# Interface board features

The interface board should first of all act as a middle stage between the DSP and the drive train. This includes forwarding gate signals to the inverter and measurements to the control.

Outputs from the DSP:

1. 3x PWM signals
2. 1x enable signals
   1. To activate drivers

Inputs to DSP:

1. 3x encoder signals
2. 3x current measurements
3. 1x voltage measurement
   1. Maybe 2, if we want to measure at both battery packs
4. 1x torque pedal

LEDs:

1. On enable signal to drivers
2. On 5V supply from DSP
3. Include spares

Test points:

1. 3x current
2. 1x voltage
3. 3x encoder
4. 3x PWM
5. 1x enable
6. DC-bus
7. Inverter output
8. 24V supply control circuit.

Additional circuits:

1. 1x Voltage sensor circuit
2. 3x current sensor circuit
3. 3x voltage dividers for encoder signal

Power supplies:

1. 24V 🡪 +/- 15V (Sensor opamp and current sensor)
2. 24V 🡪 5V (output of voltage sensor)
3. 36V 🡪 5V (input of voltage sensor)
   1. We might need to find a different one, as the power dissipation could be too high.
4. 24V 🡪 12V (fan supply)

Switches:

1. Emergency stop
2. Movement Enable
3. Stuff for selecting different options
4. Speed/torque reference selection

Potentiometers:

* Speed/torque reference
* Include spares