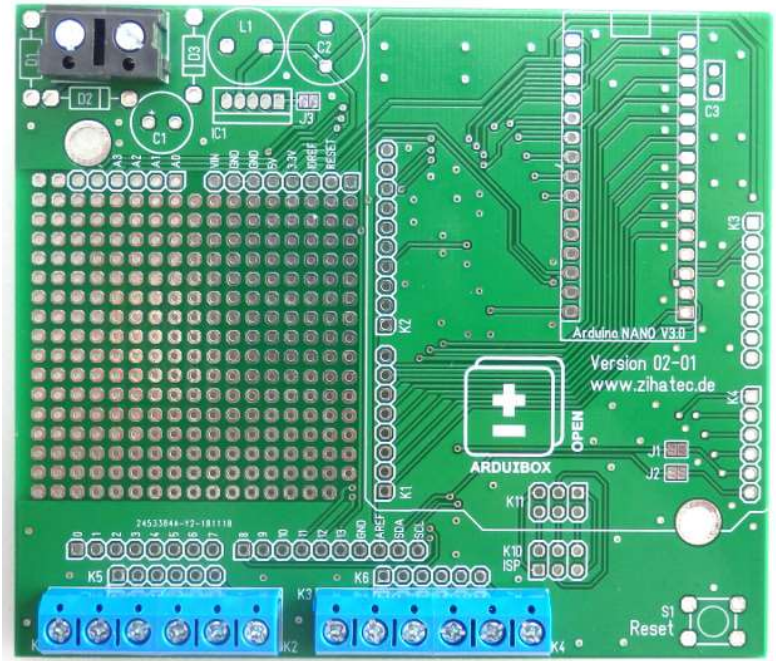
Find the terminal blocks, they're grey or blue and come in 3-pin shapes. We'll need to slide two 3-pin blocks together:

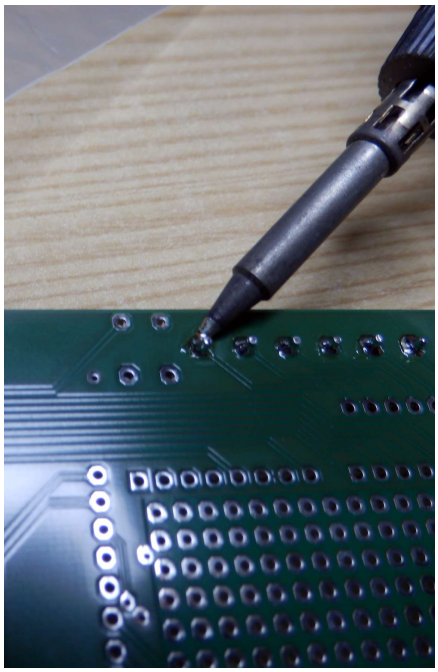




2.) Place and solder terminal blocks

We've to put the blocks into the proto plate. Make sure you place them so that the open ends are facing out as shown:

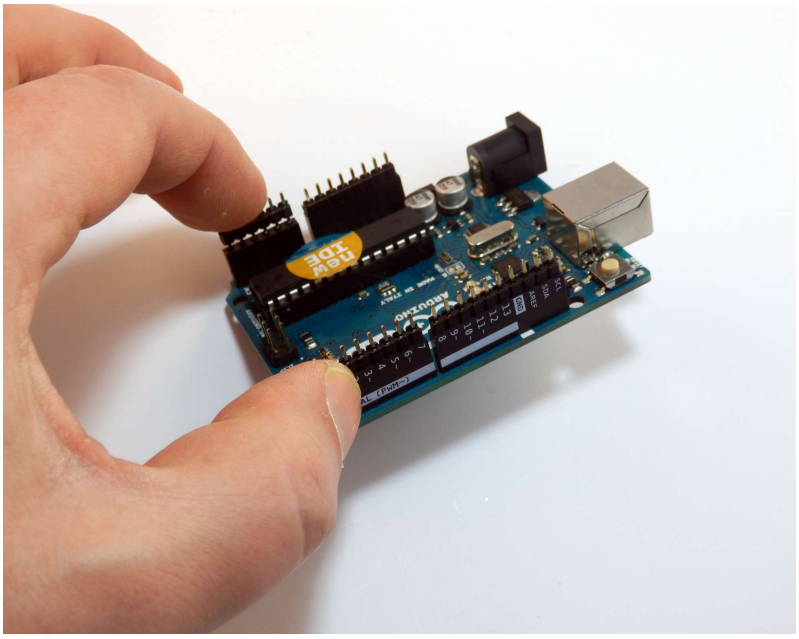




3.) Prepare the male headers for Arduino

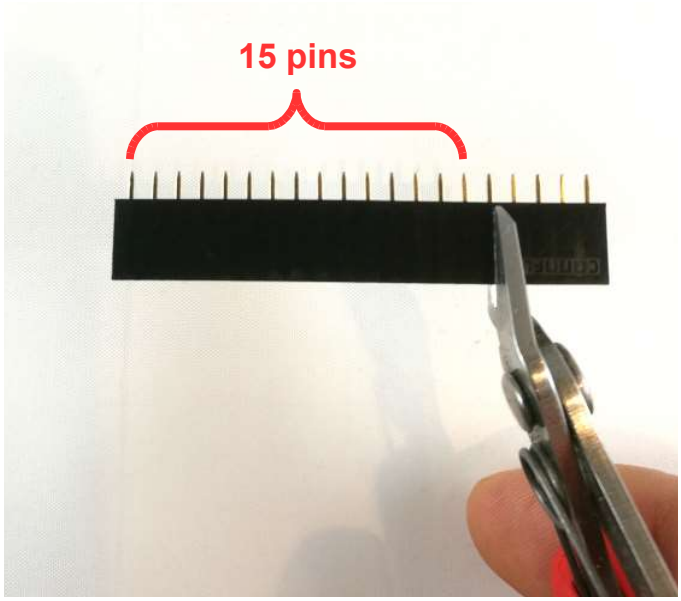
a) For Arduino UNO sized boards:

Find the 4 male headers and plug them into the female headers of the Arduino:

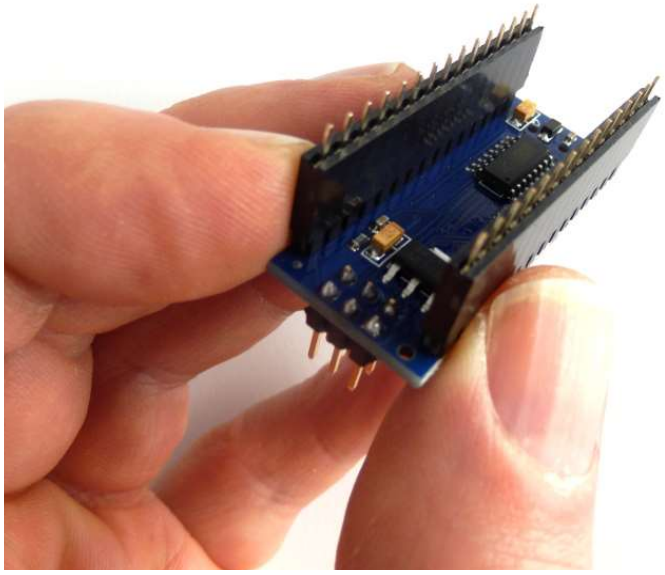


b) For Arduino Nano (option)

Depending from the situation on the market we are selling the kits with longer female header. You have to cut these headers to 15 pins:



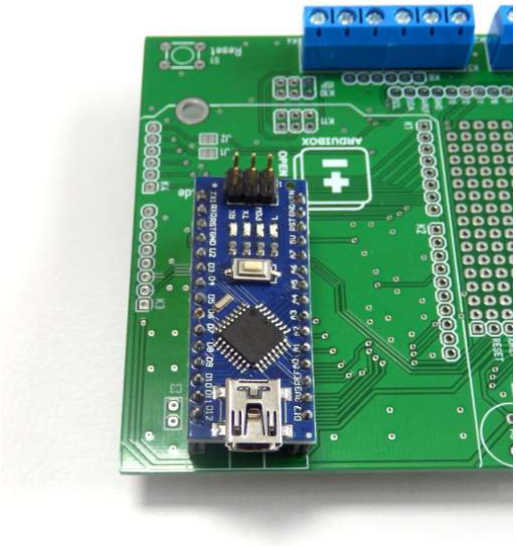
Plug the both female headers into the male headers of the Arduino Nano:



Please note: It is not possible to mount an Arduino UNO sized board after soldering the headers of the Nano!!!

4.) Mount and solder the Arduino

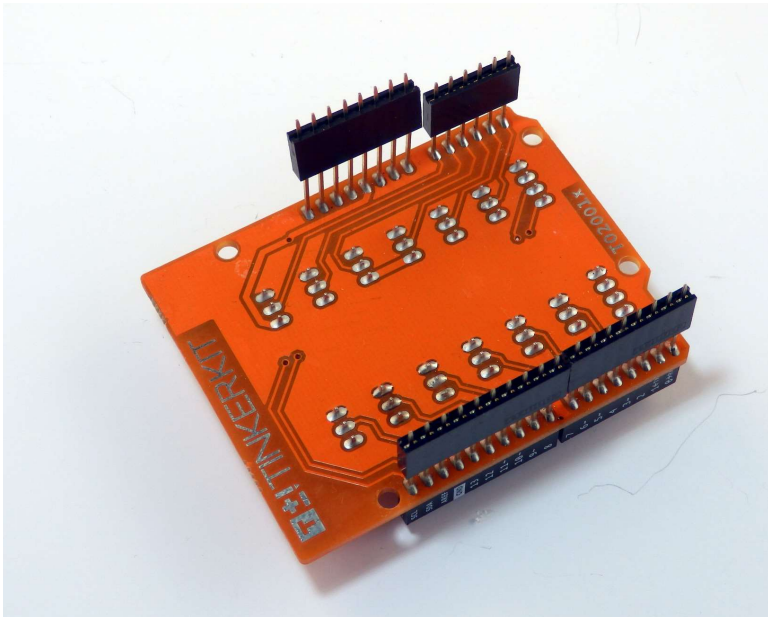
UNO sized boards



Nano

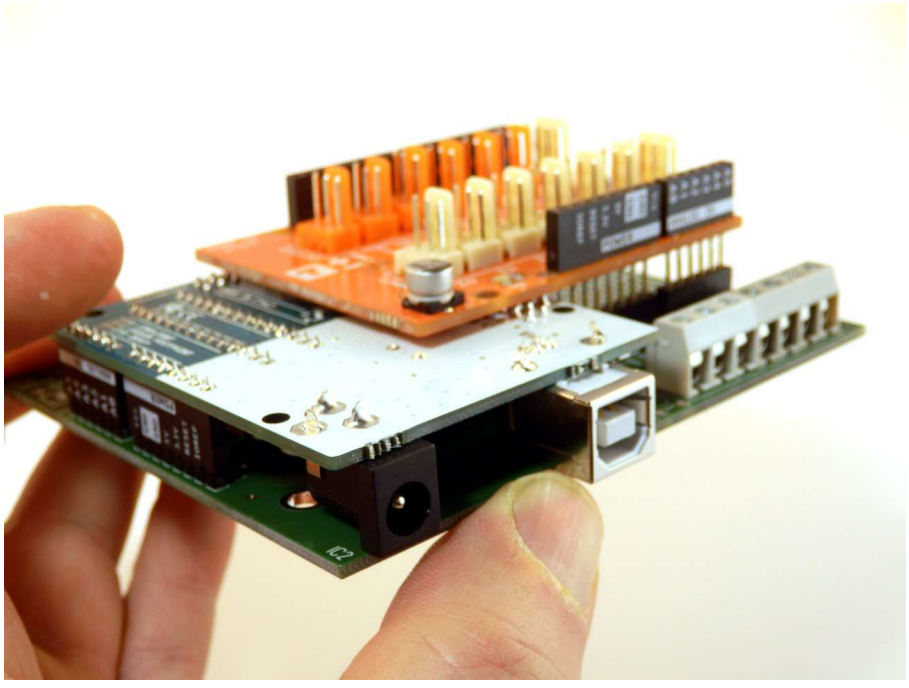
5.) Prepare the Shield (optional)

Perform this step only if you really want to use a Shield! *Find the 4 female headers and plug them into the male headers of the optional Arduino shield.*

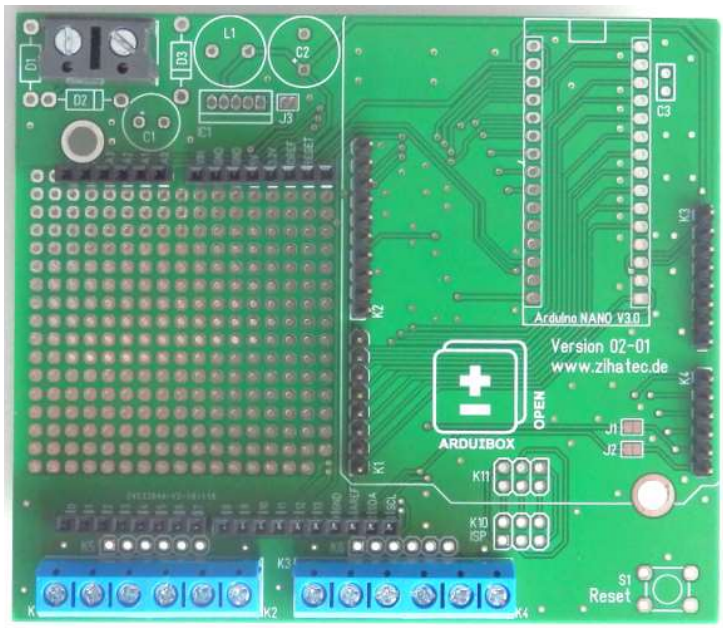


6.) Place and solder the shield (optional)

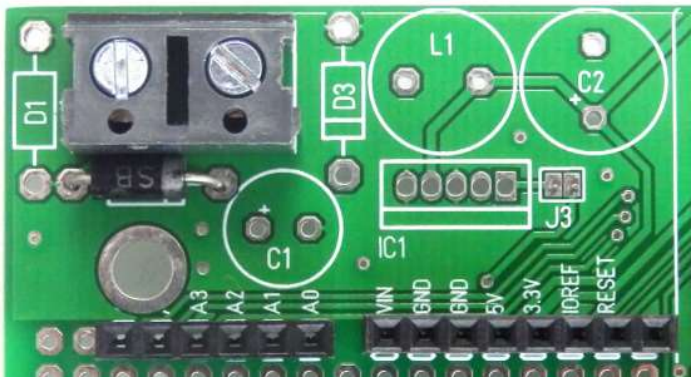
Perform this step only if you really want to use a Shield!



7.) Remove the Arduino and the optional Shield



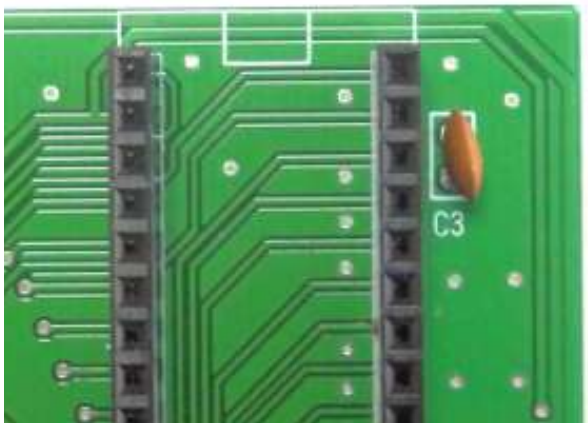
8.) Place and solder Diode D2 (SB260)



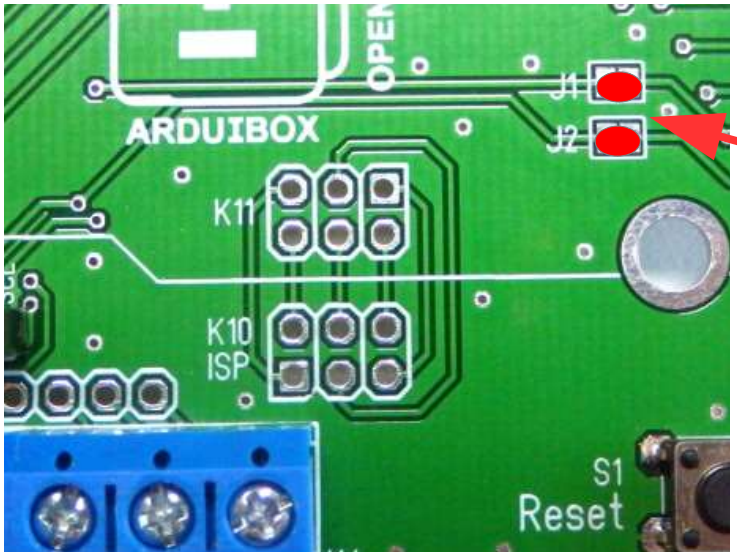
9.) Optional step for Arduino Nano

Needed for Arduino Nano only!

Assemble the capacitor C3:



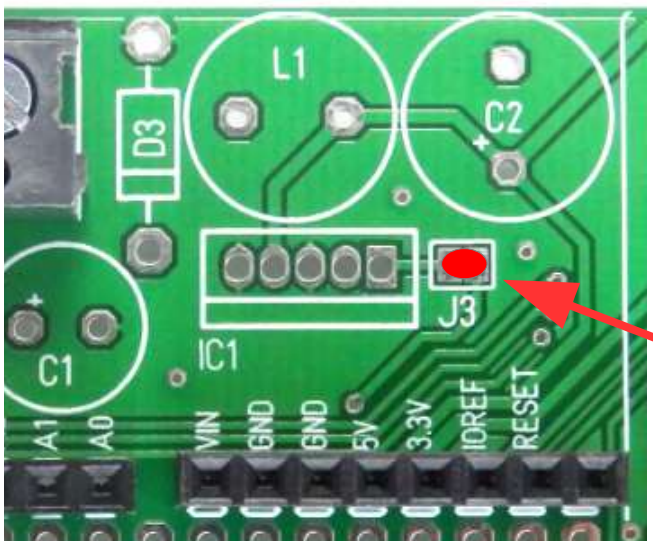
Solder the both Jumpers J1 and J2:



Bridge jumpers J1 and J2 with solder

10.) Link the power inputs to the terminal (option)

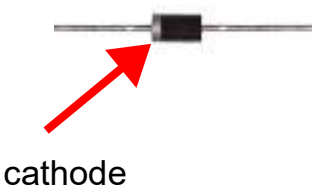
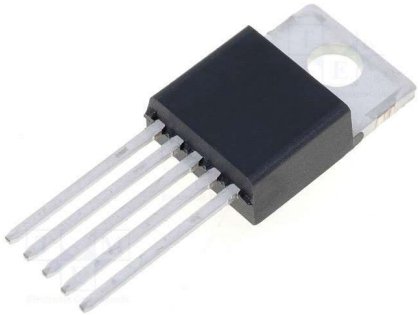
Perform this step only if you really don't want to use the additional voltage regulator of the standard kit. If you want to use the power socket of the Arduino this step is unnecessary also.



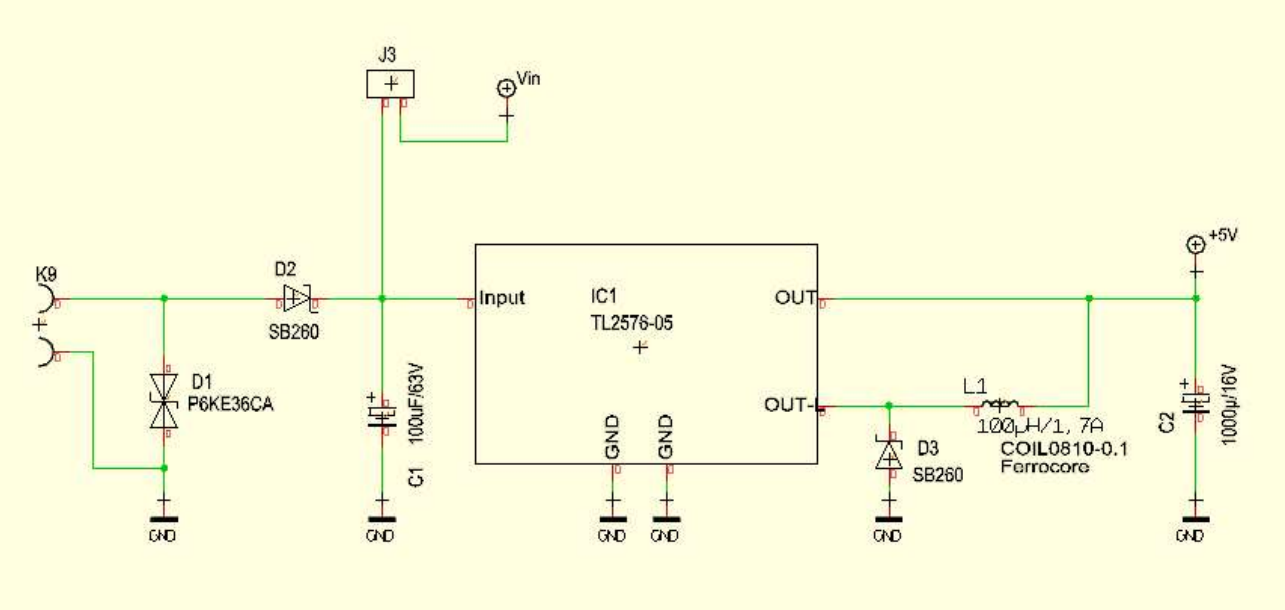
Bridge jumper J3 with solder

Perform the next steps only if you have the standard kit (includes the parts of the voltage regulator). Otherwise continue with step 15.

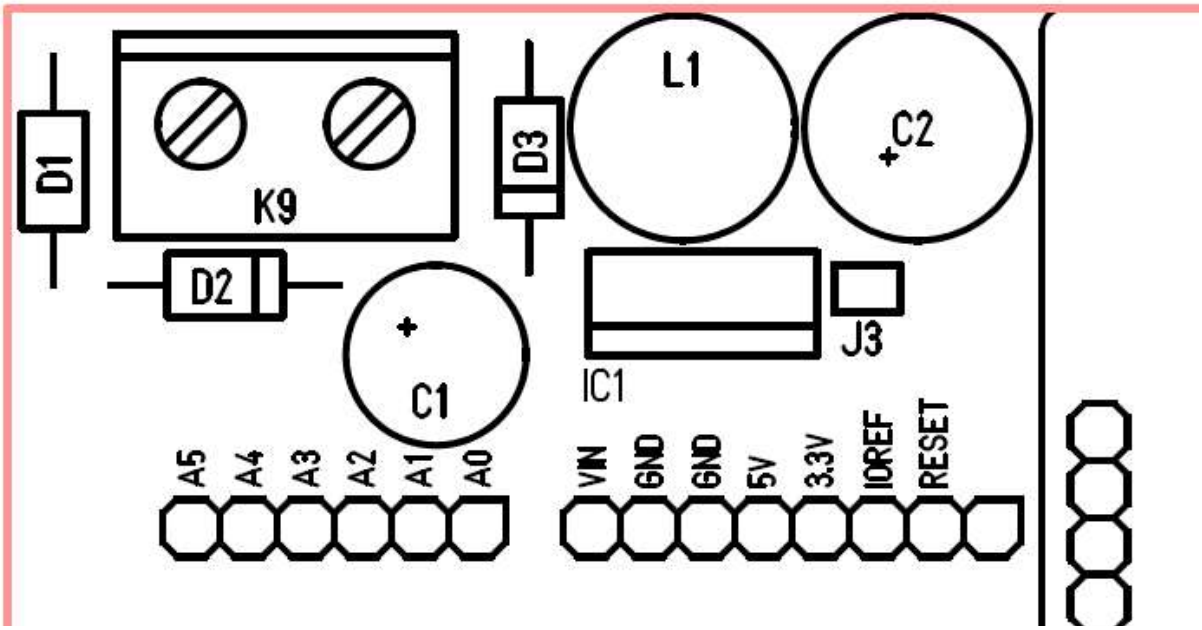
Additional parts of Standard Version:

 1x inductor 100uH/1.2A (L1)	 1x Schottky diode SB260 (D3)	 1x overvoltage limiting diode P6KE36CA (D1)
 1x voltage regulator TL2576-5 (IC1)	 1x electrolytic capacitor 100uF/63V (C1)	 1x electrolytic capacitor 1000uF/16V (C2)
 1x Reset Button S1		

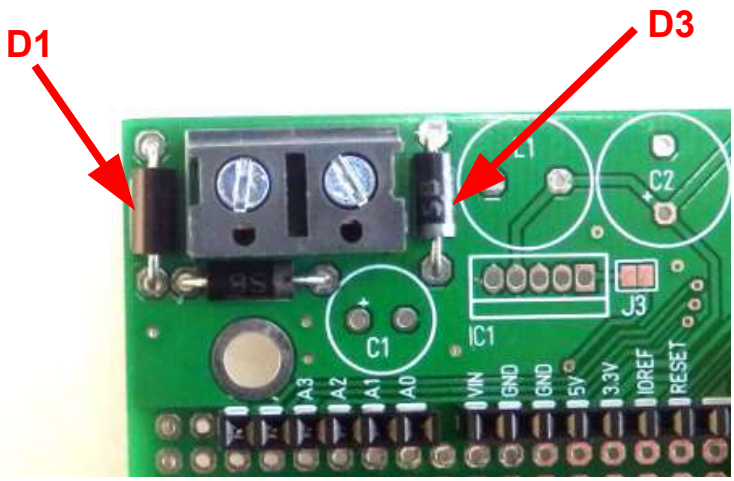
Power Supply Circuit:



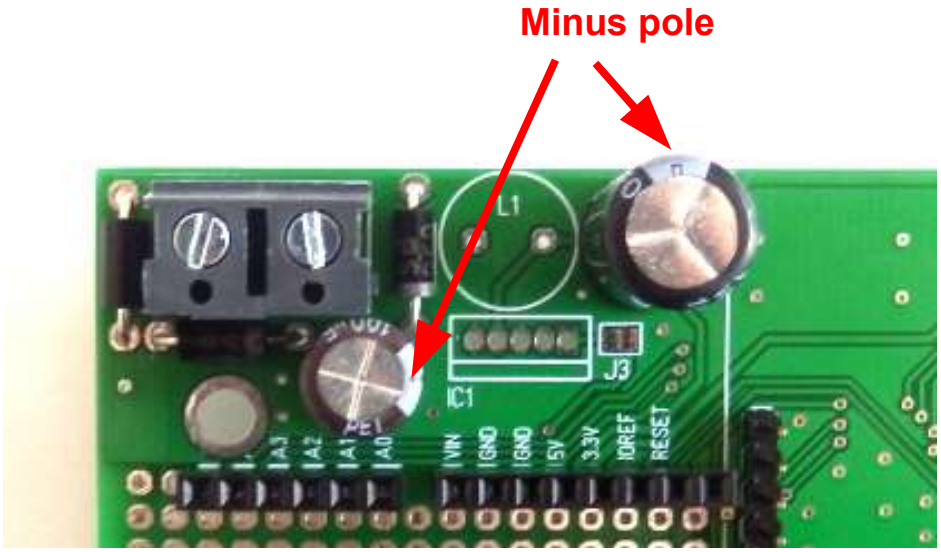
Placement:



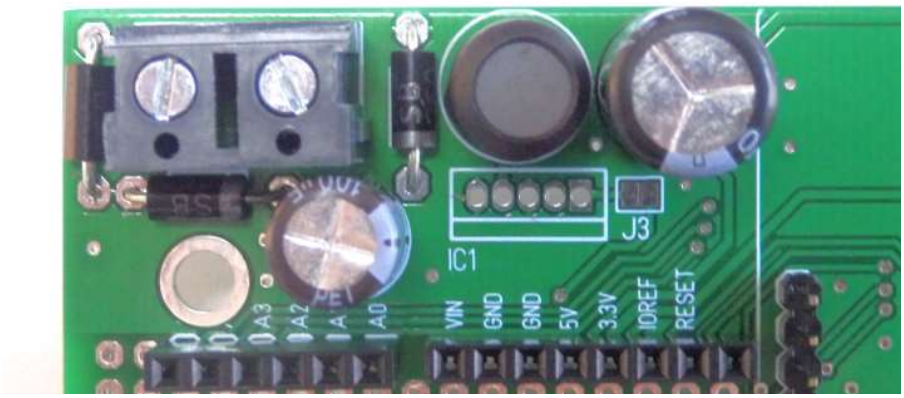
11.) Assemble Diode D1 and D3



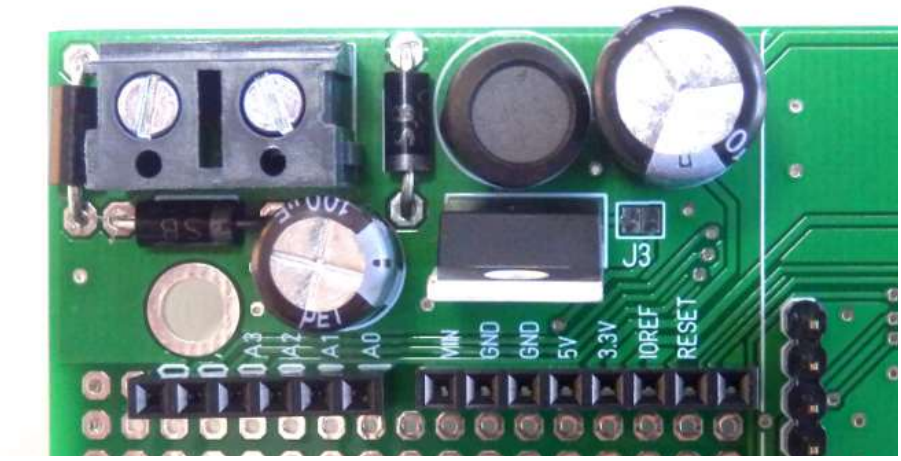
12.) Assemble electrolytic capacitors C1 and C2



13.) Assemble inductor L1



14.) Assemble voltage regulator IC1



Note: Please take care that the jumper J3 is not be bridged:

15.) Mount the pcb into the bottom shell

17.) Open the terminal covers

Depending on the used terminals you have to remove the terminal covers of the top shell. These covers comes with rated break points. You can remove it with a screw driver and a nose pliers:

18.) Plug the Arduino and optional Shield in the pcb!

19.) Mount the top shell!

Finish!