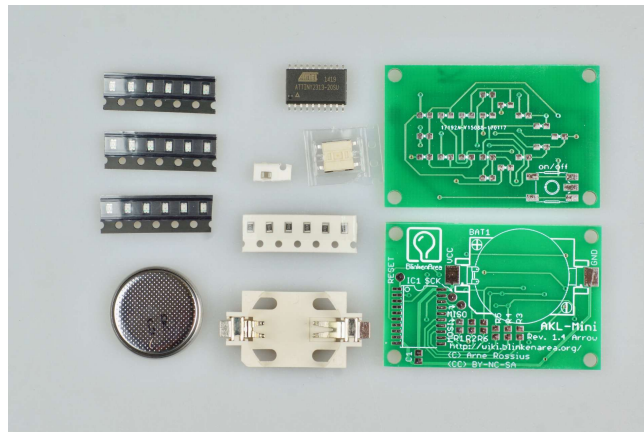


# Arrow (SMD)



Quantity	Name	Description	Label/Color Code
1	C1	Ceramic Capacitor 100 nF	
1	IC1	Micro Controller Atmel ATtiny 2313A	
18	LED1-LED18	LED SMD 0805	
6	R1-R6	Resistor 47 $\Omega$	470
1	SW1	Push Butotr	
1	BAT1	Battery Holder	
1	Battery CR2032		
1	PCB		

Difficulty: ●●●●○ Build Time: 1-2 hours

Manual v2.0  CC BY-SA 4.0 Binary Kitchen e.V.

PCB v1.4  CC BY-NC-SA Arne Rossius

## Safety Information

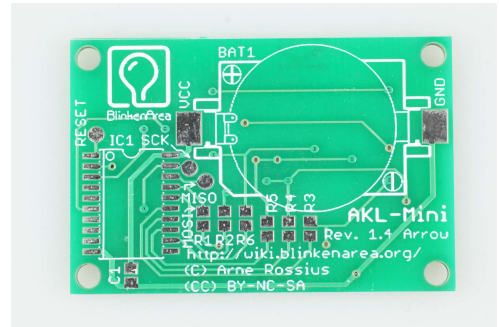
- ATTENTION: Not suitable for children under 3 years, choking hazard due to small parts that may be swallowed.
- We recommend: Supervision of the assembly and soldering process by an adult.
- Keep these operating instructions in a safe place for later use! It contains important information.
- If the battery is empty, replace it only with a new battery with the same values.
- When soldering, the soldering iron, the solder and also the components being soldered become very hot.
- Always wear safety glasses when soldering and assembling the kit.
- Always use a fire proof soldering pad when soldering! This prevents the components from slipping away.
- To keep the soldering iron safe during assembly, always use a suitable soldering stand.
- The kit is designed for battery operation only.
- CAUTION: Never connect the kit to 230 V mains voltage! There is an absolute danger to life!
- Please take the device to appropriately certified disposal companies at the end of its service life. This is good for the environment and ensures correct disposal.
- Subject to changes and errors.



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### Step 1

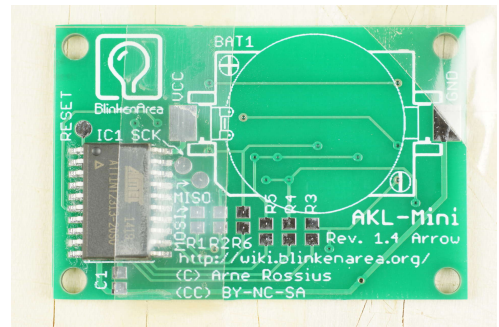
- a) Fix the board to the base with adhesive tape



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### Step 2

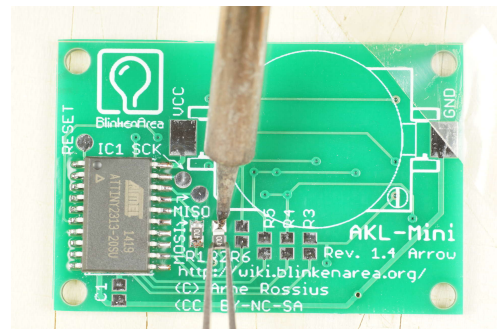
- a) Pick up IC1 with adhesive tape. Adhesive tape should cover only half of the IC
- b) Then the IC can be aligned and fixed with adhesive tape
- c) Alignment important: Small point on IC must match with point on board at top left
- d) Solder all legs to the board with solder
- e) Then the tape can be removed and the other side can be fixed



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### Step 3

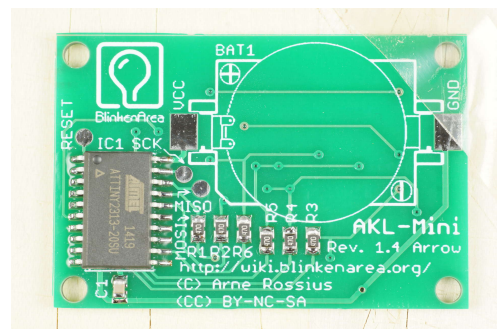
- a) Solder resistors R1 to R6
- b) To do this, add solder to one pad
- c) Then heat the solder and feed the resistor to the side with tweezers
- d) Then solder the second pad



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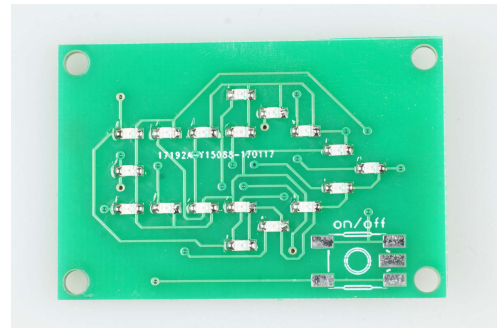
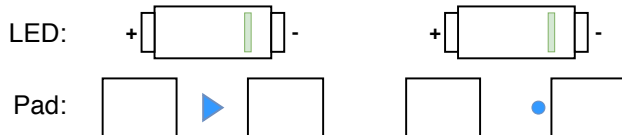
### Step 4

- a) Solder capacitor C1 with the technique presented before



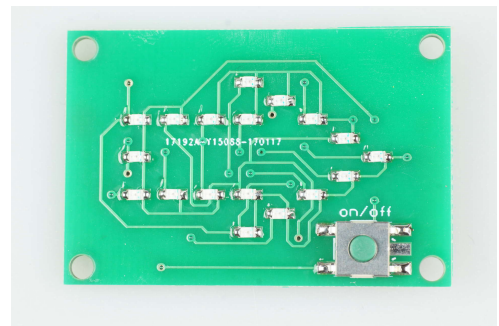
### Step 5

- Attention! Alignment of the LEDs is important! First read all steps
- Solder the LEDs the same way as the resistors
- Turn the board over
- The LEDs have a small green line on the top side
- There are small arrows or small dots printed on the board
- The arrows or dots on the board show the side, where the small green line has to be
- Tip: If the arrows or dots on the board are hard to see, refer to the layout drawing on the last page of the manual



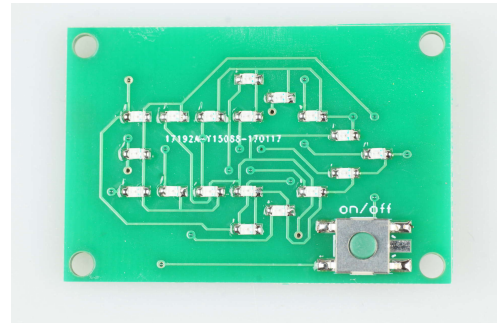
### Step 6

- Schalter mit üblicher Technik auflöten
- Ausrichtung ist egal



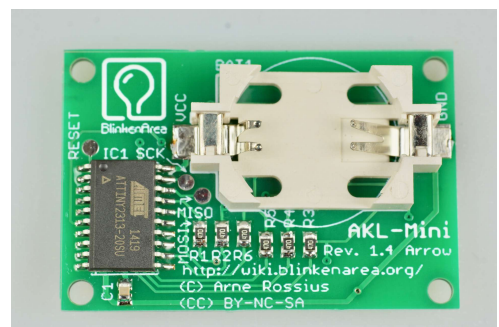
### Step 7

- Solder on the switch with usual technique
- orientation does not matter



### Step 8

- Solder the battery holder
- Turn over PCB
- Battery holder and PCB have plus and minus symbol printed on them. This must match



Step 9

- a) Attention: Insert battery correctly! A metal pickup (see picture: left metal pickup) must grip on top of the battery
- b) Switch on
- c) Done!

