



### Energy supply description:

The vehicle's energy comes from a single custom-built Li-Ion battery pack. The battery is built in a 6S1P configuration (22.2 V, 2.5 Ah). The pack has an internal Battery Management System (BMS), which provides over-current and over-temperature protection. During regular operation, the maximum expected current is 15A, and the vehicle's entire protection system is designed around this value. Standard 2.5 mm<sup>2</sup> gauge electrical wire is used for the battery's electrical wiring.

An automotive fuse, external to the battery, can halt all energy supplied by the battery when triggered. After the fuse, the power passes through two Normally Closed (NC) emergency switches, connected in series. These include one external switch and one internal switch that the driver can access. If either of the two emergency switches is activated, all battery power to the vehicle is immediately cut off.

Following the emergency switches, the power is distributed throughout the vehicle as needed. The motor controller, horn, vehicle telemetry, and other electronic systems are connected in parallel and act as the load for the battery.

The motor controller is the only means for the brushed DC motor to receive power. It can detect abnormal situations, such as over-current scenarios, and can stop the motor if necessary. The driver provides the desired speed input through a spring-loaded throttle. This setup acts as a dead man's safety device, ensuring the motor will halt if the driver is not actively managing the vehicle's speed.