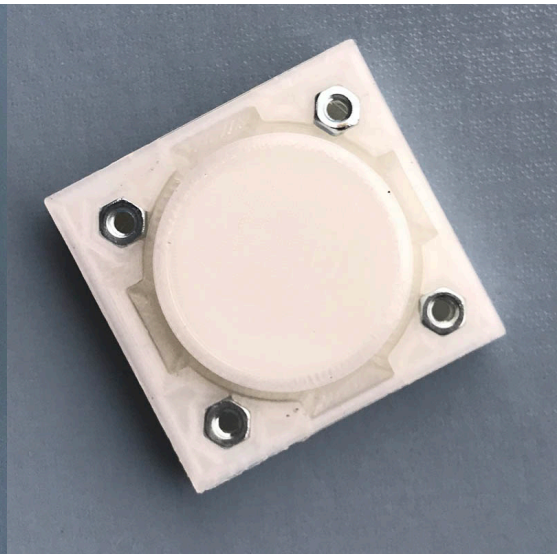
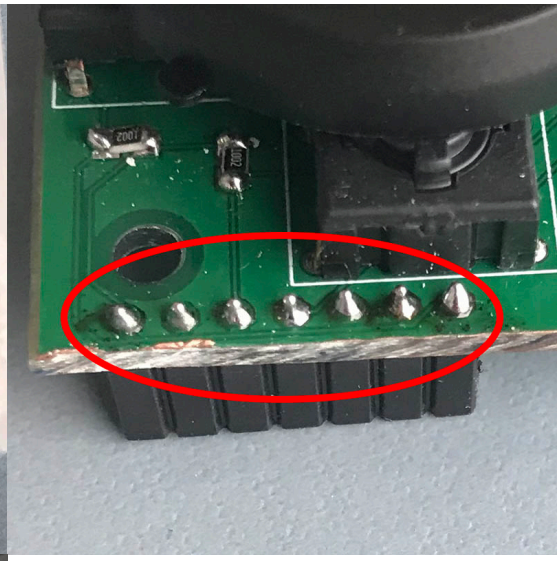
Installation instruction keypad

1. Install the keypad

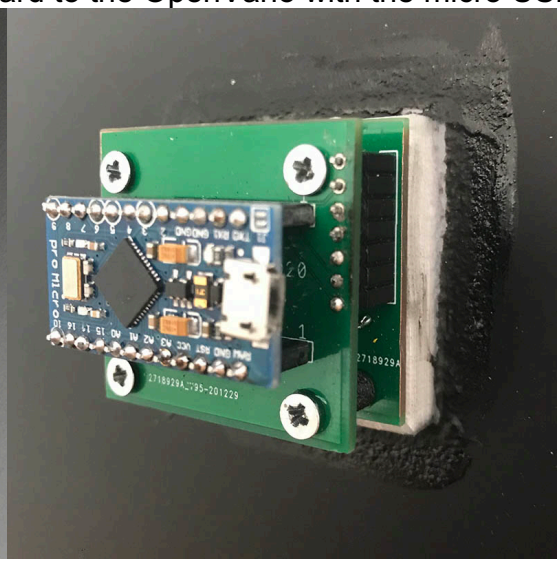
- Find a suitable place for the keypad. It has the dimensions (LxWxH) 42mm x 40mm x 34mm
- Drill a larger hole at the appropriate place in the instrument panel and drill it out to 30mm with a countersink
- only slightly enlarge the hole with coarse sandpaper until the assembly aid (30.3mm) fits easily and without play
- 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
- Think about how you want to align the keypad, since the circuit board is not exactly square, it may not fit into your instrument panel in every orientation. You can easily remove and turn the rocker later.
- Press the assembly aid into the holding frame and push the assembly aid through the hole from behind



- align horizontally by eye
- 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. To do this, place a small screwdriver between the assembly aid and the holding frame and carefully pry the assembly aid out! 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.
- Put the boards together by putting them on top of each other and inserting the screws with the help of the spacer sleeves
- When the resin has hardened, insert the boards correctly aligned. A pocket is provided in the holding frame for the soldered connections of the connector.


- Carefully tighten the 4 M3x20 screws alternately in turn
- connects the programmed control board to the OpenVario with the micro USB cable



2. Programming 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 micro-USB connector is attached to the left in the direction of flight. 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.