

# *ArduiTouch ESP*

## *Rev D*

*construction manual for pcb Version 01-03*

Rev.	Date	Description
A	2018-10-25	First Release
B	2019-03-09	Different changings for pcb version 01-02-00
C	2019-04-02	Patch for ESP8266 based modules (step 15)
D	2019-12-11	Different changings for pcb version 01-03-00

## *Tools:*

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



*a wet sponge to clean the  
tip*



*thin solder wire*



Side cutting pliers




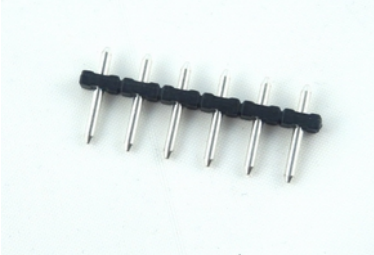
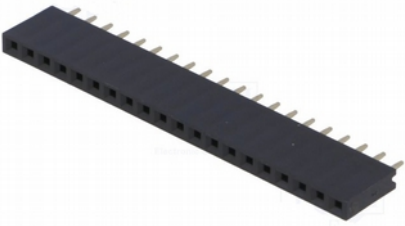
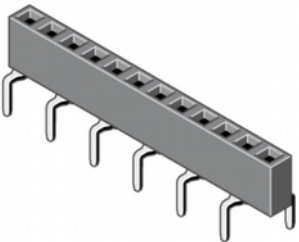


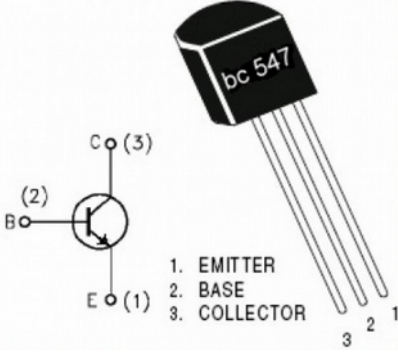
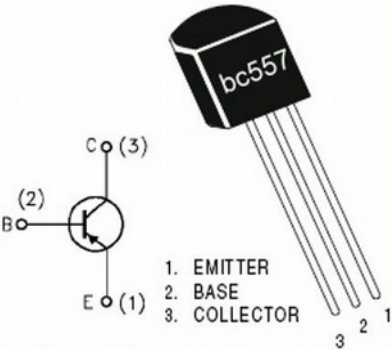
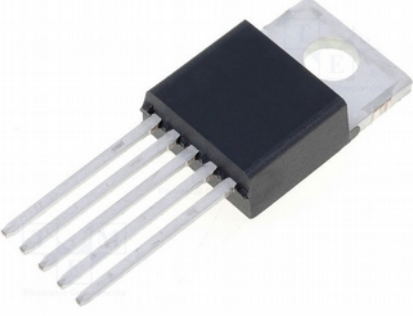
Needle nose pliers



Medium cross slot screwdriver



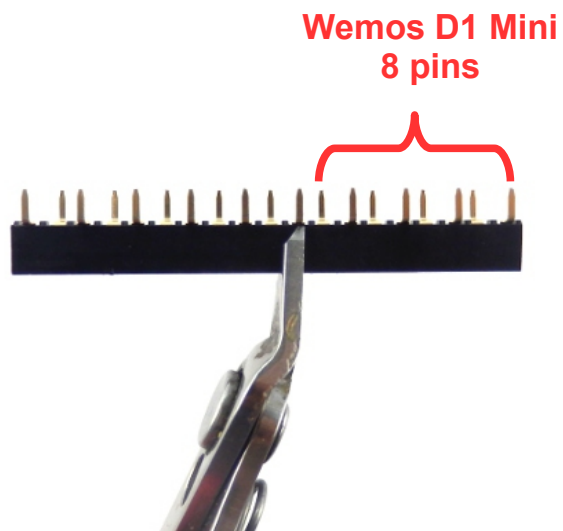
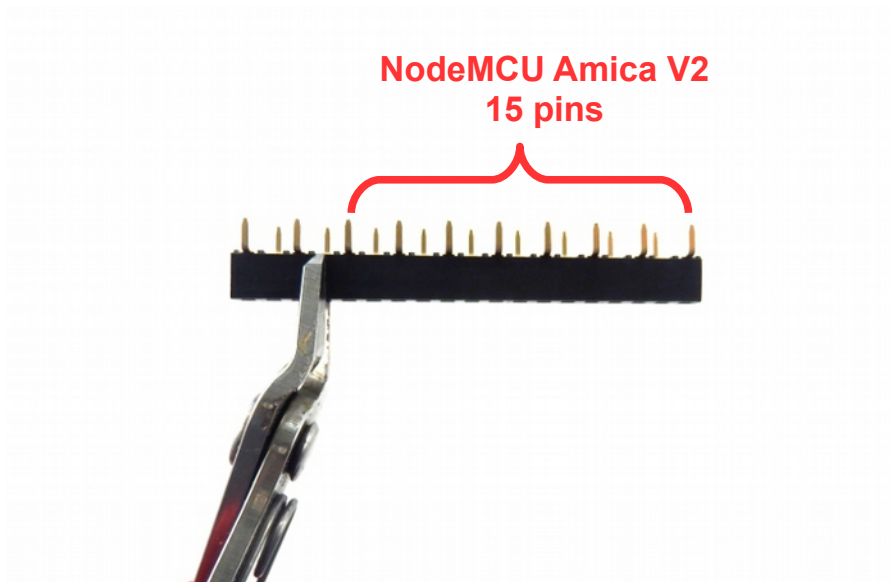
*Part list:*

 <p>1x 6pole terminal block (K4)</p>	 <p>1x 6pole terminal header (K4)</p>	 <p>1x 14pole female header (K3)</p>
 <p>2x 19pole centipede female header</p>	 <p>(brown, black, red)</p> <p>2x Resistor 1k (R14, R2)</p>	 <p>(brown, black, orange)</p> <p>1x Resistor 10k (R1)</p>
 <p>1x NPN Transistor BC547B (T2)</p>	 <p>1x PNP Transistor BC557B (T1)</p>	 <p>1x voltage regulator TL2576-5 (IC4)</p>

 <p>1x inductor 100uH/1.2A (L1)</p>	 <p>2x Schottky diode SB260 (D10, D12)</p>	 <p>1x overvoltage limiting diode P6KE36CA (D11)</p>
 <p>1x electrolytic capacitor 1000uF/16V (C2)</p>	 <p>1x electrolytic capacitor 100uF/63V (C1)</p>	 <p>1x Piezo Beeper (LS1)</p>
 <p>1x 3pole male header (JP1)</p>	 <p>8x Screw M3 6mm</p>	 <p>4x Spacer M3 11mm</p>

## 1.) *Preparation of the female centipede headers*

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

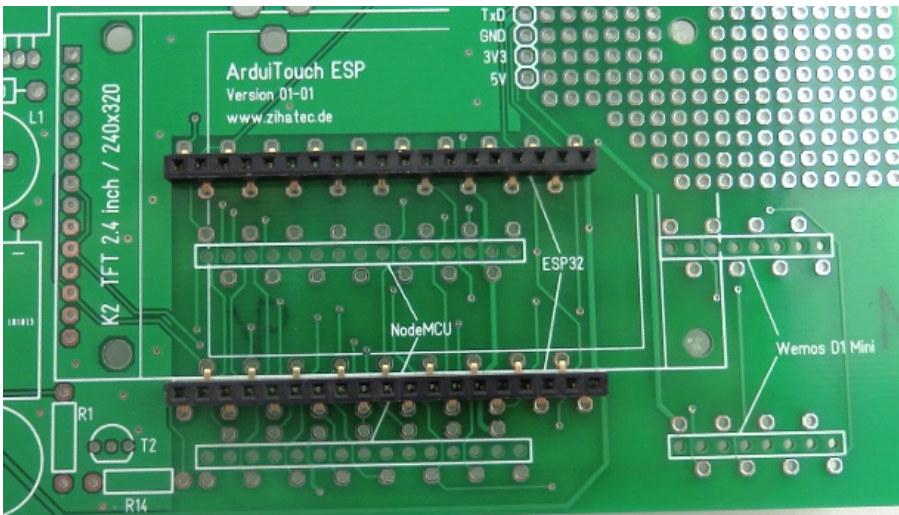


*For the NodeMCU ESP32 module no cutting is needed.*

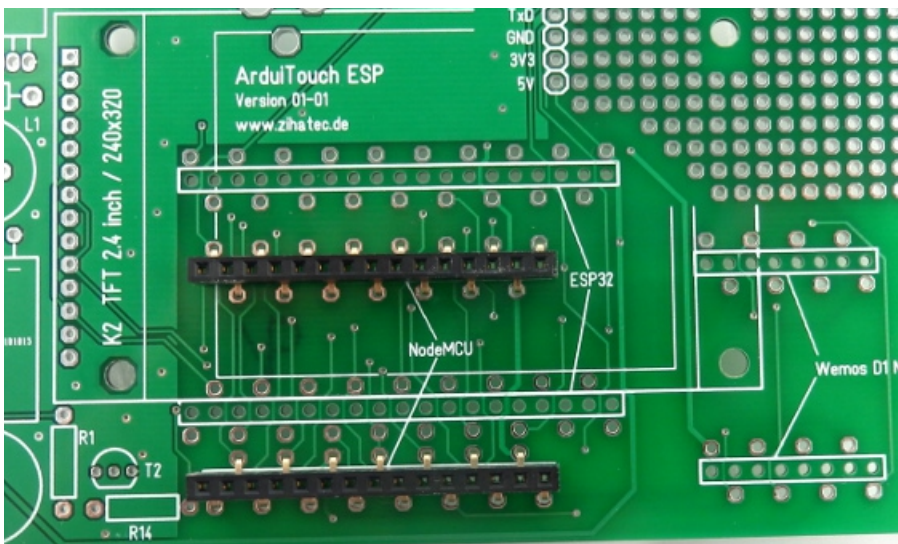
## 2.) Place and solder the centipede headers

Depending from the ESP module of your choice you have to place the prepared female centipede headers to the right position on the pcb:

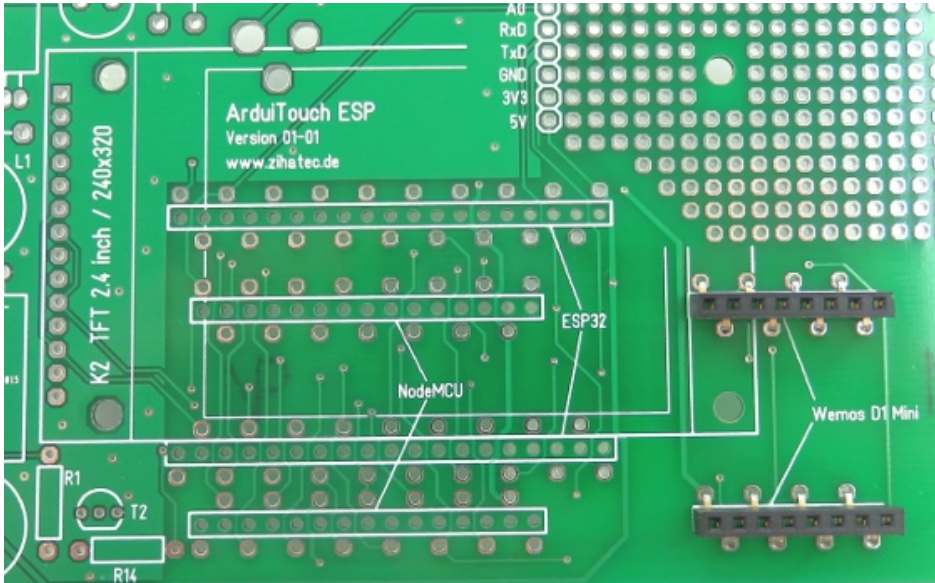
### **NodeMCU ESP32:**



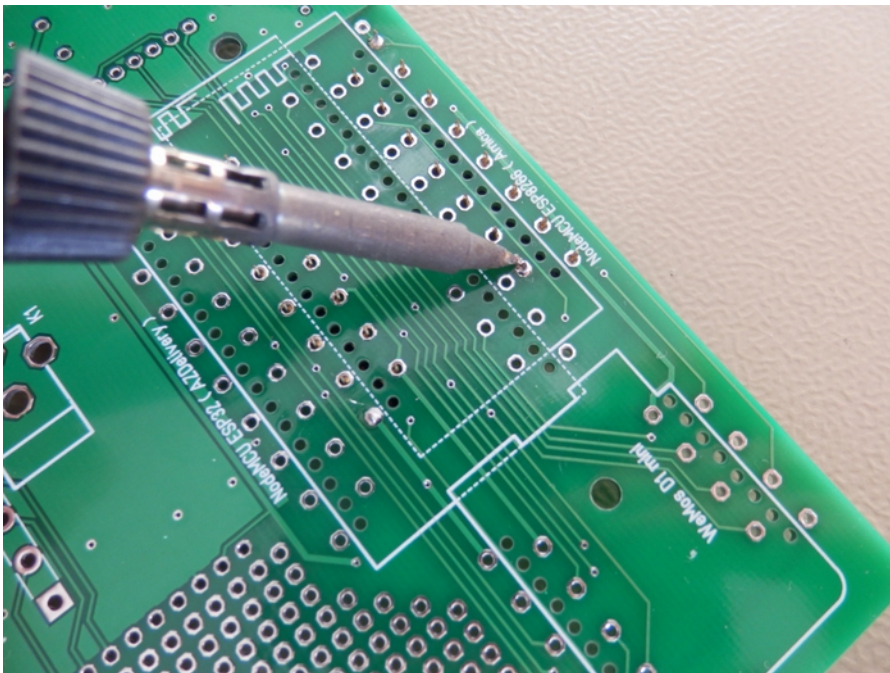
### **NodeMCU Amica V2:**



**Wemos D1 Mini:**

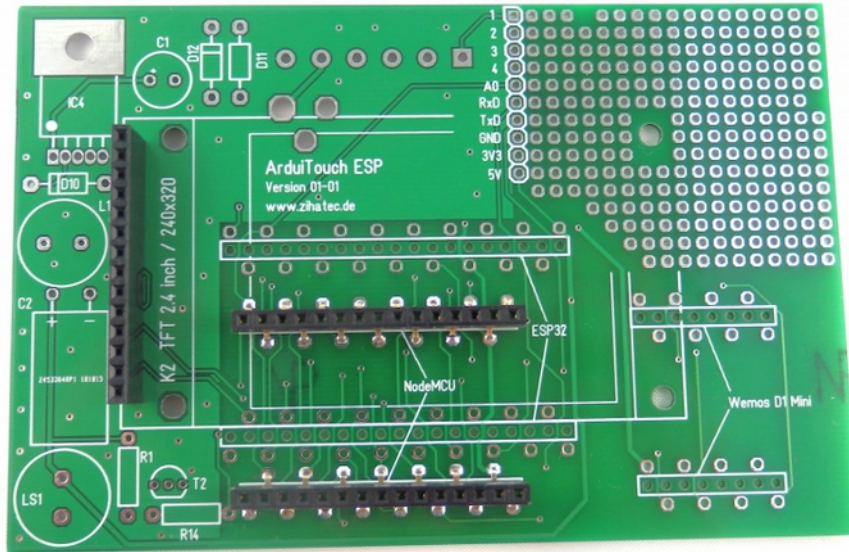


*Now you can solder the centipede headers from the opposite side. Please take care that the headers placed tight as possible to the pcb:*

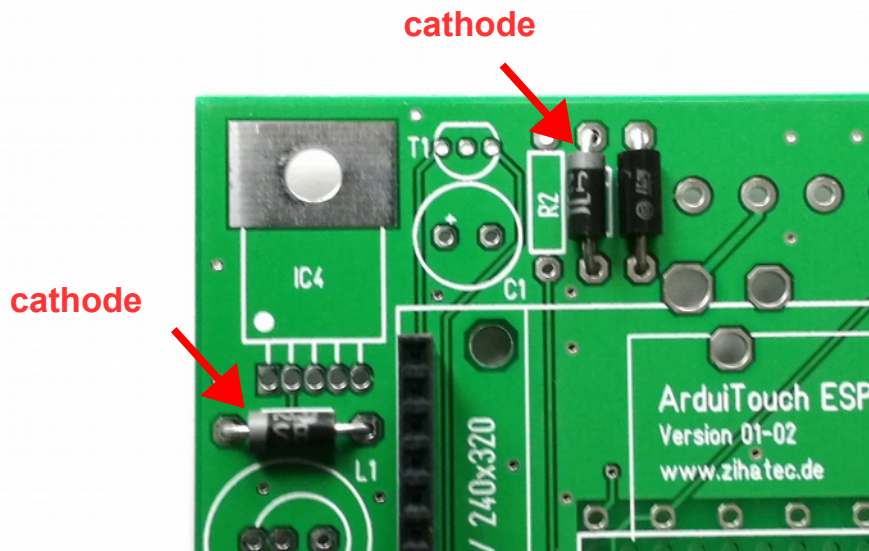




### 3.) Place and solder the header K1

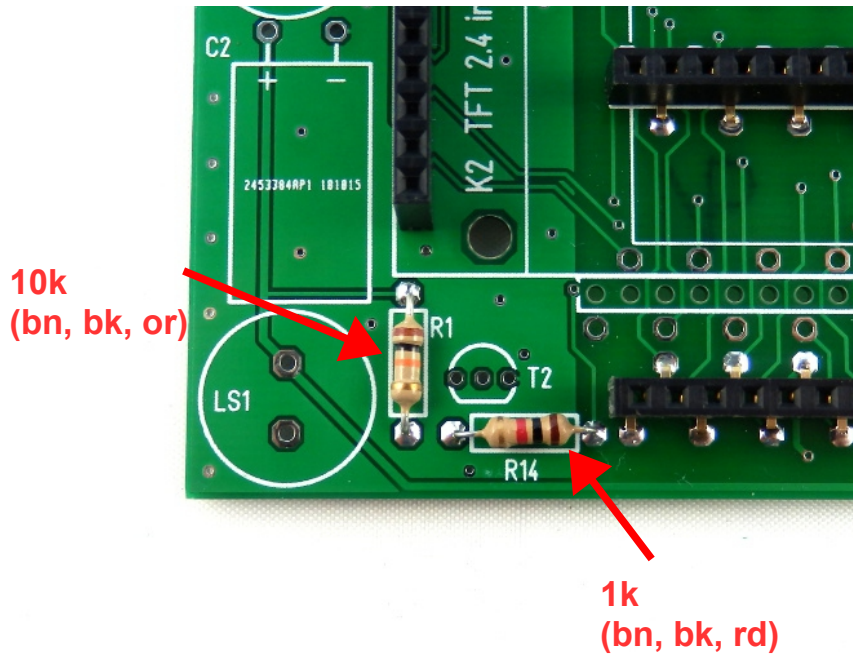


### 4.) Place and solder the schottky diodes D10, D11 & D12

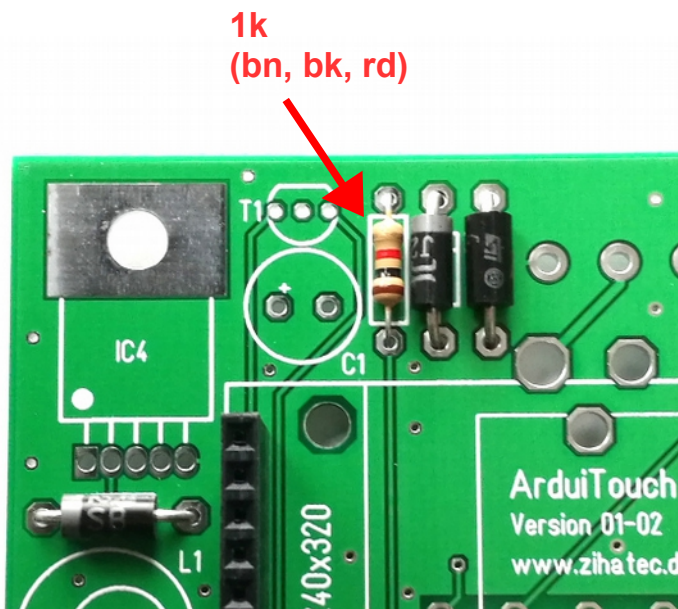


**Please Note: D11 has no polarity!**

5.) Place and solder the resistors R1 and R14



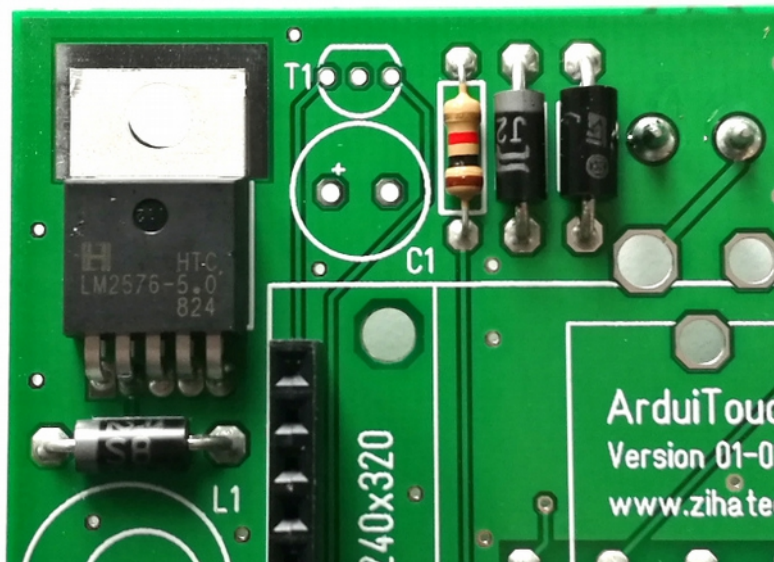
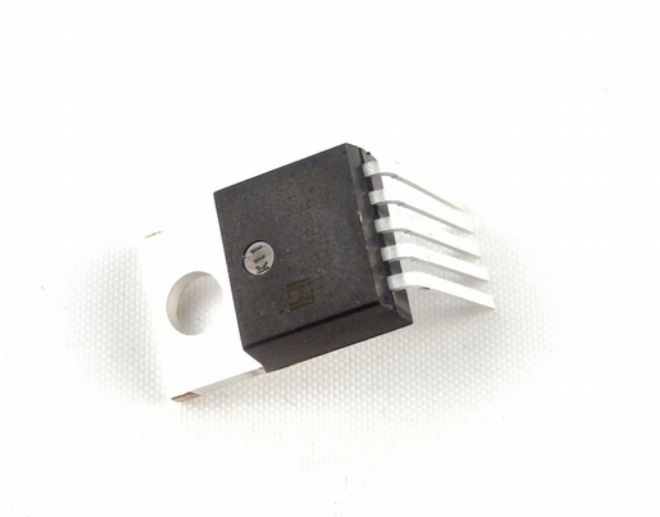
6.) Place and solder the resistor R2



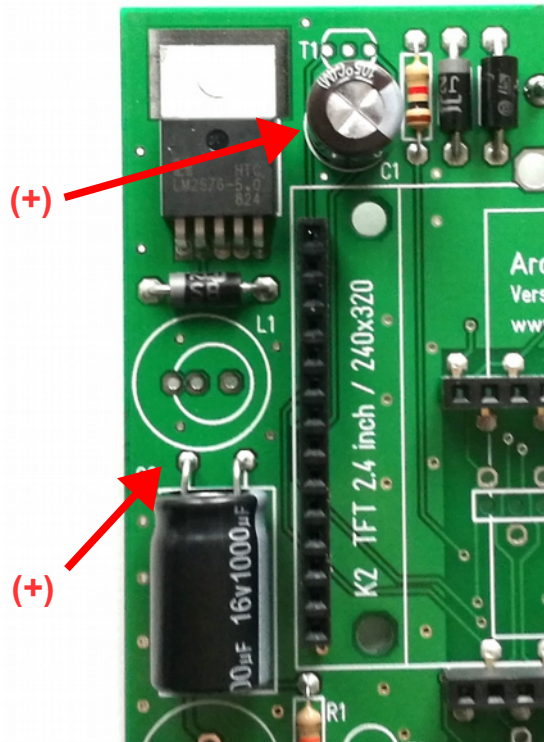
*Don't assemble this resistor for Wemos D1 Mini or NodeMCU V2*

## 7.) Preparation and Assembly of IC4

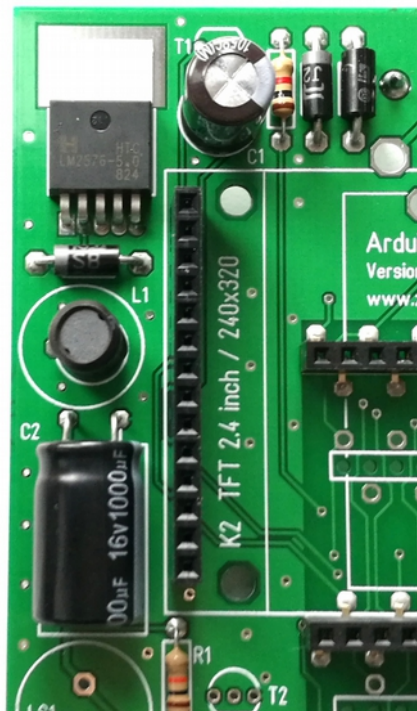
*Bend the straight pins of the voltage regulator IC4 2mm beside the regulator in a 90 degree angle first:*



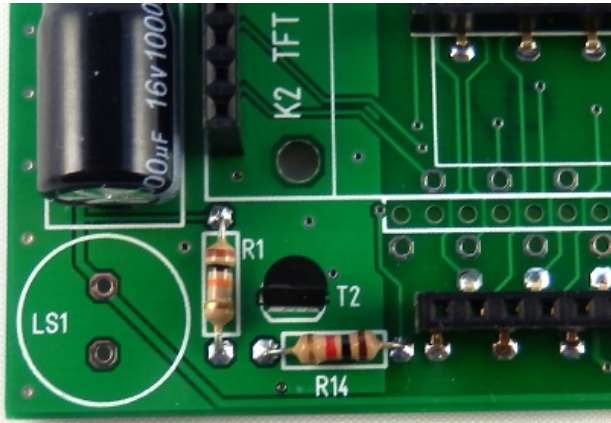
8.) Place and solder the capacitors C1 and C2



9.) Place and solder the inductor L1

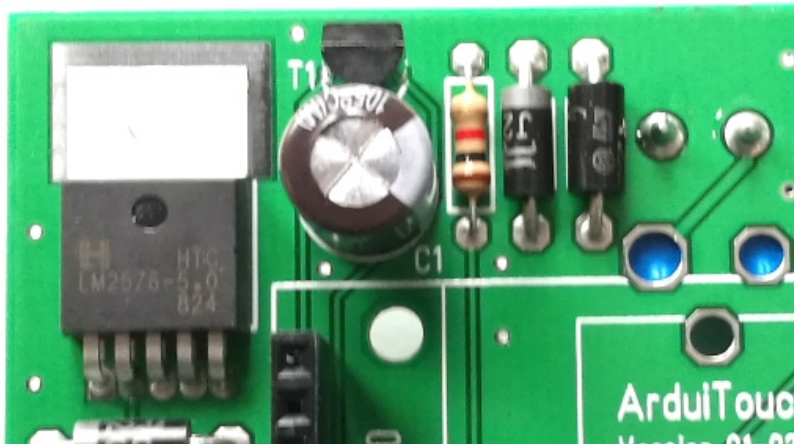


10.) Place and solder the transistor T2 (BC547)



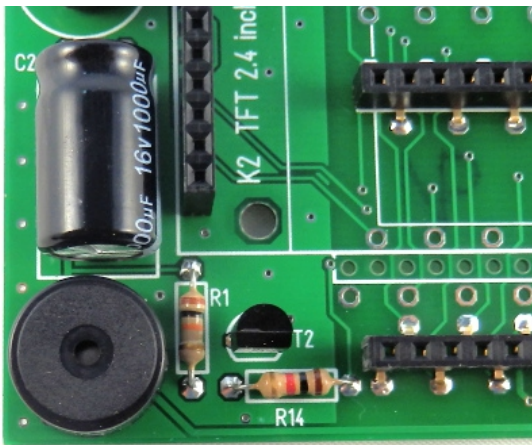
***NPN Transistor BC547!!!***

11.) Place and solder the transistor T1 (BC557)

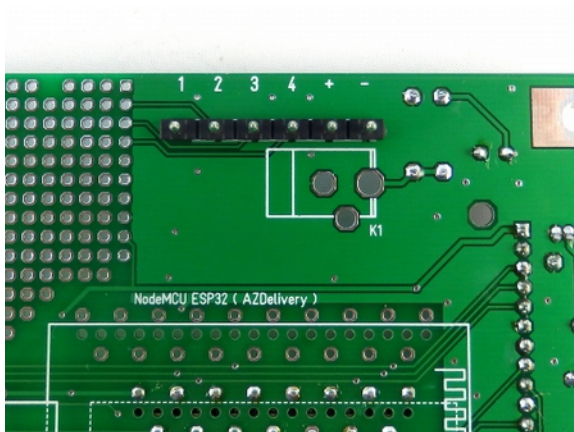


***PNP Transistor BC557!!!***

12.) Place and solder the piezo loudspeaker LS1

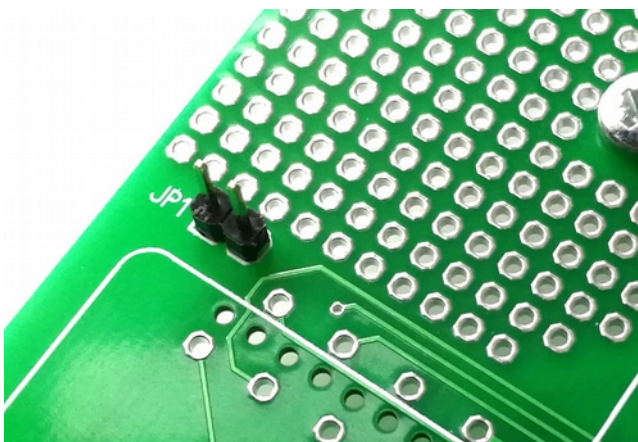


13.) Place and solder the header K4



**Attention!**  
K4 is placed on the  
pcb backside

14.) Place and solder the Jumper JP1 (for ESP32 only)

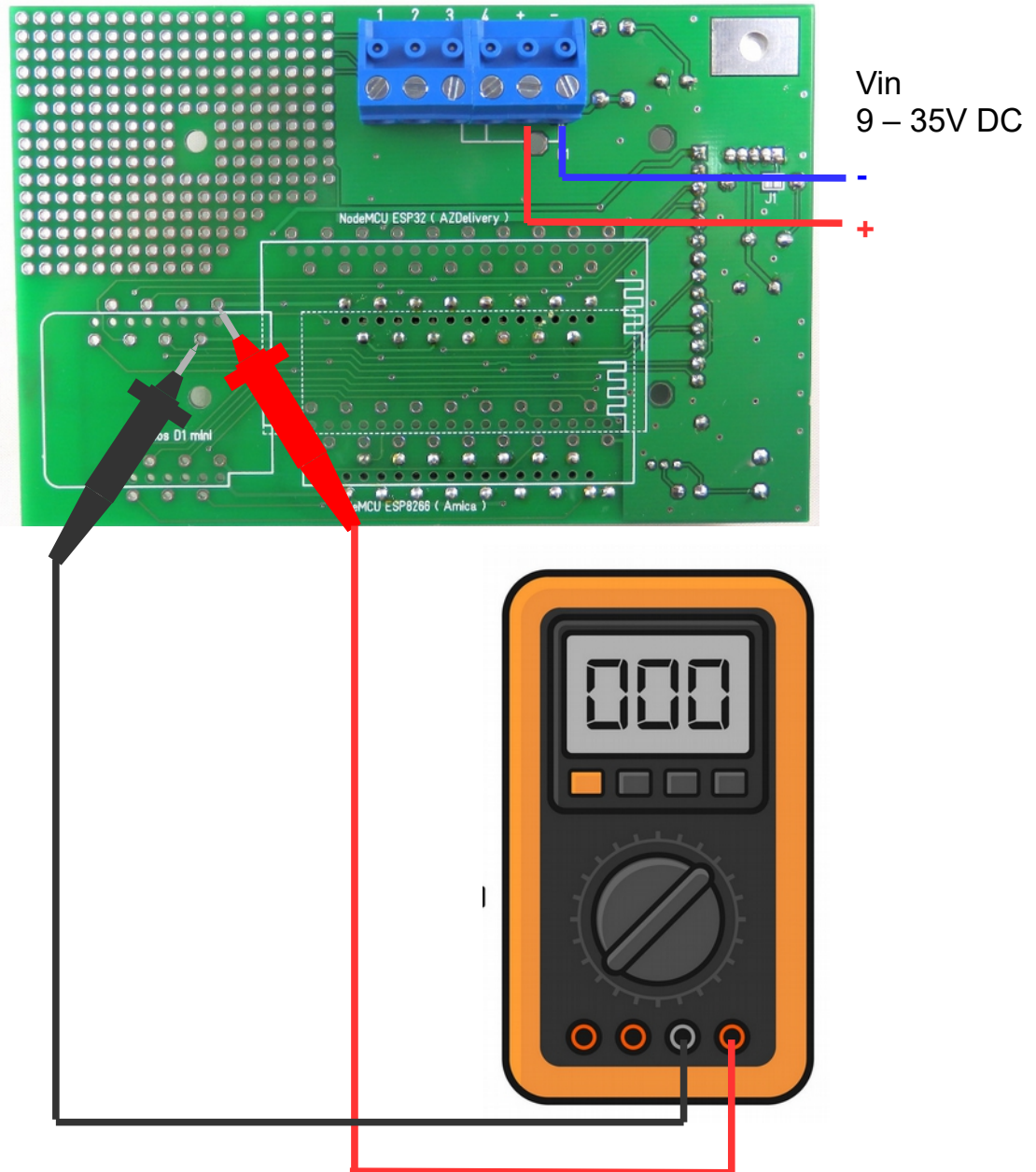


**Close this Jumper**  
**during programming of**  
**ESP32!**

**Leave it open during**  
**Run time!**

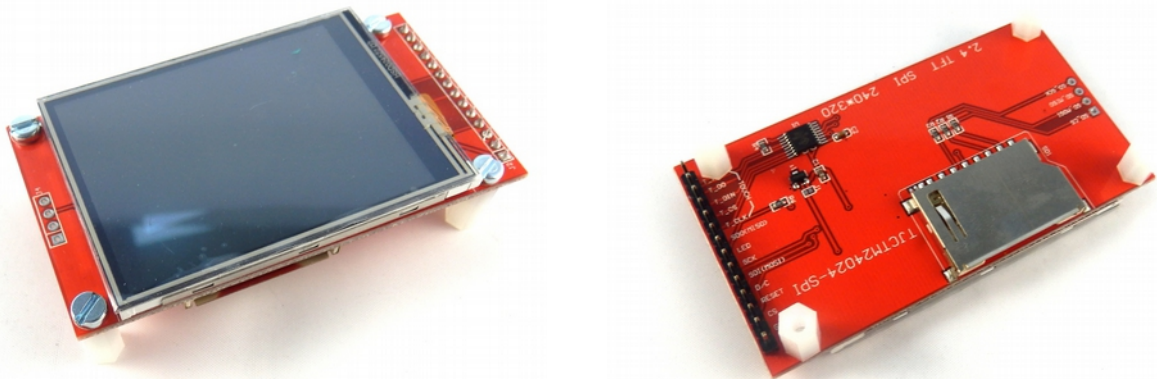
## 15.) Check the power supply

*Its time to check the function of the power supply before the final assembly of the unit.*

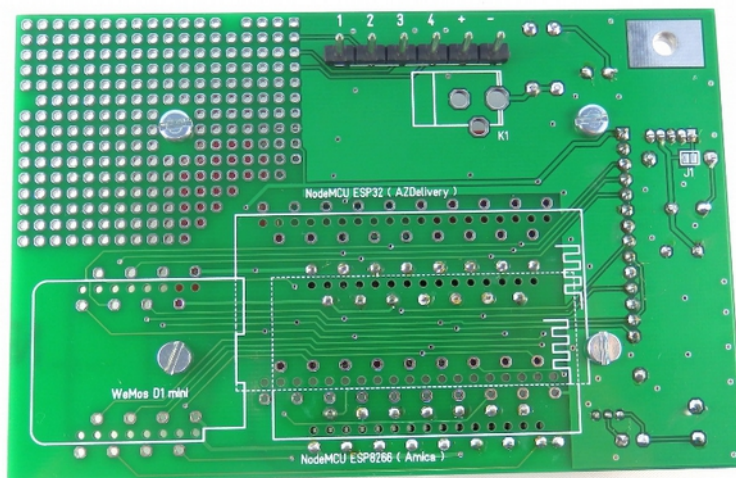


*You have to measure a voltage between 4.9 – 5.1V!*

## 16.) Mounting of Spacers



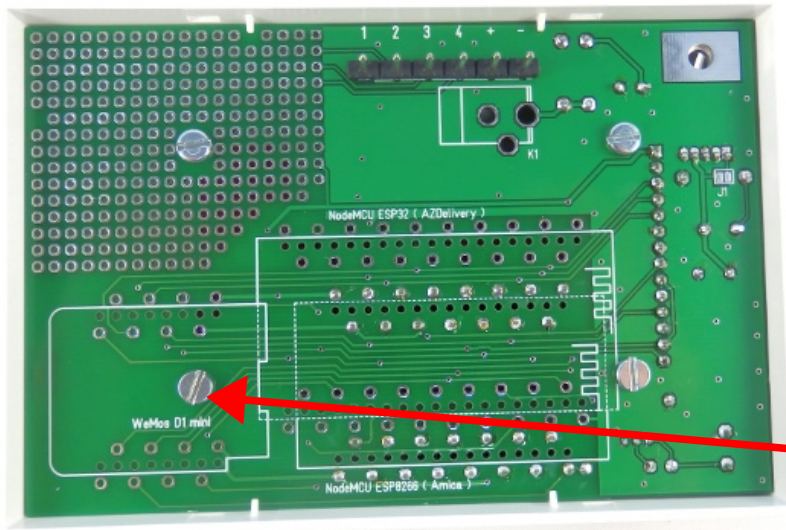
## 17.) Mounting of Touchscreen



*Plug the touchscreen into K2 and fix it with 4 M3 screws on the pcb backside.*



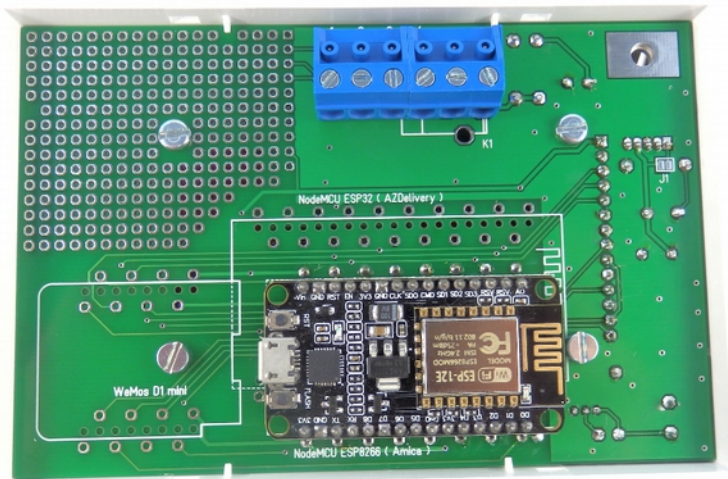
### 18.) Mounting of pcb in the top shell



**Position of ventilation slots on this side!**

**Don't mount this screw if you want to use a Wemos D1 Mini!**

### 19.) Mounting of ESP module and terminal



***Finish!***