How to setup the ADC Scale factor

why do we ned this? The ADC reads the battery voltage of the lipo, but due to parts tolerances, not every board reads the correct voltage. Most of the boards are fine, but at some boards, you put in a fully charged lipo (4.20V) and get around 4.1V or even around 4.3V. If voltage telemetry shows a value too high, there is the possibility to overdischarge your lipo because LVC and LVC flashes 0.1V “too late”.

There is an easy calibration method, all you need is a lipo checker or a multimeter.

Following text explains it, written by **Ian444**

To fine tune/calibrate:
(actual batt voltage/reported batt voltage) x current scalefactor = new scalefactor
Reported battery voltage would be from a Devo via telemetry or in debug mode.

The formua below explains how to calculate a new scalefactor if you want to use a custom voltage divider (e.g. if you like to measure the voltage of a 2S or 3S lipo - or at our brushless Silverware FCs)

ADC_SCALEFACTOR = 0.000682 x (R1+R2/R2) where R1 is the larger (upper) divider and R2 is the lower. Usually I use 8k2 and 2k2 for R1 and R2, which gives a scale factor of 0.003224.