

RasPiBox Pico

Version 1.x

construction manual

Rev.	Date	Description
A	2021-09-16	First release

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



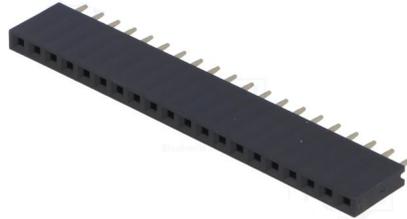
Medium cross slot screwdriver



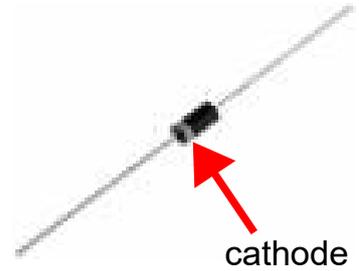
Parts Basic Version:



4x
2pole terminal block
(K1, K2, K3, K4)



2x
2x20pole female header



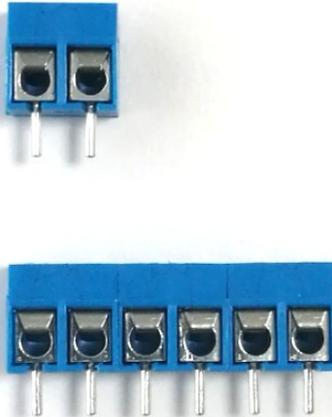
1x
Schottky diode SB260
(D2)



2x
self-tapping screws

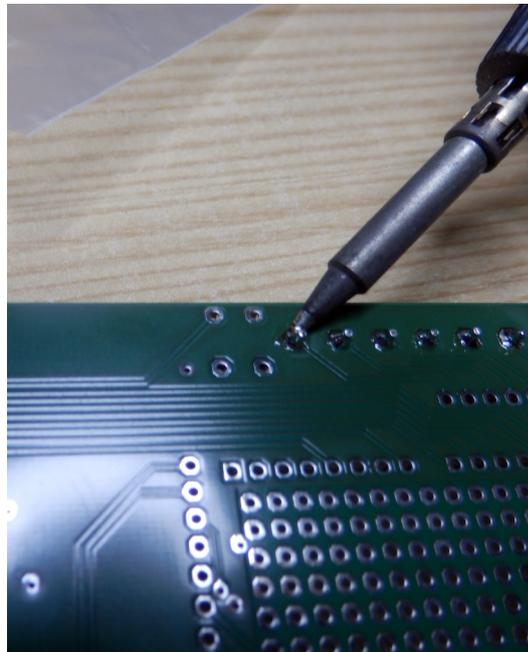
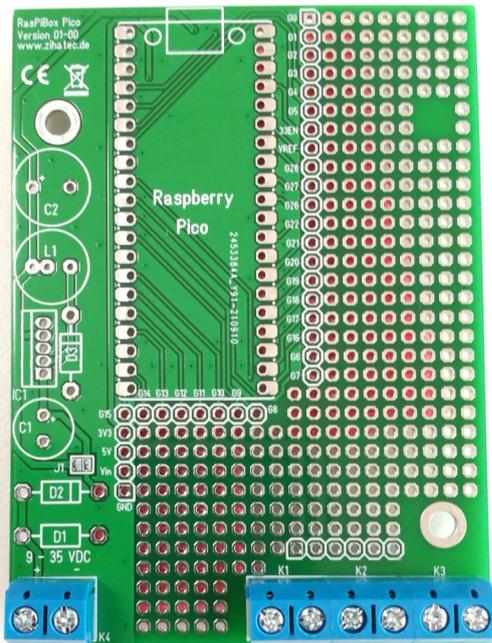
1.) Prepare the terminal blocks

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:



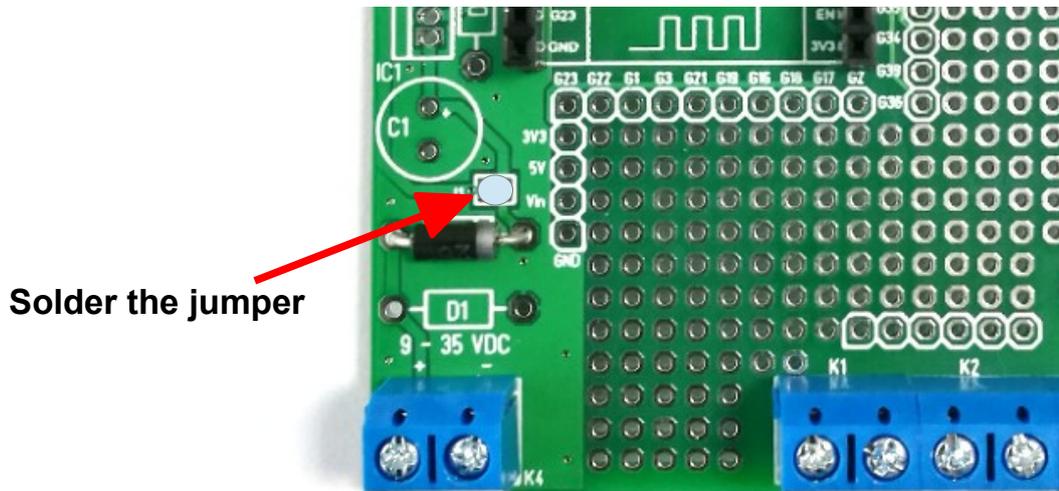
2.) Place and solder terminal blocks

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:



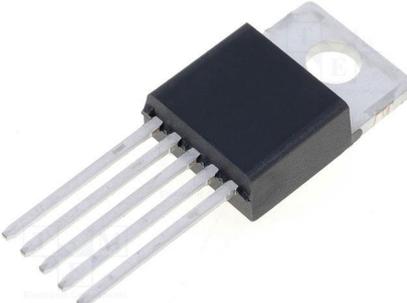
5.) Set the jumper wire (basic kit only)

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

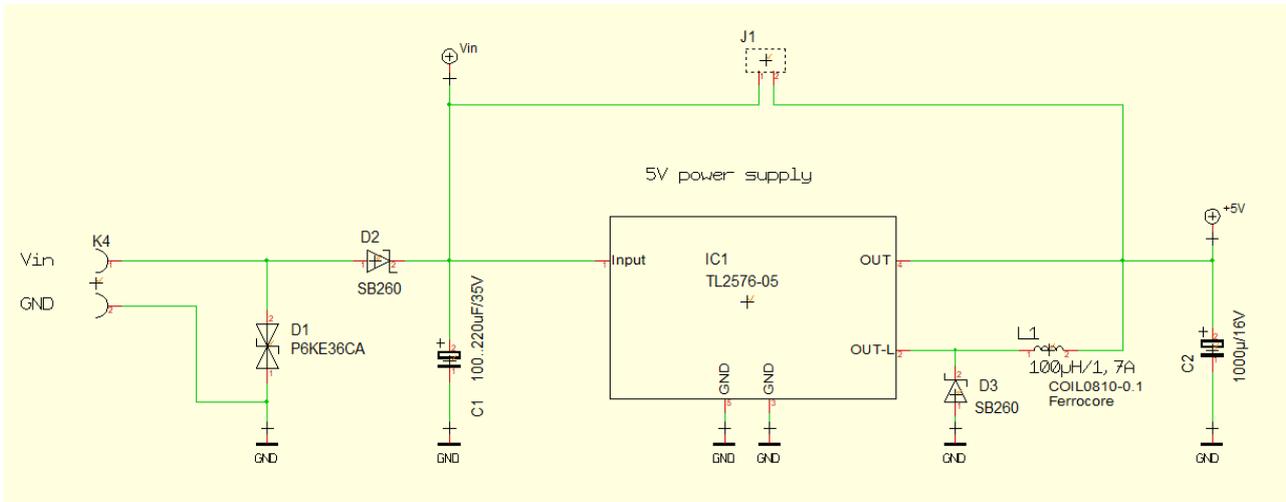


Perform the next steps only if you have the standard kit (includes the parts of the voltage regulator and USB socket). Otherwise continue with step 11.

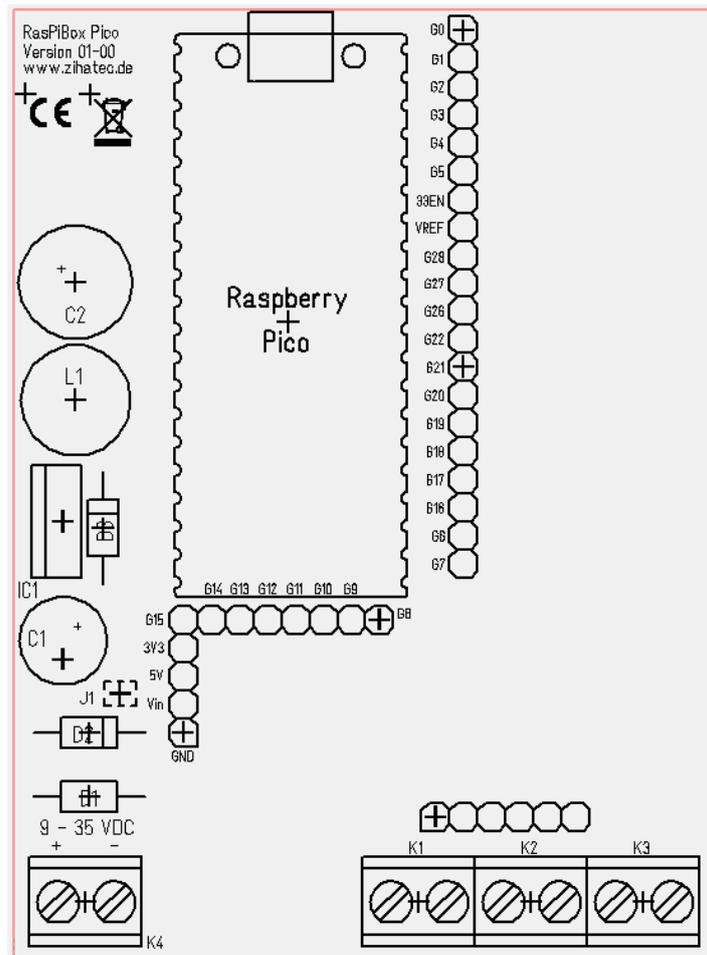
Additional parts of Standard Version:

 <p>1x inductor 100uH/1.4A (L1)</p>	 <p>cathode</p> <p>1x Schottky diode SB260 (D3)</p>	 <p>No polarity</p> <p>1x overvoltage limiting diode P6KE36CA (D1)</p>
 <p>1x voltage regulator TL2576-5 (IC1)</p>	 <p>1x electrolytic capacitor 100...220uF/35V (C1)</p>	 <p>1x electrolytic capacitor 1000uF/16V (C2)</p>

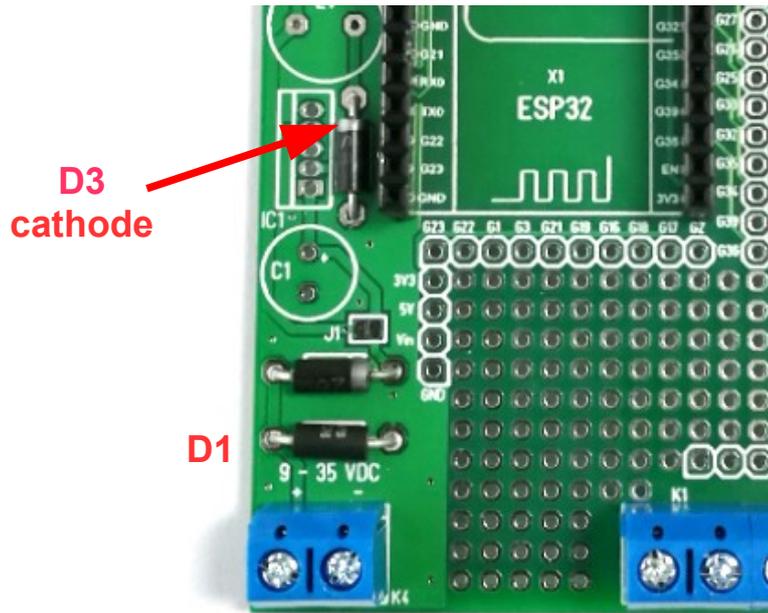
Power supply circuit:



Placement:

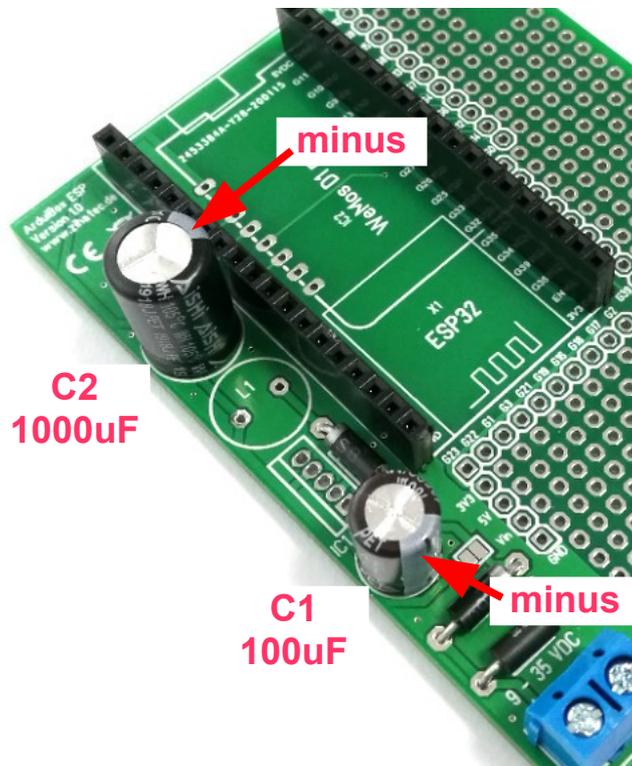


6.) Assemble Diode D1 and D3



Pls Note: D1 has no polarity!

7.) Assemble the capacitors C1 and C2

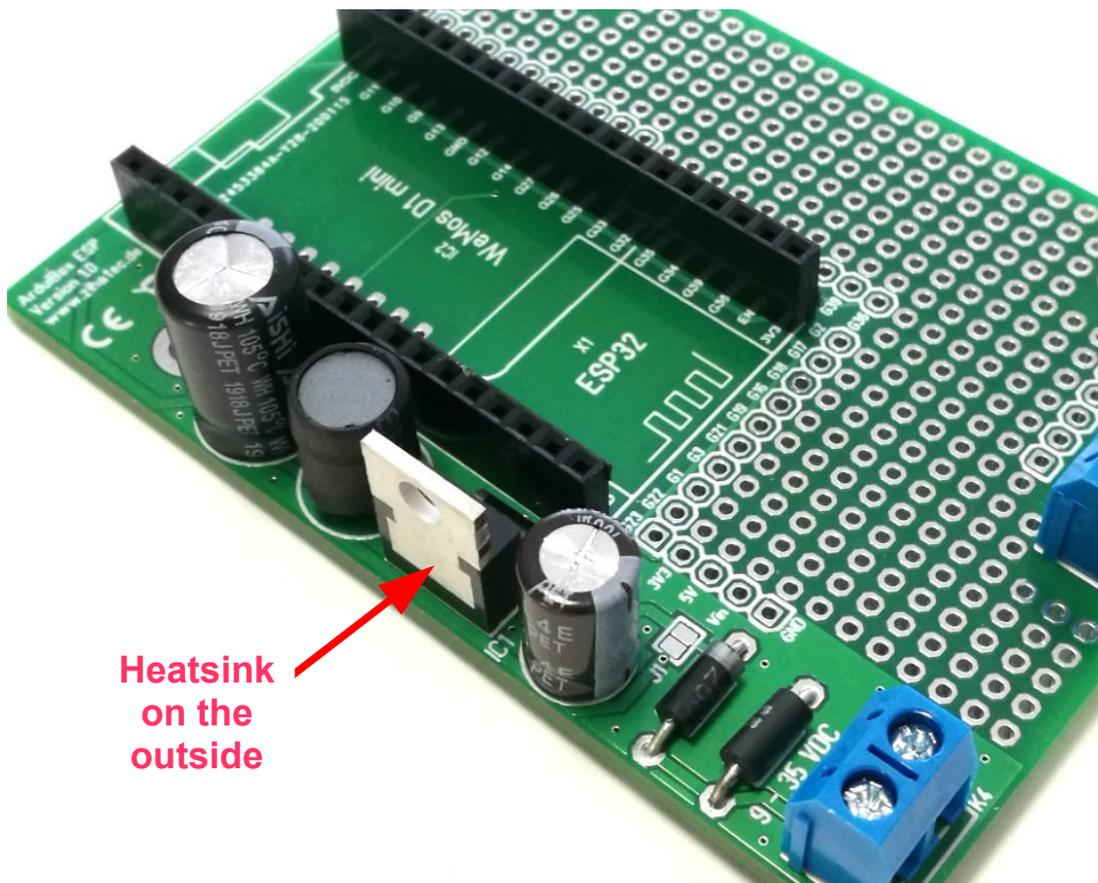


8.) Assemble the inductance L1



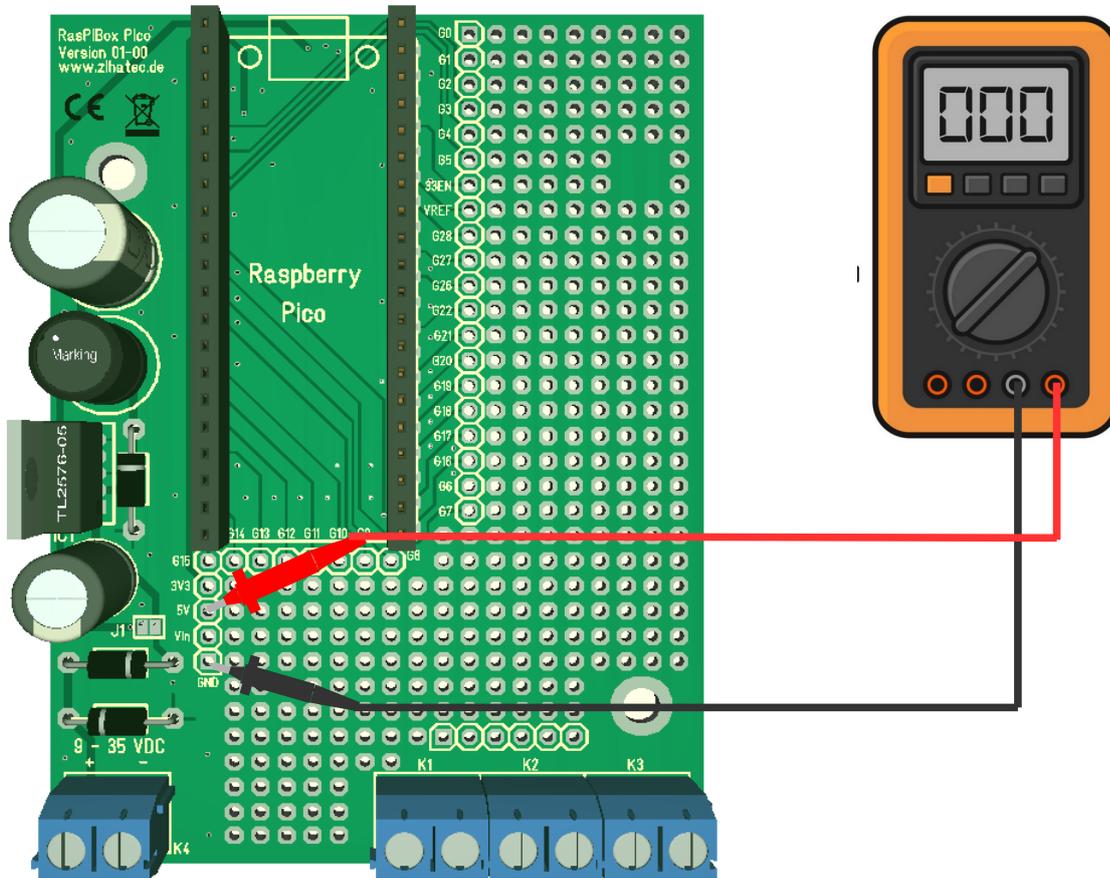
L1

9.) Assemble the voltage regulator IC1



Heatsink
on the
outside

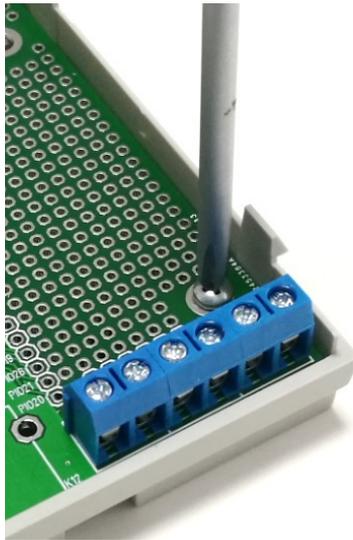
10.) Test of voltage regulator



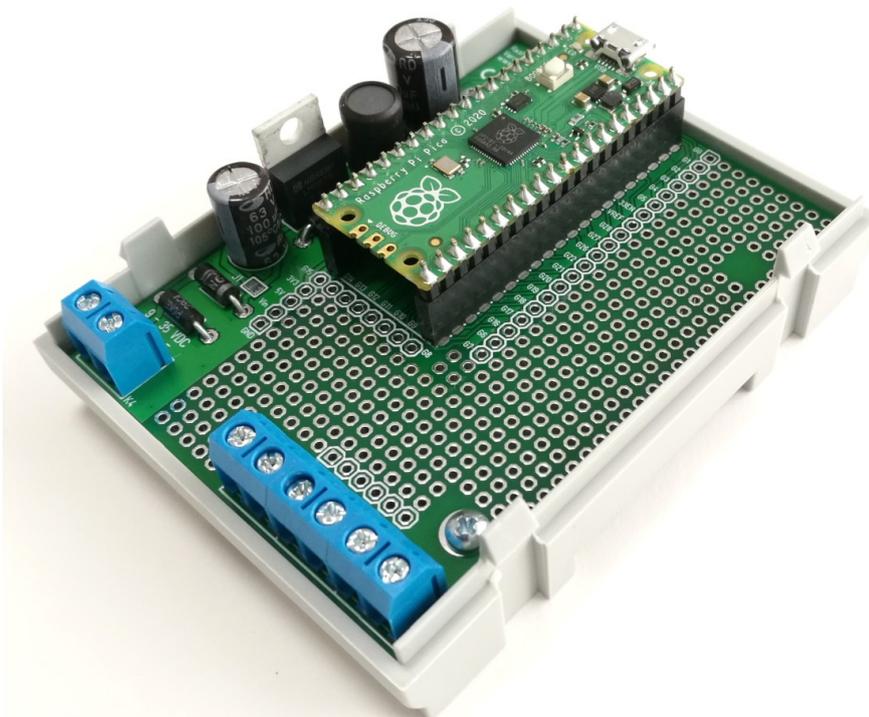
+ -
9 – 35V DC

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

11.) Mount the pcb into the bottom shell

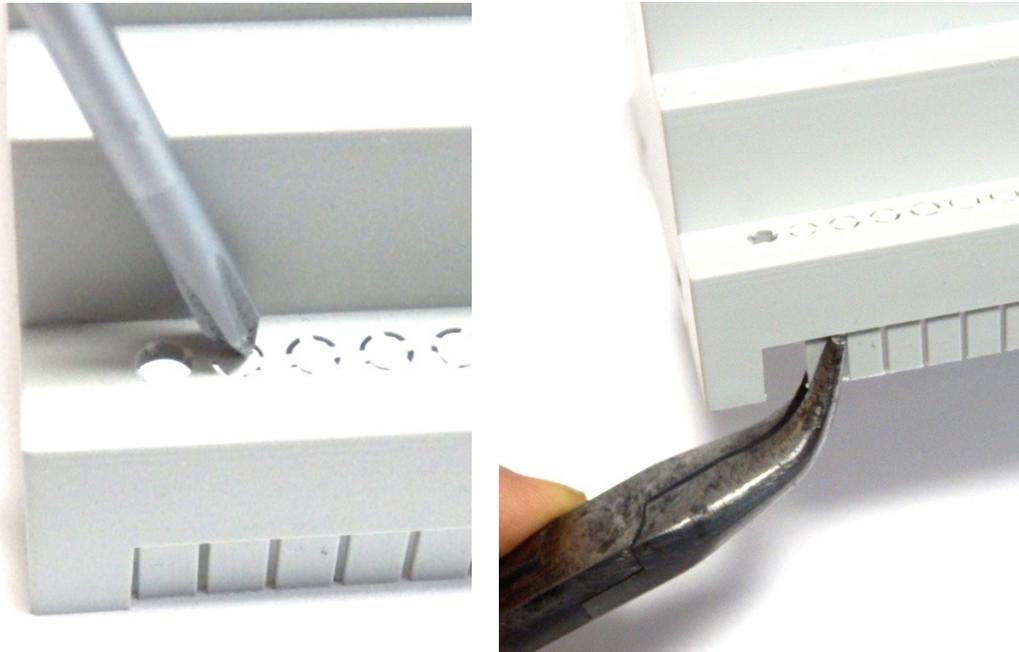


12.) Plug the Raspberry Pico



13.) 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



14.) Mount the top shell!



**Milling on top side
(for USB socket)**



Finish!