ArduiBox ESP

Version 1.x

construction manual

Rev.	Date	Description
A	2018-01-04	First release (ArduiBox NodeMCU)
B	2020-02-05	Changed to ArduiBox ESP

Tools:

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

a wet sponge to clean the tip

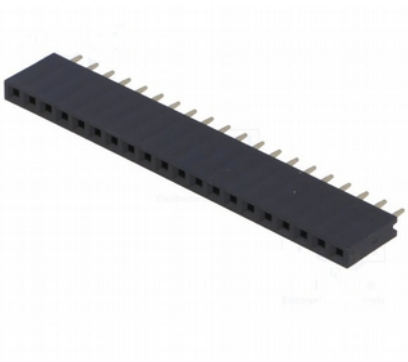
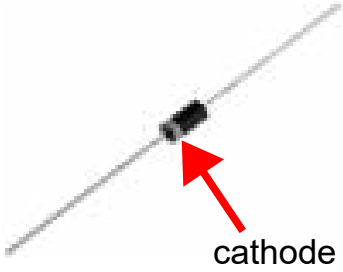
thin solder wire

Side cutting pliers

Needle nose pliers

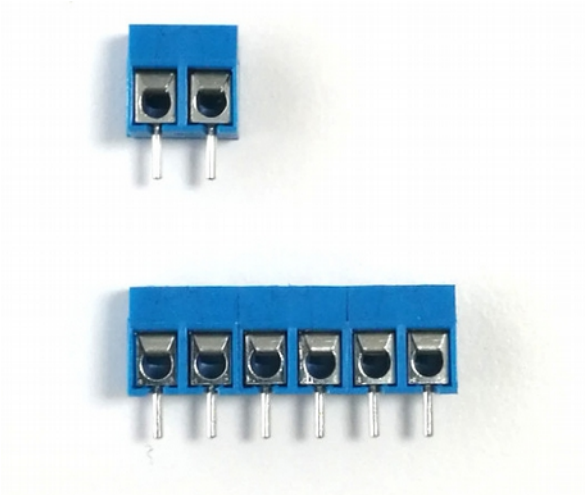
Medium cross slot screwdriver

Parts Basic Version:

 4x 2pole terminal block (K1, K2, K3, K4)	 2x 2x20pole female header	 1x Schottky diode SB260 (D2)
 2x self-tapping screws		

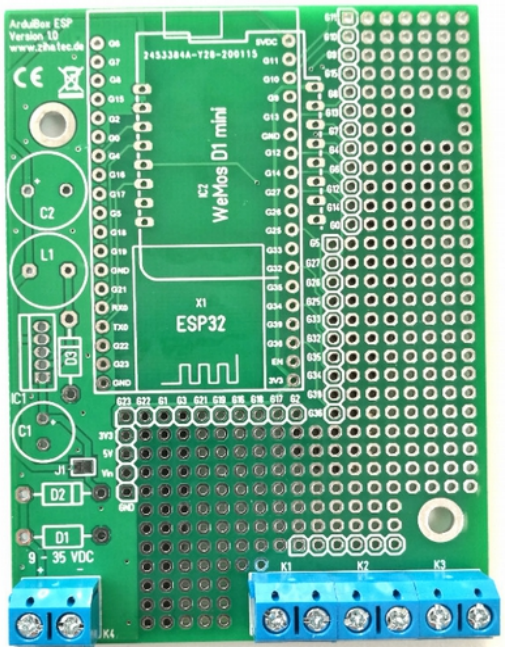
1.) Prepare the terminal blocks

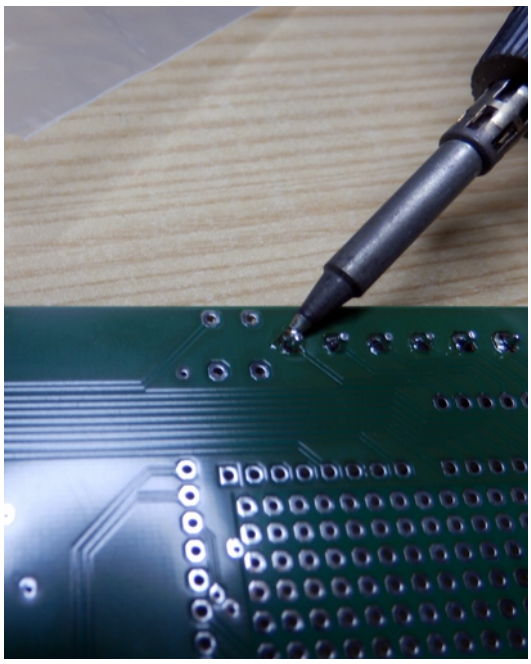
Find the terminal blocks, they're grey or blue and come in 2-pin shapes. We'll need to slide three 2-pin blocks together:



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:

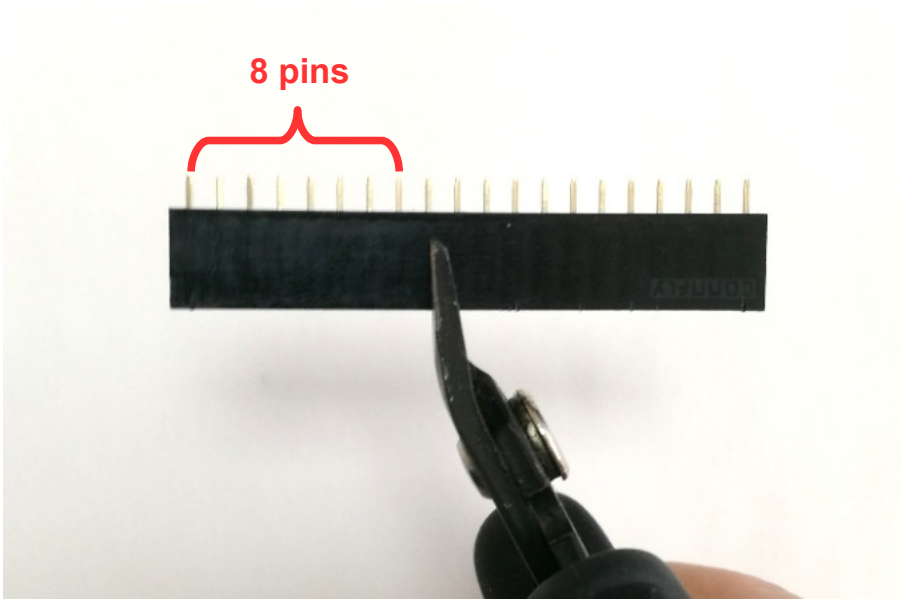




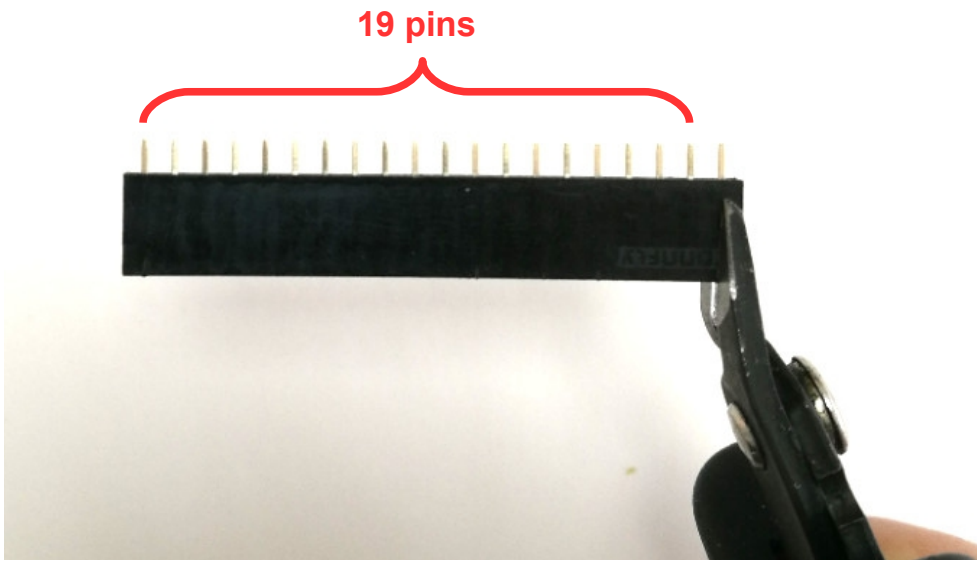
3.) Prepartion of the female headers

Depending form the ESP module of your choice you have to cut the both female centipede headers to the right length:

Wemos D1 mini:

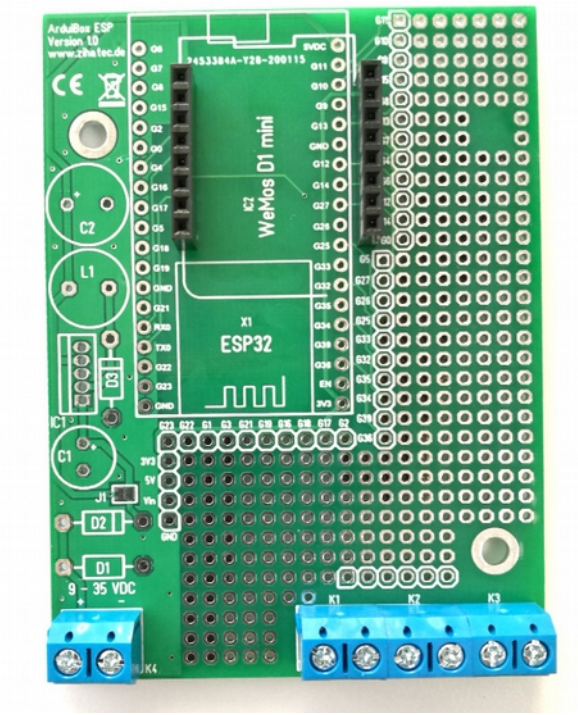


ESP32 (NodeMCU-32S):

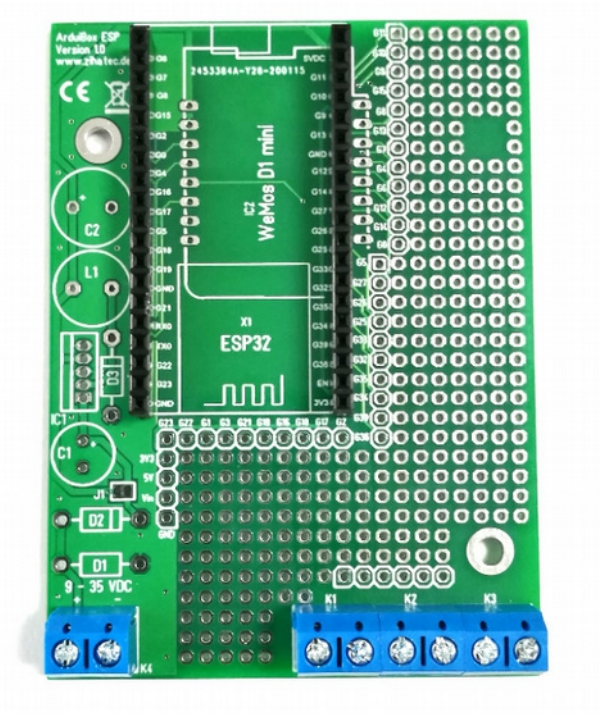


4.) Assemble and solder the female headers

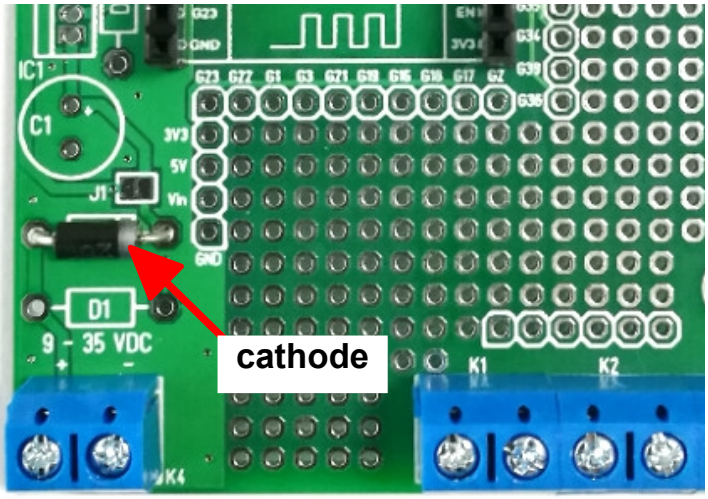
Wemos D1 Mini:



ESP32 (NodeMCU-32S):

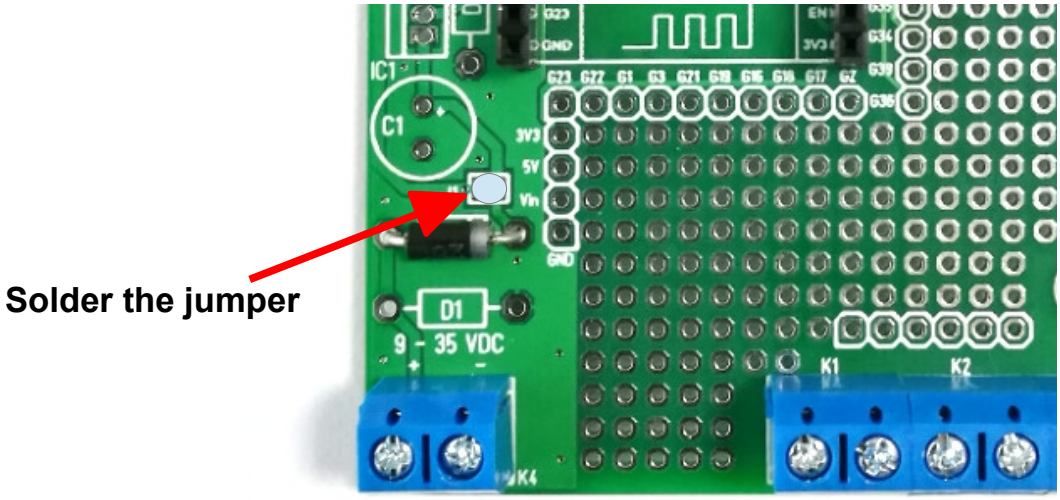


5.) Place and solder the schottky diode D2



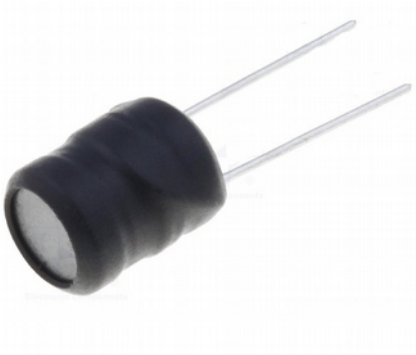
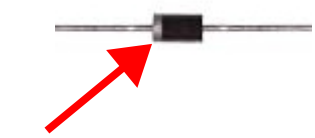
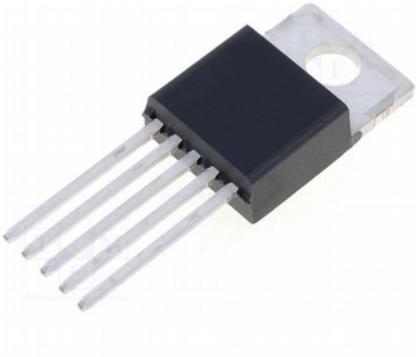
6.) Set the jumper wire (basic kit only)

Attention: Please set this jumper in the basic version only! You can supply the ESP module with 5V DC directely from the terminal K4 now.

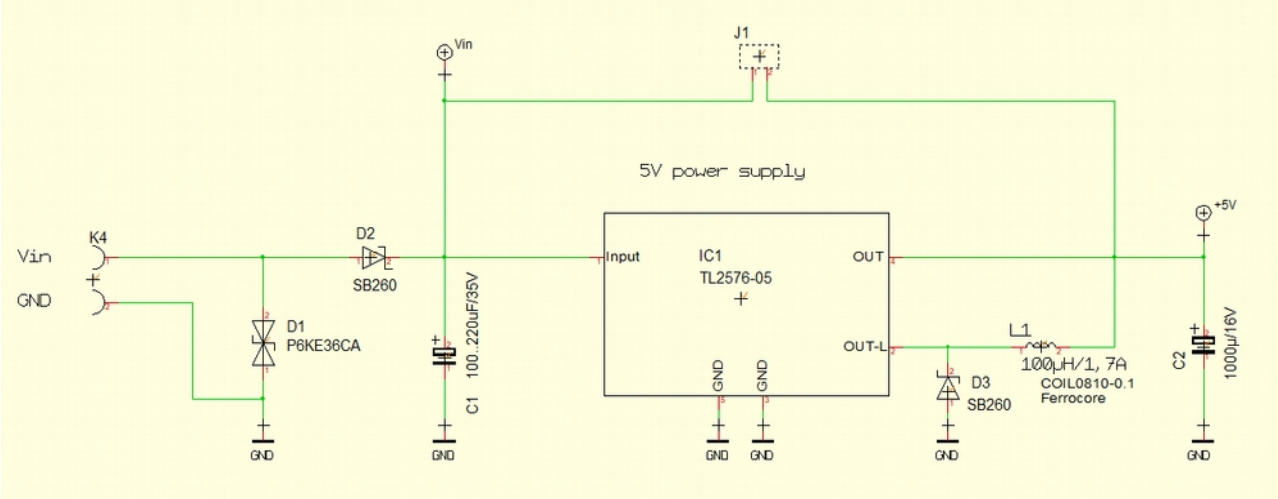


Perform the next steps only if you have the standard kit (includes the parts of the voltage regulator and USB socket). Otherwise continue with step 12.

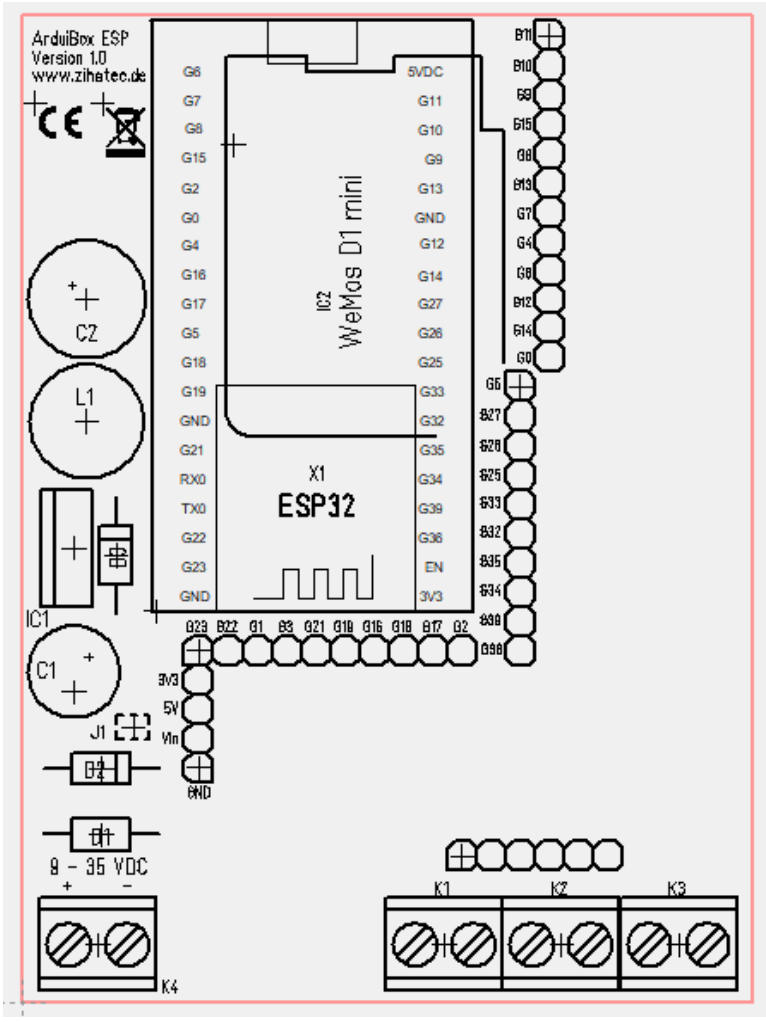
Additional parts of Standard Version:

		
1x inductor 100uH/1.4A (L1)	1x Schottky diode SB260 (D3)	1x overvoltage limiting diode P6KE36CA (D1)
		
1x voltage regulator TL2576-5 (IC1)	1x electrolytic capacitor 100...220uF/35V (C1)	1x electrolytic capacitor 1000uF/16V (C2)

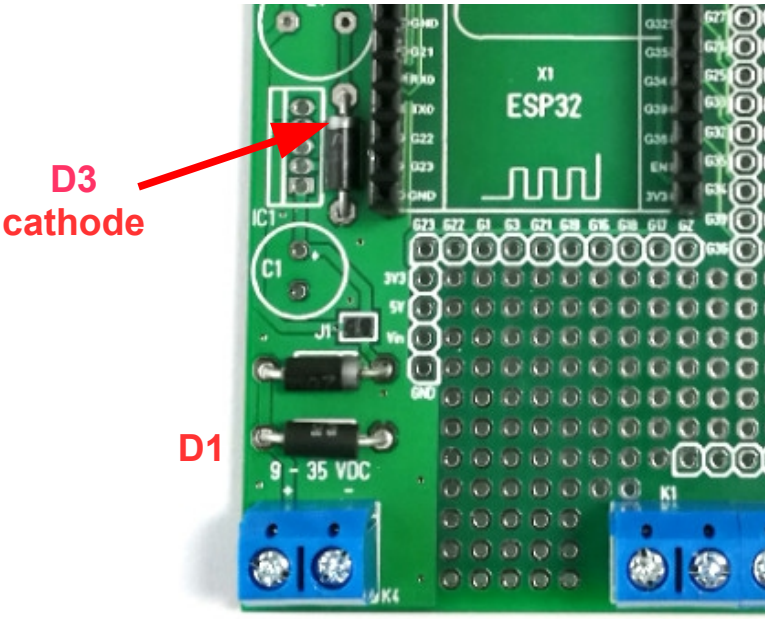
Power supply circuit:



Placement:

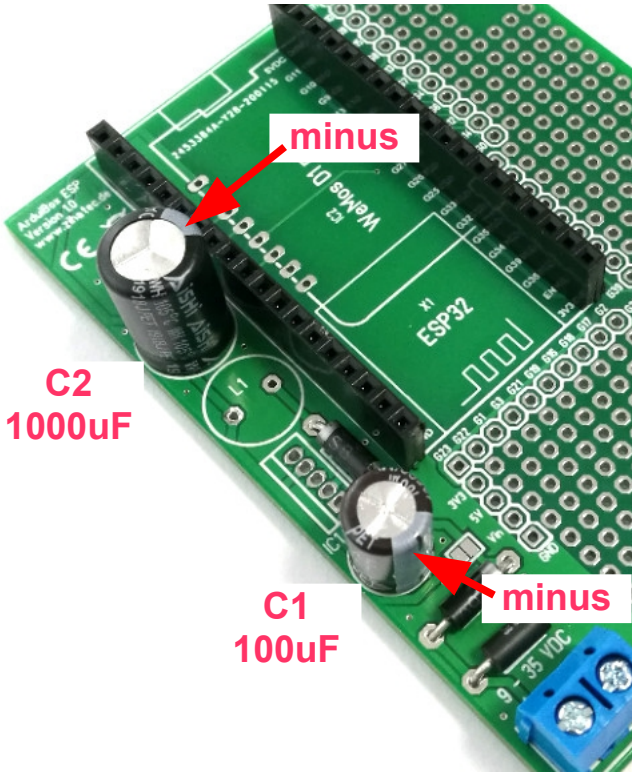


7.) Assemble Diode D1 and D3

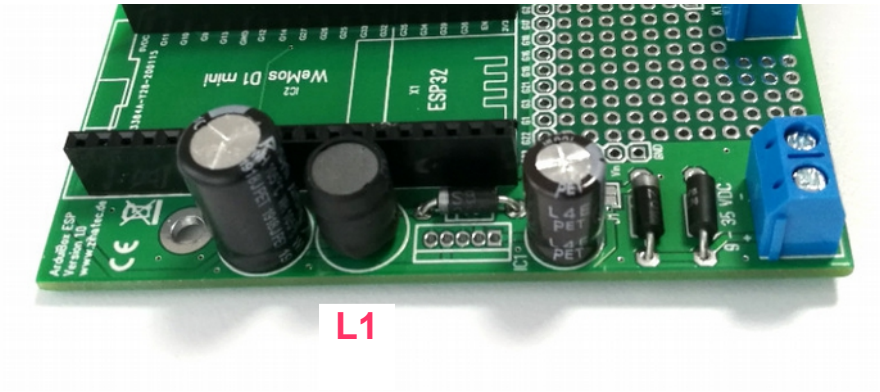


Pls Note: D1 has no polarity!

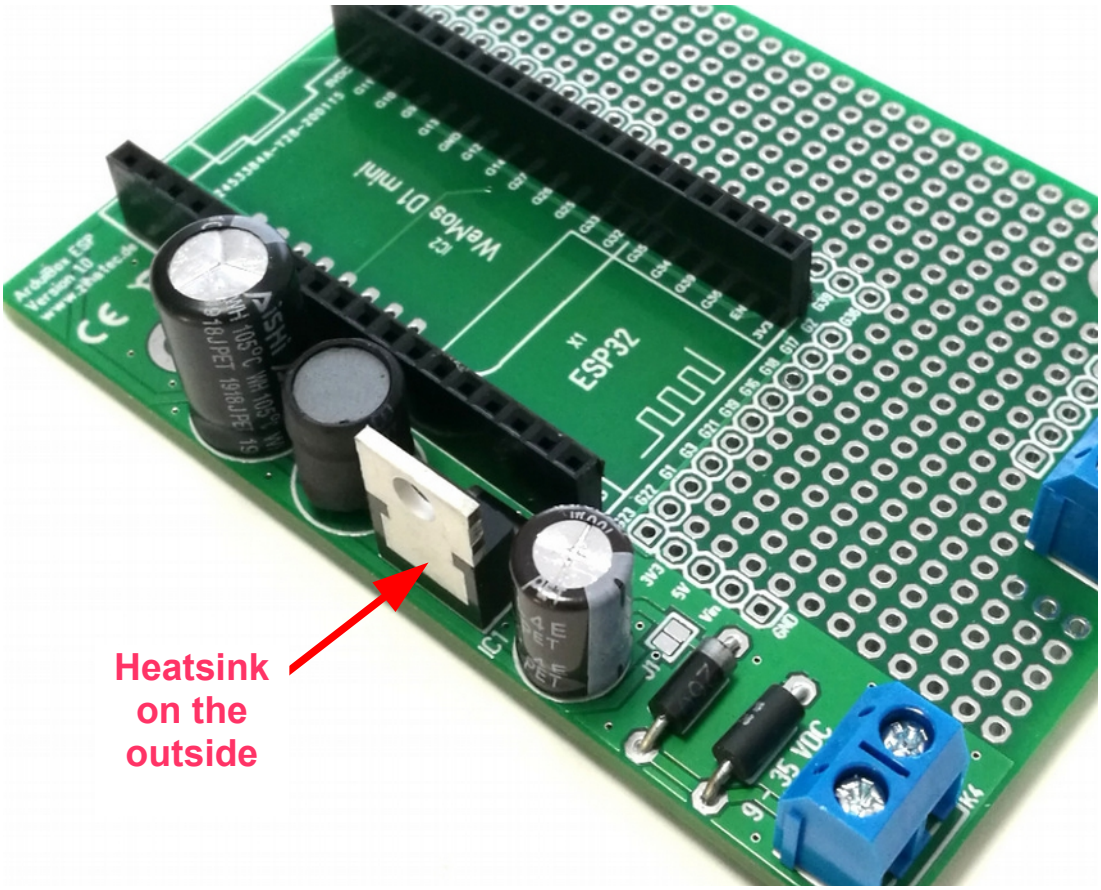
8.) Assemble the capacitors C1 and C2



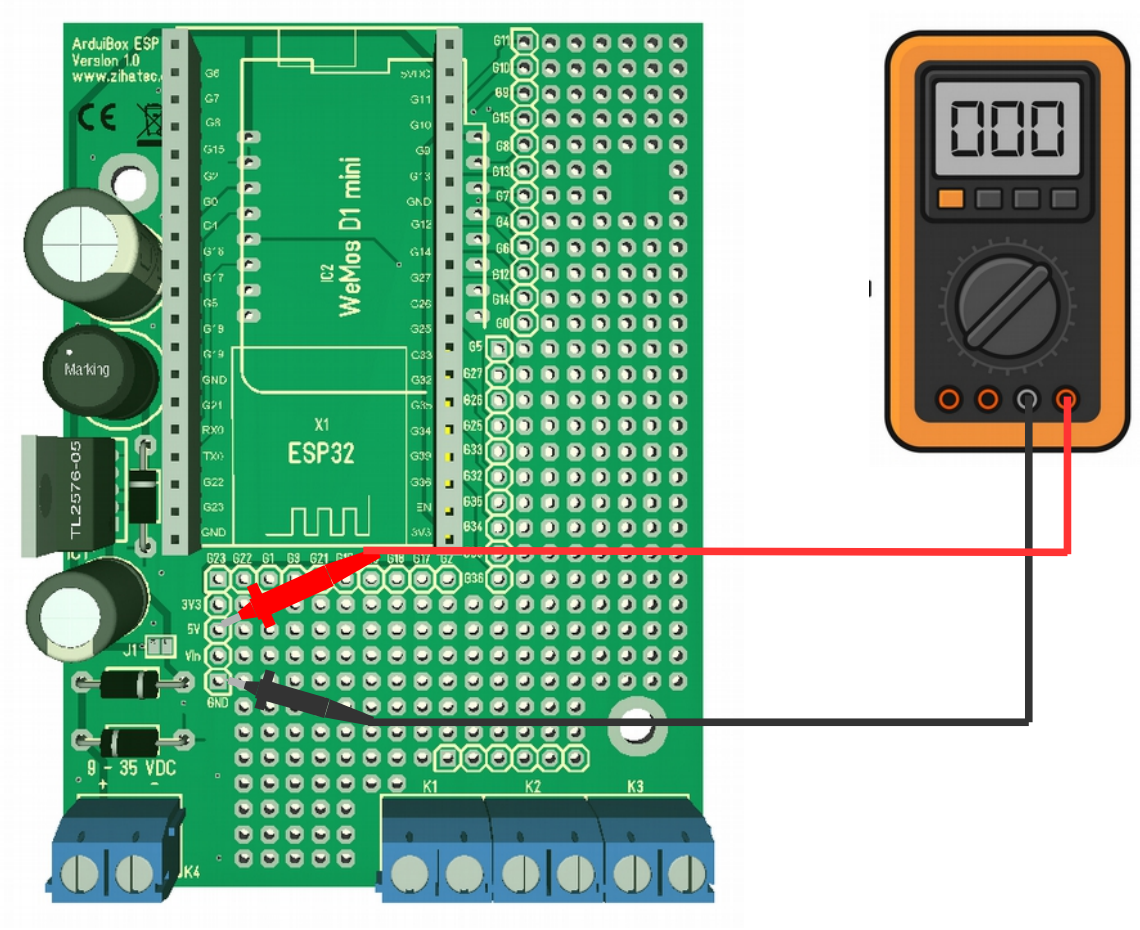
9.) Assemble the inductance L1



10.) Assemble the voltage regulator IC1



11.) Test of voltage regulator

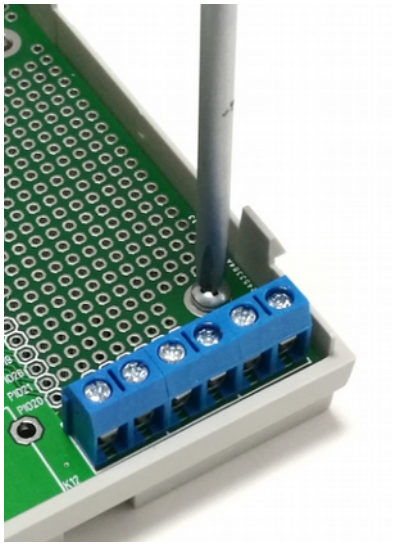


+ -

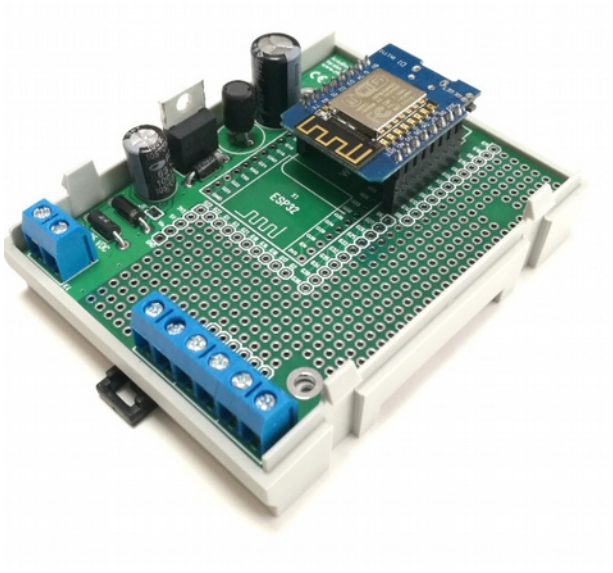
9 – 35V DC

You have to measure a voltage between 4.9 – 5.1V!

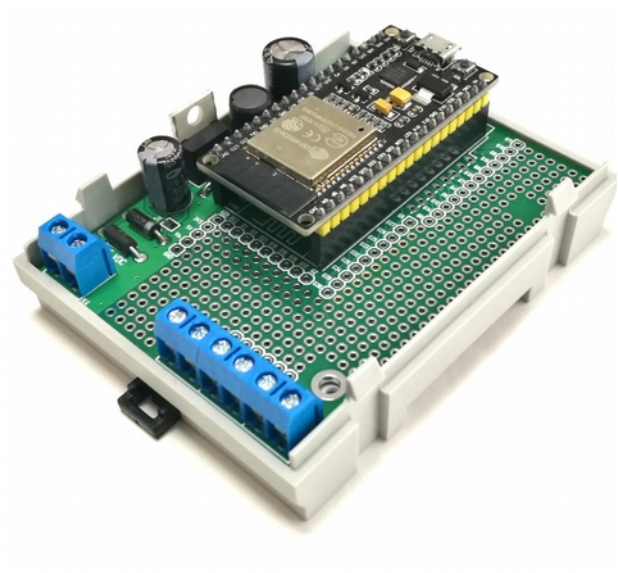
12.) Mount the pcb into the bottom shell



13.) Plug the ESP modules



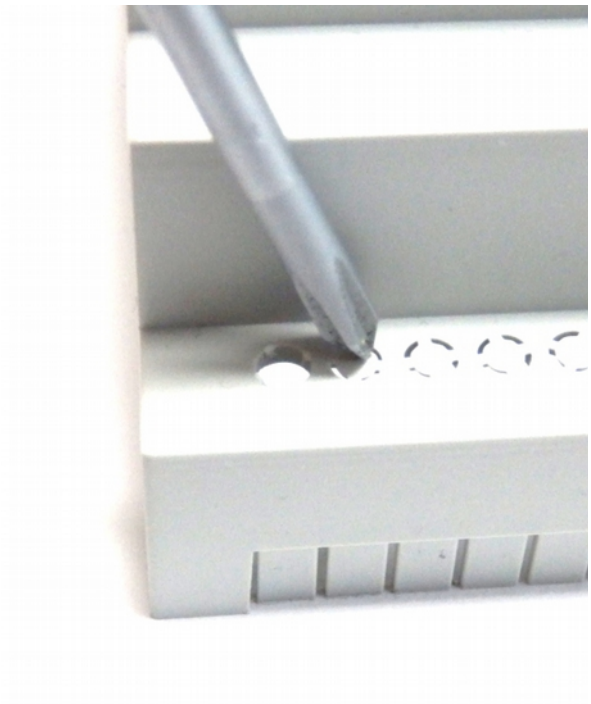
Wemos D1 mini



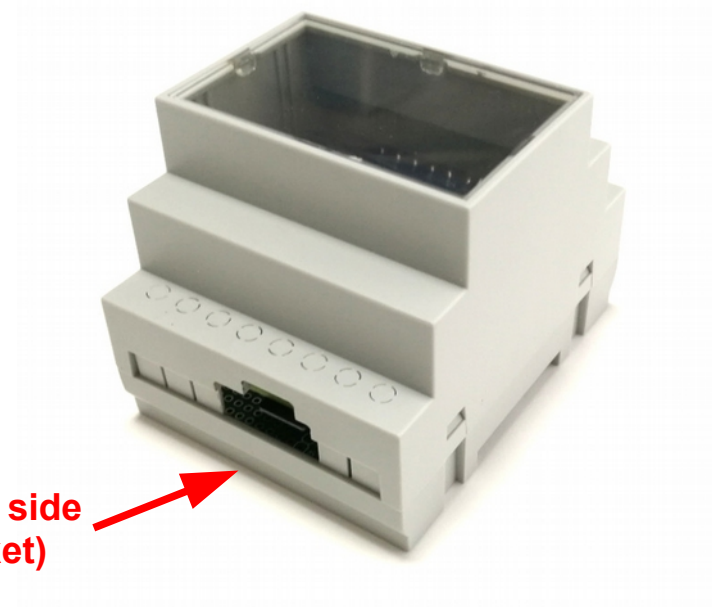
NodeMCU-32S

14.) 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



15.) Mount the top shell!



Finish!