

# Electric propulsion

- Motor
- Batteries

# Motor

- Tesla motors (LDU)
  - Weight: 291 lbs (132 kg)
  - Input Voltage: 240-404V DC
  - Power: 335 kW (~450HP) to 475 kW (~636 HP) depending on configuration
  - Torque: 450 Nm (~332 ft/lb) to 650 Nm (~480 ft/lb) depending on configuration
  - Max RPM: 18,000
  - Gear ratio: 9.73:1
  - Output RPM: Max 1,849
  - There is a quife (locking) differential available: <https://evshop.eu/en/accessories/164-tesla-model-s-quaife-atb-helical-lsd-for-large-drive-unit.html>
  - It is possible to control the LDU using the Open drive controller:  
<https://youtu.be/ZvlzGm709zg?t=2692>
  - [https://openinverter.org/shop/index.php?route=product/product&product\\_id=64](https://openinverter.org/shop/index.php?route=product/product&product_id=64)
  - It is possible to change the gear-ratio of a Tesla motor:  
<https://youtu.be/sHpQRWzb86o?t=306>
- Some would suggest it also works with the leaf motor, but I feel that's a little 'low powered'. It's only 110kw
  - [https://openinverter.org/wiki/Nissan\\_Leaf\\_Motors](https://openinverter.org/wiki/Nissan_Leaf_Motors)
  - 160kw (214bhp), torque unknown.

# Batteries

Several different options here:

- Tesla model 3 batteries (several, most likely) mounten under/between the chassis rails.
- Tesla Model S/X modules, again mounted between/under frame.

The second option gives more options in terms of placement, and more flexibility in terms of voltage that is created. Although that is mostly 'fixed' by the Tesla motor anyways.

A custom BMS is needed to make everything work.