

Sheet: Motor Driver

File: Motor_Driver.sch

Sheet: Power Supply

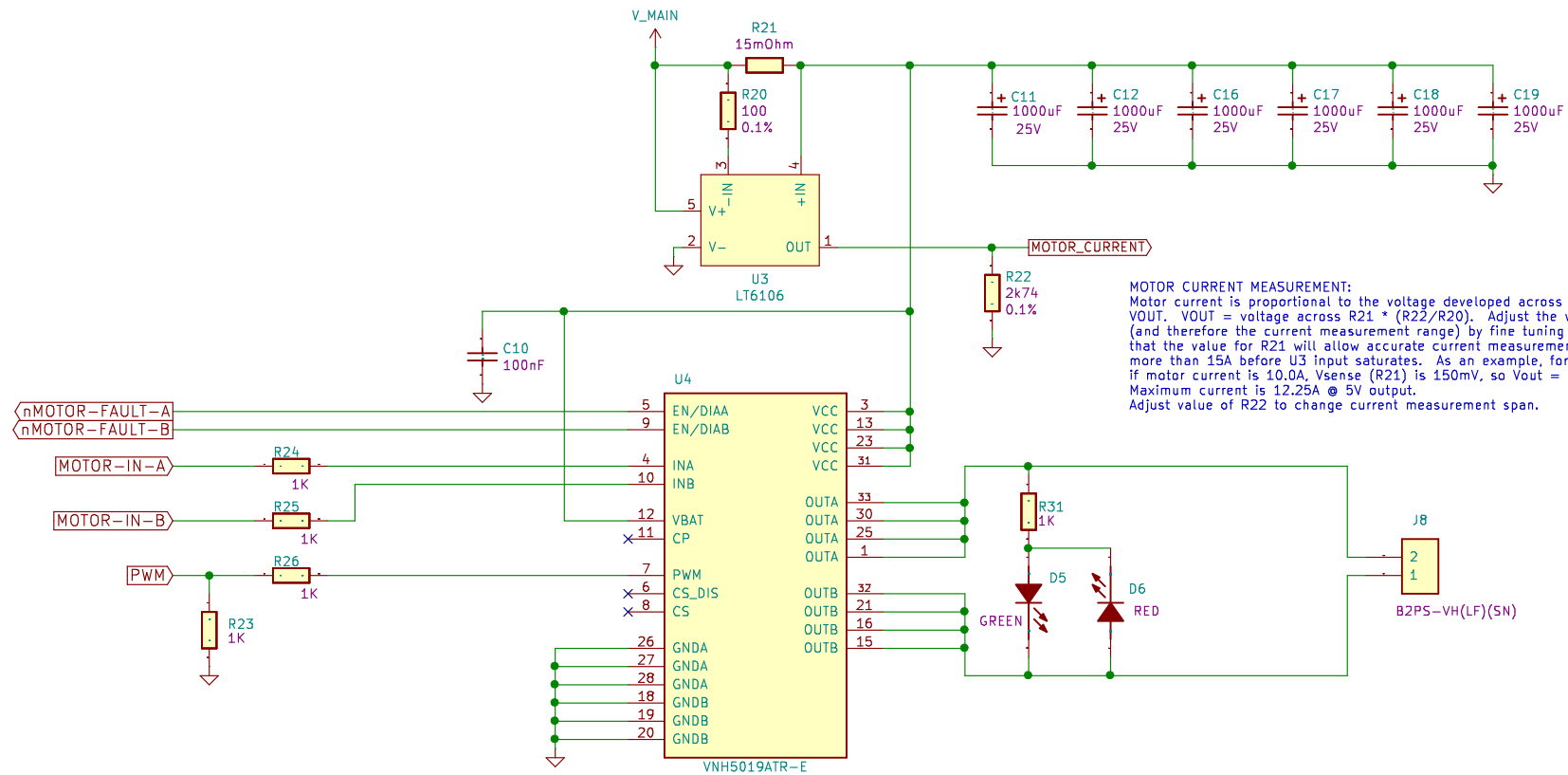
File: PowerSupply.sch

Sheet: /
File: OV_Power.sch

Title: OpenVent Power Board

Size: A4 Date: 2020-10-20
KiCad E.D.A. kicad 5.1.9-73d0e3b20d88ubuntu20.04.1

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MOTOR CURRENT MEASUREMENT:
 Motor current is proportional to the voltage developed across R22. This is VOUT. $V_{OUT} = \text{voltage across R21} * (R22/R20)$. Adjust the voltage span (and therefore the current measurement range) by fine tuning R22. Note that the value for R21 will allow accurate current measurement up to more than 15A before U3 input saturates. As an example, for the values given, if motor current is 10.0A, Vsense (R21) is 150mV, so $V_{out} = 150mV * (2740/100)$ which is 4.11V. Maximum current is 12.25A @ 5V output. Adjust value of R22 to change current measurement span.

Maximum standby current with all faults cleared is 15uA.

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