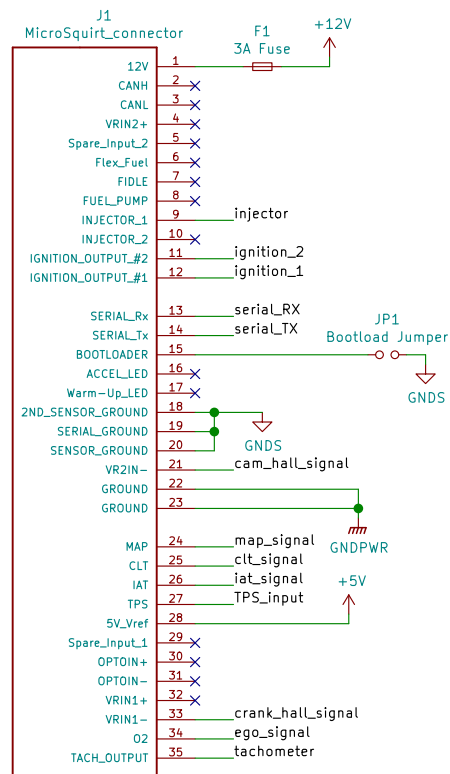


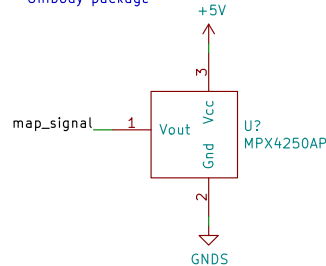
MicroSquirt

Connector to the MicroSquirt ECU. The Bootload jumper is to allow flashing new firmware. The connector must be wired with the same pinout as the MicroSquirt.



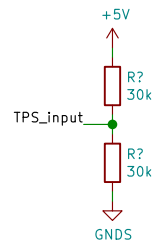
MAP sensor

MAP Sensor Model: NXP MPX4250AP
Unibody package

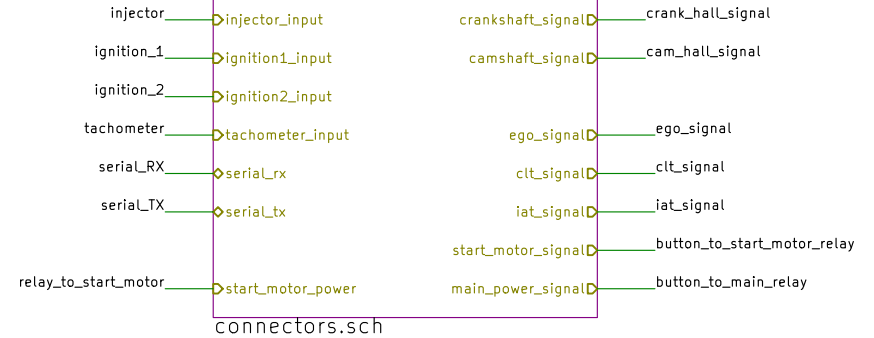


TPS

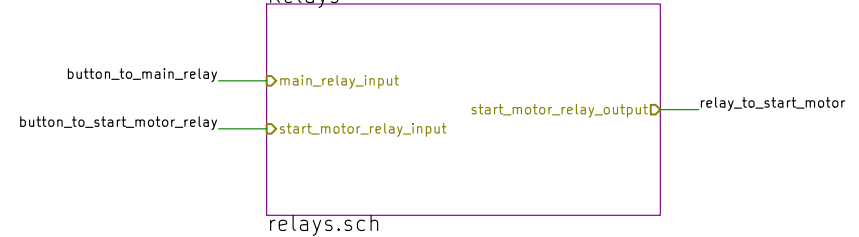
As Vera does not have a throttle the throttle position sensor input is given a constant input.



Connectors



Relays



Designed by Erik Albratt (erik.albratt@gmail.com)

Chalmers Vera Team

Sheet: /

File: ecu-board.sch

Title: Vera ECU Board

Size: A4 Date: 2019-02-04

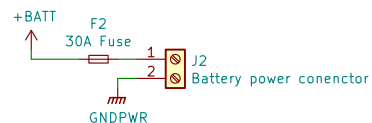
KiCad E.D.A. kicad 5.0.1

Rev: 0.1

Id: 1/3

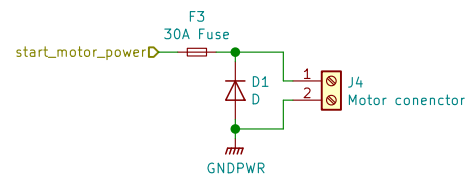
Battery

Battery power is only connected to the main power relay, as well as the normally open bistable power switch controlling said relay.



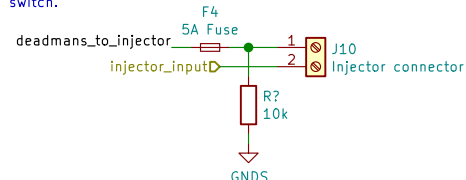
Start motor

The start motor power is switched by a normally open monostable switch.



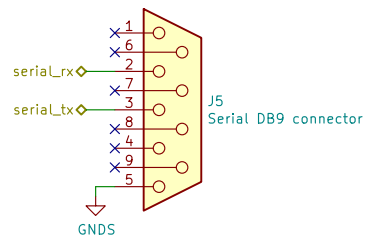
Injector

Injector input is switched by a normally open dead man's switch.

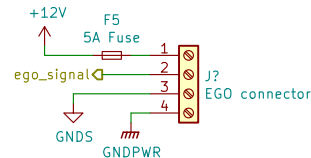


RS232 Serial Port

DB9 serial connector for mapping of MicroSquirt.

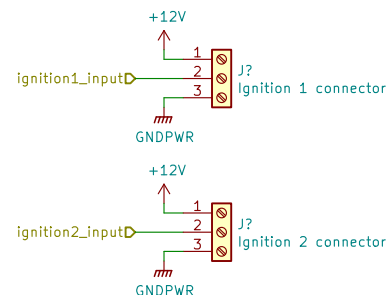


EGO Lambda sensor



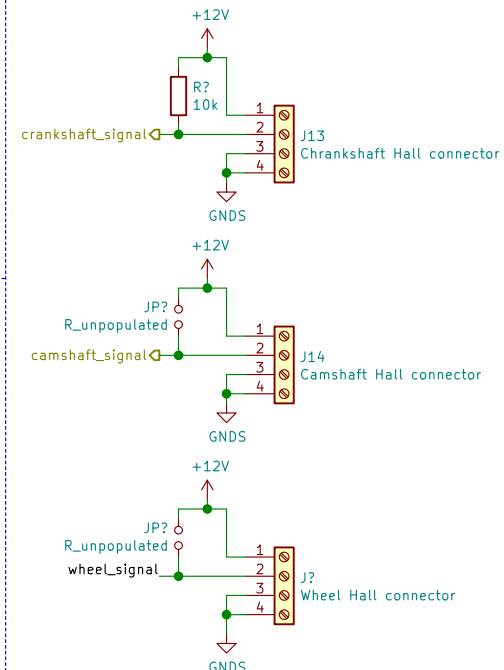
Ignition

The electrical system is designed to function with either one or two ignition coils. Currently it is only using Ignition 1.

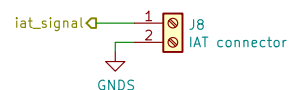


Hall sensors

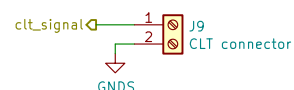
Hall Sensor Model: Littlefuse 55110-3M-03-A
Crankshaft Sensor: CYKN8-02CLO
Second ground is for potential shielding.
Jumpers enable using other hall sensors.



Intake Air Temperature

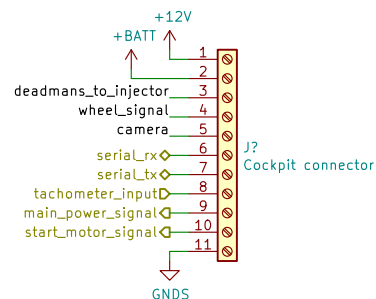


Motor Coolant Temperature



Cockpit connections

Connection to the Raspberry Pi based HMI. Button inputs for relay control of main power, starter motor and dead man's switch to injector.



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Sheet: /Connectors/

File: connectors.sch

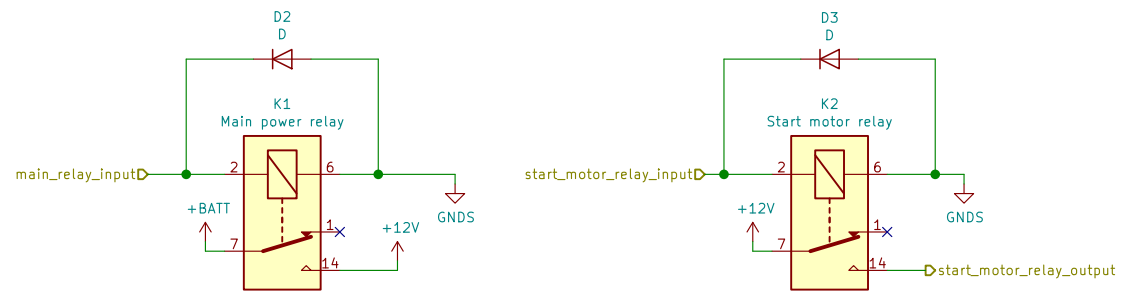
Title: Connectors

Size: A4 Date: 2019-02-04

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Rev: 0.1

Id: 2/3



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Sheet: /Relays/

File: relays.sch

Title: Relays

Size: A4 Date: 2019-02-04

KiCad E.D.A. kicad 5.0.1

Rev: 0.1

Id: 3/3