

Dear Walter.

We negotiated limiters rules. Here is our suggestions and some technical notes on calibration process.

1. We suggest use amount energy not more than existing batteries on the market.

We agree with suggested figures, but for mini classes please use 19w*h instead of 20w*h. The reason is many racers use 3S setup in mini classes and battery energy is less that suggested 20w*h.

3S 110g - 1700mah = 19w*h

If battery capacity goes up on market we can correct figures, but not ofthen that 1 time per 2 years.

2. Correct calibration procedure for each limiter on site requere a lot of time and professional equipment. We suggest **do not use** it at all. Let's trust figures of manufacturers. Limiters on site should be given randomly to participant. Nobody will use own limiter.

Bellow some notes from technician about calibration procedure.

The calibration procedure should include the calibration of the current sensor, voltage sensor, time meter. All specified values must be calibrated at the same time to reduce the effect of heating the electronic components of the limiter on accuracy. The thermal state of the calibration current source must be steady at the time of calibration.

The current calibration should be carried out with a test current of at least 20% of the average operating current (ECO Expert - 50A * 0.2 = 10A), the accuracy of maintaining the average test current should be no worse than 1%, the current ripple should not be more than 5%, the ripple frequency should not be below 100kHz, temperature stability is not worse than 100ppm.

The voltage sensor should be calibrated at a voltage of 10-12V, using a reference voltage source, an accuracy of at least 0.5%, and a temperature stability of at least 50ppm.

The calibration of the time measurement must be carried out using a voltage test pulse of a certain duration, it is possible to use the voltage calibration output for this purpose if it allows to provide the necessary accuracy. The test pulse should have an accuracy of setting the duration not worse than 50ppm.

Immediately after calibration, a test energy measurement must be performed. The accuracy of the energy measurement should be no worse than 2%.

3. Limiters parameters like ramp down time and limiter shut off time should be determinate practically.

We agree to use suggested figures as start point.

4. Team racing with 2 participant: Racers can use 2 limiters. No need a special procedure to check it after.

--

Regards

Dmitry Dmitriev

RUS-0128