

Soldering evening Christmas 2024 - Build Instructions

Welcome to our soldering evening for Christmas 2024! In this tutorial we will solder together a PCB with an ESP32, LEDs and a button. It's a great opportunity to learn more about electronics and soldering as we create a festive project that doubles as a Christmas tree.

Required components

Make sure you have all of the following components to hand before you start soldering:

- 1 x PCB (Christmas tree design)
- 11 x LEDs
- 1 x ESP32 (with pin headers)
- 1 x button
- Various soldering materials (soldering iron, solder, wire cutters)
- USB-C cable



Step-by-step instructions

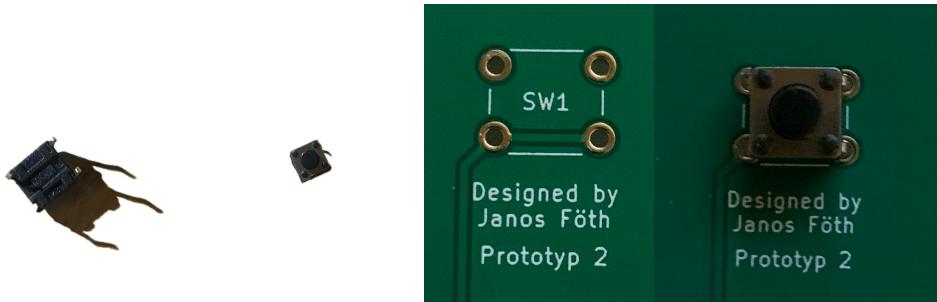
Step 1: Preparing the circuit board

Start by preparing the circuit board. Make sure that you place the components according to the markings on the circuit board.



Step 2: Soldering the button

Insert the button in the intended position and solder it in place.



Step 3: Positioning the LEDs

Cut off the legs of the LEDs directly after the thick section, as shown in the picture. Use a side cutter to shorten the legs to the correct length so that the LED sits well on the board.



Insert the LEDs in the intended positions, ensuring that the flat side of each LED is placed on the flat side of the circuit board, as shown in the picture.



And solder them in place.

Step 4: Solder the pin headers (pins) on the ESP32

Insert the ESP32 at the appropriate points on the board.



First solder the pins of the ESP32.

Then set the ESP32 aside and solder the black pin holder on the circuit board.



Step 5: Fully assembled circuit board

Once you have successfully soldered all the components, your circuit board should look like this.



You have now successfully completed the small project! You can change the order in which the lights flash by clicking the button once. If you press and hold the button, you can switch the lights on and off. In addition, your Christmas tree now has an access point that you can connect to. You can control the lights and change the settings via your mobile phone.