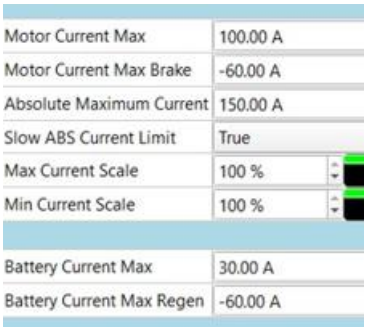
**Eovan GT Carbon Pro - Motor & PPM Settings**

My Boards defaults



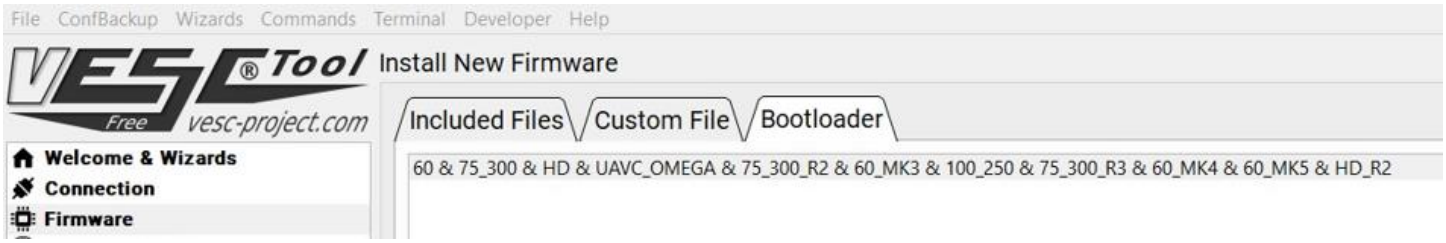

| | Setting location |
|---|---|
| *Reduced Motor Current Max from 100A to 60A* | [General, Motor, Current, Motor Cur Max] |
| *Change Battery Current Max Regen from -60A to -20A* | [General, Motor, Current, Batt Max Regen] |
| *Change the Wheel Diameter from 108mm to 120mm (CloudWheels)* | [General, Motor, Additional Info, Wheel Dia] |
| *Enable Current Smart Reverse, which allows to slowly reverse* | [PPM, APP, General, Control Type] |
| *Change the Throttle Curve from 50% polynomial to 38% natural.* | [PPM, APP, General, Throttle Curve] |
| *Reduced PPM Ramping Time from 0.45 pos and 0.15 neg, to 0.20 and 0.10* | [PPM, APP, General, Ramping] |
| *Power suddenly cuts off when starting to accelerate from stop* | *don't know what to change* |

| | Battery | Motor & Gears |
|---|---|---|
| Cell Brand | Panasonic 21700 | 6368 Dual Belt Motor 170KV |
| Cells in Series & Parallel | 12S4P | 3600W maximum motor power |
| Capacity | 14.4 Ah/19.2 Ah | Motor Gear 15 Tooth |
| Watt-hour | 852.5wh | Wheel Pulley 50 Tooth |
| Nominal Capacity | 4800mah/cell | 120 mm CloudWheels |
| Nominal Voltage: | 3.7v | ESC based on Dual Vesc 6 |
| Maximum Voltage: | 4.2V | Rider 200lbs |
| Charging voltage | 50.4v | Riding style 25-28mph |

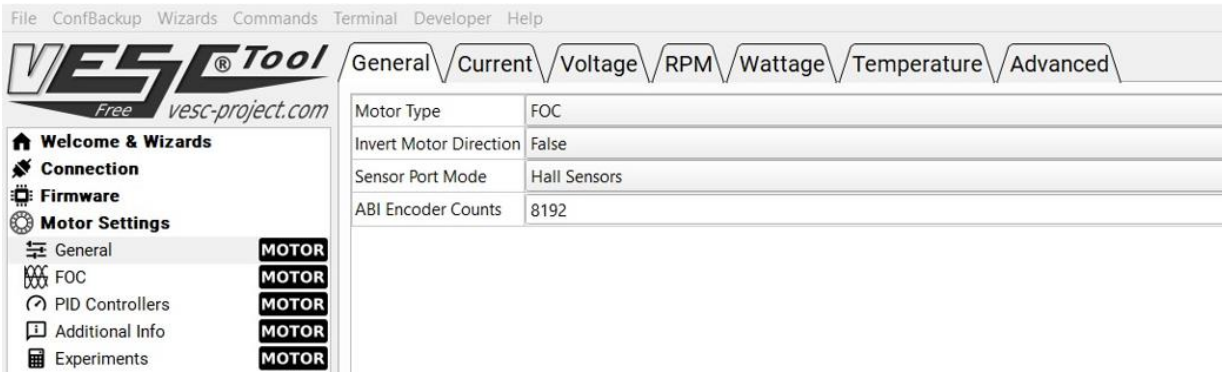
Using **VESC® Tool 2.06**

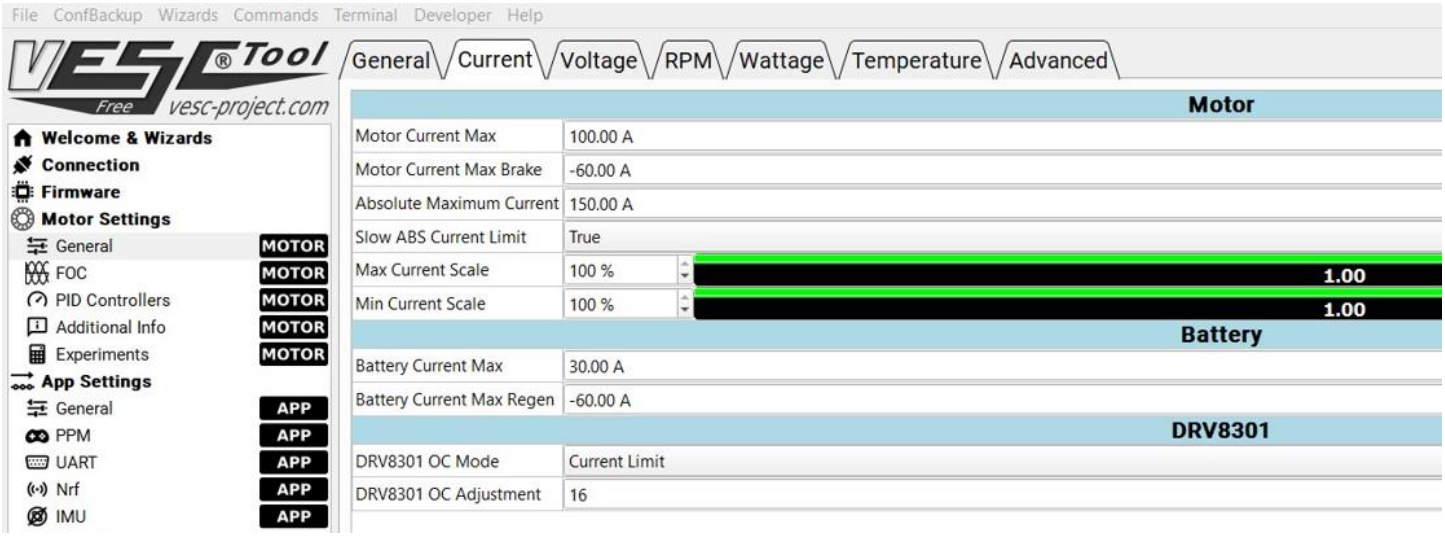
Default settings in VESC

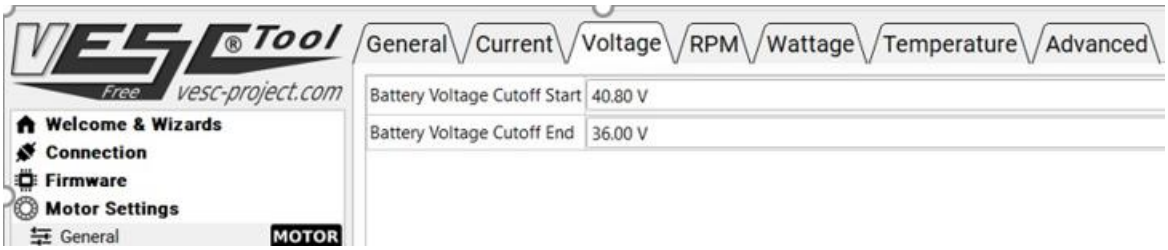
Firmware

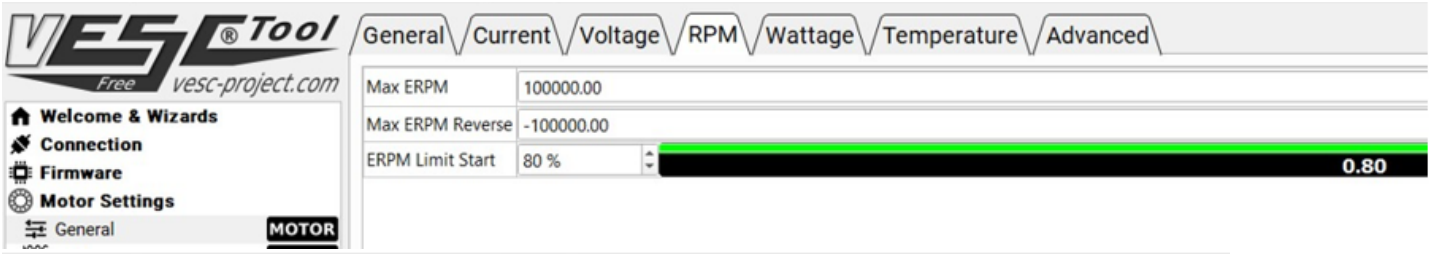



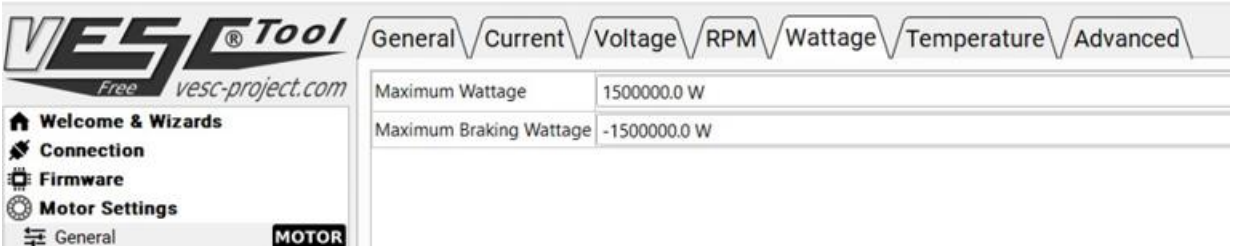

Motor General

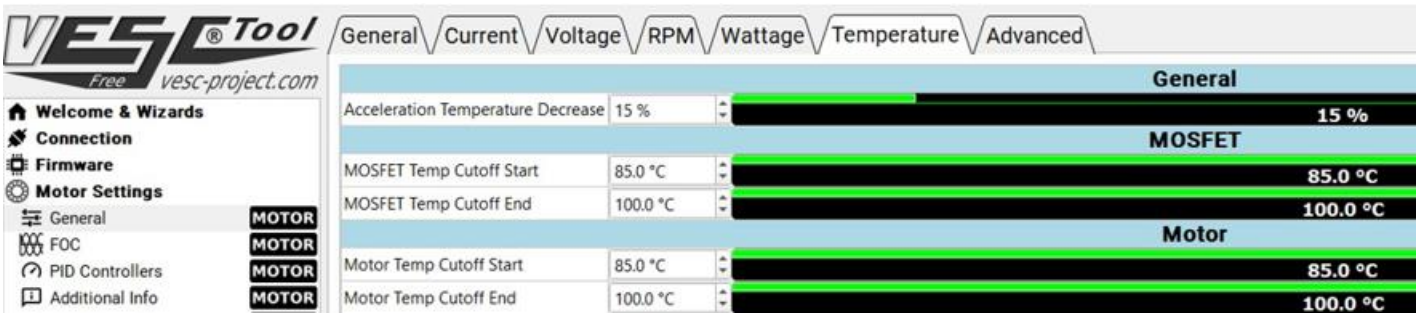

File ConfBackup Wizards Commands Terminal Developer Help
VESC Tool Free vesc-project.com
General Current Voltage RPM Wattage Temperature Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General MOTOR
FOC MOTOR
PID Controllers MOTOR
Additional Info MOTOR
Experiments MOTOR
Motor Type FOC
Invert Motor Direction False
Sensor Port Mode Hall Sensors
ABI Encoder Counts 8192

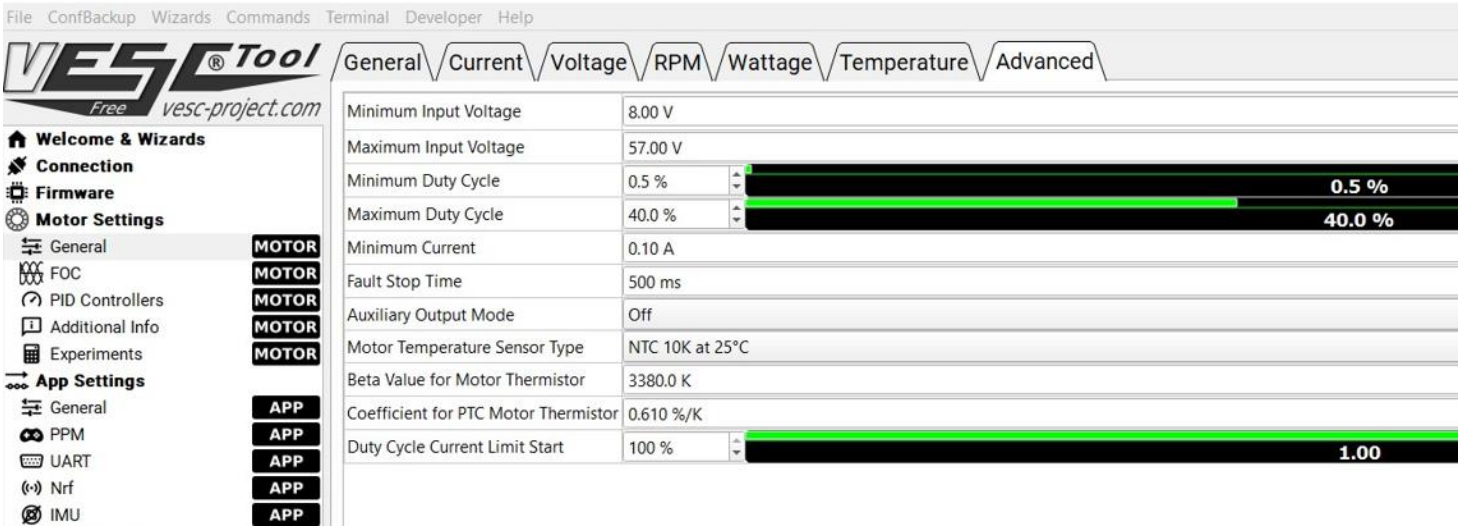

File ConfBackup Wizards Commands Terminal Developer Help
VESC Tool Free vesc-project.com
General Current Voltage RPM Wattage Temperature Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General MOTOR
FOC MOTOR
PID Controllers MOTOR
Additional Info MOTOR
Experiments MOTOR
App Settings
General APP
PPM APP
UART APP
Nrf APP
IMU APP
Motor
Motor Current Max 100.00 A
Motor Current Max Brake -60.00 A
Absolute Maximum Current 150.00 A
Slow ABS Current Limit True
Max Current Scale 100 % 1.00
Min Current Scale 100 % 1.00
Battery
Battery Current Max 30.00 A
Battery Current Max Regen -60.00 A
DRV8301
DRV8301 OC Mode Current Limit
DRV8301 OC Adjustment 16


VESC Tool Free vesc-project.com
General Current Voltage RPM Wattage Temperature Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General MOTOR
Battery Voltage Cutoff Start 40.80 V
Battery Voltage Cutoff End 36.00 V

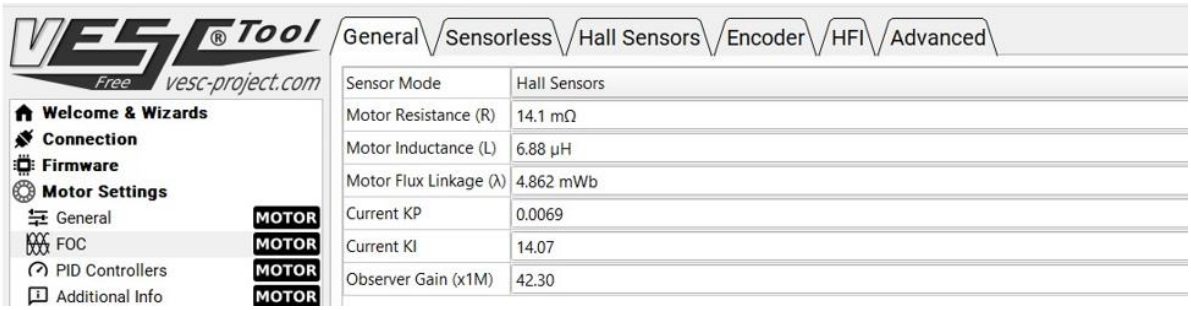

VESC Tool Free vesc-project.com
General Current Voltage RPM Wattage Temperature Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General MOTOR
Max ERPM 100000.00
Max ERPM Reverse -100000.00
ERPM Limit Start 80 % 0.80

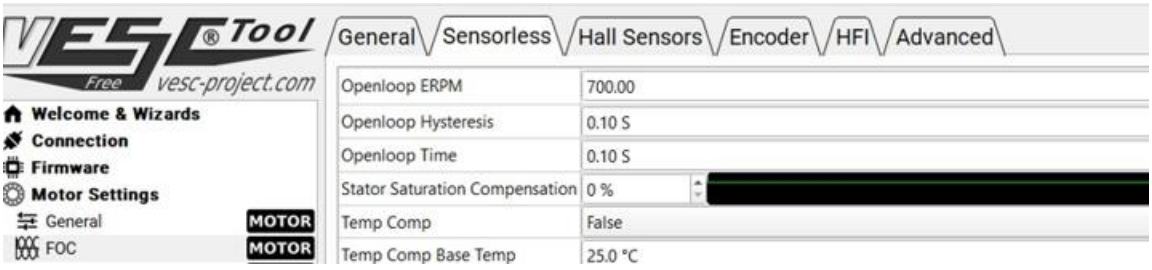

VESC Tool Free vesc-project.com
General Current Voltage RPM Wattage Temperature Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General MOTOR
Maximum Wattage 1500000.0 W
Maximum Braking Wattage -1500000.0 W

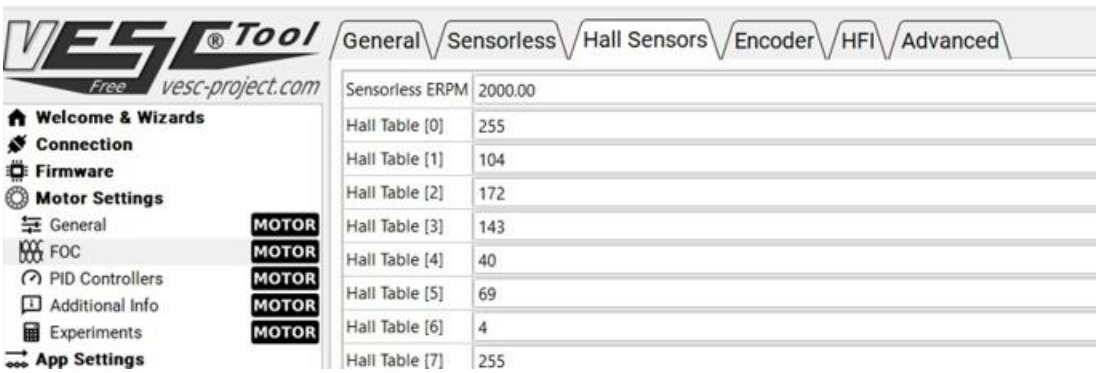

General
Current
Voltage
RPM
Wattage
Temperature
Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General
FOC
PID Controllers
Additional Info
MOTOR
Acceleration Temperature Decrease
15 %
MOSFET
MOSFET Temp Cutoff Start
85.0 °C
MOSFET Temp Cutoff End
100.0 °C
Motor
Motor Temp Cutoff Start
85.0 °C
Motor Temp Cutoff End
100.0 °C

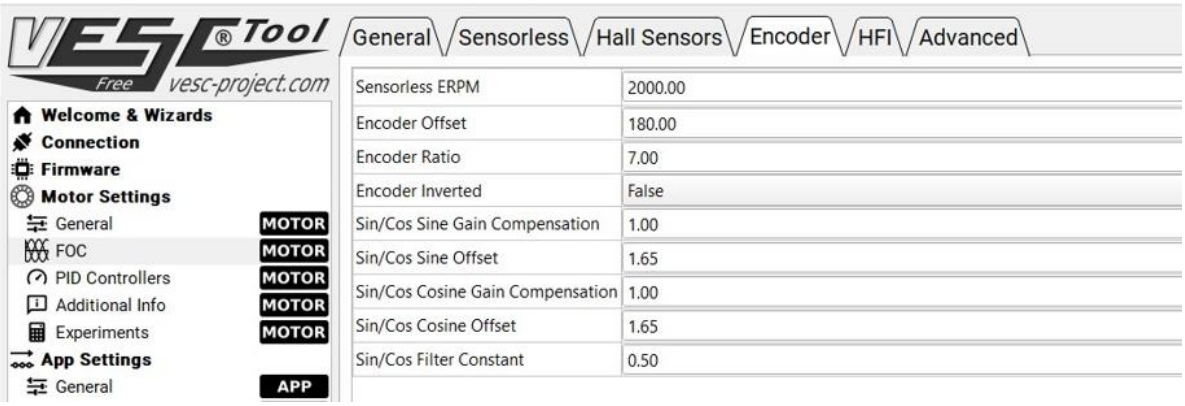

File ConfBackup Wizards Commands Terminal Developer Help
General
Current
Voltage
RPM
Wattage
Temperature
Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General
FOC
PID Controllers
Additional Info
Experiments
MOTOR
App Settings
General
PPM
UART
Nrf
IMU
APP
Minimum Input Voltage
8.00 V
Maximum Input Voltage
57.00 V
Minimum Duty Cycle
0.5 %
Maximum Duty Cycle
40.0 %
Minimum Current
0.10 A
Fault Stop Time
500 ms
Auxiliary Output Mode
Off
Motor Temperature Sensor Type
NTC 10K at 25°C
Beta Value for Motor Thermistor
3380.0 K
Coefficient for PTC Motor Thermistor
0.610 %/K
Duty Cycle Current Limit Start
100 %
1.00

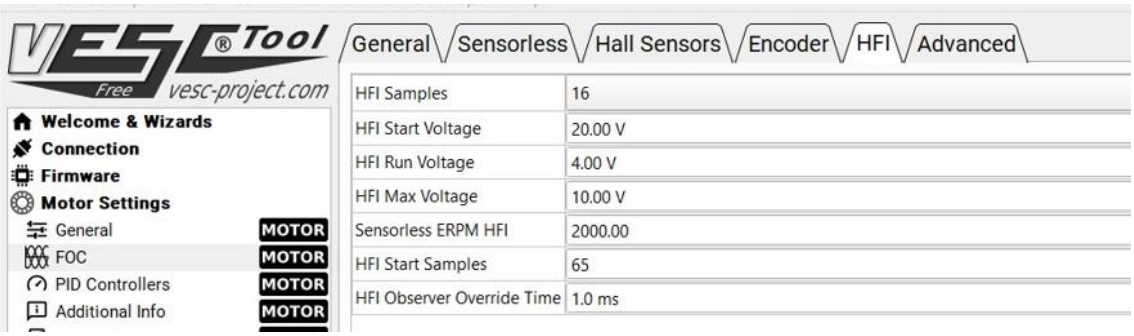
FOC

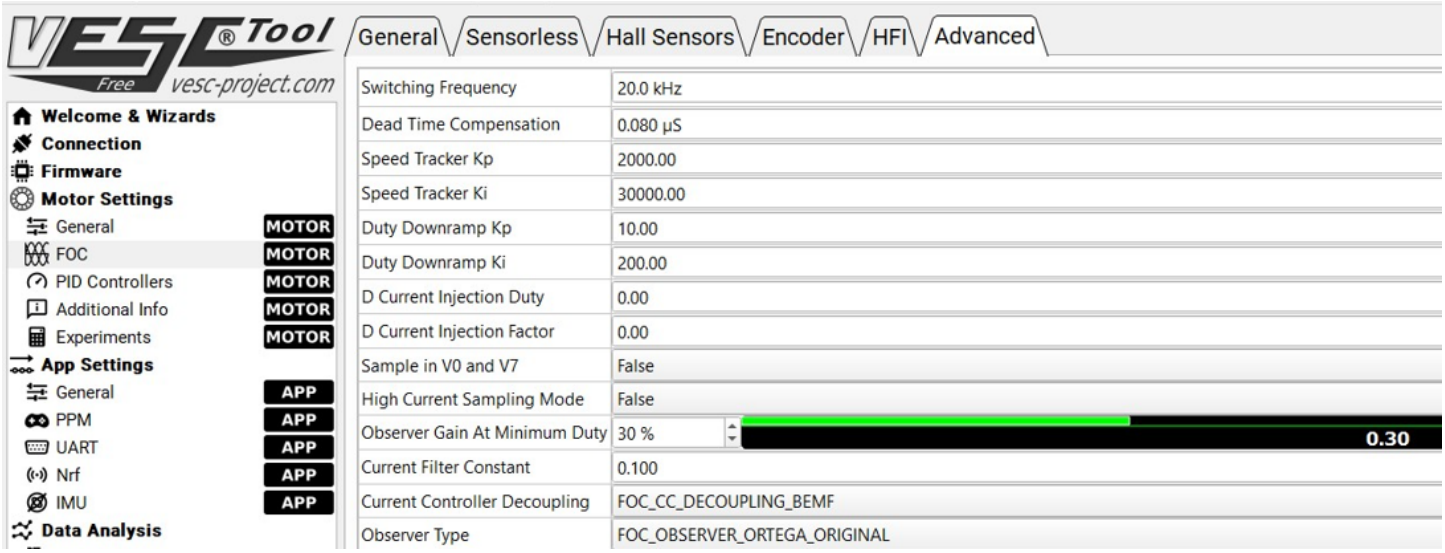

General
Sensorless
Hall Sensors
Encoder
HFI
Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General
FOC
PID Controllers
Additional Info
MOTOR
Sensor Mode
Hall Sensors
Motor Resistance (R)
14.1 mΩ
Motor Inductance (L)
6.88 µH
Motor Flux Linkage (λ)
4.862 mWb
Current KP
0.0069
Current KI
14.07
Observer Gain (x1M)
42.30


General
Sensorless
Hall Sensors
Encoder
HFI
Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General
FOC
MOTOR
Openloop ERPM
700.00
Openloop Hysteresis
0.10 S
Openloop Time
0.10 S
Stator Saturation Compensation
0 %
Temp Comp
False
Temp Comp Base Temp
25.0 °C

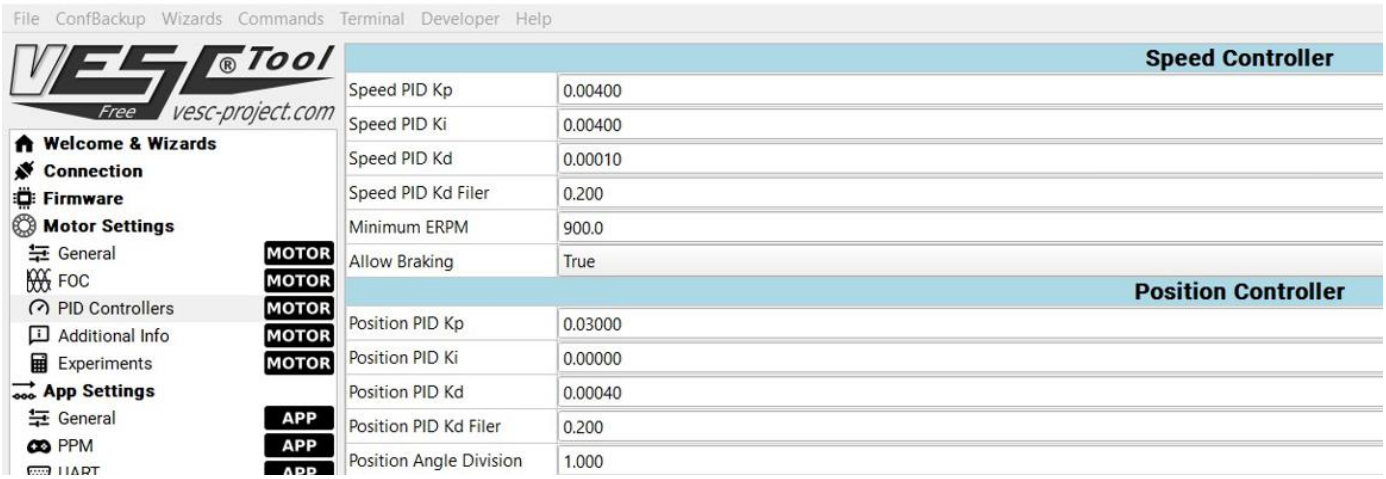

General
Sensorless
Hall Sensors
Encoder
HFI
Advanced
Welcome & Wizards
Connection
Firmware
Motor Settings
General
FOC
PID Controllers
Additional Info
Experiments
MOTOR
App Settings
Sensorless ERPM
2000.00
Hall Table [0]
255
Hall Table [1]
104
Hall Table [2]
172
Hall Table [3]
143
Hall Table [4]
40
Hall Table [5]
69
Hall Table [6]
4
Hall Table [7]
255



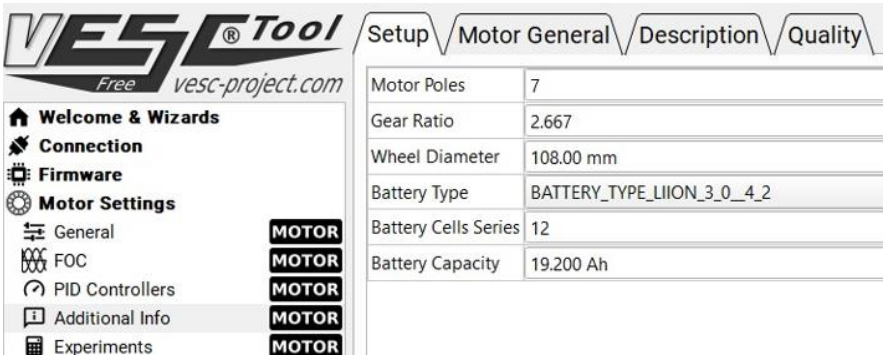




PID-Controllers

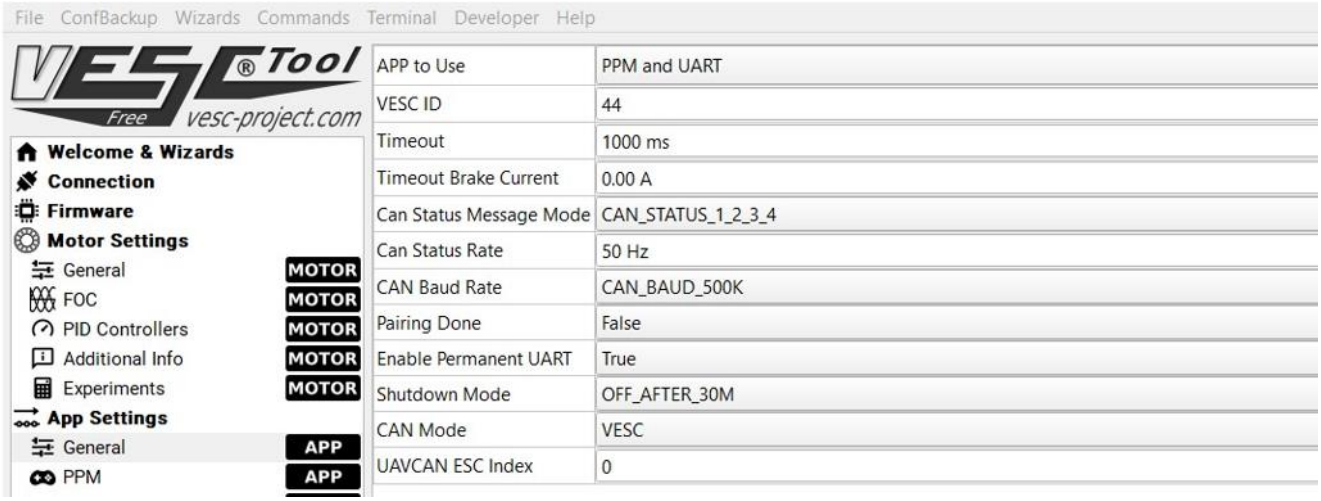


Additional Info

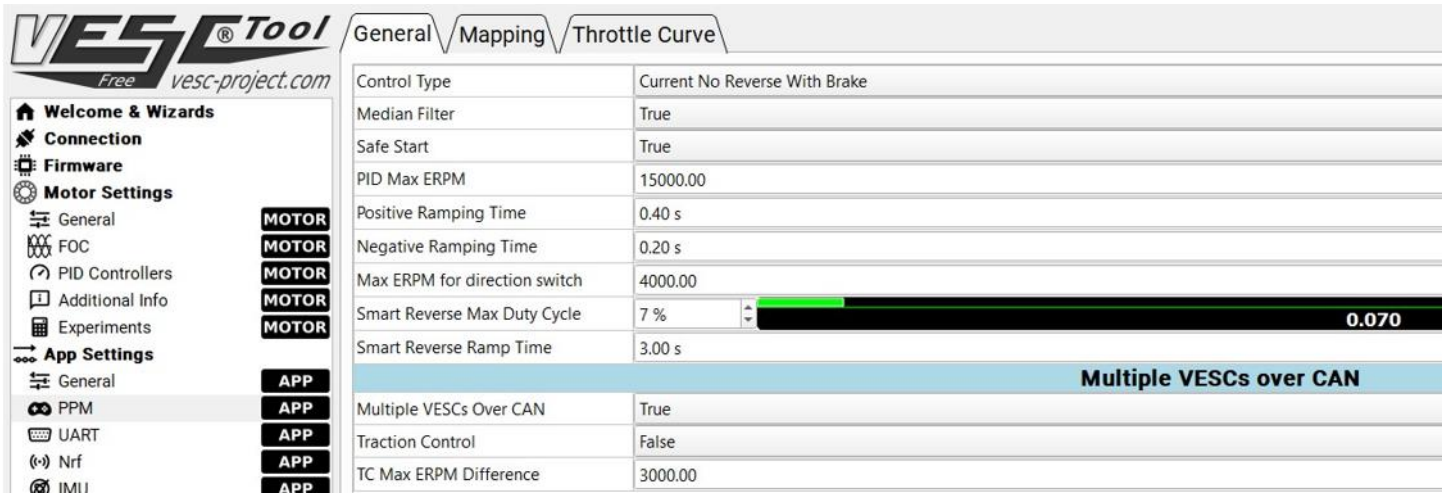


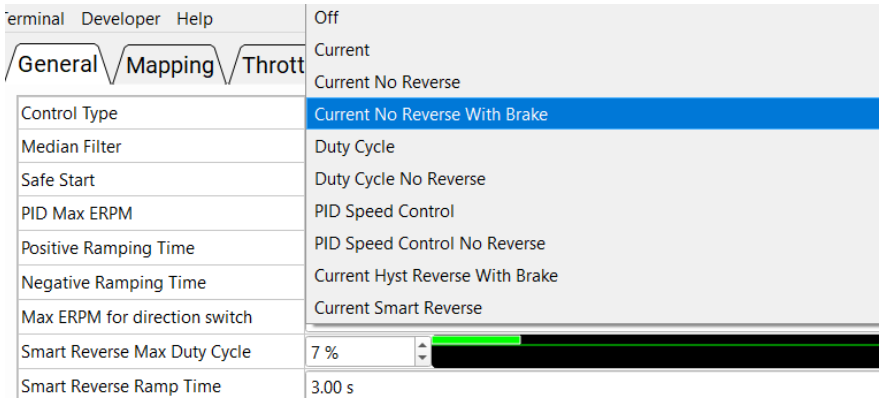


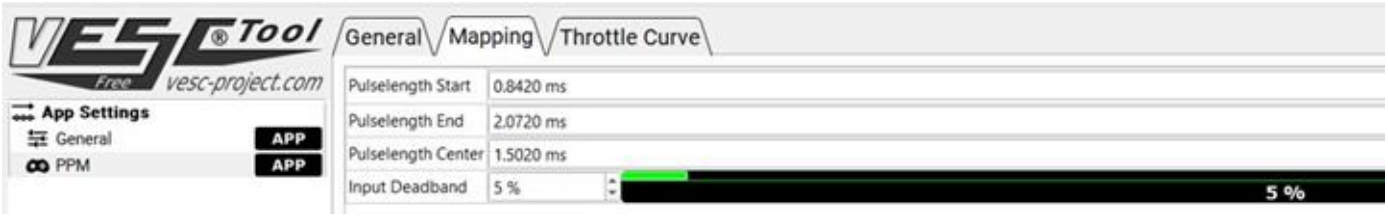
App General

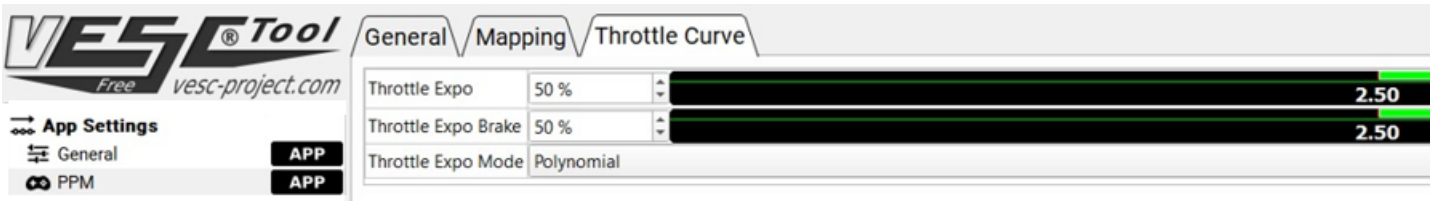



PPM

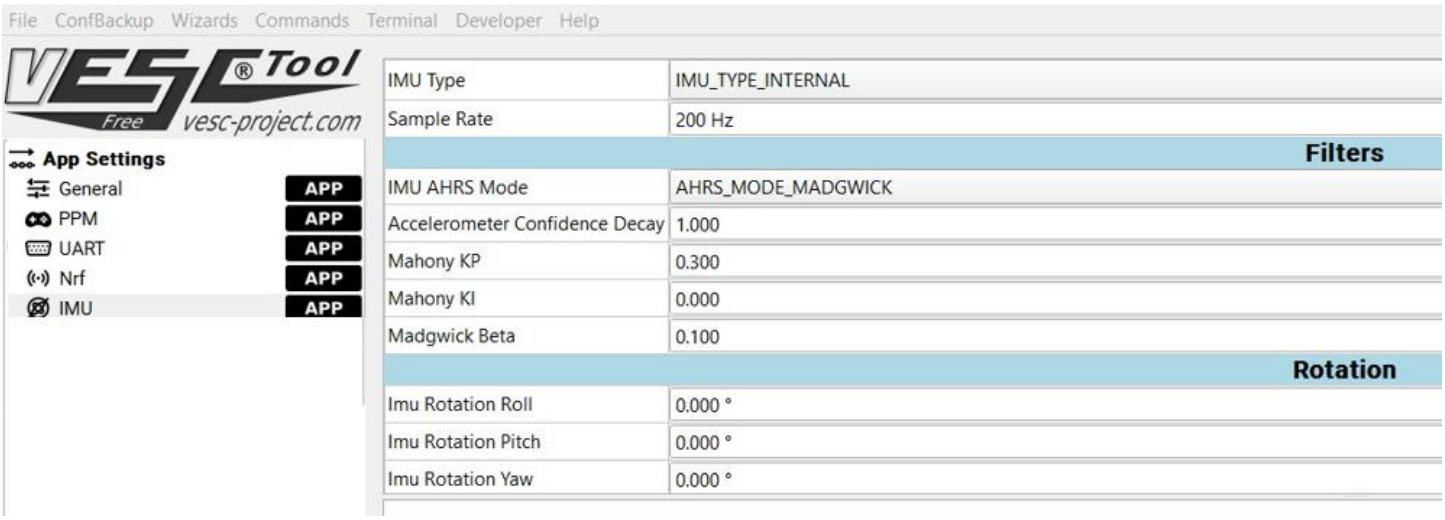



erminal Developer Help
General
Mapping
Throtl
Control Type
Median Filter
Safe Start
PID Max ERPM
Positive Ramping Time
Negative Ramping Time
Max ERPM for direction switch
Smart Reverse Max Duty Cycle
Smart Reverse Ramp Time
Off
Current
Current No Reverse
Current No Reverse With Brake
Duty Cycle
Duty Cycle No Reverse
PID Speed Control
PID Speed Control No Reverse
Current Hyst Reverse With Brake
Current Smart Reverse
7 %
3.00 s


VESC Tool
Free
vesc-project.com
App Settings
General
PPM
APP
General
Mapping
Throttle Curve
Pulselength Start
0.8420 ms
Pulselength End
2.0720 ms
Pulselength Center
1.5020 ms
Input Deadband
5 %
5 %


VESC Tool
Free
vesc-project.com
App Settings
General
PPM
APP
General
Mapping
Throttle Curve
Throttle Expo
50 %
2.50
Throttle Expo Brake
50 %
2.50
Throttle Expo Mode
Polynomial

IMU


File ConfBackup Wizards Commands Terminal Developer Help
VESC Tool
Free
vesc-project.com
App Settings
General
PPM
UART
Nrf
IMU
APP
IMU Type
IMU_TYPE_INTERNAL
Sample Rate
200 Hz
Filters
IMU AHRS Mode
AHRS_MODE_MADGWICK
Accelerometer Confidence Decay
1.000
Mahony KP
0.300
Mahony KI
0.000
Madgwick Beta
0.100
Rotation
Imu Rotation Roll
0.000 °
Imu Rotation Pitch
0.000 °
Imu Rotation Yaw
0.000 °