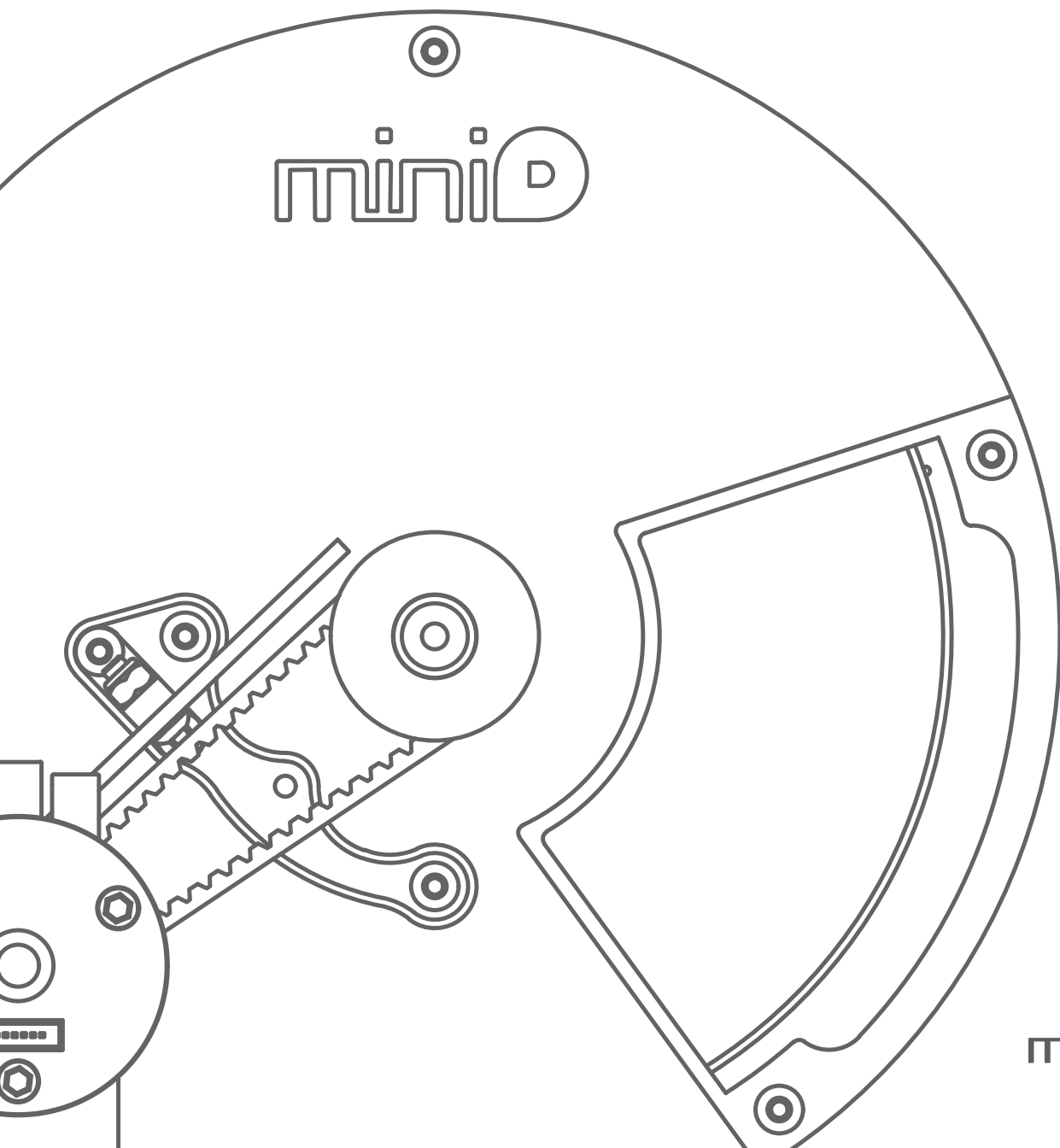


ELECTRIC MOTOR DYNO

Quick Start Guide

V2.0



miniPRO™

USING THIS GUIDE

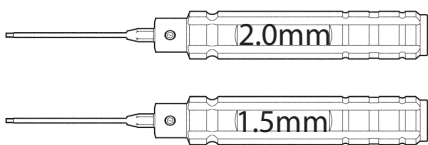
Before Using the Dyno

The dyno is a high-quality motor analyzing tool intended for persons aged 18 years and older with previous experience building and operating RC cars, boats, airplanes, and drones. This is not a toy; it is a precision testing equipment. This dyno is not intended for use by beginners, inexperienced customers, or by children without direct supervision of a responsible, knowledgeable adult. If you do not fulfill these requirements, please return the kit in unused and unassembled form back to the shop where you have purchased it.

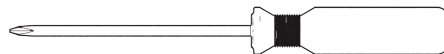
Before building and operating your dyno, YOU MUST read through all of the operating instructions and instruction manual and fully understand them to get the maximum enjoyment and prevent unnecessary damage. Read carefully and fully understand the instructions before beginning assembly. Contents of the box may differ from pictures. In line with our policy of continuous product development, the exact specifications of the dyno may vary without prior notice.

TOOLS REQUIRED

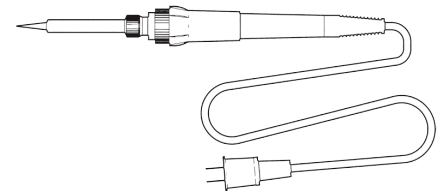
Allen: 1.5mm, 2.0mm



Phillip Screw Driver



Soldering Iron



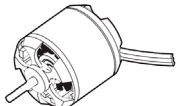
EQUIPMENT REQUIRED

Electric Motor

540/550 Motor

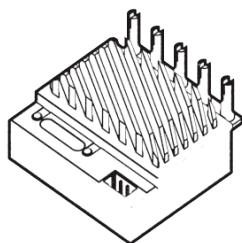


Outrunner Motor

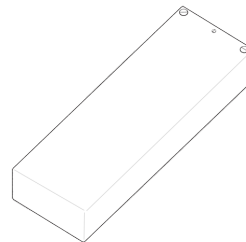


OR

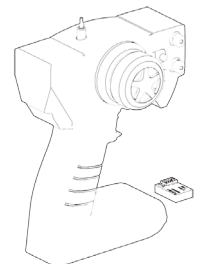
Electronic Speed Control (ESC)



Battery



Transmitter and Receiver



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DYNO FEATURE HIGHLIGHTS

This is a universal motor dynamometer (dyno) that is ready to test electric motors out of the box. Featuring an onboard electrical board equipped with an optical rpm sensor that measures motor speeds at up to 50,000 rpm. The board is also equipped with external ports for an external LCD screen, throttle controller, and different types of sensors for measuring voltage, current, and temperature.

Its interchangeable motor mounts and pulleys give the option to test 540, 550 and Outrunner motors. A balanced flywheel (inertia mass) is enclosed by a high grade aluminum 6061 cover to provide safety. The flywheel is replaceable, that means you are not limited to the same load when testing your motors.

This dyno is great tool for motor analysis, ESC (boost) adjustment, brushless sensor adjustment, gearing calculation, acceleration testing, kV measuring, voltage drop, current draw, power, and torque output analysis.

1. Front Cover

2. Belt

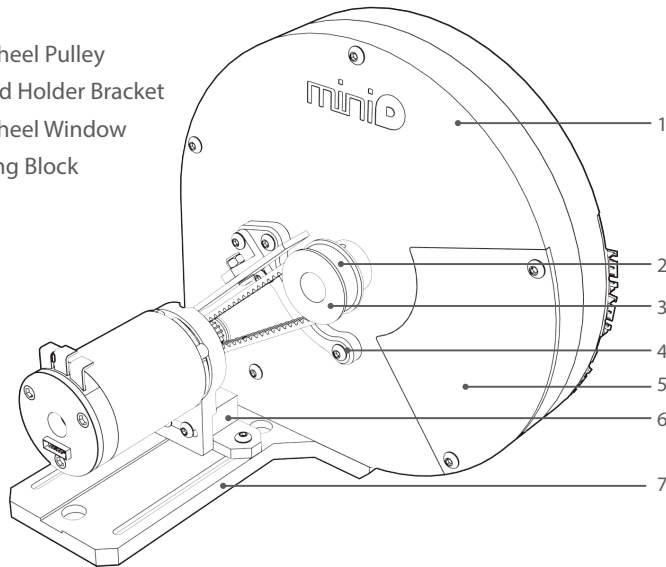
3. Flywheel Pulley

4. Shield Holder Bracket

5. Flywheel Window

6. Sliding Block

7. Base



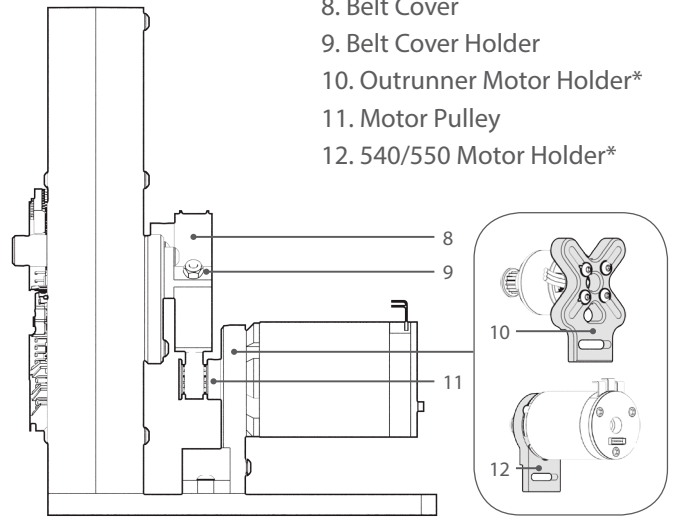
8. Belt Cover

9. Belt Cover Holder

10. Outrunner Motor Holder*

11. Motor Pulley

12. 540/550 Motor Holder*



13. Rear Cover

14. Flywheel

15. Reset

16. Electronic Board

17. Temp. Port #1

18. Temp. Port #2

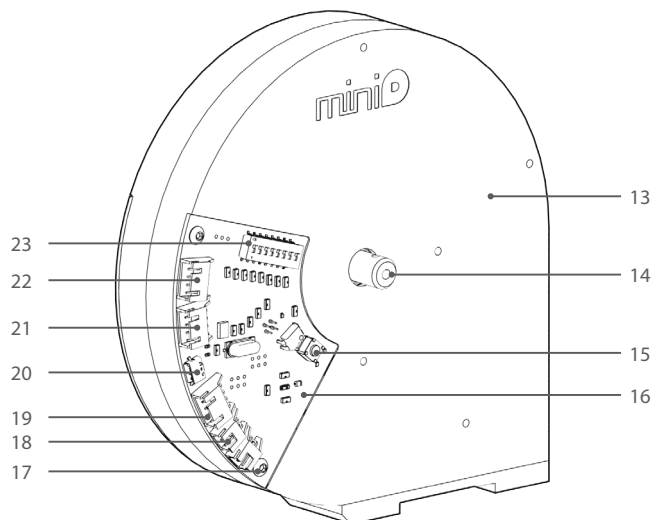
19. Voltage and Current Sensor Port

20. Micro USB Port

21. Throttle Sensor Port

22. LCD Port

23. Switches

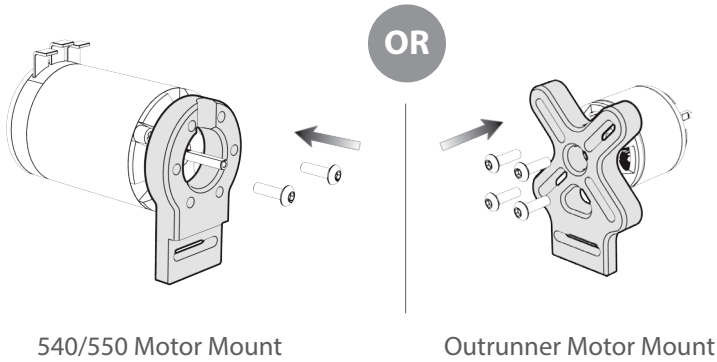


* May not be included in your kit. Please verify the included accessories in your purchased kit.

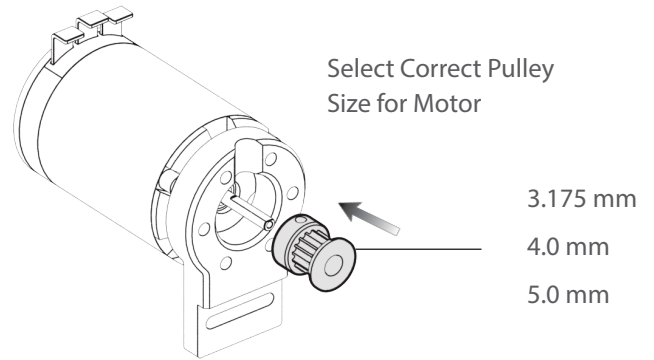
ASSEMBLE THE DYNO

The dyno is already pre-assembled. All you need to do is install the base plate and motor to the dyno.

1 Screw on the motor

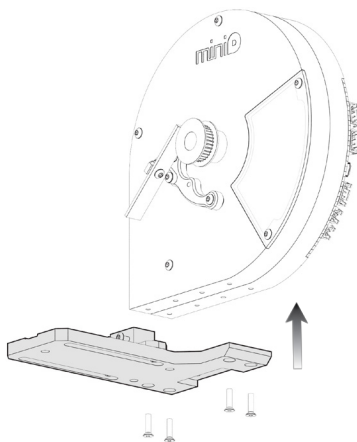


2 Install the Motor Pulley

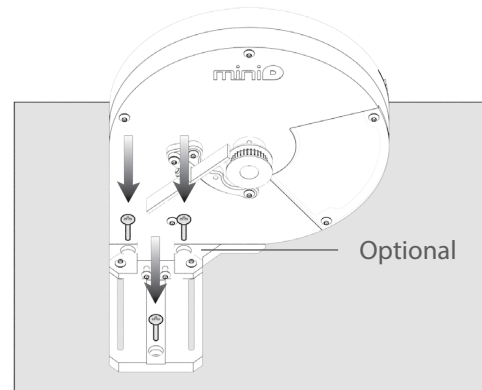


NOTE: Same step applies for using the Outrunner Motor Mount

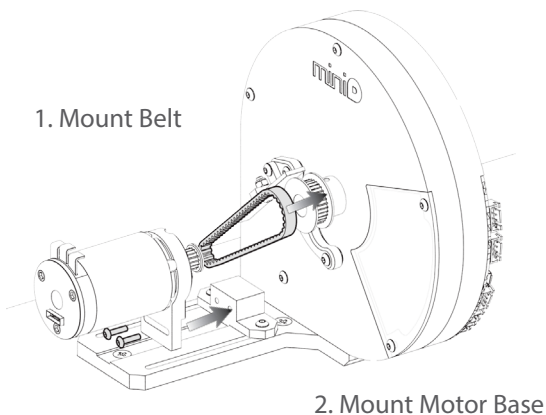
3 Install the Base



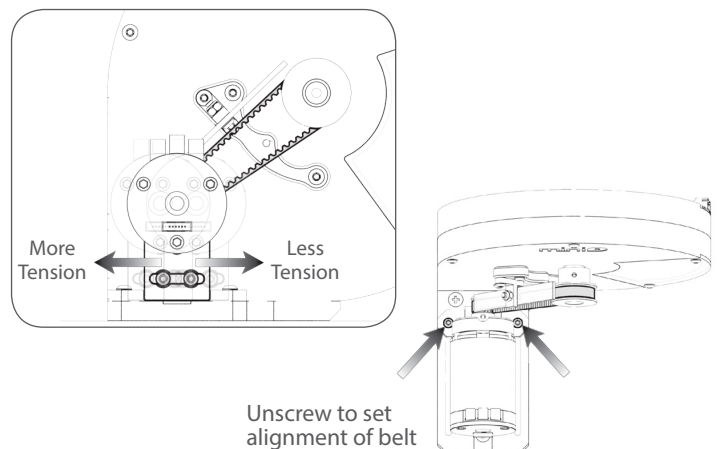
4 Attach the Dyno to the Baseboard



5 Mount the Motor



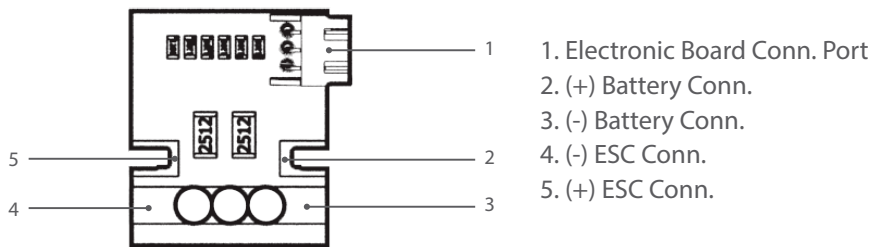
6 Adjust the Belt Tension and Position



ELECTRONIC CONNECTIONS

The dyno is equipped with a voltage, current and temperature sensors*. A motor, electronic speed controller (ESC), battery, RC receiver and transmitter is required to use the dyno.

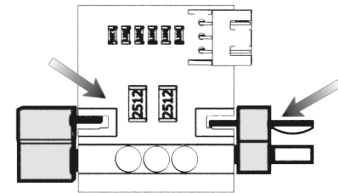
Voltage and Current Sensor Diagram



NOTE: Sensor diagram is similar to Attopilot

1

Solder Connector



Different connectors and wires can be soldered on the sensor

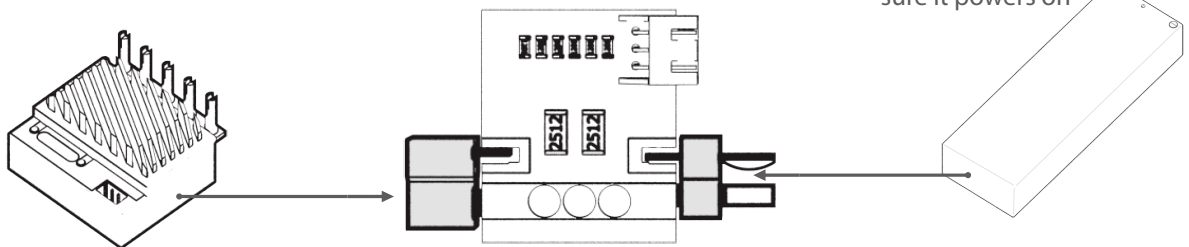
2

Connect Transmitter, Receiver, and ESC to the Motor

Please refer to the ESC, Transmitter, and Receiver manufacturers' instruction manual.

3

Connect Sensor



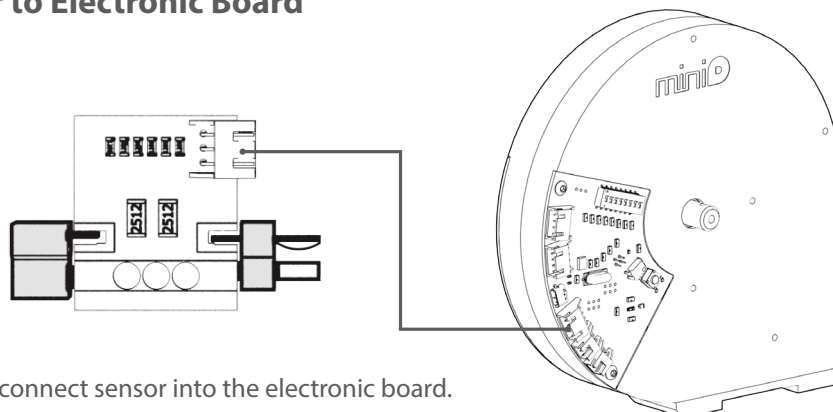
3.1. Connect Battery port of ESC to the Sensor

3.3. Turn ON the ESC to make sure it powers on

3.2. Connect Battery to Sensor

4

Connect Sensor to Electronic Board



Use provided wire to connect sensor into the electronic board.

SOFTWARE INSTALLATION

Install the Software

1 Download Software

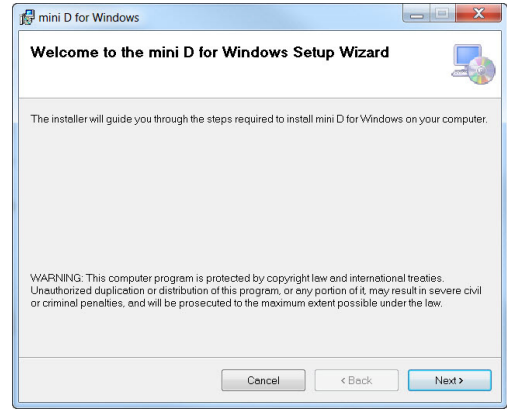
Go to <http://minipro.wiki/downloads>.

Download the latest software.

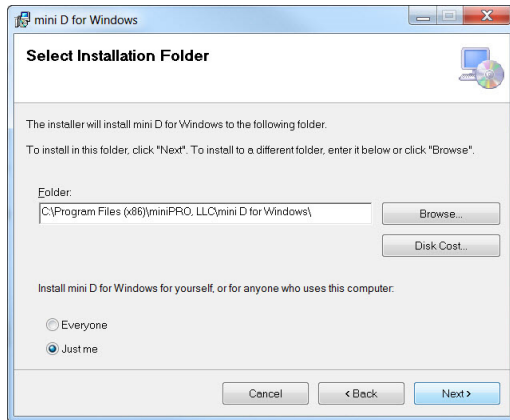
Start the Installation.



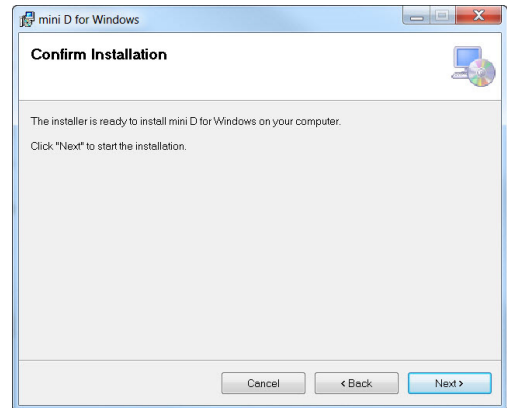
2 Read the Warning Notes and click "Next" if you agree.



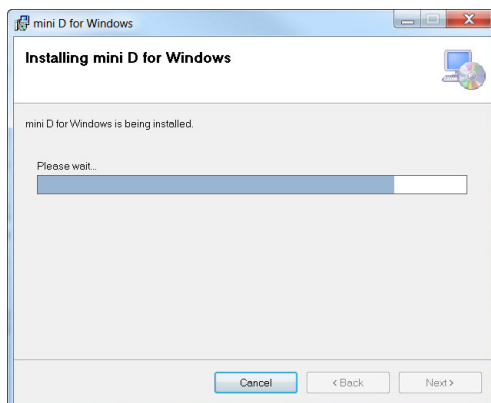
3 Select the location folder where "mini D" will be installed, and then select the person who can use the application. Click "Next."



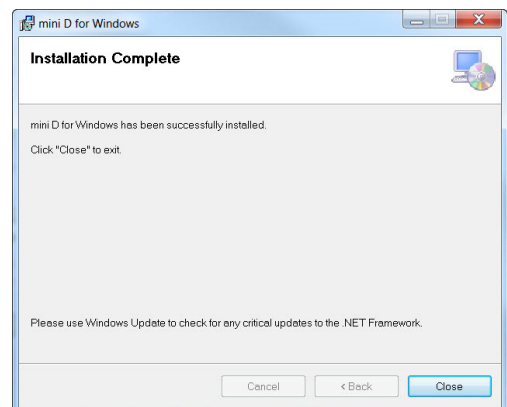
4 Confirm that you want to install "mini D" on your computer, and click "Next" to continue.



5 Wait a few minutes while "mini D" installs on your computer.



6 When installation finishes, click "Close" and you have successfully installed "Mini D" for Windows.

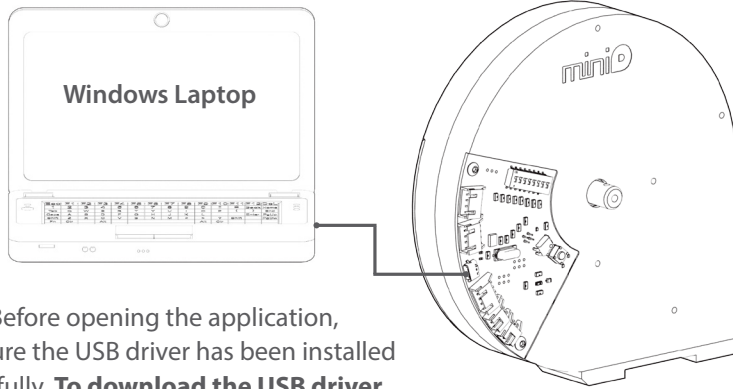


TESTING MOTORS

miniPRO encourages you enjoy testing motors in a safe environment. Please wear safety glasses.

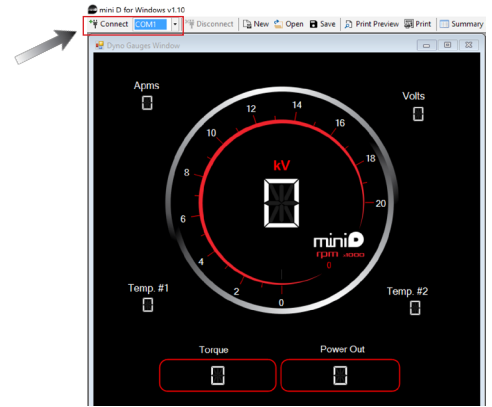
Dyno Run Screens

1 Connect the dyno to the PC using the micro USB cable.

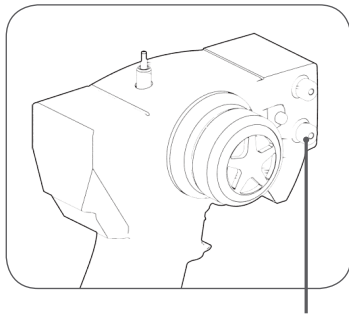


NOTE: Before opening the application, make sure the USB driver has been installed successfully. **To download the USB driver,** please go to: <http://minipro.wiki/downloads>

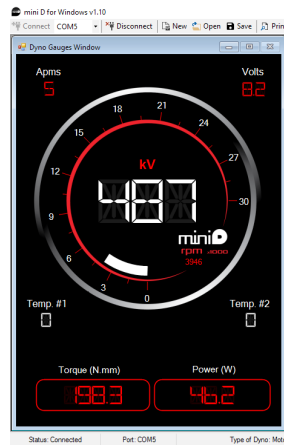
2 Open the Application, and select the port number. Then click "Connect."



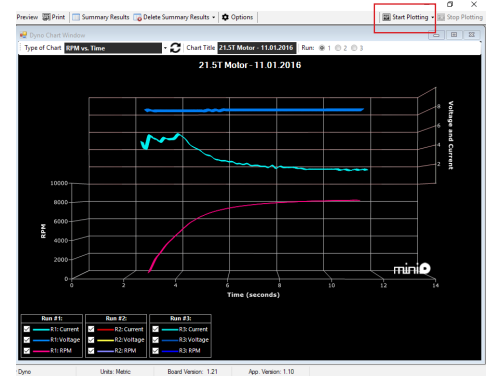
3 Move the motor with your transmitter, and try to keep a constant kV or RPM.



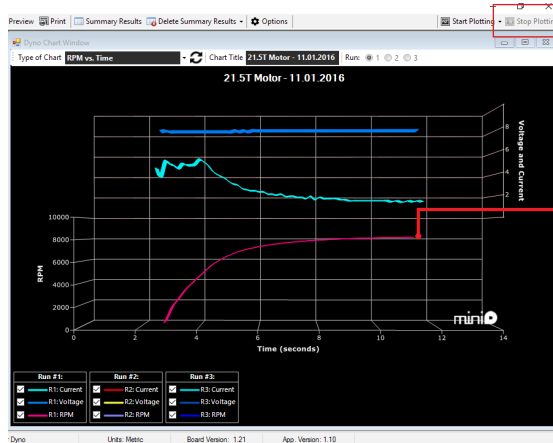
NOTE: By adjusting the throttle trim you can keep a constant kV.



4 Click "Start Logging" and select the Run number you would like the graph to show and quickly increase the throttle to max.



5 When you reach maximum RPM, click "Stop Plotting."



Max. RPM Reached

miniPROTM
ELECTRIC MOTOR DYNO

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