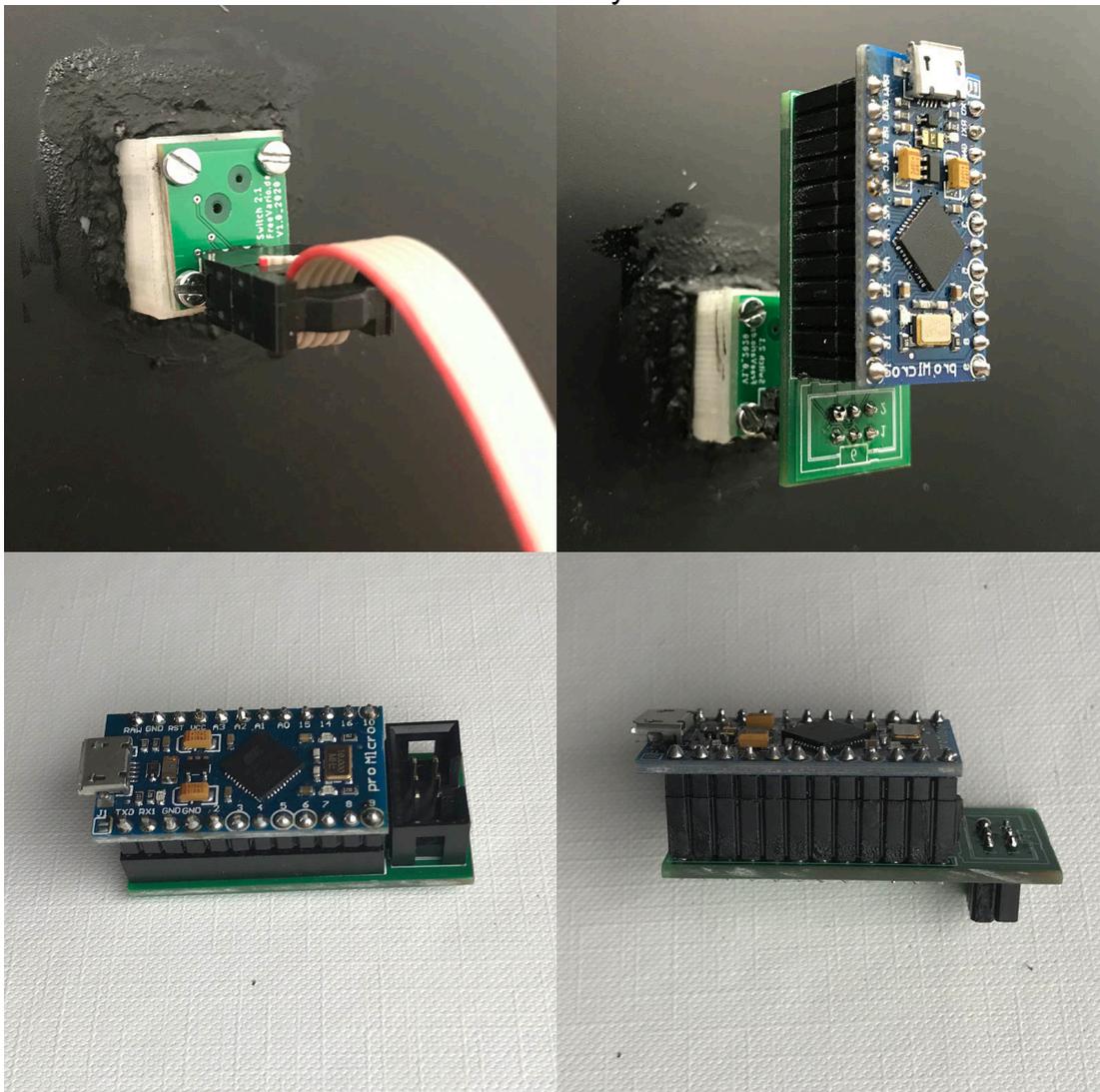


## Installation instructions thumb button

### 1. Install the thumb button

- I deliberately used a white button here in the instructions so that the contrasts are greater and you can see the details better!
- the thumb button can be mounted in two ways. Either the button is connected with a 6-pin ribbon cable to the control board, which is fastened somewhere in the cockpit, or the control board is plugged onto the back of the button board. Which variant you choose depends on your preferences and the space at the installation site. With the variant with the ribbon cable you have to pay attention to the position of PIN 1 on the button board! If you swap the cable, nothing will break, but the button does not work. In addition, a different connector must be soldered to the control board for both variants. It is also attached a little differently.

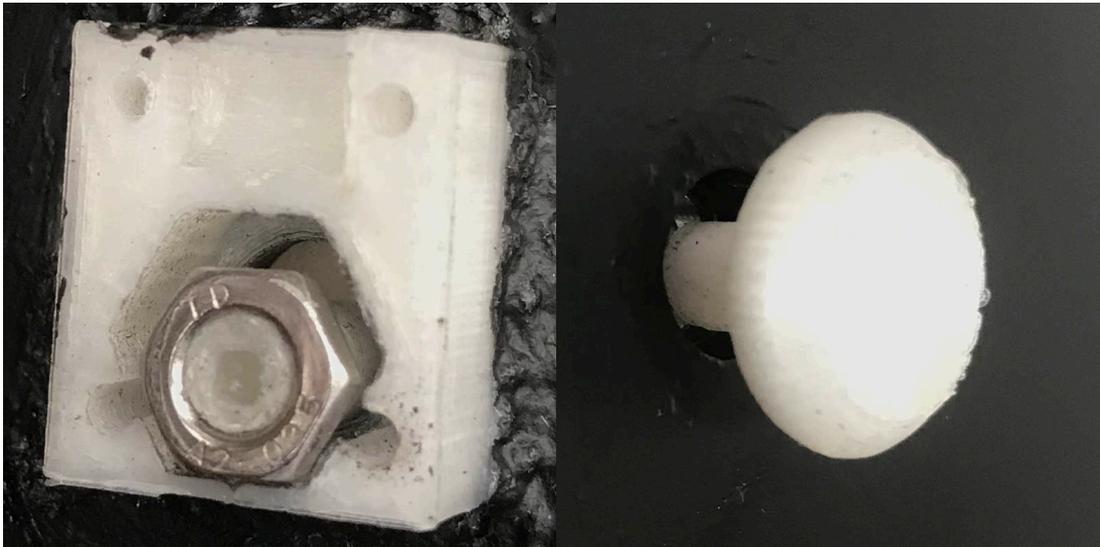


- Find a suitable place for the thumb button. It has the dimensions (LxWxH) 16.5mm x 18mm x 11mm, the control board is 20mm x 42mm.
- Drill a 8.5mm hole at the appropriate point in the instrument panel
- Sand the instrument panel around the hole on the back
- cleans the adhesive surfaces with ethanol

- mixes some epoxy resin and applies it to the adhesive surfaces **very** thinly
- thickens the remaining epoxy resin with cotton flakes, so that it is quite tough
- Carefully and thinly coat the frame of the thumb button with thickened resin
- inserts the assembly aid into the instrument panel from the front and pushes the holding frame open from behind



- Spread thinly thickened resin in the corner between the holding frame and the instrument panel
- Let the whole thing tighten a little (quite a few hours) and carefully remove the assembly aid. If you wait until the epoxy resin has hardened, it may be that the assembly aid can no longer be removed because excess resin has got between the assembly aid and the holding frame.
- When the resin has hardened, you insert the button from the front and screw the flat nut M5 onto the button. Screw in the button until it is flush with the nut.



- Coat the thread with a little epoxy resin beforehand so that the nut cannot loosen later
- Now you align the square in the button and press the circuit board onto the button. You may have to press a little hard, the button should be tight. But be careful, too much pressure will destroy the 5-way button!
- Screw the board tight with the 4 screws M2x10 and connect the programmed control board to the button board and to the OpenVario with the micro USB cable

## 2. Adapt the programming of the Leonardo Pro Micro

- if not available, install the Keyboard and OneButton libraries in your Arduino IDE. Keyboard is probably already included by default.

- You can download OneButton here:

<https://github.com/mathertel/OneButton>

- Starts the Arduino IDE

- now you install the board library SparkFun AVR Boards by clicking on Tools -> Board -> Board Manager and looking for SparkFun AVR Boards. Then click Install.

- Restarts the Arduino IDE

- Then Arduino IDE is set appropriately.

- Board: SparkFun Pro Micro
- Prozessor: ATmega23U4 (3.3V, 8MHz) or ATmega23U4 (5V, 16MHz), depending on which version you have!
- If you choose the wrong type you bricked the Pro Micro. If that happens, it has to be reset. How to do that later. You will notice that you have bricked the Pro Micro when the port no longer appears in the tools. Which version it is is usually not marked on the back. But you can find out by measuring the voltage between GND and VCC with the multimeter (3.3V or 5V).
- Port: the device that appears when you connect the Pro Micro to the PC.

- Now set Sketch to the orientation you are using. In the standard version, the connector contacts are at the bottom. If you want to use a different variant, remove the two slashes // in front of the appropriate lines and put them in front of the lines that define the standard variant. Upload the sketch now.

## 3. Rescuing a bricked Leonardo Pro Micro

- If you have bricked the Pro Micro, you can restore it by soldering a button to the PIN RST with a cable, the other PIN of which is soldered to GND. Open the Arduino IDE and leave the standard sketch open. Now you press the button two times very quickly. Upload the standard sketch as soon as possible. You may need several attempts. I first clicked Upload and then very quickly clicked the button twice. The Pro Micro can then be programmed again.