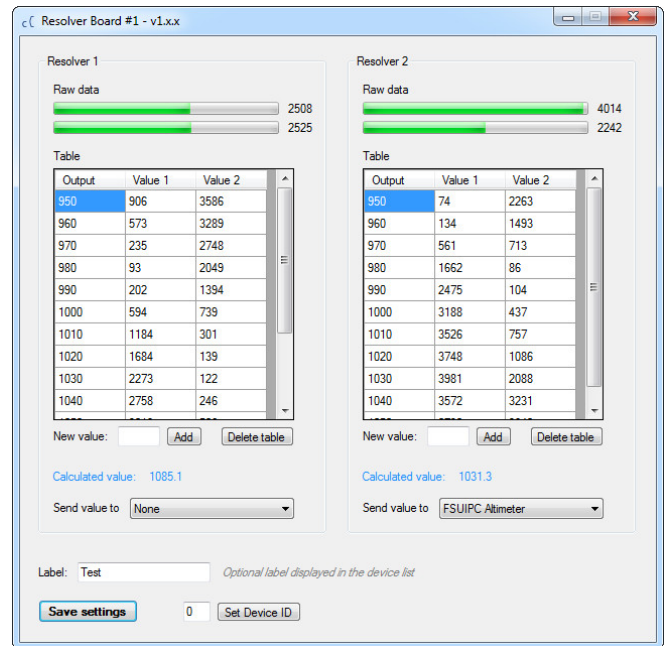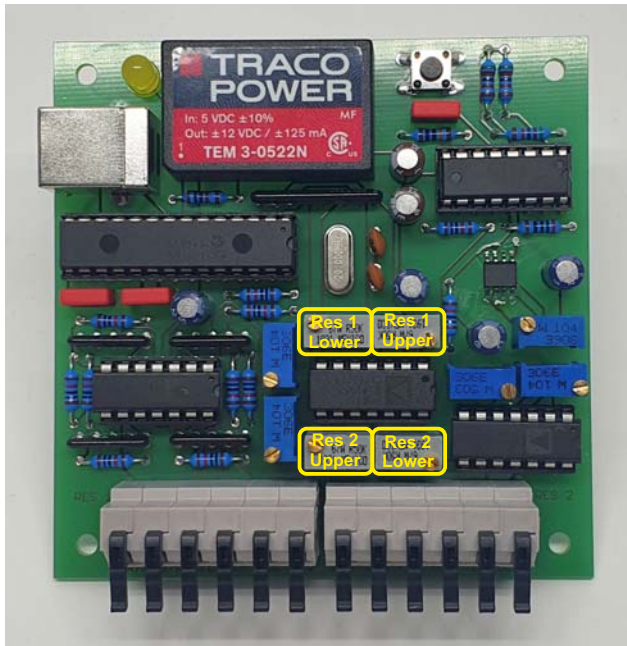# Resolver Board Quickstart Guide

Step 1:
Download the software „Cockpit Connect" and connect the board to the PC. Verify it appears normally in the software's device list.
Please refer to IMPORTANT_README.txt which comes with the software package if you have any trouble regarding the software, USB driver or the board does not appear in the software.

Step 2:
Disconnect the board from the PC and connect the resolver. Each resolver port (2 in total) has 6 terminals which are labeled accordingly to the normal resolver wire colors. If you cannot identify the wire colors and only have a schematic, refer to this list:

```
R/W: Supply coil (primary)
B/W: Supply coil (primary) ground
RED: Coil 1 (secondary 1)
BLK: Coil 1 (secondary 1) ground
YEL: Coil 2 (secondary 2)
BLU: Coil 2 (secondary 2) ground
```

If you are still not sure what to connect, please contact the support before damaging anything.

Step 3:
Reconnect the board and double-click on the Resolver Board in the device list to open its config window. The window is split into two halves. The left side is for resolver #1, the right side for resolver #2. In the upper part four bars and labels show the raw values from each resolver. As only resolver 2 was connected when the screenshot was taken, resolver 1 shows centered values. These can vary from board to board.
Now turn the resolver and observe that both bars change for your corresponding resolver. Depending on the current config of your board the deflection of the bars might be different. We will take care of this now.

Step 4:
When you turn the resolver, the resulting measured values of both secondary coils will be displayed by the bars. Depending on your specific resolver and the resolver the board was tested with, you might observe a small deflection around the center value in both directions (e.g. 2000 to 3000) or the values might even be out of range (below 0 and above 4095). Either case is not good, it will affect the resolution of your resolver.
The aim is that each bar is used from maybe 100 to 4000 (so a bit buffer at each end). Each bar (value) can be adjusted with a trimmer on the board. These trimmers are gray.

DO NOT TURN BLUE TRIMMERS! ONLY GRAY TRIMMERS ARE OK TO BE TURNED!

Best practice is to turn the resolver so that the upper bar shows a max or min value. Then turn the trimmer on the board with a small screwdriver and observe how the value changes. Look at the picture above to identify the correct trimmer. When the first end is correct (either min or max), move the resolver to check the other end. If this also looks ok, move on and repeat the procedure for the lower bar (second coil). Otherwise adjust the trimmer again. Make sure to have some buffer at the end. Not too little and not too much. 50 is ok but 150 is too much.

Step 5:
When both bars are adjusted check it once again. Move the resolver and observe how both bars get close to their min/max values but never exceed the limits. Now you can assign a table which will tell the software which raw values correspond to which value on your gauge. We now take the altimeter baro setting as an example. Set the baro to ist lowest value. You don't need to assign every single number but we need to assign a few points between which the software can interpolate. Make sure the assignment is made in the unit the value is needed in. Baro values are always handled in hPa, not inHg.
For testing I chose a 10 hPa spacing. In the table above you can see I only started at 950 hPa. Take your altimeter's lowest value or whichever value is reasonable for you. The table has to be in ascending order, that's why we start with the lowest value. Enter the number in the field below the table (e.g. 950) and click on „Add". It takes a moment as the software takes the average value from a few measurings. When the entry appears in the list, go ahead and move the resolver to the next position (e.g. 960) and repeat the step of adding this value.

Step 6:
Make sure to save the table every once in a while („Save settings"). When the table is complete and you turn the resolver, the blue label „Calculated value" should reflect the current baro setting. If this looks ok, select your desired „Send value to" to pass on the value to any software. Here it's sent to FSUIPC. At the end, make sure to save again the settings.