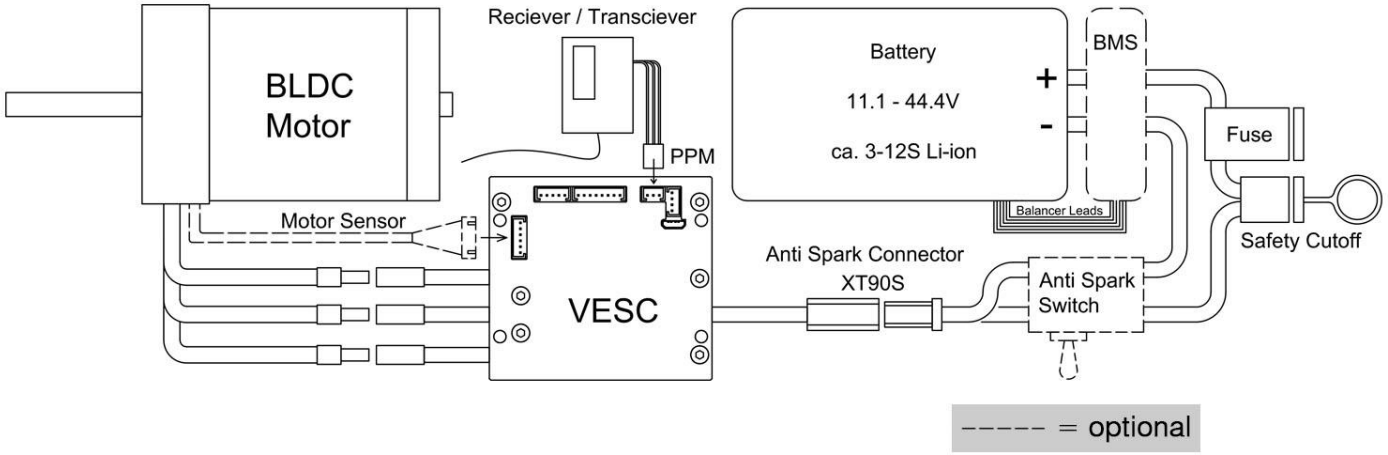
Configuration of your VESC® or VESC® based ESC using the VESC®-Tool Software.

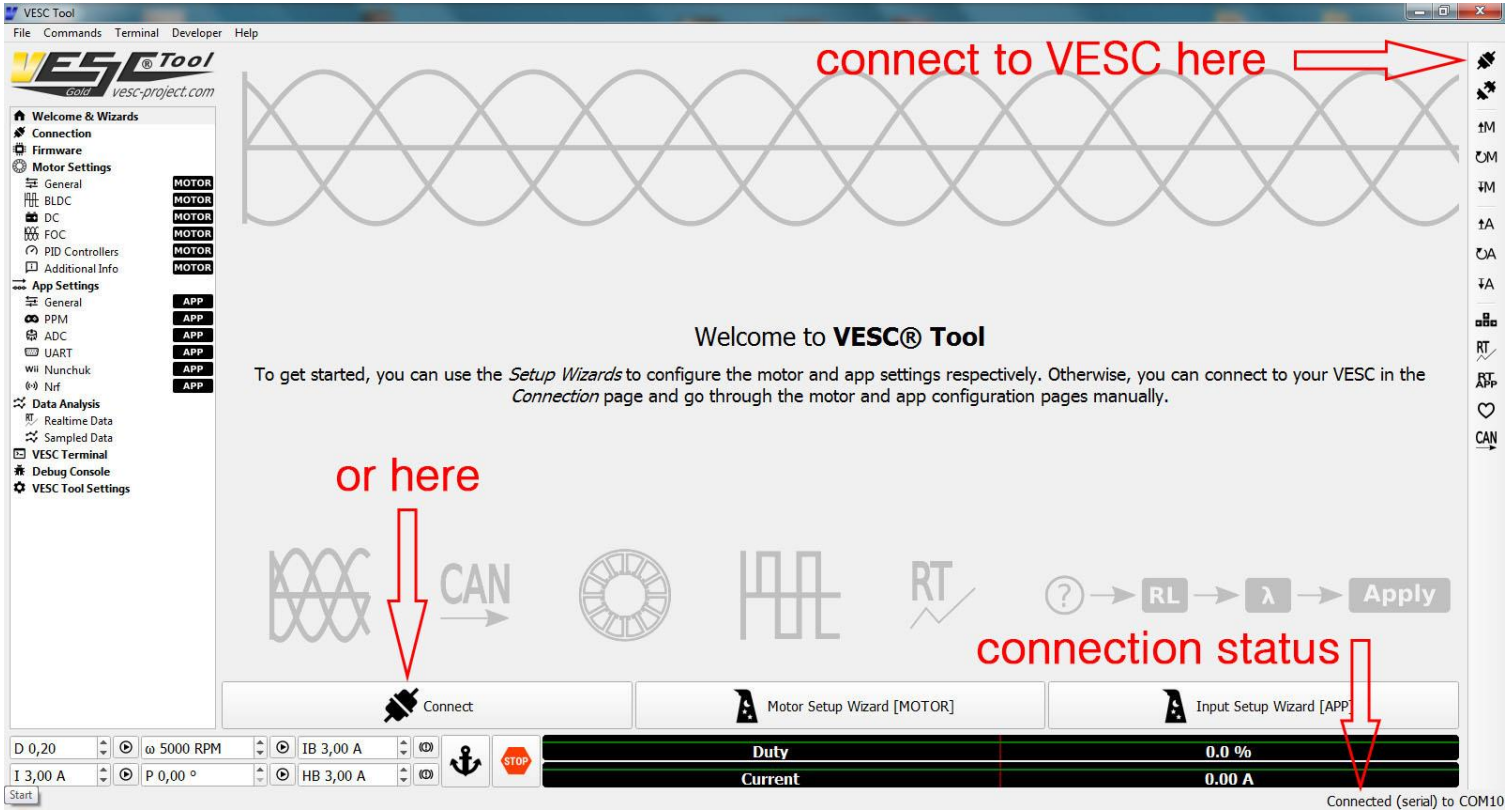
In this tutorial we will configure a single, genuine VESC® motor controller in combination with a PPM signal based radio controller in*Current No Reverse with Brake* mode.

Make sure to use the latest VESC-Tool version!

Download from http://www.vesc-project.com/vesc_tool

Connect your VESC® according to the wiring digram shown in the manual.




VESC Tool
File Commands Terminal Developer Help
connect to VESC here
Welcome & Wizards
Connection
Firmware
Motor Settings
General
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PID Controllers
Additional Info
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General
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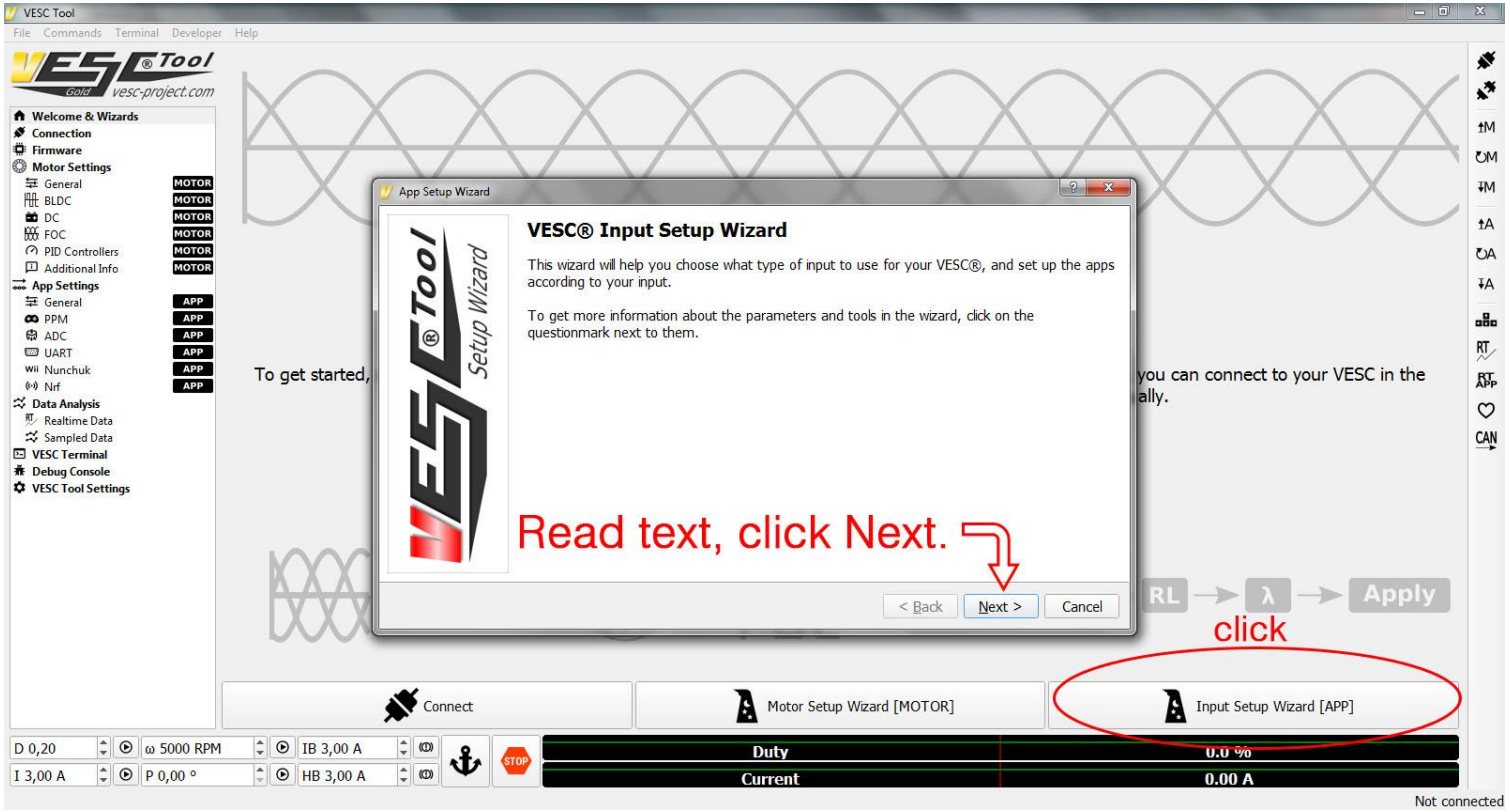
Sampled Data
VESC Terminal
Debug Console
VESC Tool Settings
Welcome to VESC® Tool
To get started, you can use the Setup Wizards to configure the motor and app settings respectively. Otherwise, you can connect to your VESC in the Connection page and go through the motor and app configuration pages manually.
or here
CAN
RT
RL
λ
Apply
connection status
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
STOP
Duty
0.0 %
Current
0.00 A
Start
Connected (serial) to COM10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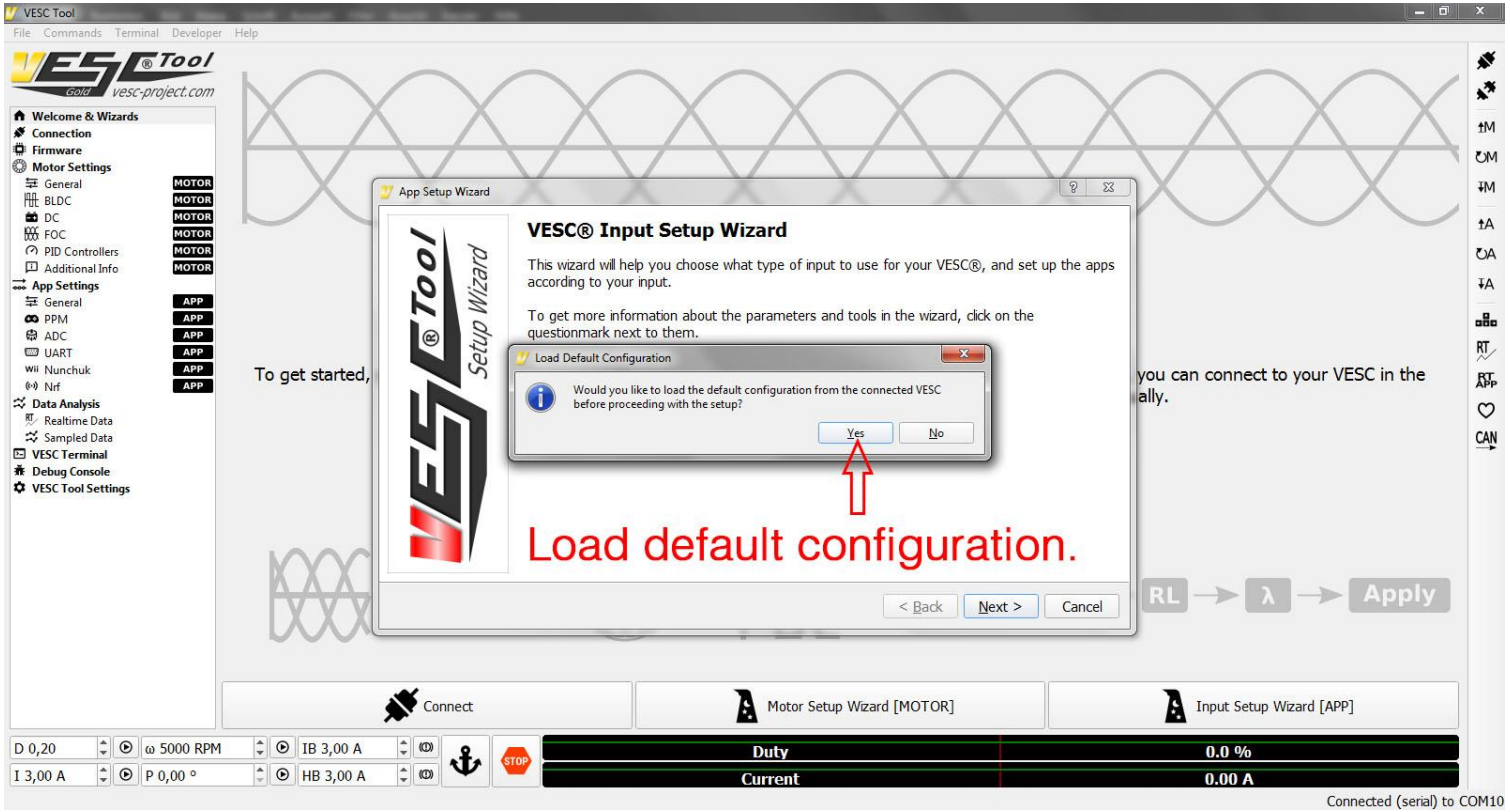
App Setup Wizard
VESC® Input Setup Wizard
This wizard will help you choose what type of input to use for your VESC®, and set up the apps according to your input.
To get more information about the parameters and tools in the wizard, click on the questionmark next to them.
Read text, click Next.
< Back
Next >
Cancel
To get started,
you can connect to your VESC in the
ally.
RL
λ
Apply
click
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
I 3,00 A
ω 5000 RPM
P 0,00 °
IB 3,00 A
HB 3,00 A
Duty
0.0 %
Current
0.00 A
Not connected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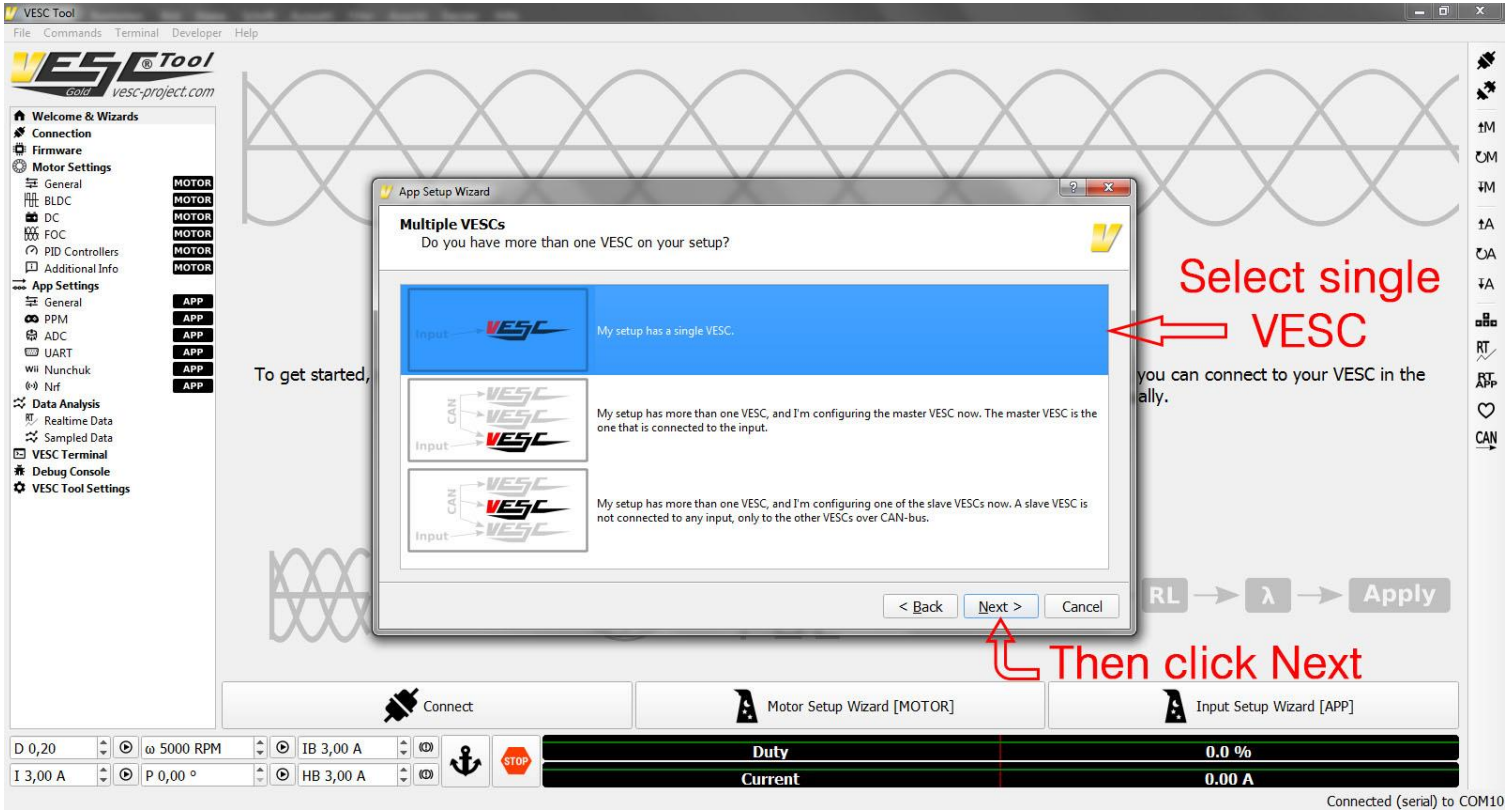
App Setup Wizard
VESC® Input Setup Wizard
This wizard will help you choose what type of input to use for your VESC®, and set up the apps according to your input.
To get more information about the parameters and tools in the wizard, click on the questionmark next to them.
Load Default Configuration
Would you like to load the default configuration from the connected VESC before proceeding with the setup?
Yes
No
Load default configuration.
< Back
Next >
Cancel
To get started,
you can connect to your VESC in the
ally.
RL
λ
Apply
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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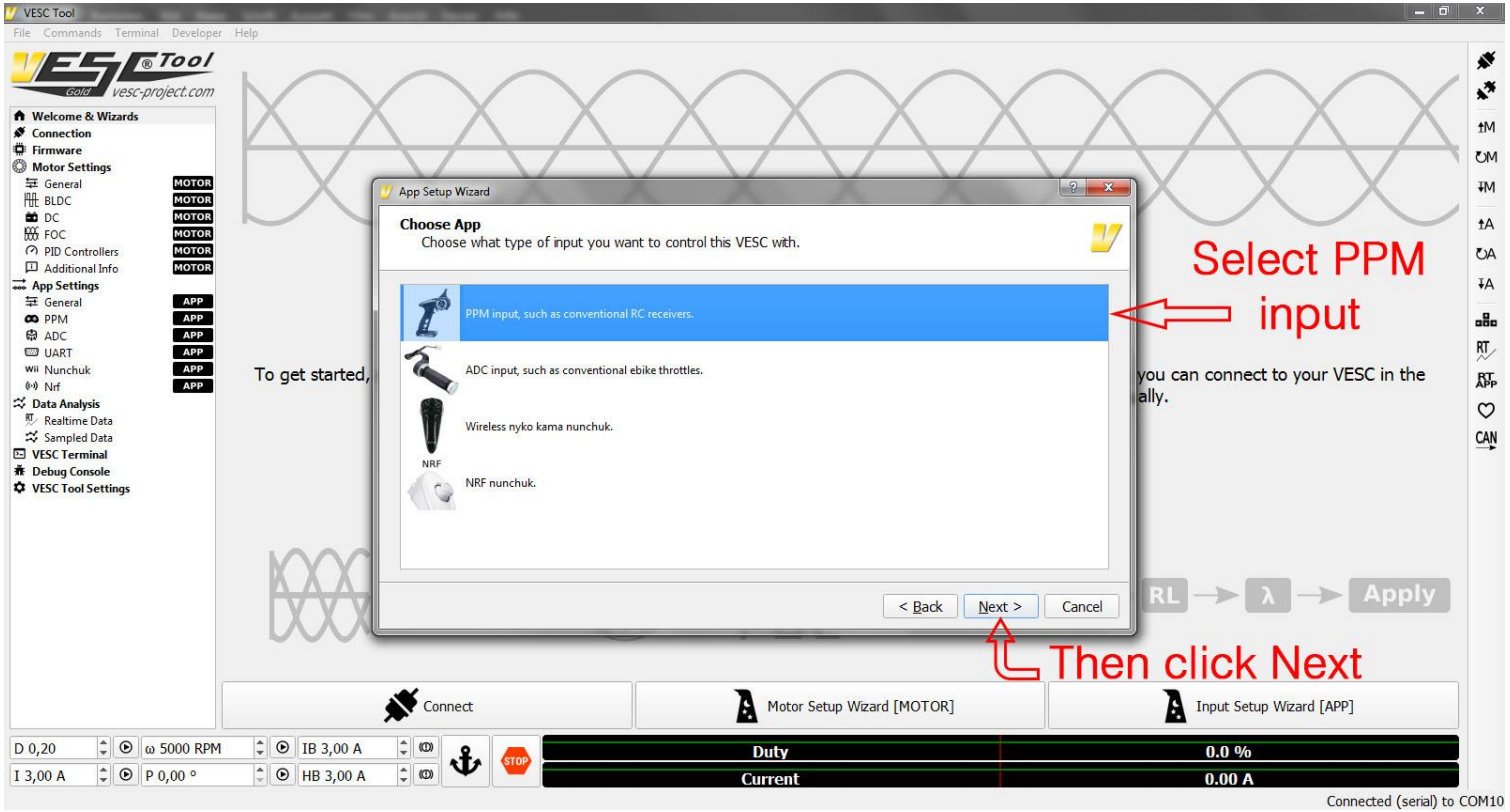
App Setup Wizard
Multiple VESCs
Do you have more than one VESC on your setup?
My setup has a single VESC.
My setup has more than one VESC, and I'm configuring the master VESC now. The master VESC is the one that is connected to the input.
My setup has more than one VESC, and I'm configuring one of the slave VESCs now. A slave VESC is not connected to any input, only to the other VESCs over CAN-bus.
< Back
Next >
Cancel
Select single VESC
Then click Next
To get started,
you can connect to your VESC in the
ally.
RL
λ
Apply
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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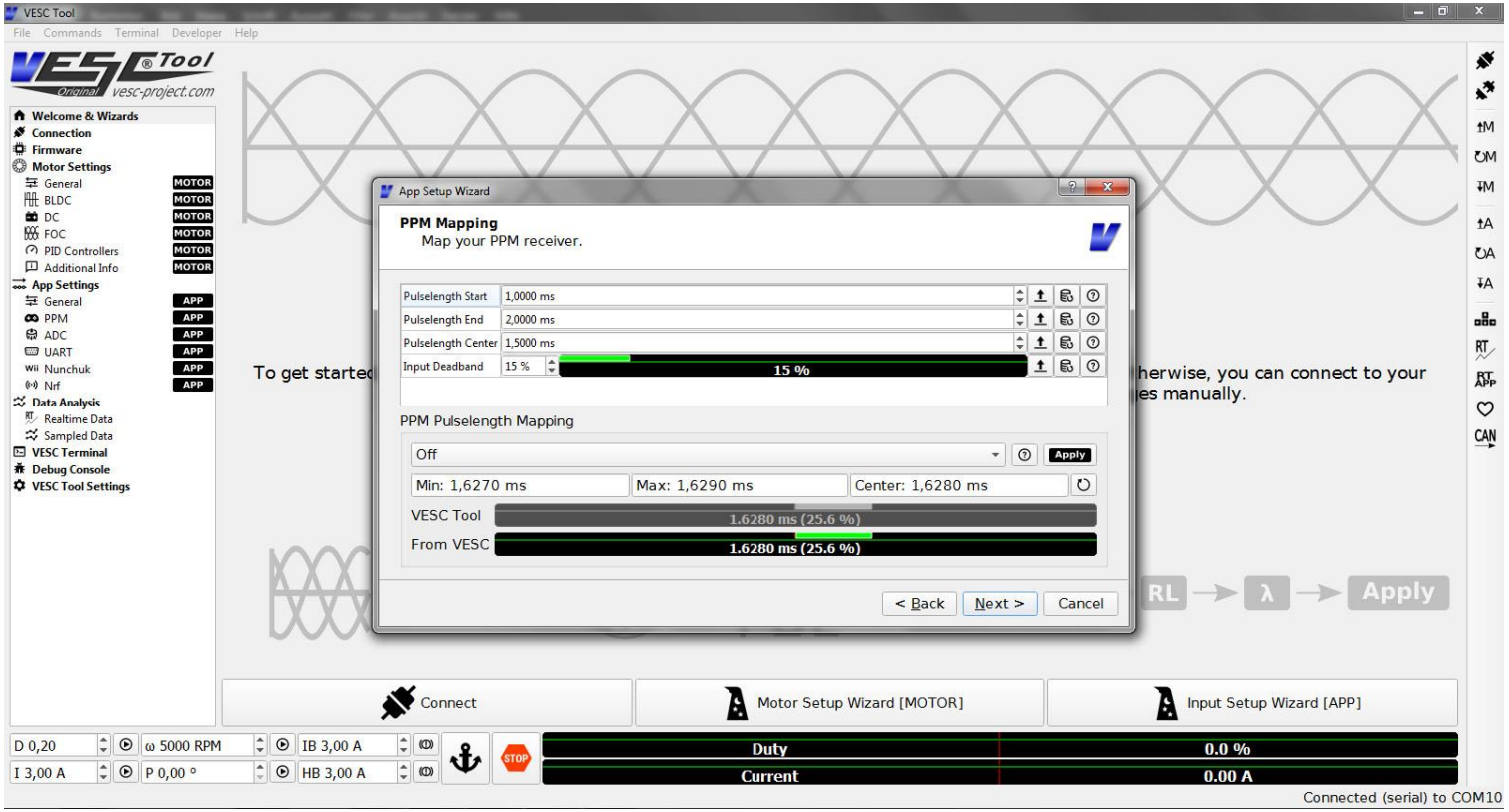
App Setup Wizard
Choose App
Choose what type of input you want to control this VESC with.
PPM input, such as conventional RC receivers.
ADC input, such as conventional ebike throttles.
Wireless nyko kama nunchuk.
NRF
NRF nunchuk.
< Back
Next >
Cancel
Select PPM input
Then click Next
To get started,
you can connect to your VESC in the
ally.
RL
λ
Apply
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
STOP
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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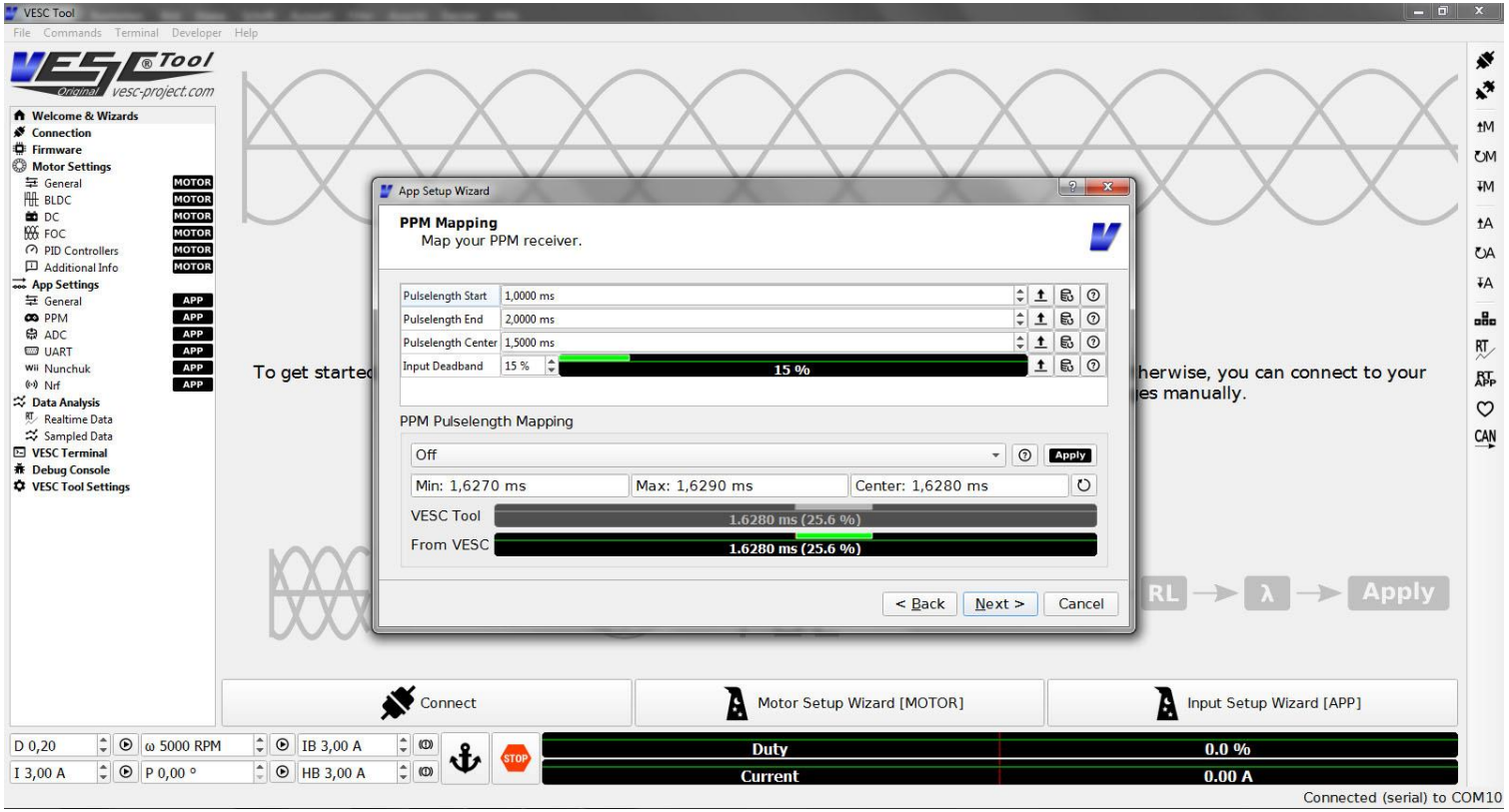
PPM Mapping
Map your PPM receiver.
Pulselength Start 1,0000 ms
Pulselength End 2,0000 ms
Pulselength Center 1,5000 ms
Input Deadband 15 %
15 %
PPM Pulselength Mapping
Off
Apply
Min: 1,6270 ms
Max: 1,6290 ms
Center: 1,6280 ms
VESC Tool
1.6280 ms (25.6 %)
From VESC
1.6280 ms (25.6 %)
< Back
Next >
Cancel
To get started
herwise, you can connect to your
es manually.
RL
λ
Apply
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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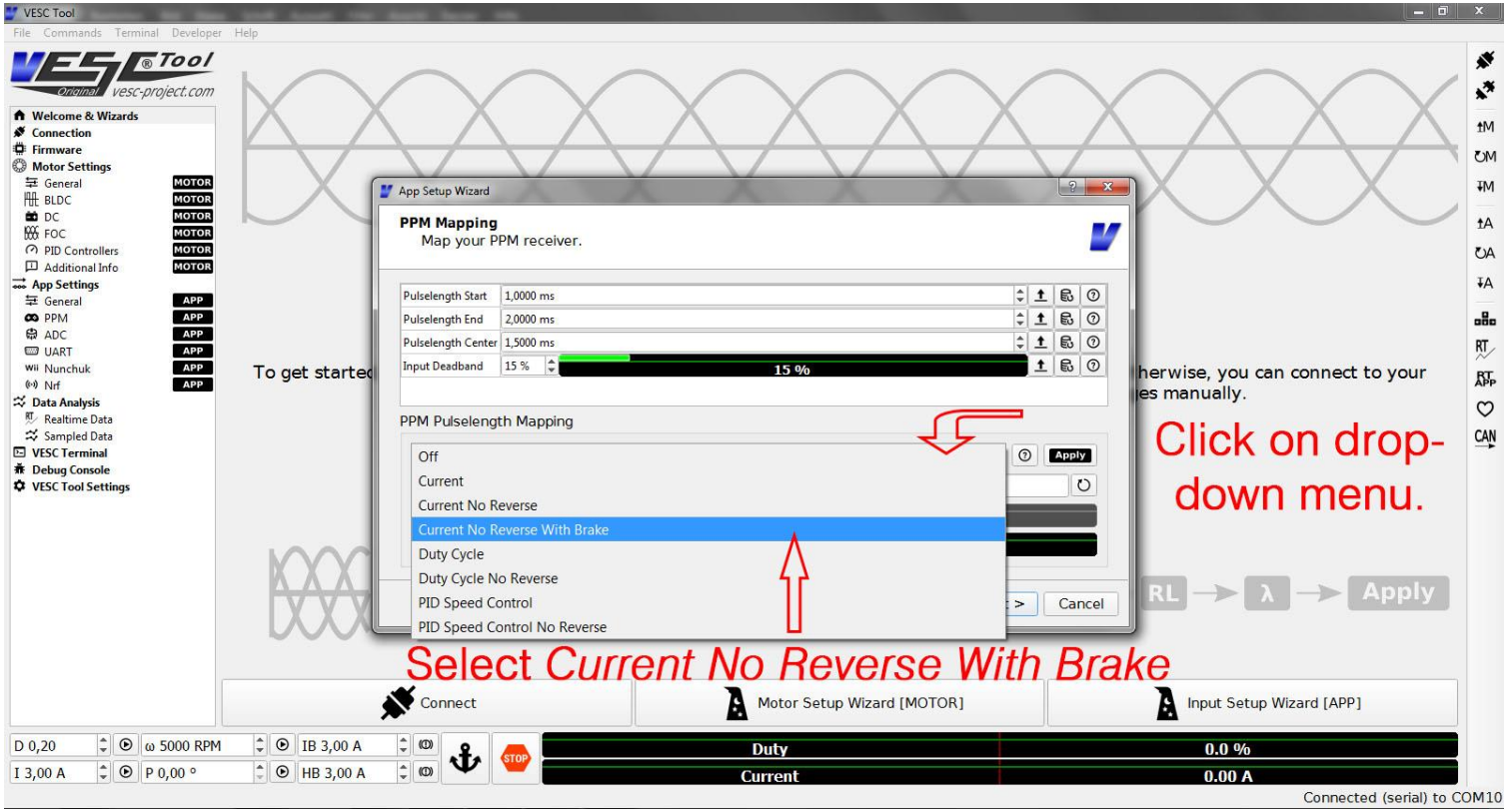
Map your PPM receiver.
Pulselength Start 1,0000 ms
Pulselength End 2,0000 ms
Pulselength Center 1,5000 ms
Input Deadband 15 %
15 %
PPM Pulselength Mapping
Off
Apply
Min: 1,6270 ms
Max: 1,6290 ms
Center: 1,6280 ms
VESC Tool
1.6280 ms (25.6 %)
From VESC
1.6280 ms (25.6 %)
< Back
Next >
Cancel
To get started
herwise, you can connect to your
es manually.
RL
λ
Apply
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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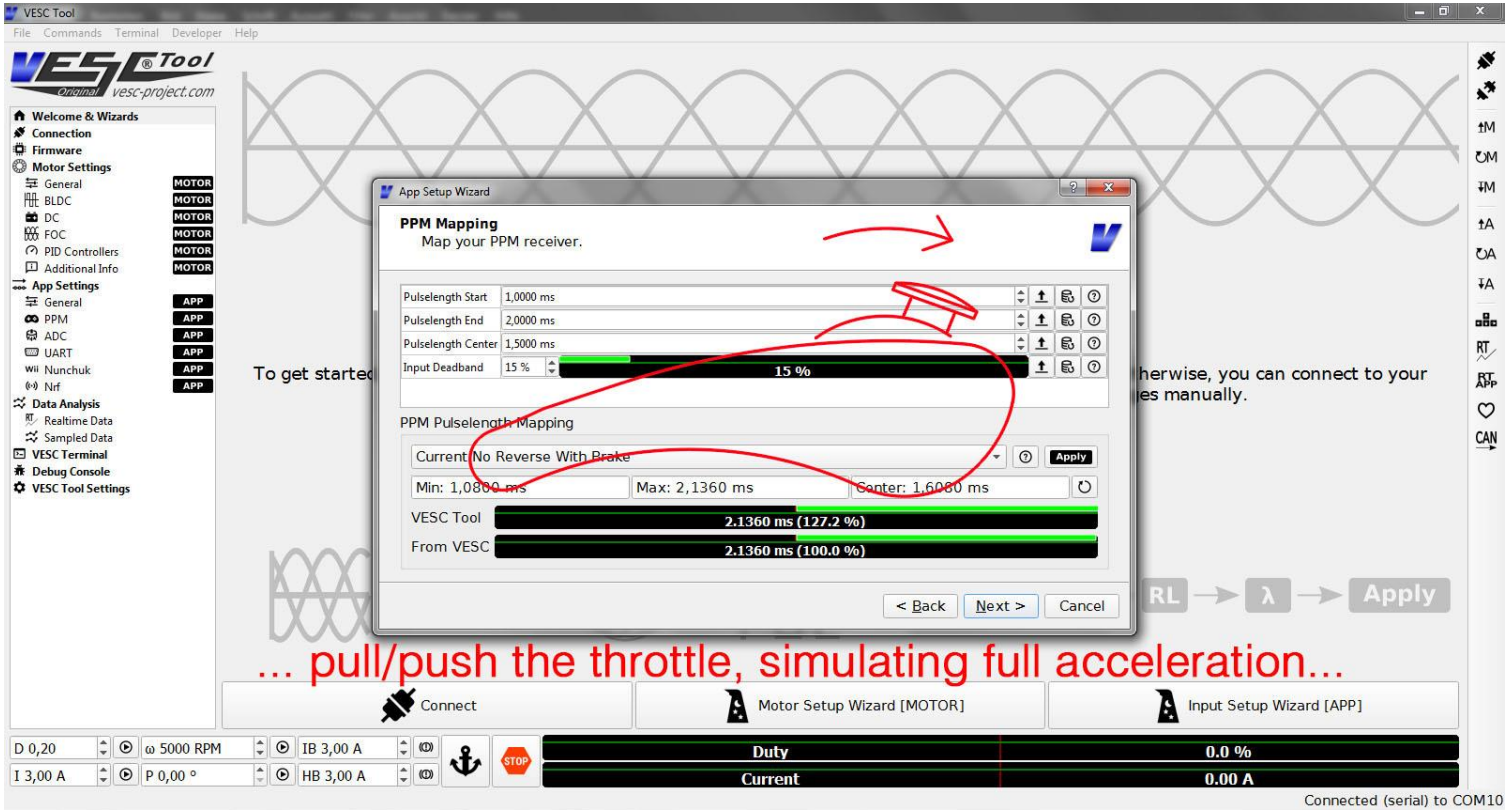
App Setup Wizard
PPM Mapping
Map your PPM receiver.
Pulselength Start 1,0000 ms
Pulselength End 2,0000 ms
Pulselength Center 1,5000 ms
Input Deadband 15 %
15 %
PPM Pulselength Mapping
Off
Current
Current No Reverse
Current No Reverse With Brake
Duty Cycle
Duty Cycle No Reverse
PID Speed Control
PID Speed Control No Reverse
Apply
Cancel
To get started
herwise, you can connect to your
es manually.
Click on drop-down menu.
RL
λ
Apply
Select Current No Reverse With Brake
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
STOP
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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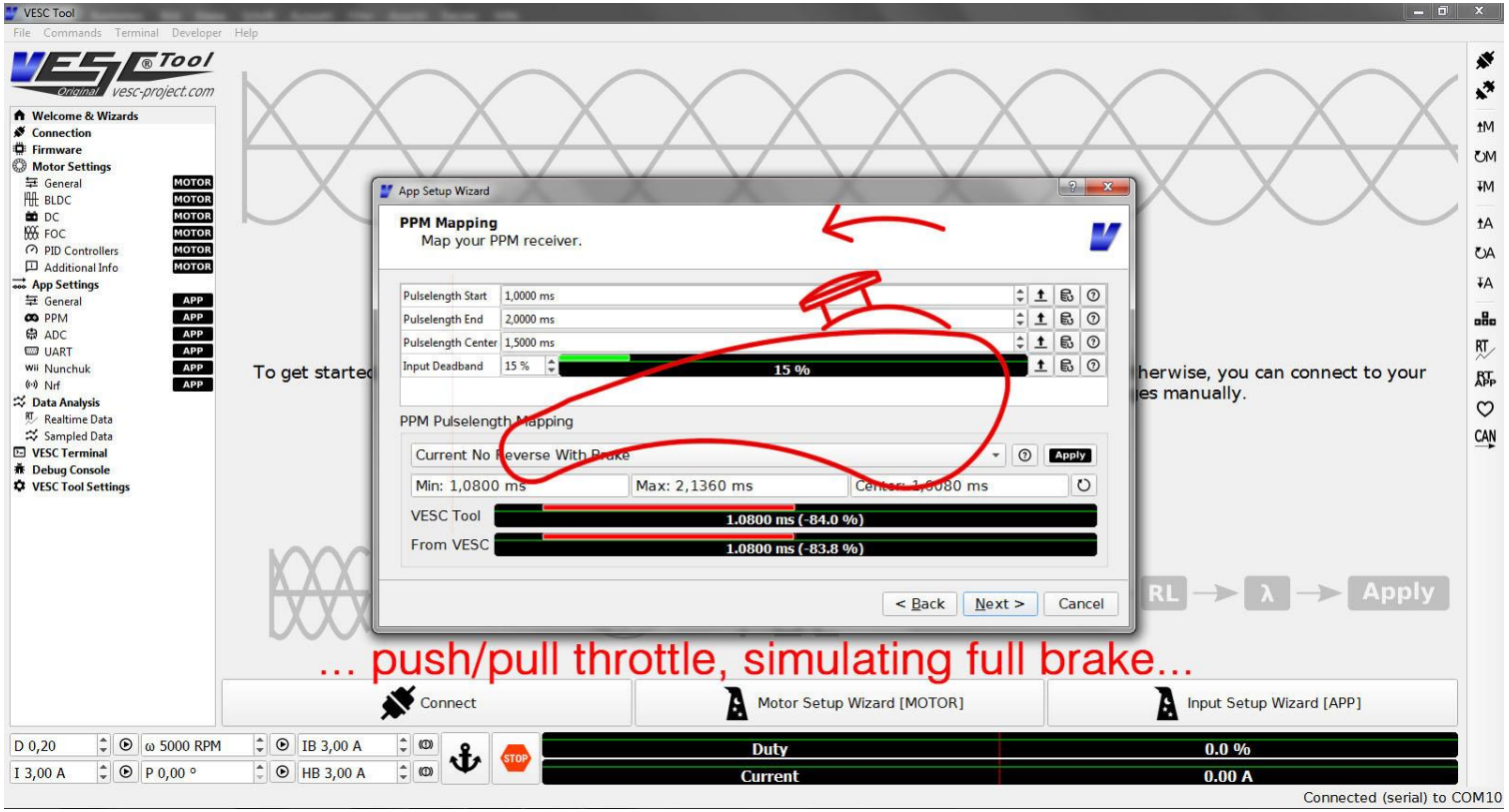
App Setup Wizard
PPM Mapping
Map your PPM receiver.
Pulselength Start 1,0000 ms
Pulselength End 2,0000 ms
Pulselength Center 1,5000 ms
Input Deadband 15 %
15 %
PPM Pulselength Mapping
Current No Reverse With Brake
Apply
Min: 1,0800 ms
Max: 2,1360 ms
Center: 1,6060 ms
VESC Tool
2.1360 ms (127.2 %)
From VESC
2.1360 ms (100.0 %)
< Back
Next >
Cancel
To get started
herwise, you can connect to your
es manually.
RL
λ
Apply
... pull/push the throttle, simulating full acceleration...
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
STOP
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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App Settings
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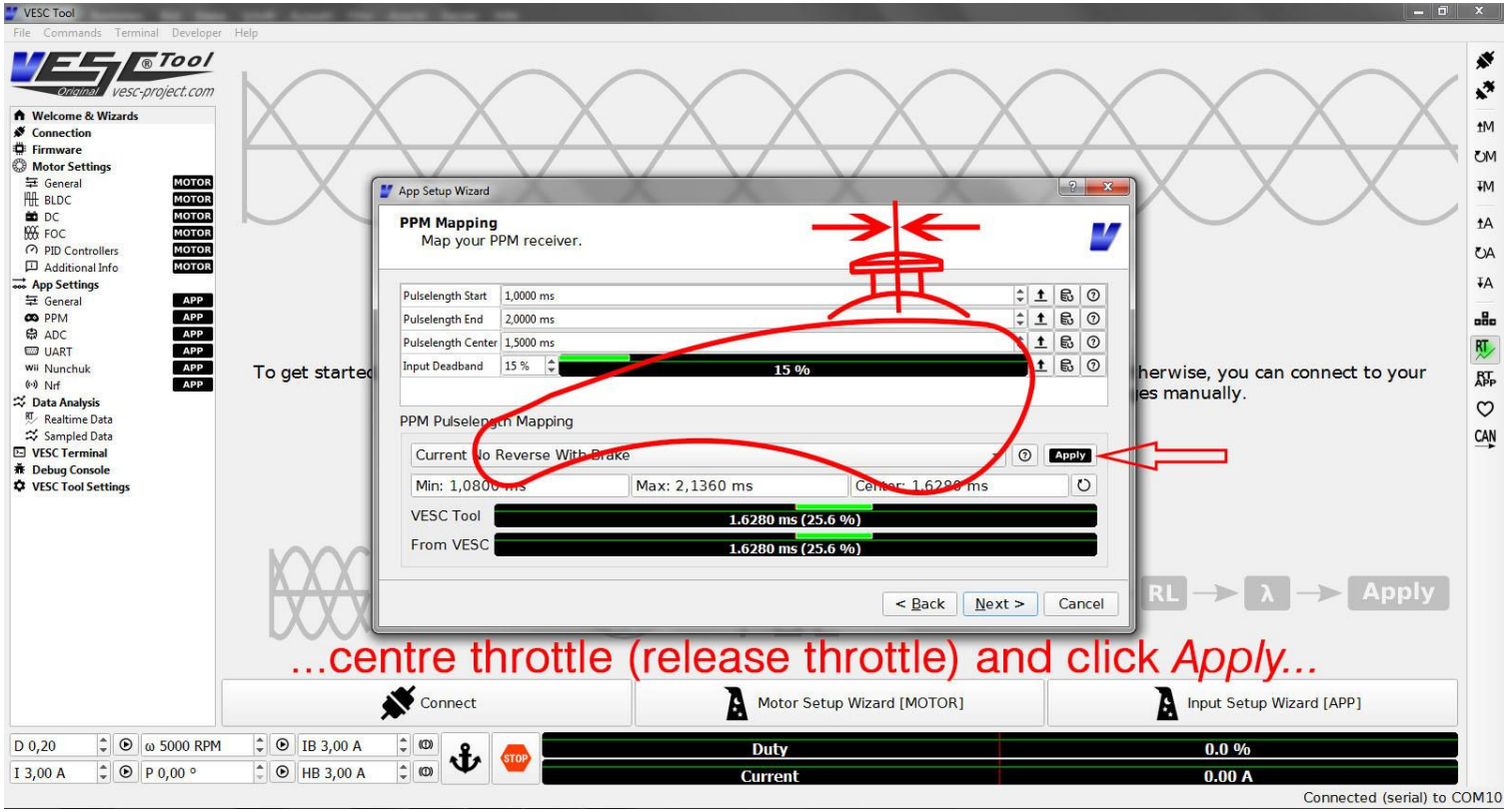
PPM Mapping
Map your PPM receiver.
Pulselength Start 1,0000 ms
Pulselength End 2,0000 ms
Pulselength Center 1,5000 ms
Input Deadband 15 %
15 %
PPM Pulselength Mapping
Current No Reverse With Brake
Apply
Min: 1,0800 ms
Max: 2,1360 ms
Center: 1,5080 ms
VESC Tool
1.0800 ms (-84.0 %)
From VESC
1.0800 ms (-83.8 %)
< Back
Next >
Cancel
To get started
herwise, you can connect to your
es manually.
RL
λ
Apply
... push/pull throttle, simulating full brake...
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
STOP
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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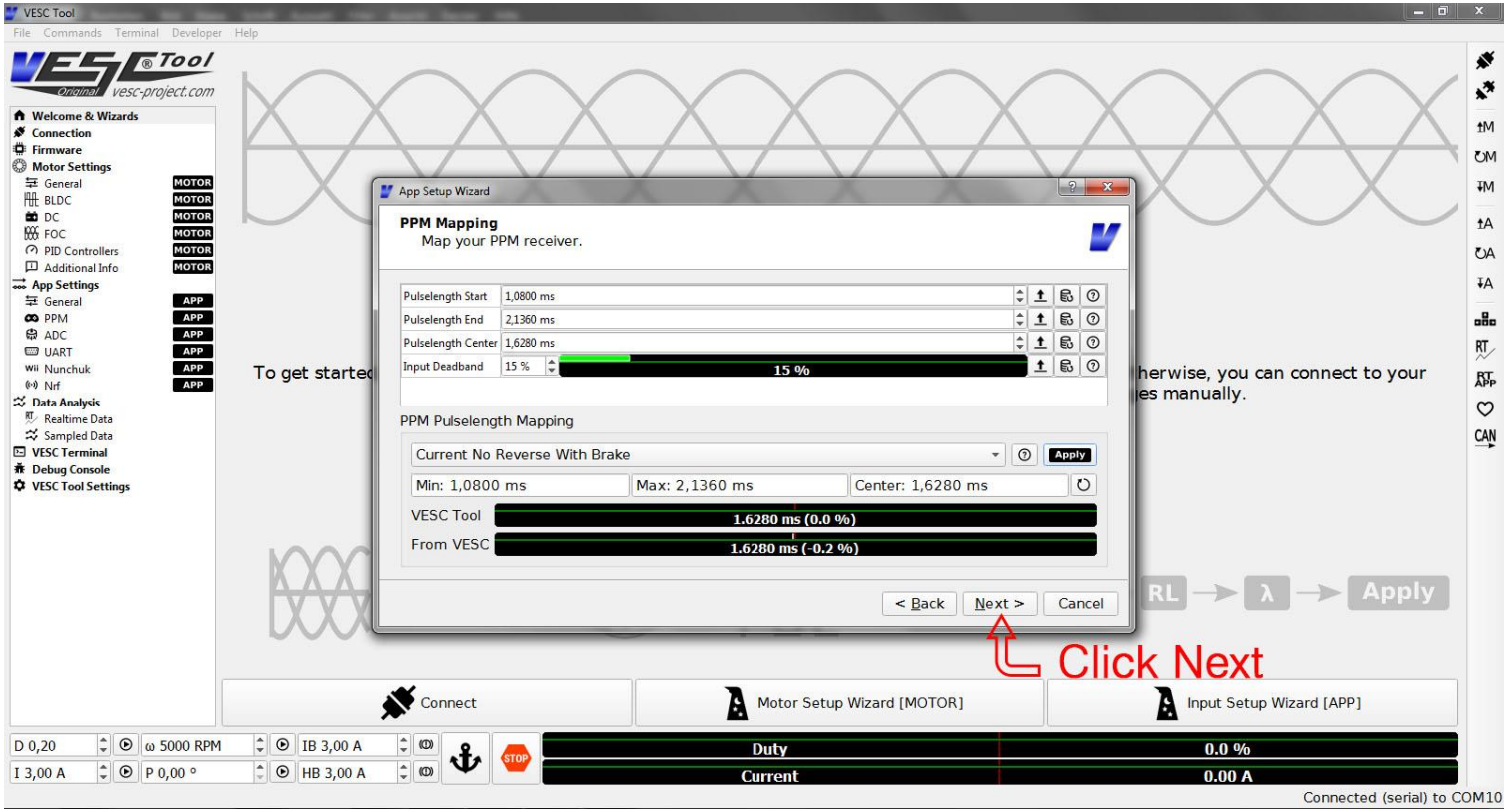
Map your PPM receiver.
Pulselength Start 1,0000 ms
Pulselength End 2,0000 ms
Pulselength Center 1,5000 ms
Input Deadband 15 %
15 %
PPM Pulselength Mapping
Current No Reverse With Brake
Apply
Min: 1,0800 ms
Max: 2,1360 ms
Center: 1,6280 ms
VESC Tool
1.6280 ms (25.6 %)
From VESC
1.6280 ms (25.6 %)
< Back
Next >
Cancel
To get started
herwise, you can connect to your
es manually.
RL
λ
Apply
...centre throttle (release throttle) and click Apply...
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
STOP
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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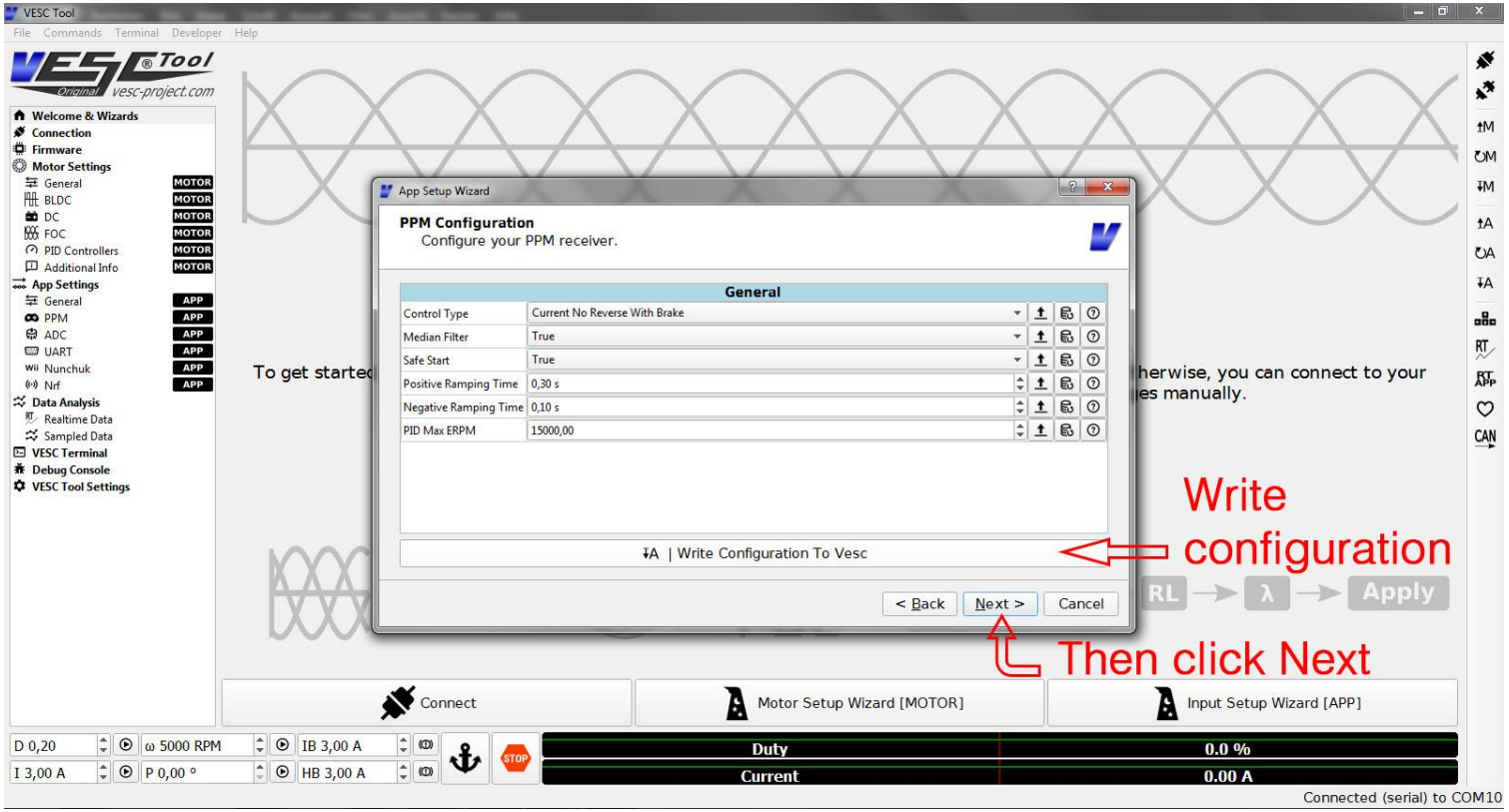
PPM Mapping
Map your PPM receiver.
Pulselength Start 1,0800 ms
Pulselength End 2,1360 ms
Pulselength Center 1,6280 ms
Input Deadband 15 %
15 %
PPM Pulselength Mapping
Current No Reverse With Brake
Apply
Min: 1,0800 ms
Max: 2,1360 ms
Center: 1,6280 ms
VESC Tool
1.6280 ms (0.0 %)
From VESC
1.6280 ms (-0.2 %)
< Back
Next >
Cancel
RL
λ
Apply
Click Next
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
D 0,20
ω 5000 RPM
IB 3,00 A
I 3,00 A
P 0,00 °
HB 3,00 A
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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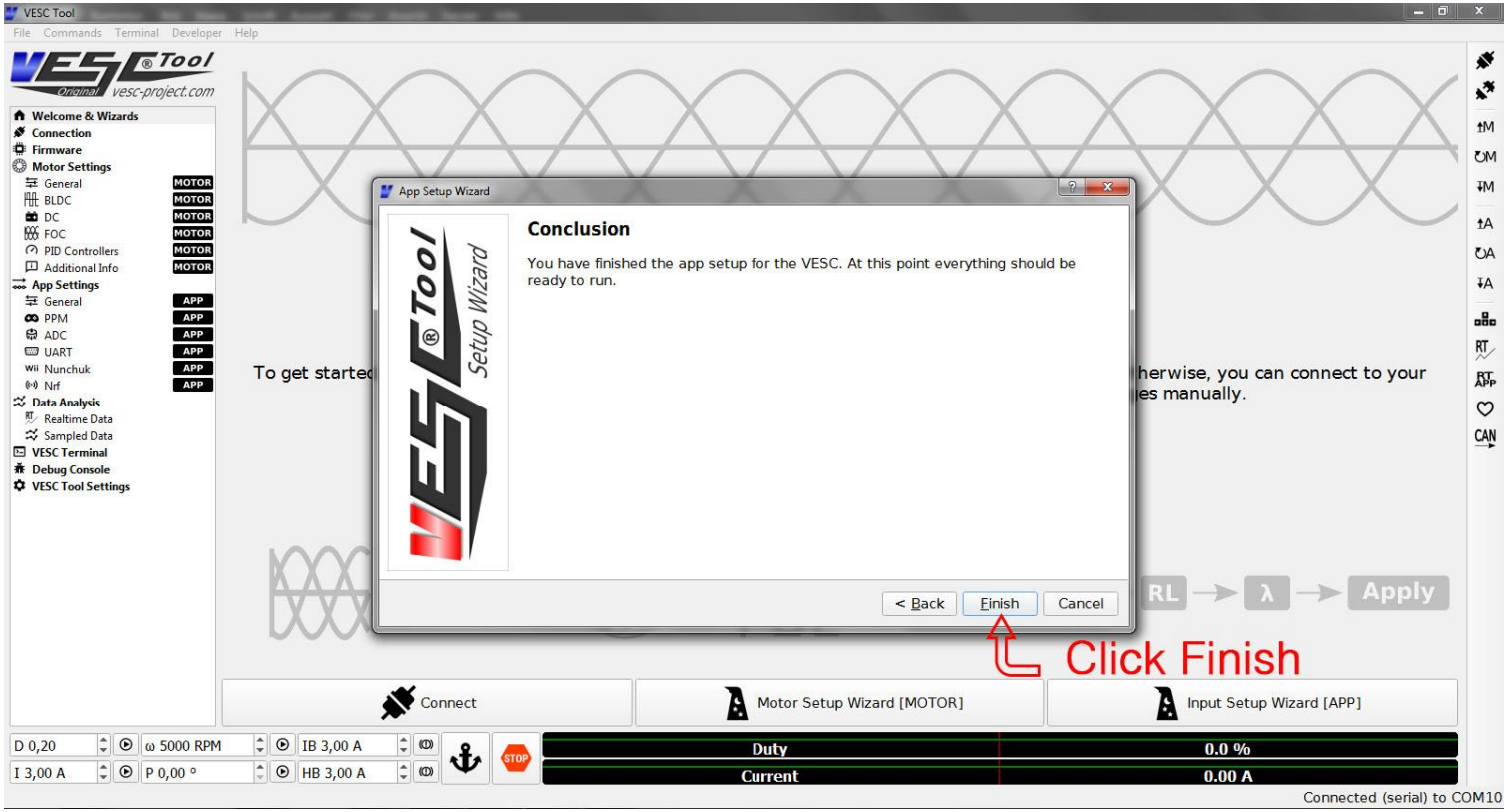
PPM Configuration
Configure your PPM receiver.
General
Control Type
Current No Reverse With Brake
Median Filter
True
Safe Start
True
Positive Ramping Time
0,30 s
Negative Ramping Time
0,10 s
PID Max ERPM
15000,00
Write Configuration To Vesc
< Back
Next >
Cancel
Write configuration
RL
λ
Apply
Then click Next
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10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Conclusion
You have finished the app setup for the VESC. At this point everything should be ready to run.
< Back
Finish
Cancel
Click Finish
RL
λ
Apply
Connect
Motor Setup Wizard [MOTOR]
Input Setup Wizard [APP]
Duty
0.0 %
Current
0.00 A
Connected (serial) to COM10

Congratulations, your VESC is now ready to operate. If you like you can follow the
Additional settings manual for further improvements