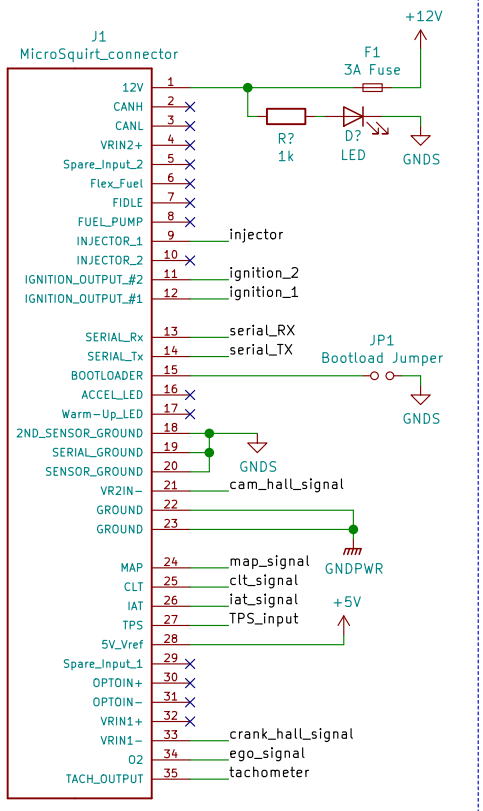
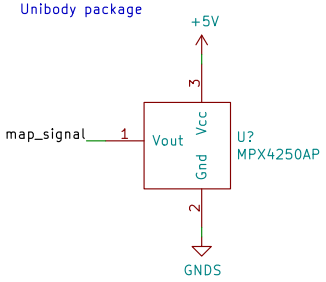
## MicroSquirt

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.



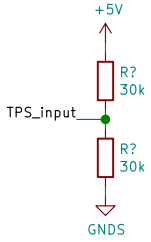

## MAP sensor

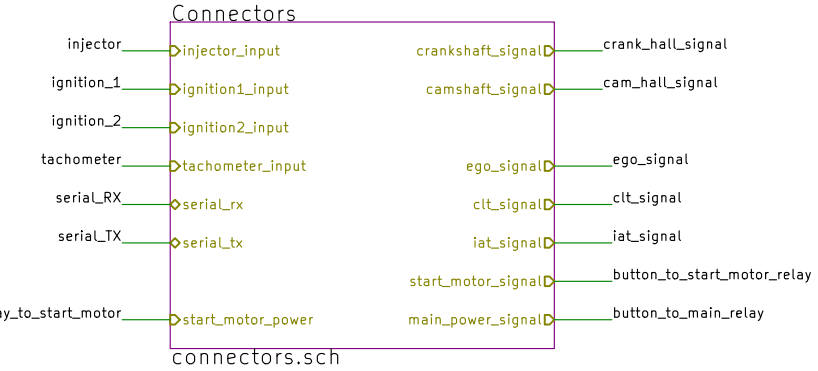
MAP Sensor Model: NXP MPX4250AP
Unibody package

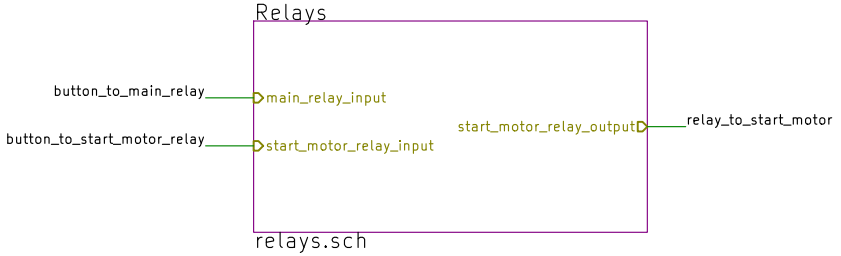



## TPS

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





Designed by Erik Almbratt (erik.almbratt@gmail.com)
**Chalmers Vera Team**


Sheet: /
File: ecu-board.sch

***Title: Vera ECU Board***

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| Size: A4 | Date: 2019-02-04 | **Rev: 0.1** |
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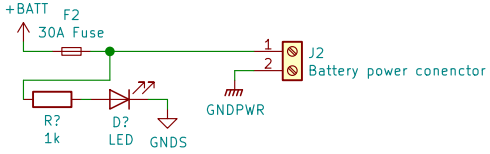
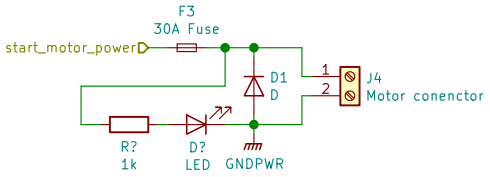
## Battery

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



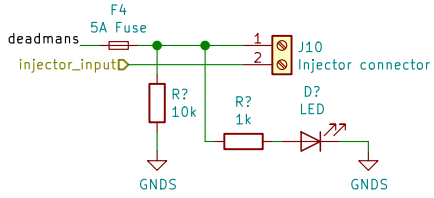

## Start motor

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



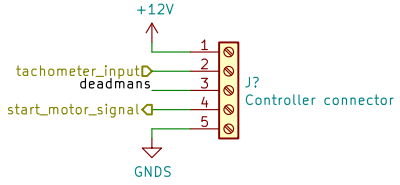

## Injector

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



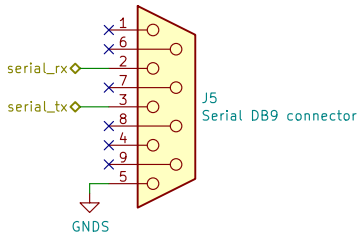

## Start motor controller

Interface to a separate circuit which handles timing of start motor depending on engine RPM.

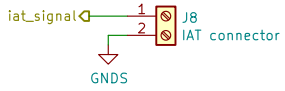



## RS232 Serial Port

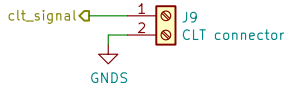
DB9 serial connector for mapping of MicroSquirt.




## Intake Air Temperature

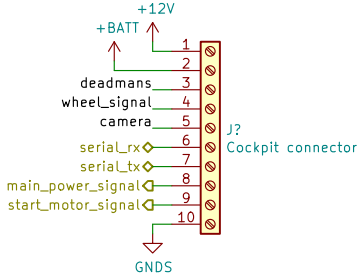



## Motor Coolant Temperature

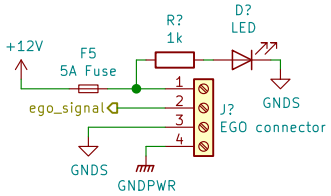



## Cockpit connections

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

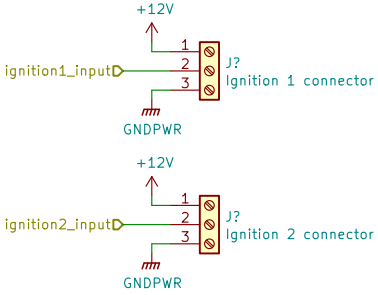



## EGO Lambda sensor



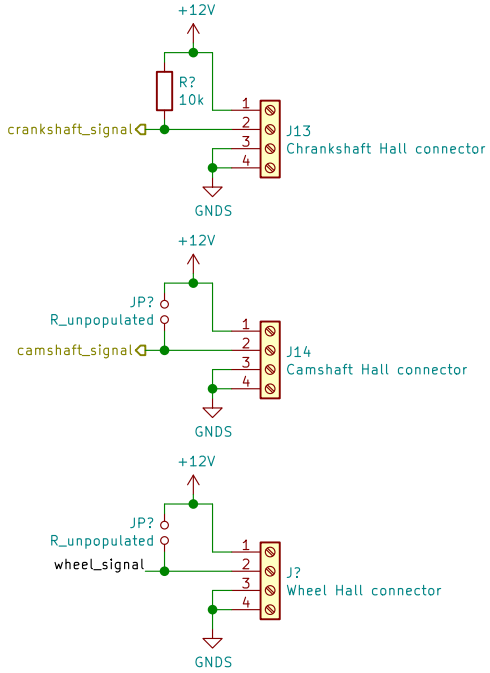

## Ignition

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: CYKN8-02CL0
Second ground is for potential shielding.
Jumpers enable using other hall sensors.





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Sheet: /Connectors/
File: connectors.sch

***Title: Connectors***

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| Size: A4 | Date: 2019-02-04 | **Rev: 0.1** |
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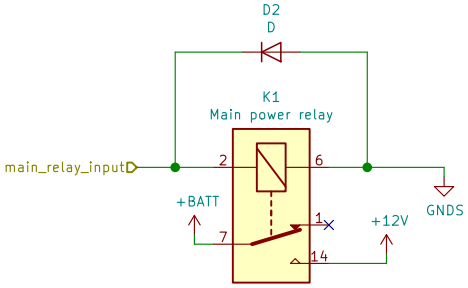


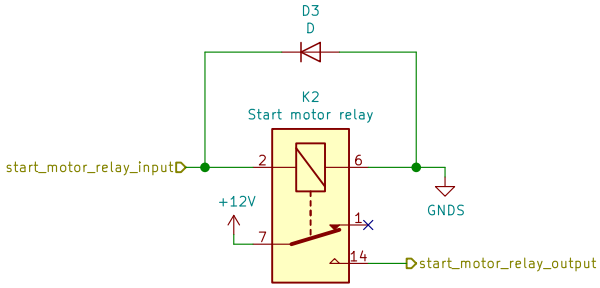


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Sheet: /Relays/
File: relays.sch

***Title: Relays***

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|---|---|---|
| Size: A4 | Date: 2019-02-04 | **Rev: 0.1** |
| KiCad E.D.A. kicad 5.0.1 | | Id: 3/3 |