

# *ArduiBox MKR*

## *Rev A*

### *construction manual*

Rev.	Date	Description
A	2018-05-15	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



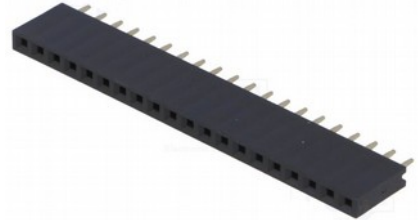
## *Parts Basic Version:*



2x  
2pole terminal block



2x  
3pole terminal block



2x  
20pole female header



2x  
self-tapping screws

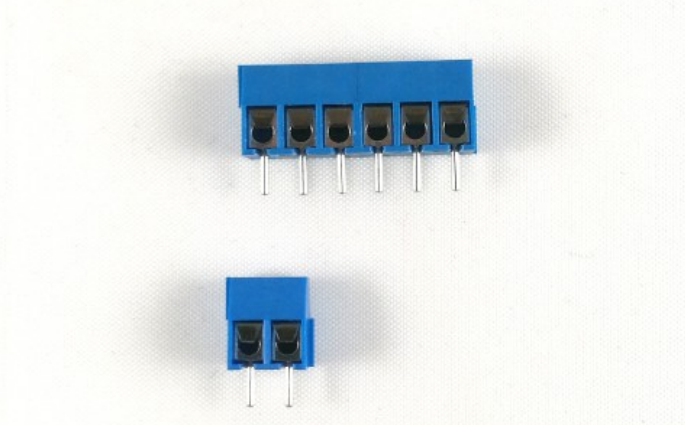


cathode

1x  
Schottky diode  
SB260  
(D2)

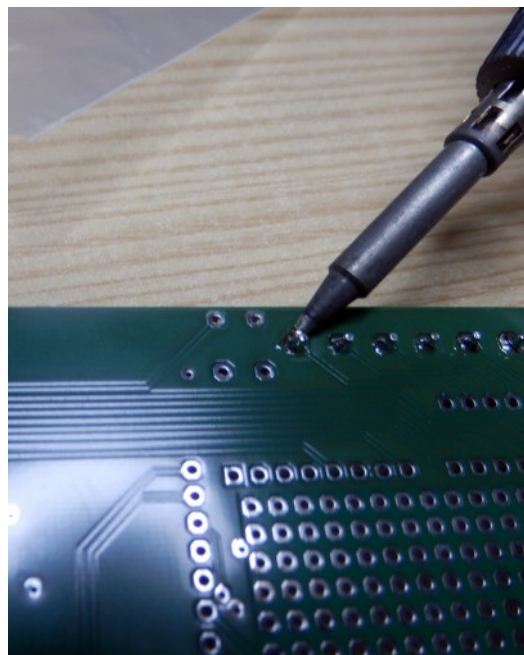
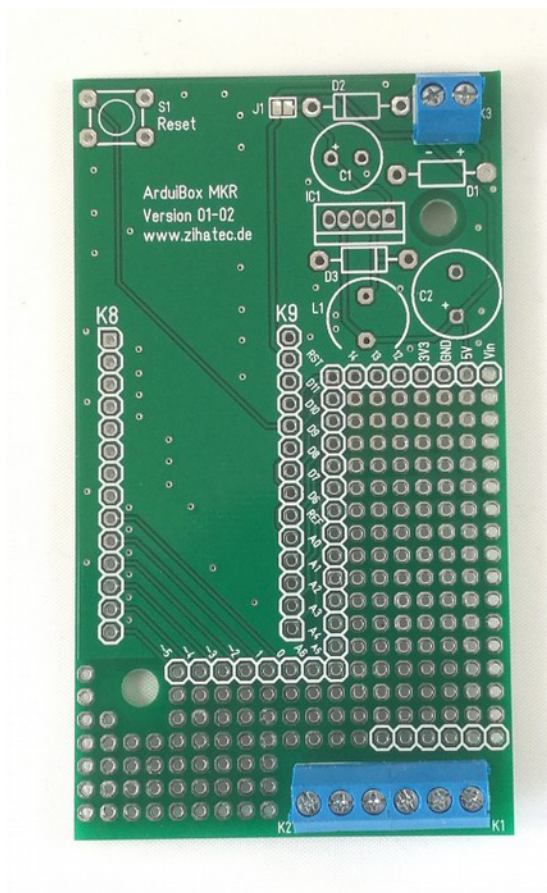
## 1.) Prepare the terminal blocks

Find the terminal blocks, they're grey or blue and come in 3-pin and 2-pin shapes. We'll need to slide two 3-pin blocks together:

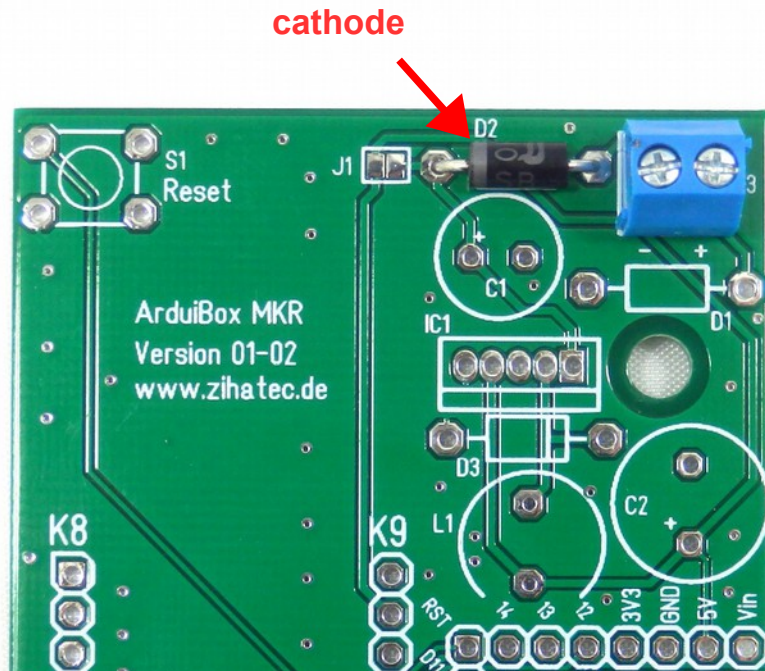


## 2.) Place and solder terminal blocks

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:

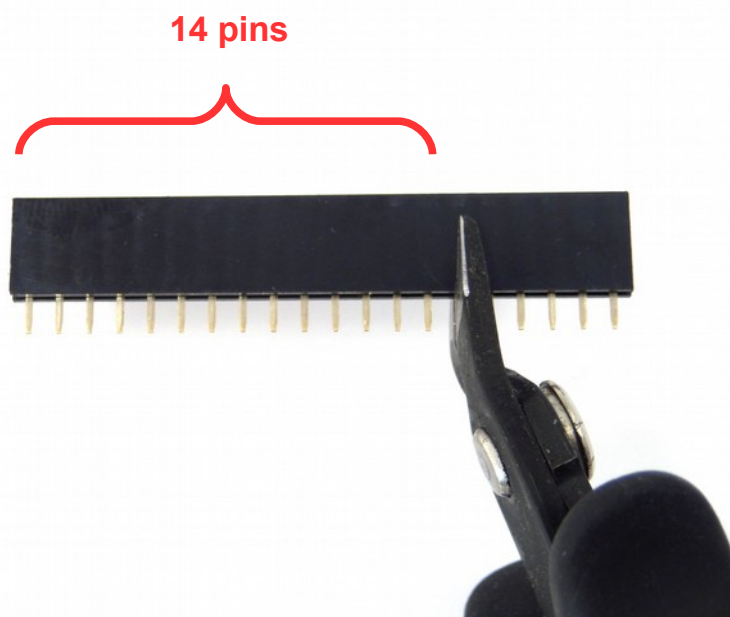


### 3.) Place and solder the schottky diode D2



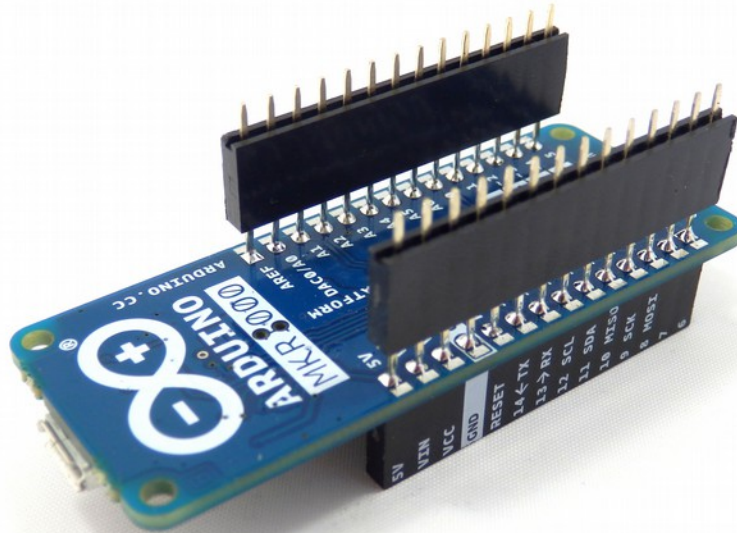
### 4.) Preparation of the female headers for Arduino MKR

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



## 5.) Prepare the Arduino MKR:

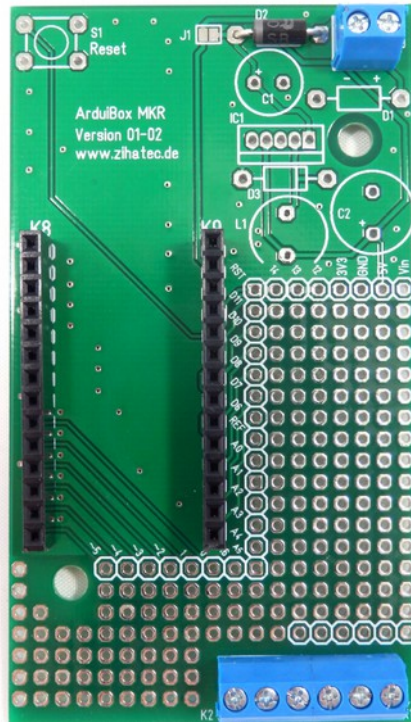
Plug both female headers onto the male headers of the Arduino MKR board



## 6.) Place and Solder the Arduino MKR:



7.) *Remove the Arduino MKR board:*



8.) *Solder Jumper J1 (optional):*

**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 MKR this step is unnecessary also.**

**Solder this Jumper**



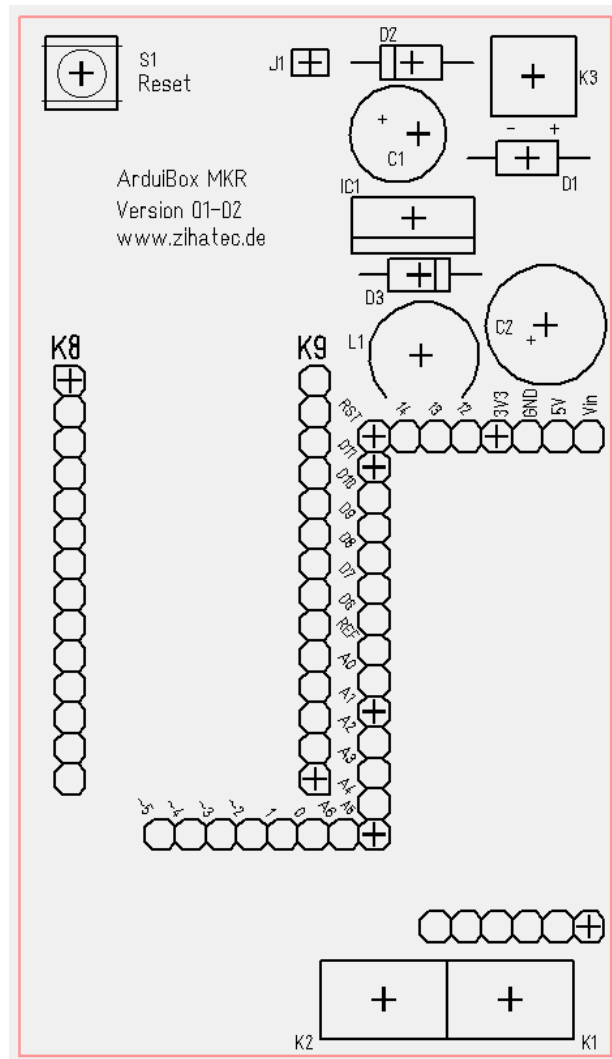
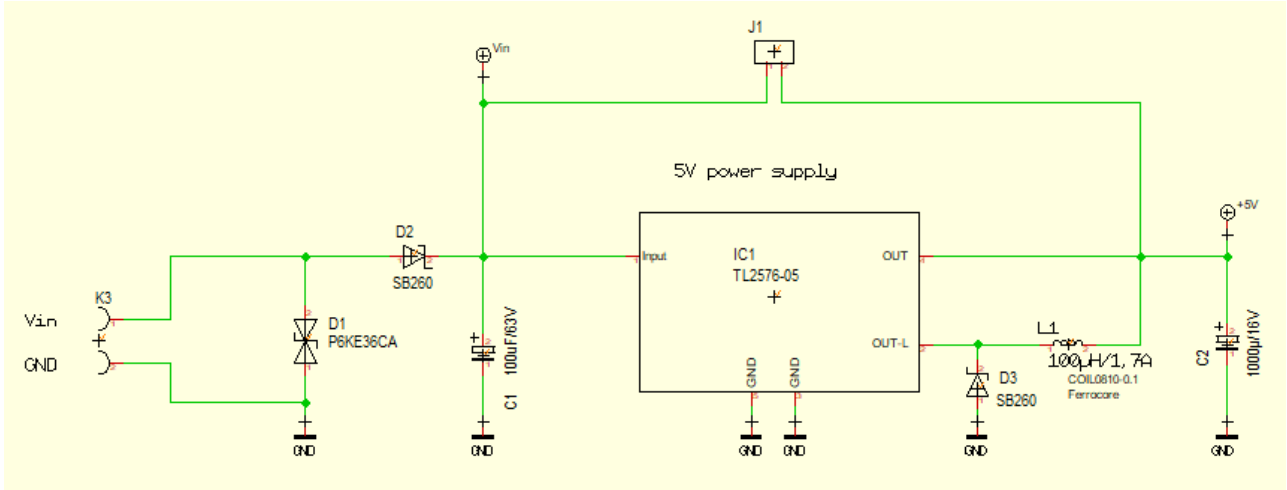


***Perform the next steps only if you have the standard kit (includes the parts of the voltage regulator). Otherwise continue with step 14.***

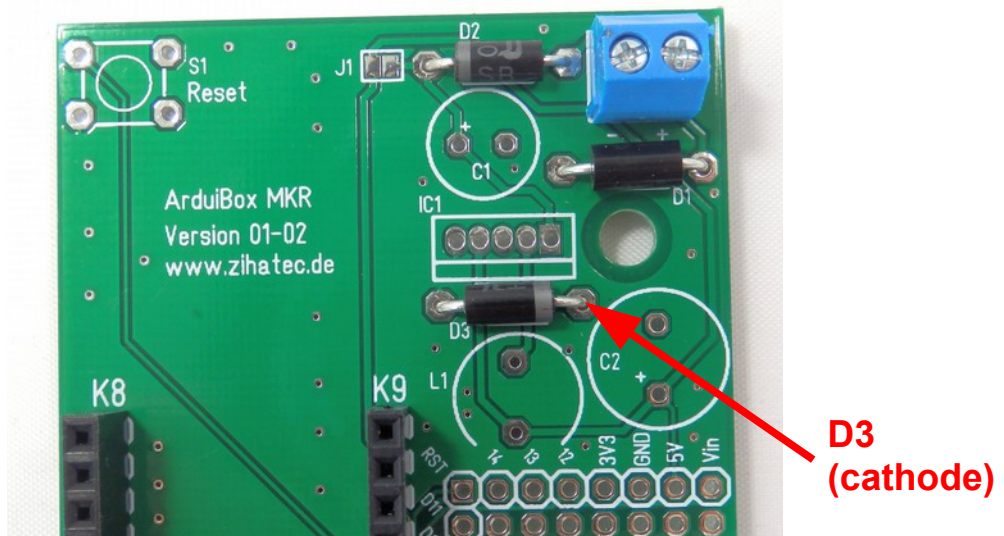
## Additional parts of Standard Version:

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

Power supply circuit:

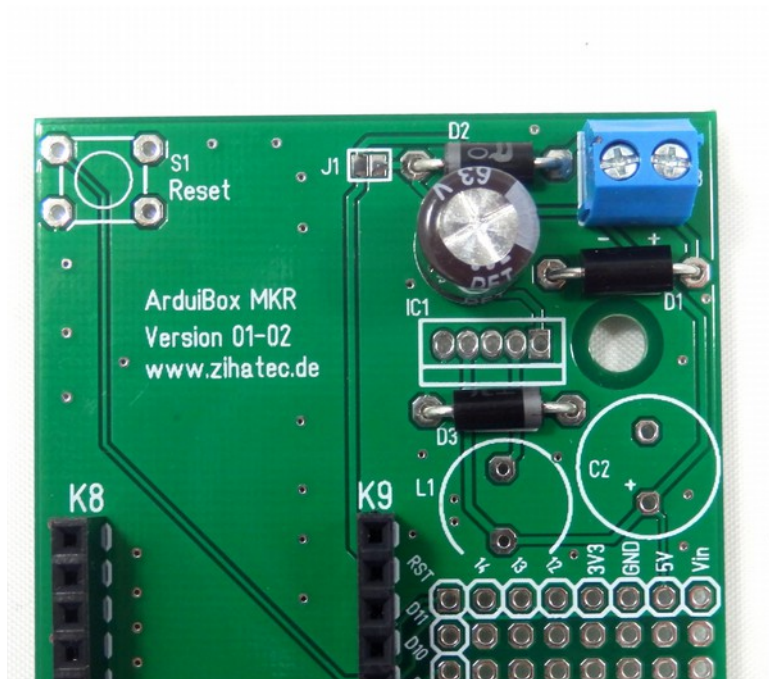


### 9.) Assemble Diode D3 and D1



*Please Note: D1 has no polarity!*

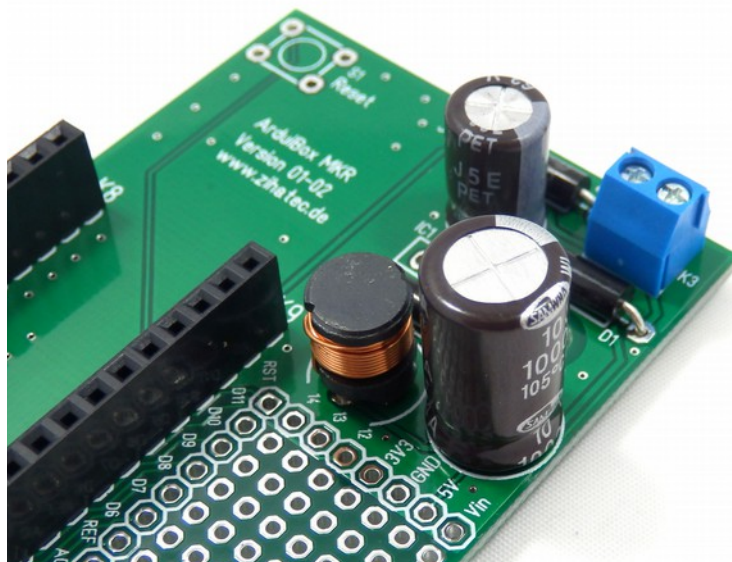
### 10.) Assemble electrolytic capacitor C1



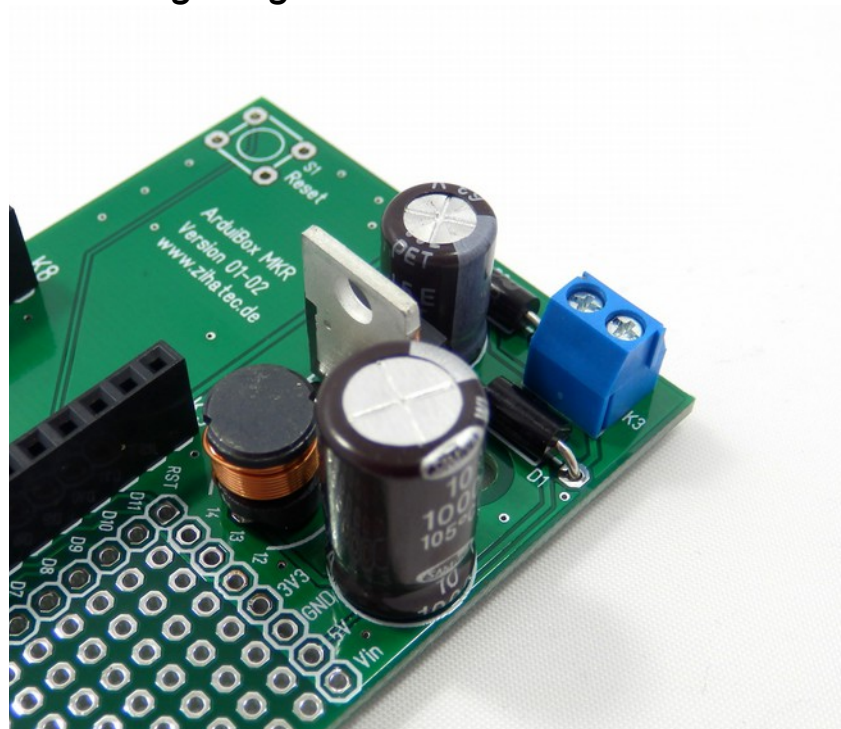
### 11.) Assemble inductor L1



### 12.) Assemble electrolytic capacitor C2



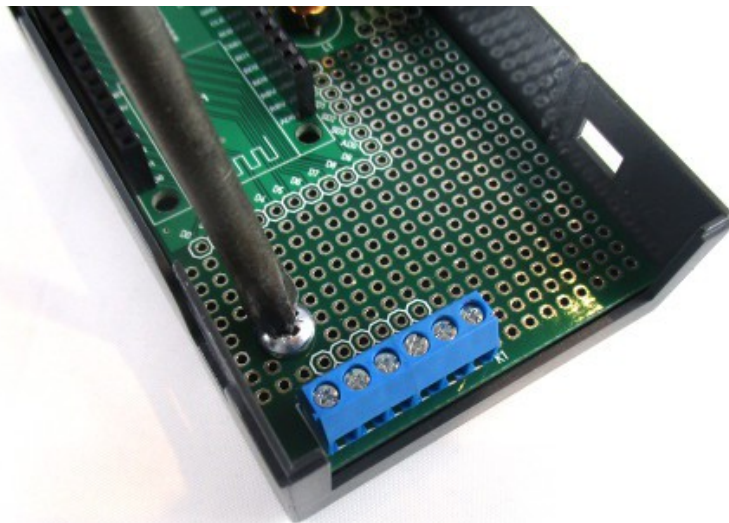
### 13.) Assemble voltage regulator IC1



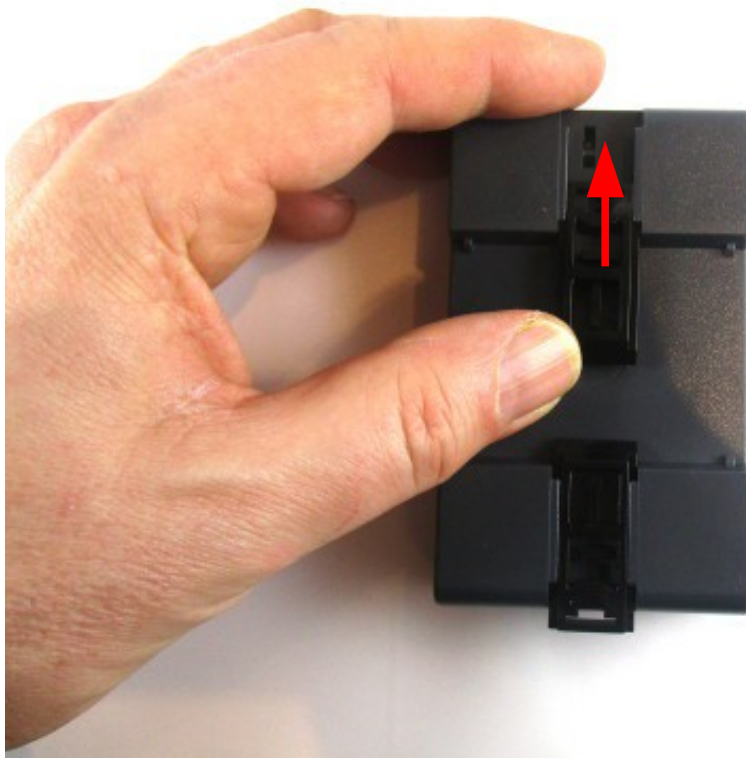
### 14.) Assemble the reset button S1



*15.) Mount the pcb into the bottom shell*

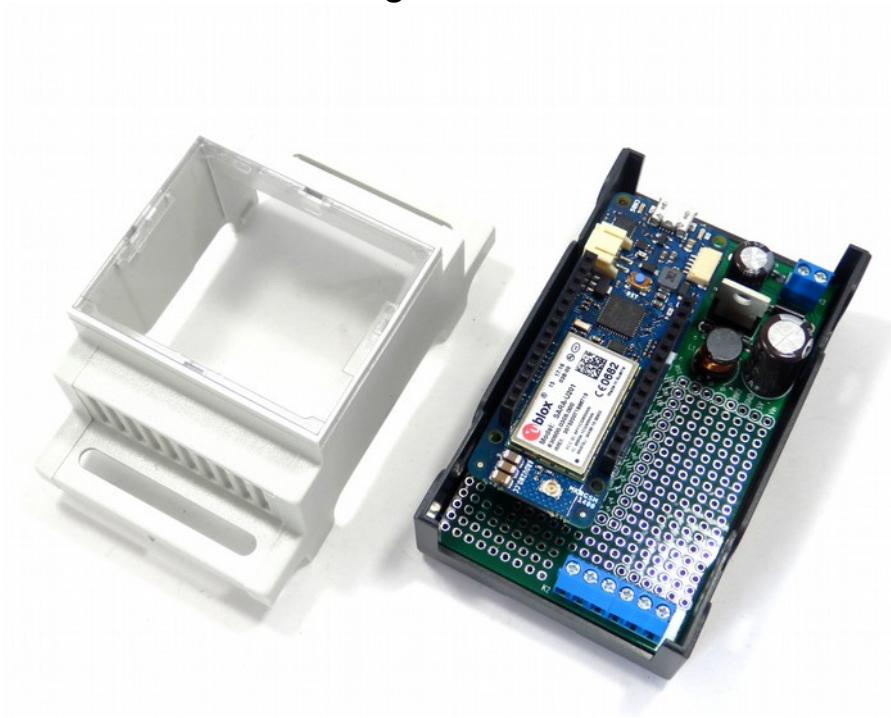


*16.) Mount the 2 holders for the din rail*



**Please take care to mount the holder from the inner channel to the outside!**

*17.) Mount the Arduino MKR again!*



*18.) Mount the top shell*



***Finish!***