DynoBox

Manual

4Tronic - DynoBox - is portable Dyno solutions for professional tuners and car enthusiasts. It is GPS based device to accurately determine horsepower and torque over the whole domain of engine RPM.

P&P setup is consist of:
- controller module,
- GPS active antenna,
- protection case,
- license Windows PC app

Before You Begin:

Welcome to DynoBox!

To ensure a safe and optimal experience, we recommend that you thoroughly review the user manual provided with your device before using it in a vehicle. The manual contains essential information about proper setup, usage guidelines, and safety instructions.

Key Points to Check:

- GNSS status and connection.
- Vehicle profile setup.
- Guidelines on measurement process.
- Safety tips to prevent distractions while driving.

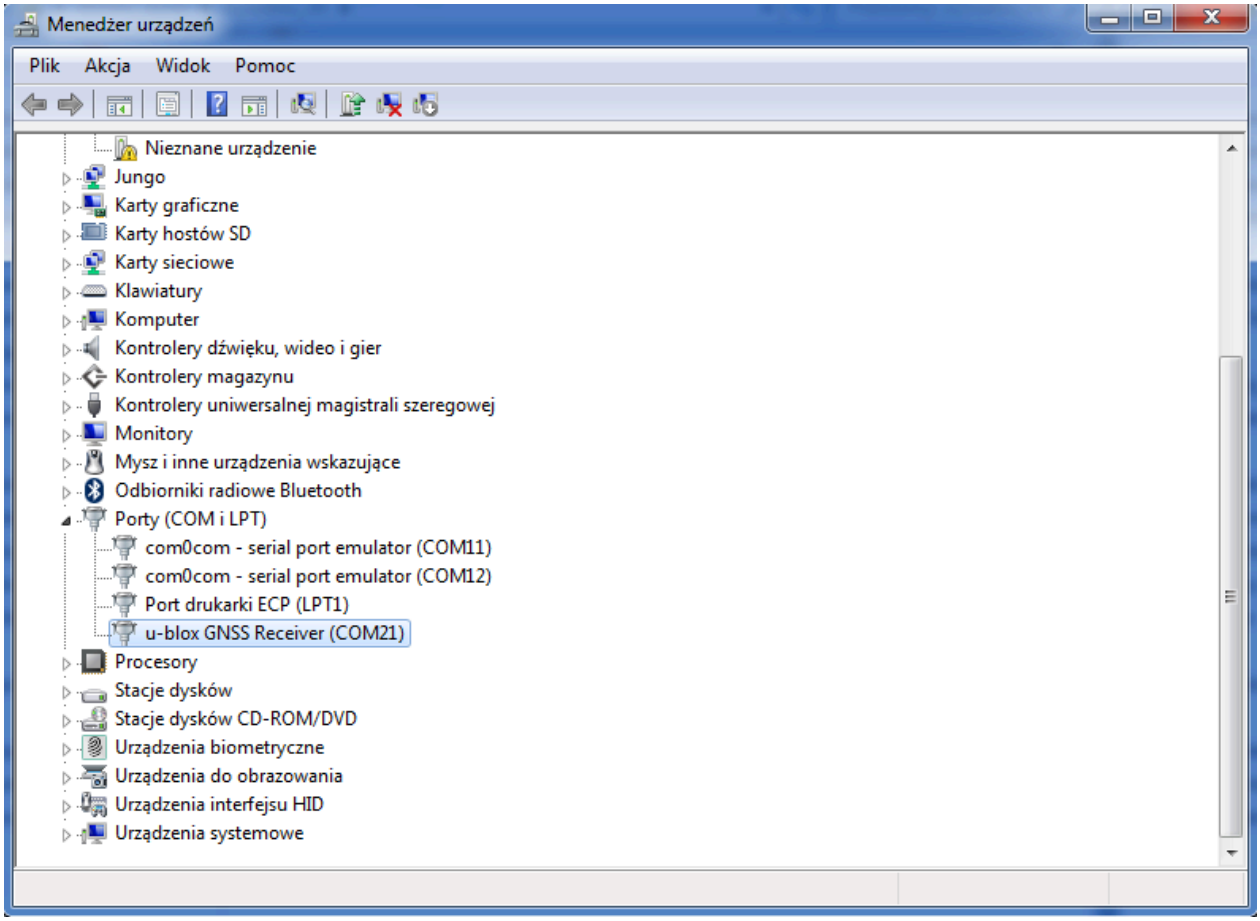
Take the time to set up everything and get familiar with the app on your desk before heading to the vehicle.

Thank you for choosing DynoBox.

DynoBox PC app manual:

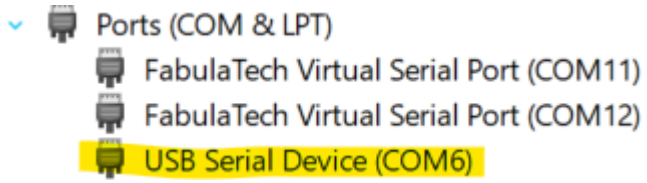
1. **Drivers verification**

   Plug the device into the USB port. DynoBox shall be visible as “**u-blox GNSS Receiver**” under “Port(COM & LPT)” tab after the drivers are automatically installed by Windows.

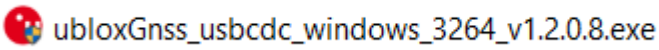


It could happen that **Windows does not install** drivers correctly even though the device is on the list in Ports(COM & LPT)!

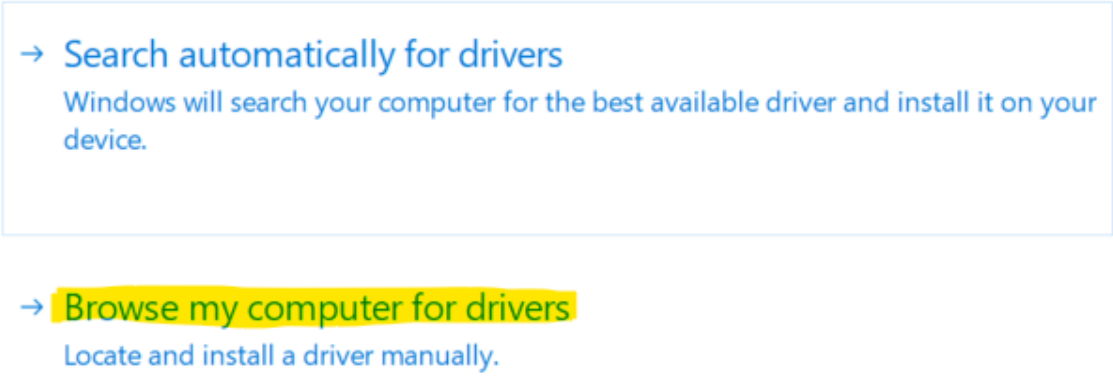
In order to install drivers manually follow instruction below:



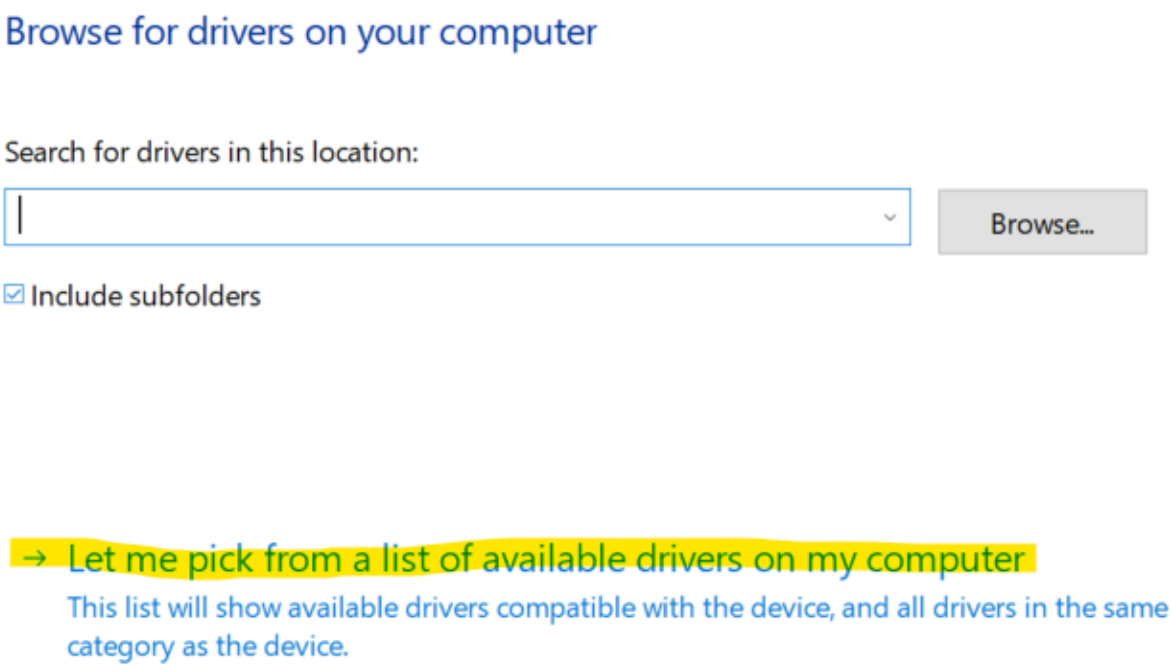
1) Install Generic Ubox driver package



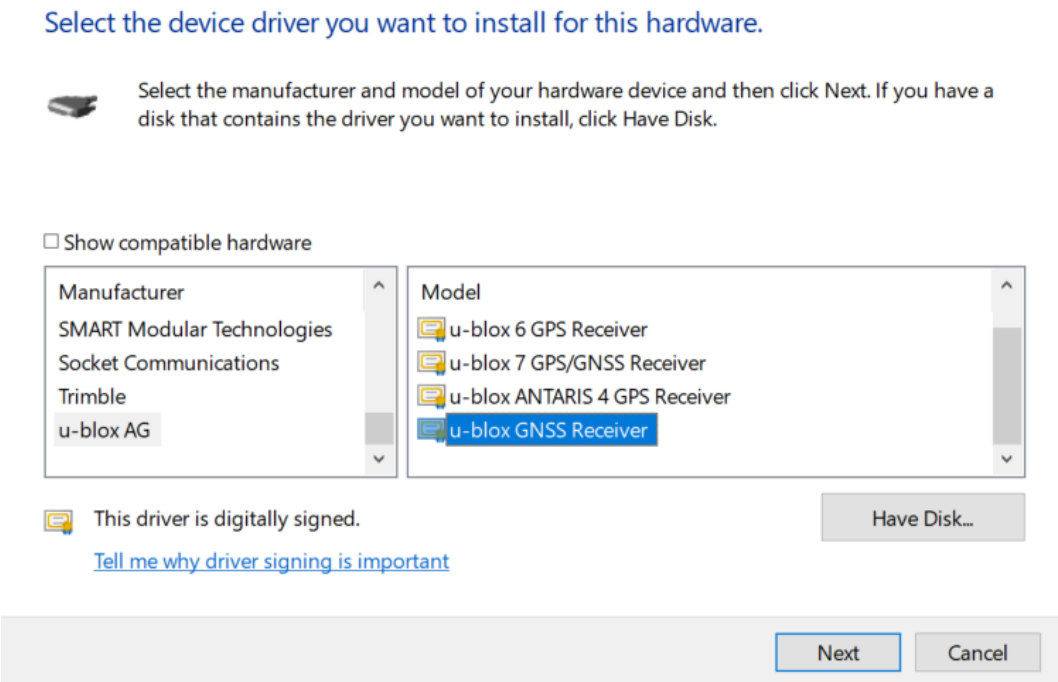
2) Right Click onto the COM port related to DynoBox, then select “Update Driver” :
3) Click on “Browse my computer for driver software” :



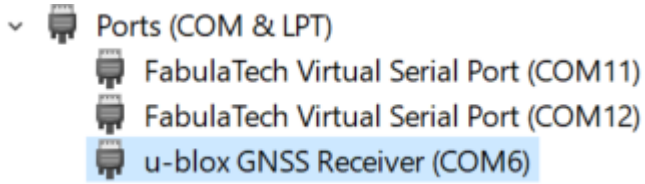
4) 4. Then click on “let me pick from a list…”, then Next :



5) 5. On the left panel click onto “u-blox AG”, then on the right side, click on “u-blox GNSS Receiver”, then Next :



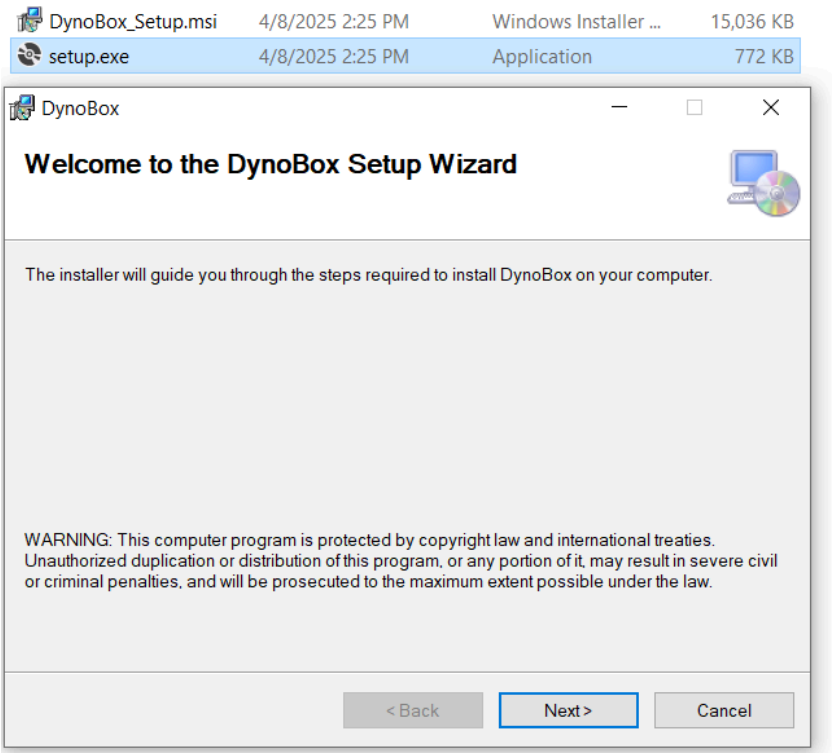
6) 6. A warning message will pop-up. Click on “yes” :
7) When drivers are installed properly DynoBox is visible as “u-blox GNSS Receiver”



2. App install

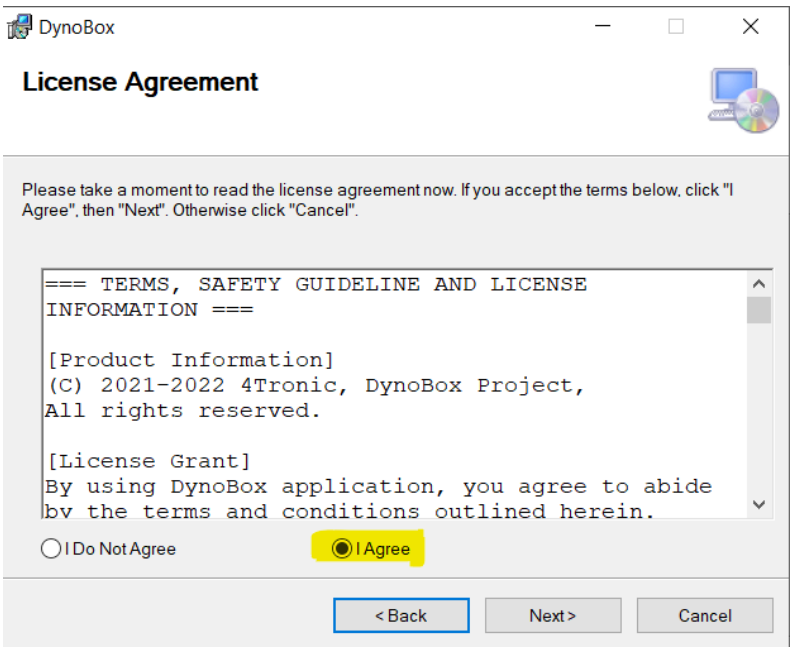
Copy the 'DynoBoxV92_setup' folder to your hard drive!

To install DynoBox, begin by running the **setup.exe** file. The installation guide will walk you through the process, where you can specify the **users** for whom the app should be installed, review the **license agreement**, and choose the **installation path**.



By default, the installation path is set to **C:/DynoBox**, but you can change it to your desired location.

Ensure that **no Windows administrator permissions** are required for the newly chosen installation path.

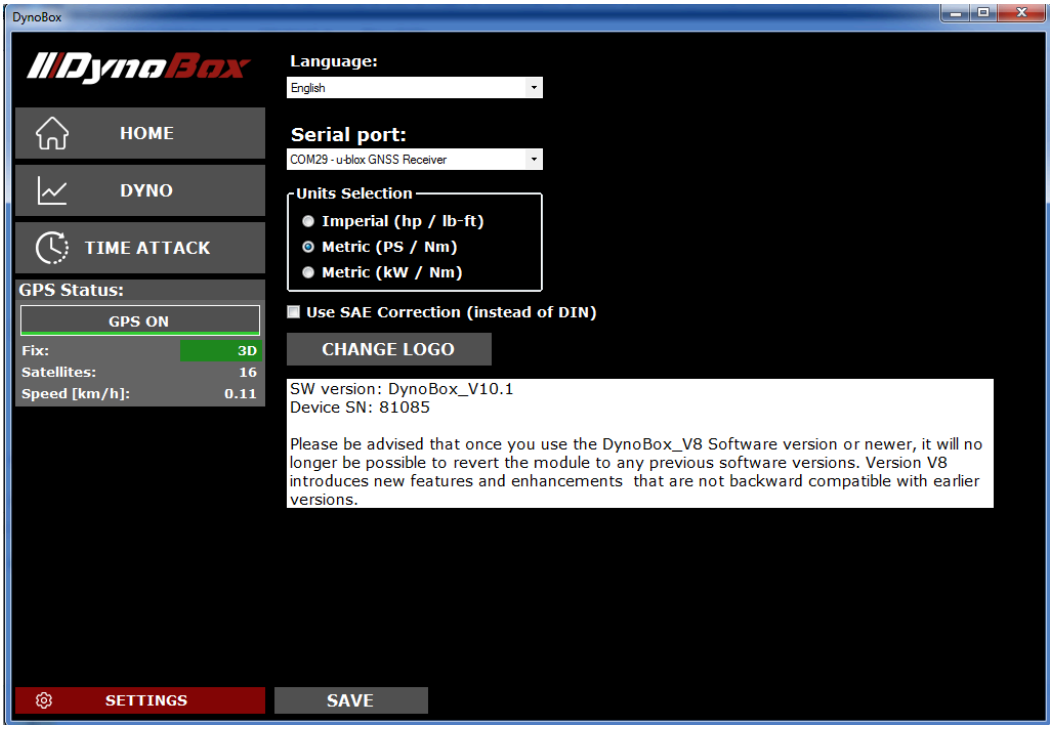


After installation is complete, you can find DynoBox shortcuts on the desktop and in the Start menu.

3. **Settings**

After installation is completed, launch the application. Go directly to **SETTINGS** and choose COM port from step nr.1 and click **SAVE**. Next click on **GPS ON** to start receiving the data from the DynoBox module. Chan After You **SAVE** connection settings, the app is going to connect automatically at startup.

Note: In the **SETTINGS** menu, you can also change the application language, switch units (Metric/Imperial), and choose your preferred correction standard (DIN/SAE).



*GPS signal reaches the best performance **after around 30sec** with the antenna connected.*

4. **Adding new car(user) into database**

   Before starting a new run it is necessary to create a profile of the car. Switch to **DYNO** tab and click on **USER** and then on **NEW** at the bottom. Fulfill all of the necessary fields:

   Name - customer name(displayed on the RAPORT results)

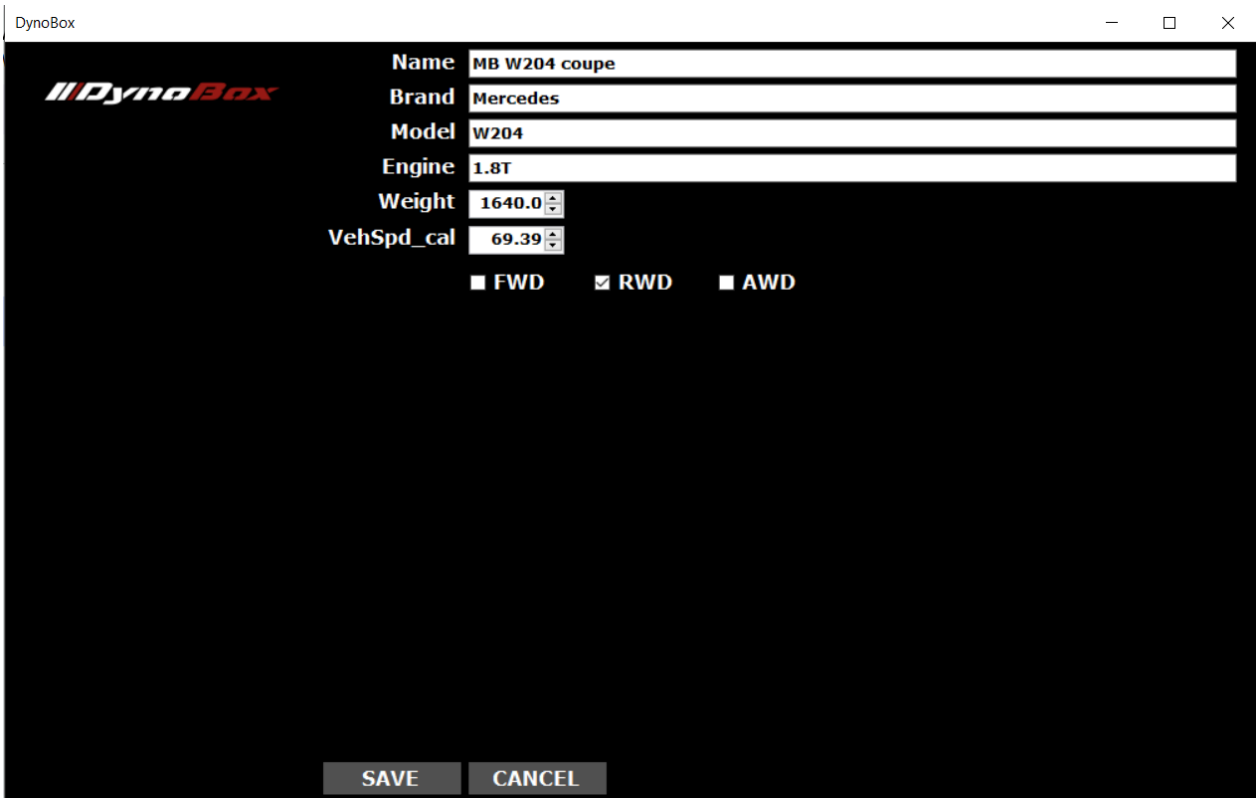
   Brand, Model, Engine - car details(optional)

   Weight - gross vehicle weight(weight of the car itself + passenger weight)
   You can change the weight later if You wish(reopen the app after the change).

   VehSpc_cal - calibration value(to be updated in the next step)

   DriveTrain - select the drivetrain type of the vehicle

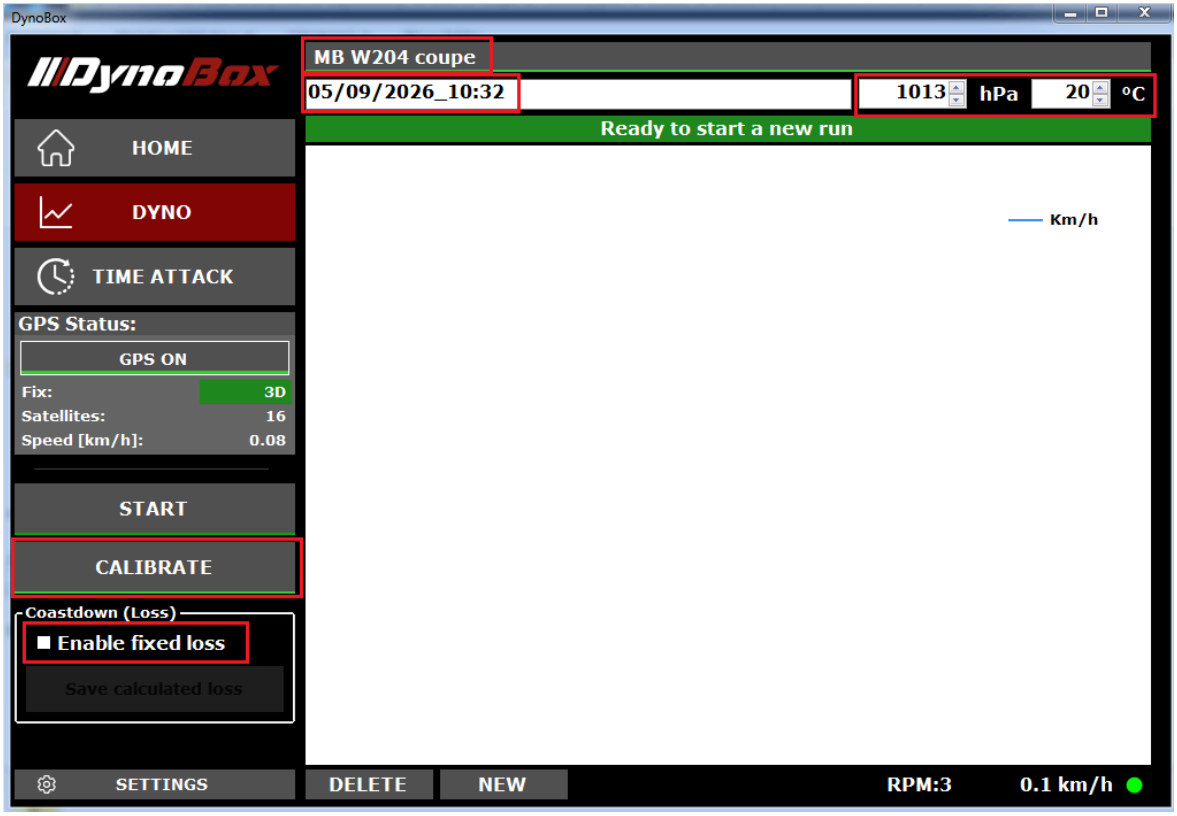
   Click on **SAVE** and **CANCEL** to return



5. **Setting up for the measurement:**

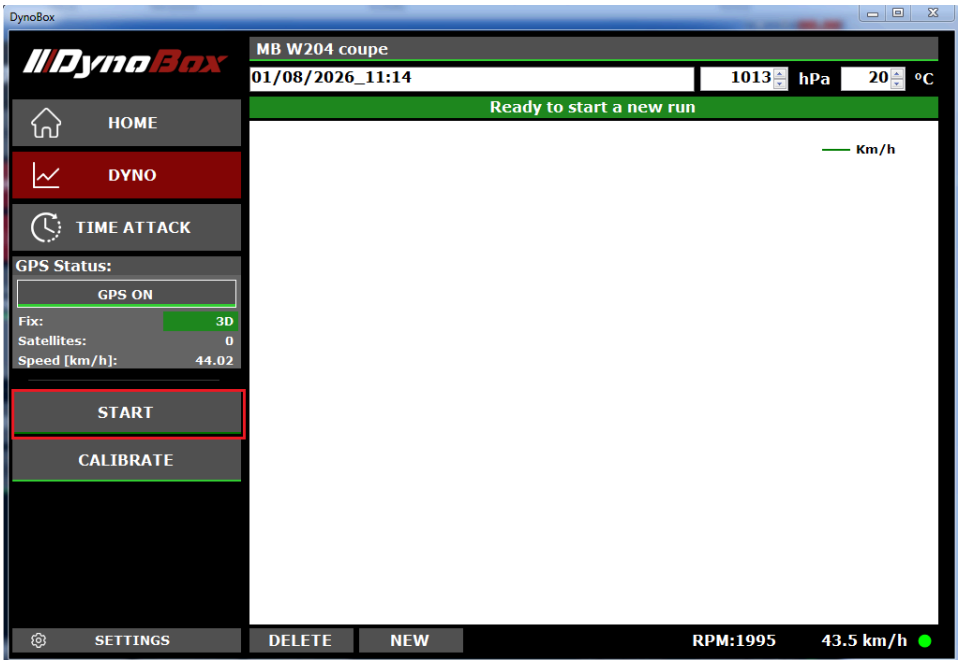
   Choose created car profile and type the name of the run, then click on “**Calibrate**”. Keep 3000RPM on the gear that You will use later on during the run.

   If you have already measured and saved the drivetrain loss for this car in a previous run, you can check the "**Enable fixed loss**" box. This allows you to use the saved loss profile and skip the coastdown phase entirely – you can brake immediately after reaching your peak RPM.
   The last thing is to put actual ambient **temperature** and **pressure** if You want results to be aligned with norm DIN / SAE.

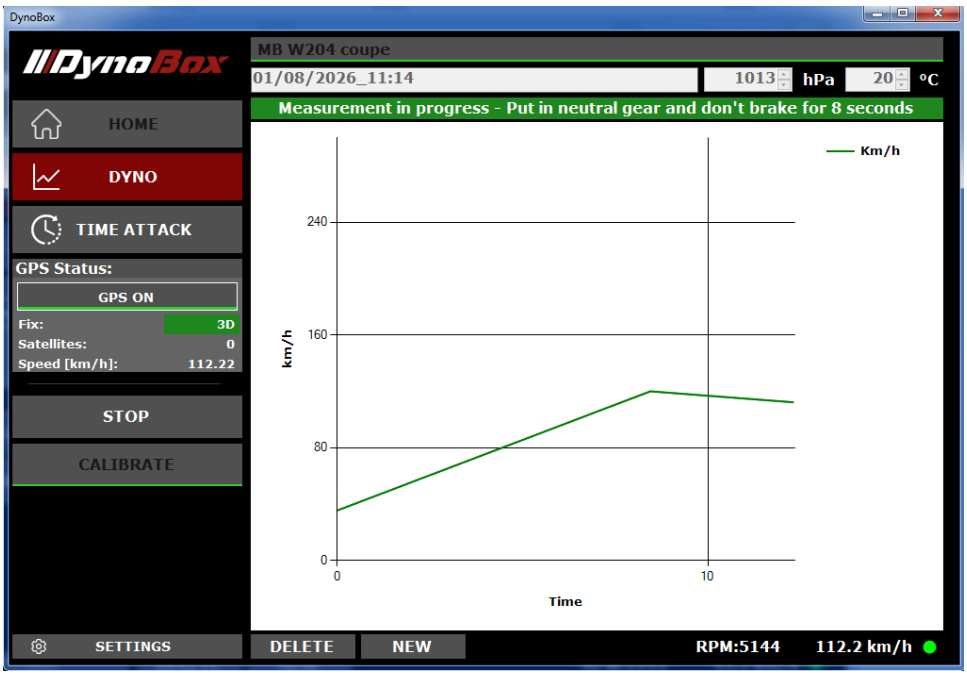


6. Measurements process:

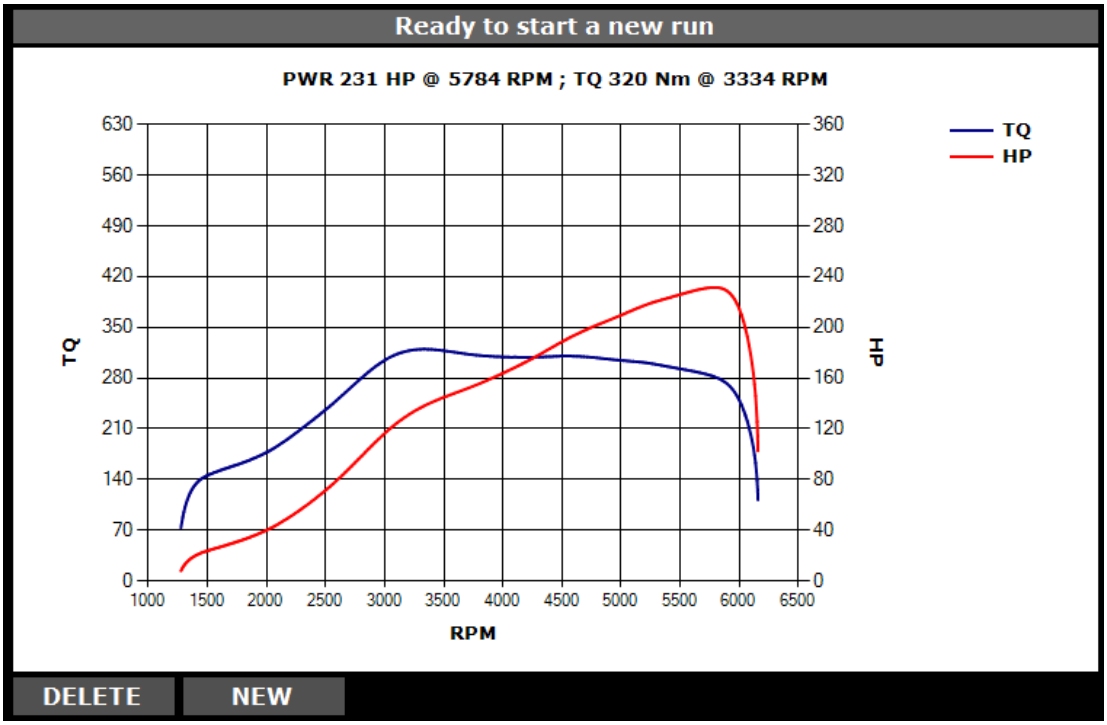
Put on the gear and keep around 1400RPM. Click START and hit the gas pedal. When the RPM limit is reached, put on the “neutral” gear and let the car roll freely.



For the next **10s** of car vehicle rolling resistance is calculated.



Results are displayed on the screen and automatically saved to the database. If You need another run simply click on **NEW**.



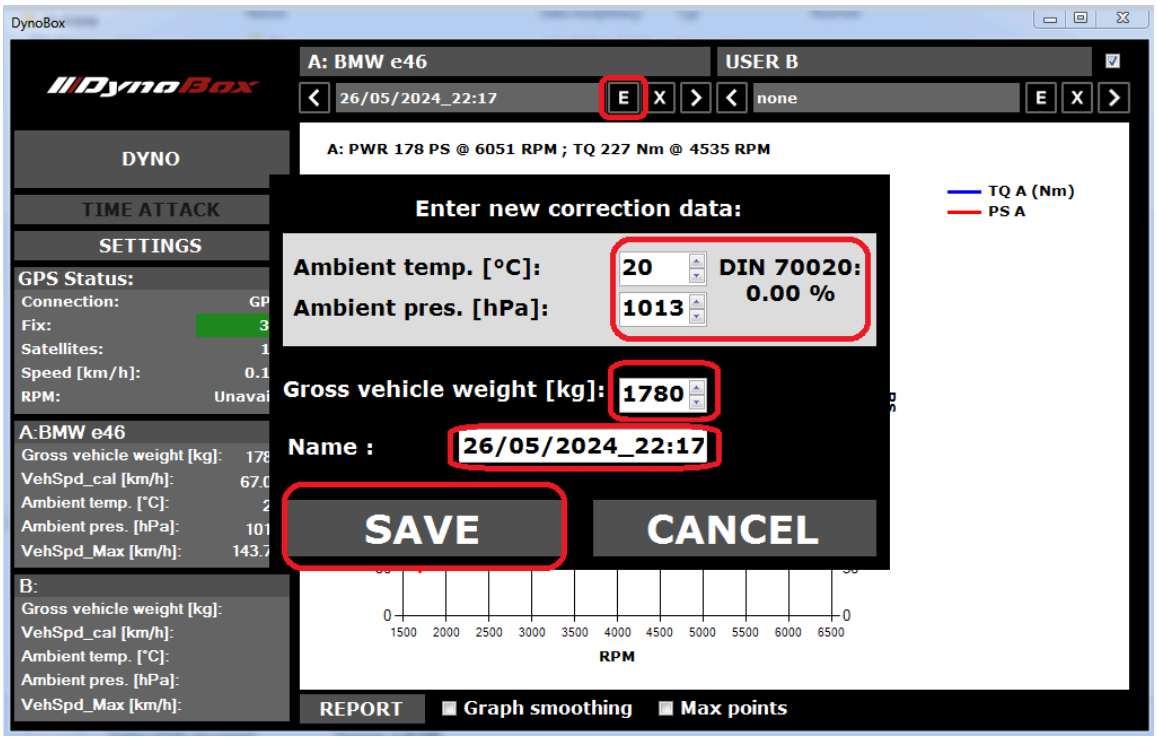
7. **Database Browser & Report:**

You could always find Your measurements under the main **HOME** tab. Final pick values are displayed on the screen while the specific RPM results are displayed after You click on the graph. Use the **RAPORT** option to automatically generate PDF containing currently visible graphs.

Report Generation: Each run features a **REPORT** button, allowing you to export a professional chart and detailed run data to a PDF file. All generated Dyno and Time Attack reports are saved locally on your computer in the Documents folder : `“Documents\DynoBox\Reports.”`

8. **Measurements corrections:**

You can correct measurement parameters even after the run is completed. Simply click the "**E**" icon next to the measurement you wish to edit. This allows you to adjust parameters such as the vehicle's gross weight, specific measurement name, ambient temperature, and pressure:



Click **SAVE** to apply the changes.

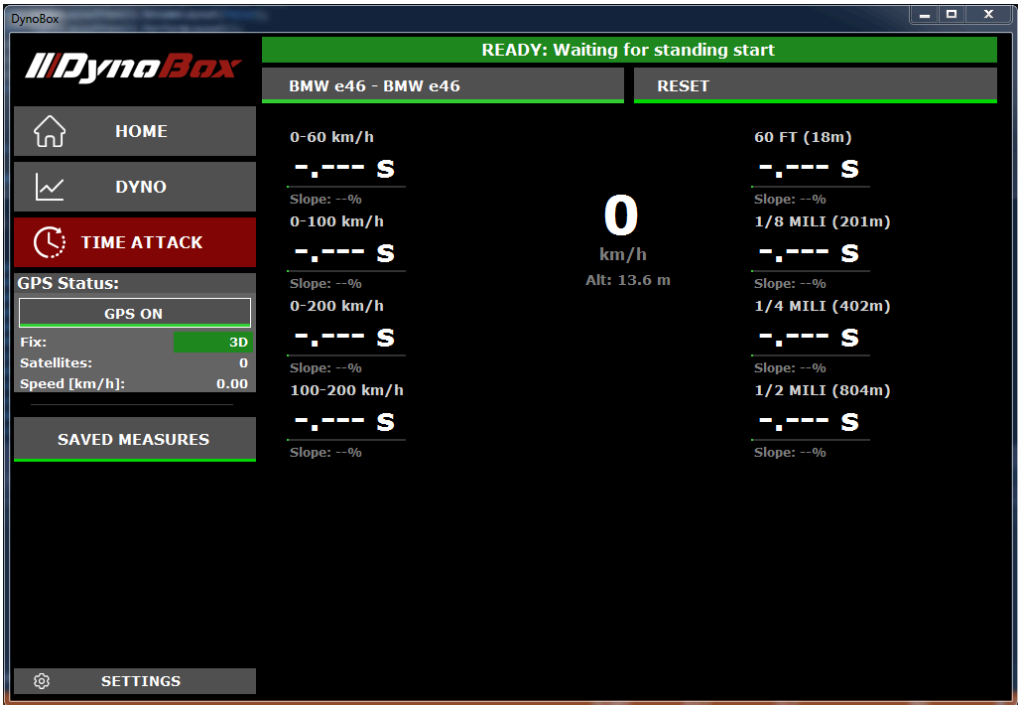
9. Time Attack:

The Time Attack mode is designed for precise, real-time measurement of vehicle performance using advanced GPS telemetry. It allows you to simultaneously measure acceleration times (e.g., 0-100 km/h, 100-200 km/h) and distance runs (e.g., 1/4 mile, 60 FT).

Preparation for Measurement

Before you start driving, ensure the system is properly configured:

- **Turn on GPS:** Make sure the Dynobox is connected and the GPS status indicates a solid connection (lights up green with a "3D" indicator).
- **Select a profile:** Click the **SELECT USER** button at the very top of the screen and choose a driver/vehicle profile from the list. The system will not start measuring without an active profile.
- **Check status:** The status bar below the buttons should turn green and display a readiness message (e.g., "READY: Waiting for standing start").



How to Perform a Run

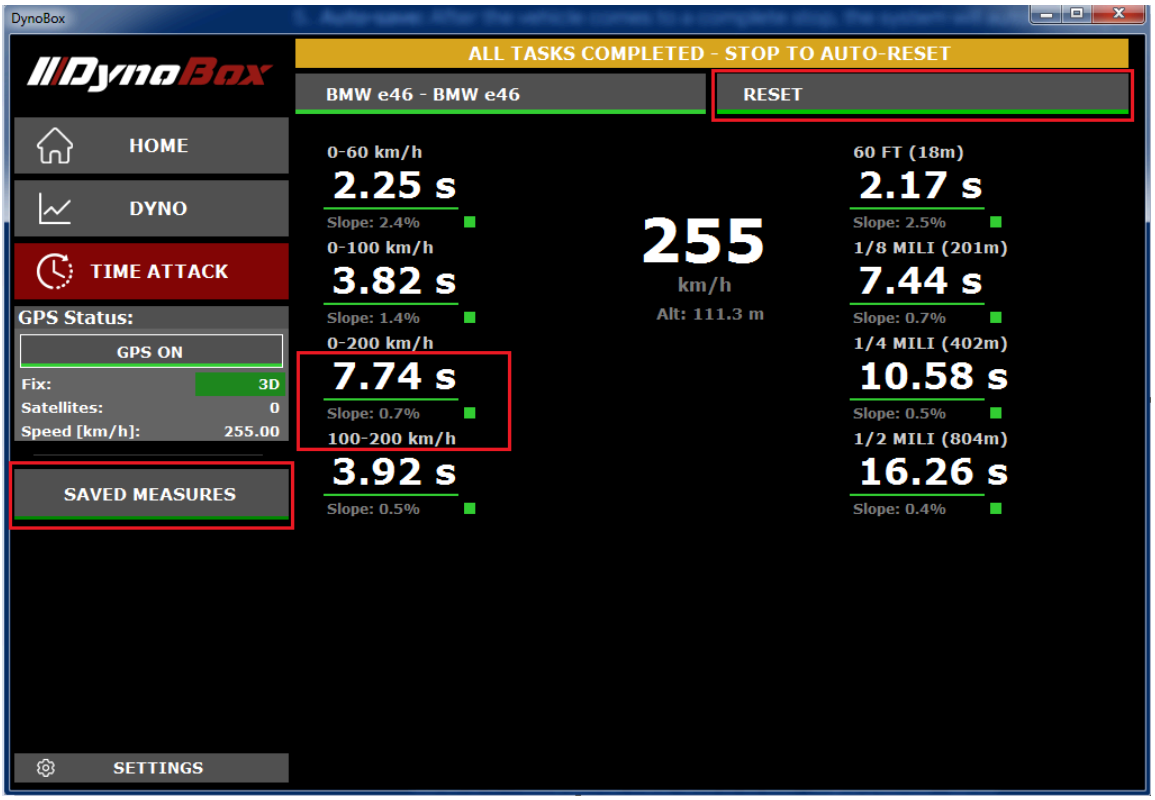
The system is designed to require minimal attention while you are driving. Measurements start fully automatically.

1. **Stop the vehicle:** Bring the car to a complete halt on a flat, safe stretch of road. The speed indicator must drop below 1 km/h.
2. **Go:** Press the accelerator pedal. The system will **automatically detect** the standing start and trigger the timers for all intervals (0-100, 1/4 mile, etc.).
3. **Accelerate:** Continue driving. You will see the progress bars filling up and "live" times updating on the screen.
4. **Auto-save:** After the vehicle comes to a complete stop, the system will **automatically save the results** from that run and reset itself for the next launch (Auto-Reset).

Reading Results and Indicators

The Time Attack interface provides all key data directly on the main screen:

- **Results table:** Every measured parameter (e.g., 0-100 km/h) has its own dedicated timer. Once an interval is completed, a green dot will appear next to the time, confirming it is a valid run.
- **Slope indicator:** The route's incline/decline percentage is displayed below each time. If the downhill slope exceeds 1.5% (a value below -1.5%), the run will be marked with a red dot as invalid, and a warning message will appear at the bottom of the screen.
- **RESET button:** If you want to cancel a current, unfinished run and start over (or force a manual save of a session), click the **RESET** button at the top, right next to the user selection.
- **Measurement history:** All completed and successfully saved runs can be found by clicking the **SAVED MEASURES** button in the main left-hand menu.



Measurement Standards Applied in the App

To guarantee accuracy and ensure your results can be fairly compared with other professional devices on the market (as well as official racetrack timeslips), the system strictly follows industry standards:

- **Acceleration measurements (e.g., 0-100 km/h):** Measured from an absolute zero standstill,.
- **Distance measurements (e.g., 1/4 mile, 60 FT):** The system automatically implements the industry-standard **1-foot rollout**. This means the distance timer does not start at the very first flinch of the tire, but only after the car has physically rolled the first 30 centimeters (exactly like the staging photocells on a professional drag strip).

- **Rolling measurements (e.g., 100-200 km/h):** The timer triggers instantly in the exact fraction of a second you cross the lower speed threshold, regardless of whether you launched from a dig or were already in motion.

Measurement History

In the **SAVED MEASURE**S tab, you will find a complete archive of your runs. This module allows you to easily browse and analyze your collected data.

- **Filtering:** Quickly find the results you need using the top filter bar. You can sort the data by user, date, measurement type (e.g., only "Best 0-100 km/h"), and filter out unverified runs.
- **Measurement Tiles:** Each session is displayed as a separate tile. Your Personal Bests are automatically highlighted in green. Invalid runs (e.g., due to an excessive downhill slope) are grayed out and crossed out.
- **Report Generation:** Each run features a **REPORT** button, allowing you to export a professional chart and detailed run data to a PDF file.

10. **Customizing a Report**

You can add your own logo or company branding to the final report generated from the measurements. To do this, go to the **SETTINGS** menu and click the **CHANGE LOGO** button.

This will open the logo customization wizard. Click "**1. Load Logo**" and select your graphic file, then click and drag the floating frame to select the desired area of your image. If your logo is smaller than the standard size, the program will center it—you can easily pick a background color (White, Black, or Custom) to fill the sides, ensuring high quality without stretching. Once you are happy with the preview, click "**2. Save and Close**".

Your custom branding will now automatically replace the top header graphic in all newly generated reports.

Customize 4TRONIC Logo
Info: This wizard replaces only the main image (top header) in the reports.
1. Load Logo
2. Save and Close
DynoBox
Use a floating frame to maintain perfect proportions
Frame scaling (0% = base 1000x200, 100% = max):
Background color of the selected logo:
White (Default)
DynoBox

Safety Guideline:

Users must prioritize safety and adhere to recommended safety guidelines below.

DynoBox should only be operated by passengers while the vehicle is in motion. The driver should refrain from using DynoBox that could cause distraction while driving. Make necessary adjustments only when the vehicle is stationary and parked in a safe location.

4Tronic is not liable for any injuries, damages, or legal consequences resulting from the failure to follow safety guidelines or misuse of DynoBox. Drive safely!

License information

4Tronic grants you a non-exclusive license to use the software in accordance with these terms. License is granted for a single DynoBox unit with assigned PC application to it. The DynoBox unit could fully operate only with the assigned PC application.

Please contact Your Software provider in case of Licence PC application loss or damage.

Q&A:

Which gear shall I use for the measurement?

Choose the gear to accelerate for at least 10s (15s is optimal). Most of the car could be measured on 3th gear but some required 4th gear.

What could potentially influence measurement?

There are few key factors that need to be met in order to get reliable results. First of all make sure that vehicle data is entered correctly: weight, dyno calibration, ambient temperature. Choose a flat and straight road that You could get up to required speed. Make sure that gear is chosen adequate to measurement time(at least 10s, 15s optimum).

Is it possible to correct the weight of the vehicle after measurement?

Yes, please refer to Section **7. Measurement Corrections**, for detailed instructions.

Is it possible to perform measurements just using the PC keyboard?

Yes, We have introduced few keyboard shortcuts in order to simplify measurement process:

key "**N**" : **NEW** measurement

key "**C**" : Enter **CALIBRATION** mode

key "**DELETE**" : **DELETE** actual measurement results

key "**ENTER**" : **START/STOP** measurement

Let's stay in touch: **biuro4tronic@gmail.com**

Like our FB: https://www.facebook.com/4Tronicperformance/