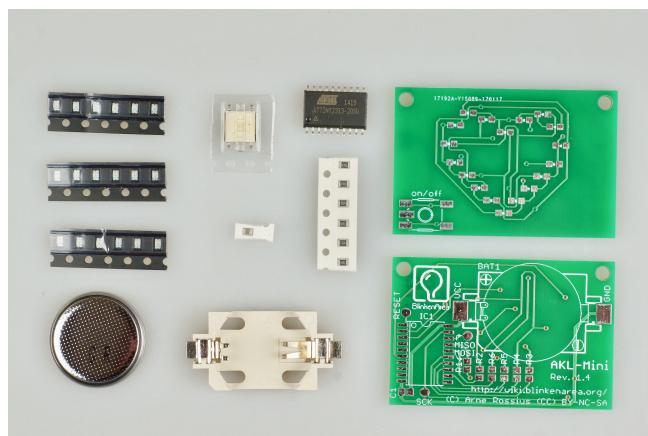


Heart (SMD)



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 Ω	470
1	SW1	Push Button	
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

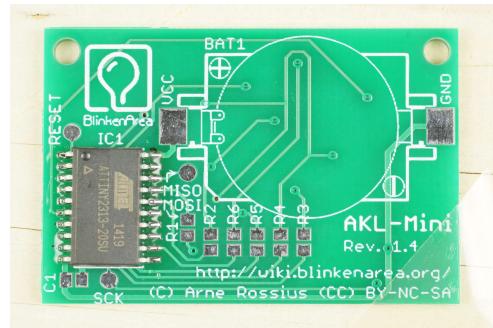
Safety Information

- 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.



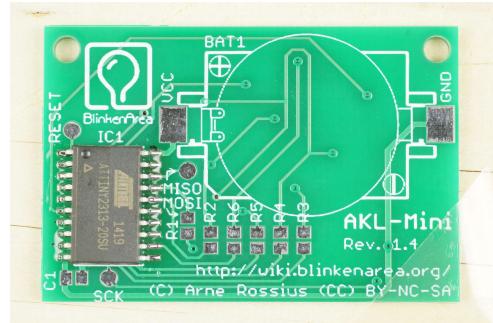
Step 1

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



Step 2

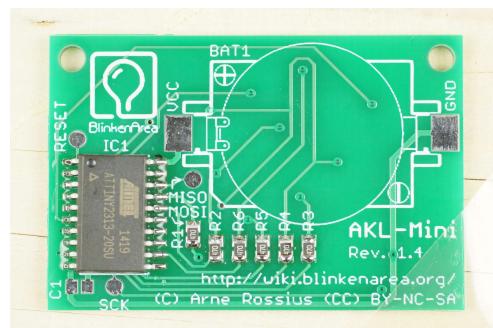
- a) Pick up IC1 with adhesive tape. Tape should cover only half of the IC
- b) Then the IC can be aligned and fixed with tape
- c) Alignment important: Small dot on IC must match dot on board top left
- d) Solder all legs on board with solder
- e) Then tape can be removed and the other side can be fixed



Step 3

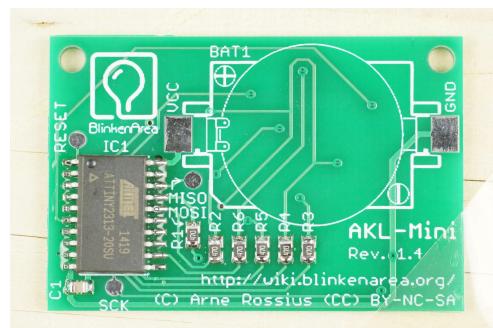
- a) Solder resistors R1 to R6
- b) To do this

tin a pad; Then heat tin and feed the resistor to the side with tweezers; Then solder the second side



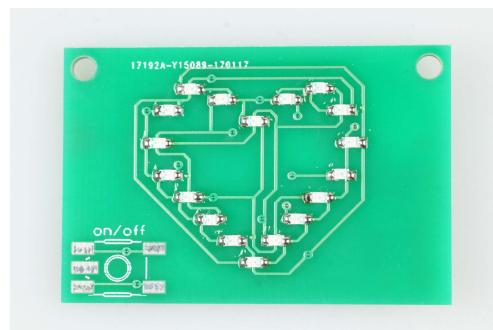
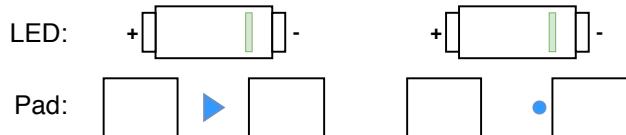
Step 4

- a) Solder capacitor C1 with the technique presented before



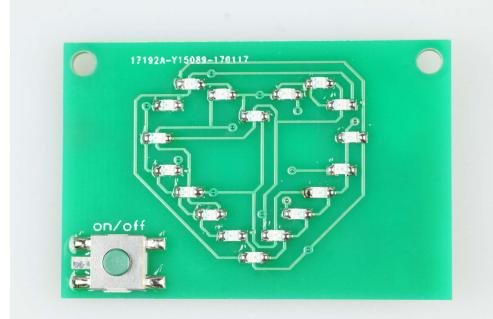
Step 5

- a) Attention! Alignment of the LEDs is important! First read all points of the step
- b) Solder the LEDs the same way as the resistors
- c) Turn the board over
- d) The LEDs have a small green line on the top side
- e) There are small arrows or small dots printed on the board
- f) The arrows or dots on the board show the side, where the small green line has to be
- g) 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

- a) Solder on switch with standard technique
- b) orientation does not matter



Step 7

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



Step 8

- a) Insert battery correctly. A metal tab (on the left in the picture) must grip the top of the battery
- b) switch on. Done!



