

# **dyno**PRO

## ROAD/TRACK DYNAMOMETER

### Instruction Manual v2.3

1. What is dynoPRO and what it is used for?
2. Safety requirements
3. Description of components
4. Technical specifications
5. Installation of the device
6. Running the software
7. DynoPRO application
8. Practical remarks
9. Disposal
10. Copyrights and certificates



## 1. What is dynoPRO and what is it for?

**DynoPro** is a road dynamometer for measuring power, torque and acceleration and additional parameters of passenger cars and other combustion or electric vehicles. Measurements can be made on vehicles with any type of powertrain. DynoPro can measure any strength vehicle. The dynamometer is intended for measurements for professionals in the widely understood field of motorsport.

## 2. Security conditions

Before the first start-up, it is essential to read the operating manual and comply with all the recommendations contained therein. The manufacturer is not responsible for damage caused to the user or third parties as a result of failure to comply with the recommendations contained in the instructions. Measurements should be made on a closed road section or racetrack. It is forbidden for the driver to operate the device during the measurement because it directly threatens the life and health of people. If in doubt, please contact technical support.

## 3. Description of components

A – protective case with foam insert

B – **Tablet** (with dynoPRO application) in a protective housing, charger, adapter

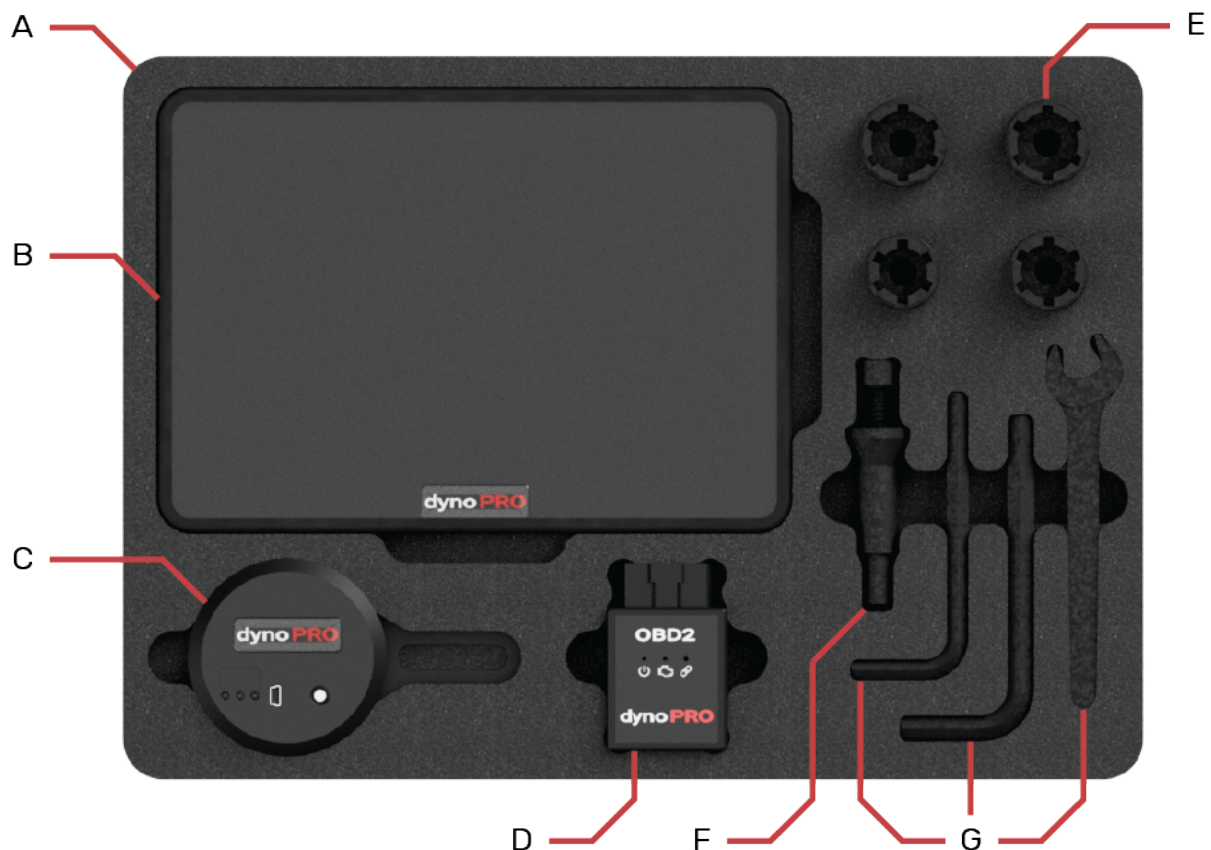
C – **Dyno Probe** – mounted on the vehicle wheel

D – **OBD2 Probe**

E – set of attachments for mounting **Dyno Probe** – 17mm, 19mm, 21mm, 22mm

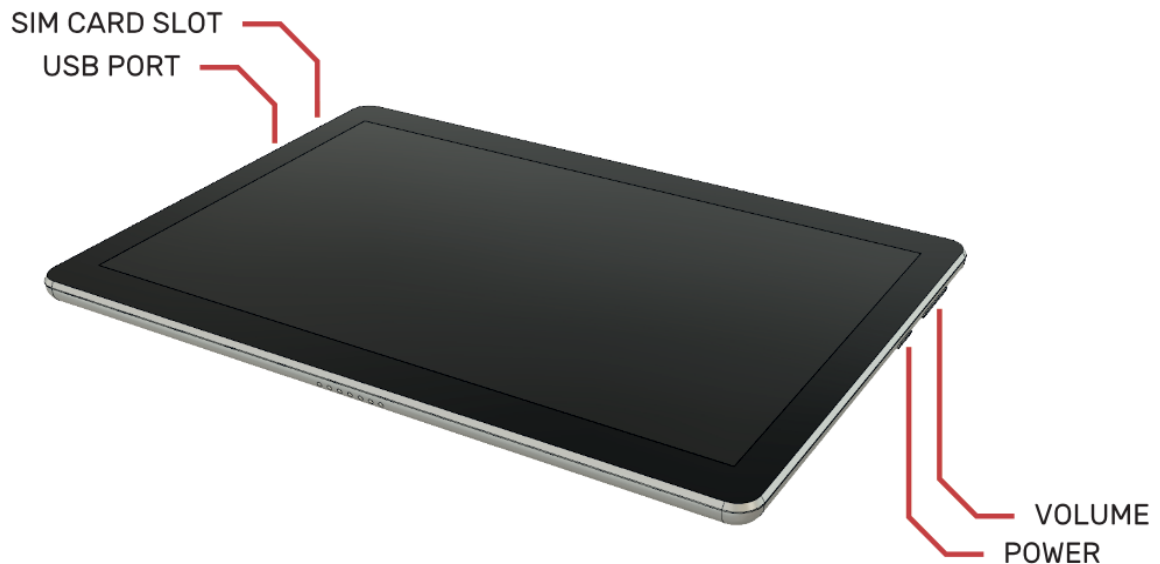
F – M12 thread bolt for attaching **Dyno Probe** and screw M10 with spring washer

G – 8mm, 10mm Allen key and 14mm spanner

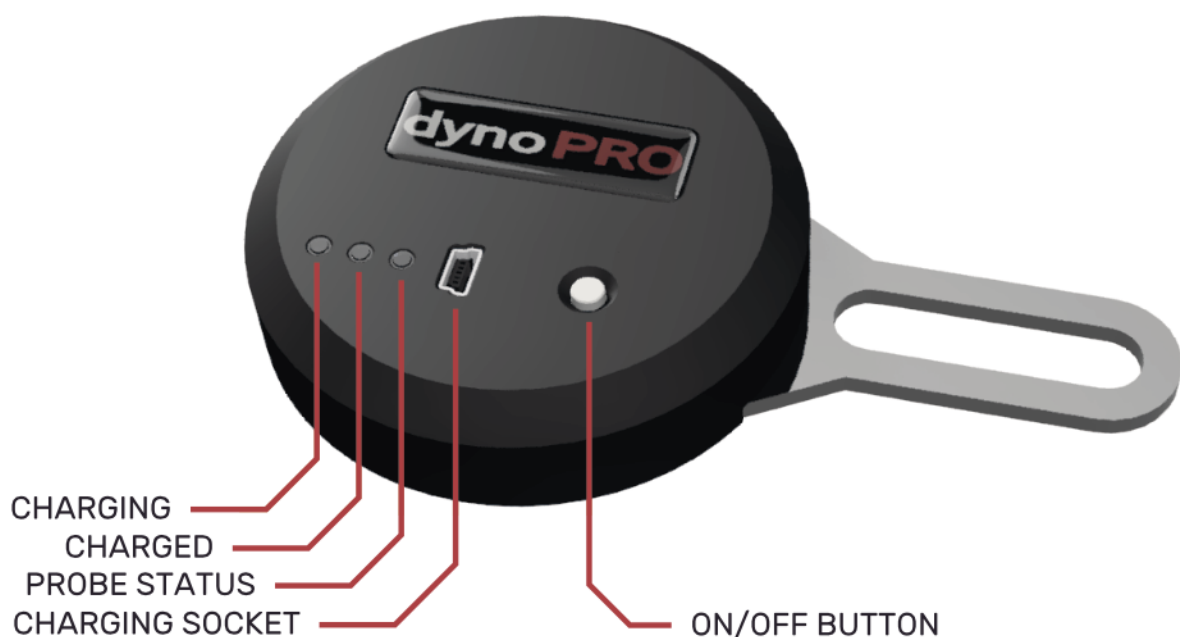


All elements were made on CNC numerical machines. The assembly elements are made of quality steel subjected to heat treatment.

The **Tablet** included in the set has a durable aluminum housing and a protective plastic cover. Along with the tablet there is a charger with a micro USB connector which, in combination with a mini USB adapter, allows you to charge the **Dyno Probe**.



The **Dyno Probe** is made of aluminum and spring steel. Communication works in the Bluetooth standard. Has a built-in speed sensor, ambient temperature sensor and atmospheric pressure. The probe is battery powered, the working time is about 10 hours. The battery is charged via the mini USB connector, the adapter is included in the set with the charger. The **Tablet** charger is used.



The **OBD2 probe** sends the engine rotation signal and other real parameters during the measurement in the Bluetooth standard. In addition to the power measurement mode, the probe allows the diagnosis of passenger cars that comply with the OBD2 standard. Supported diagnostic protocols:

- ISO 15765-4 (CAN 250/500 kbps, 11/29 bit)
- ISO 14230-4 (KWP 2000)
- ISO 9141-2
- ISO 15765
- ISO 11898
- SAE J1850 VPW
- SAE J1850 PWM
- SAE J1939 OBD (trucks and delivery vehicles)
- Single-Wire CAN (SW-CAN)
- Medium-Speed CAN (MS-CAN)
- High-Speed CAN (HS-CAN)



The probe allows the identification of the engine controller and diagnostic protocol, reading and erasing DTCs, measurement of available real parameters from the engine controller. During the measurement the user can choose any actual parameters, e.g. boost pressure of intake manifold, engine temperature and others made available by the engine controller, and the program will automatically put them on the power measurement graph.

#### 4. Technical specifications

##### Dyno Probe

- weight: 180g
- wireless connectivity: Bluetooth
- power supply: battery Li-Ion 3.7V 1000 mAh
- material: aluminium, steel
- weather station: temperature from -40 C to 105°C, pressure from 500hPa to 1100hPa

##### OBD2 Probe

- weight: 50g
- wireless connectivity: Bluetooth
- communication with the vehicle: CAN, LIN, Single Wire CAN

- power supply e: 12V DC with the vehicle
- material: ABS plastic

#### Tablet

- weight: 655g
- screen 9.6 inch, IPS, 1280 x 800 (HD)
- Qualcomm MSM8917 processor, quad-core A53
- Android™ N (Nougat) OS
- ROM memory: 16 GB, RAM: 2 GB
- GPS, A-GPS, GLONASS, BDS
- LTE, UMTS, GSM, WIFI/WAPI 802.11 a/b/g/n@2,4 GHz&5 GHz, Bluetooth
- Main camera: 5 Mpx, auto-focus, front: 2 Mpx, auto-focus
- Battery 3.7 V 4 800 mAh, charger 5V /1A .

#### Case

- weight: 2.5kg
- outer size: 40.6 x 33 x 17.4 cm (length x width x height)
- material: polypropylene + ABS

#### Normalization of measurements

- SEA J1349
- DIN 70020
- EWG 80/1269

Measurement repeatability error:  $< \pm 1\%$

Total weight of the set: 5 kg

## 5. Installation of the device

Installation of the device takes about two minutes.

A) Before measurement, please charge the batteries in the Tablet and Dyno Probe. The OBD2 Probe is powered from the diagnostic connector

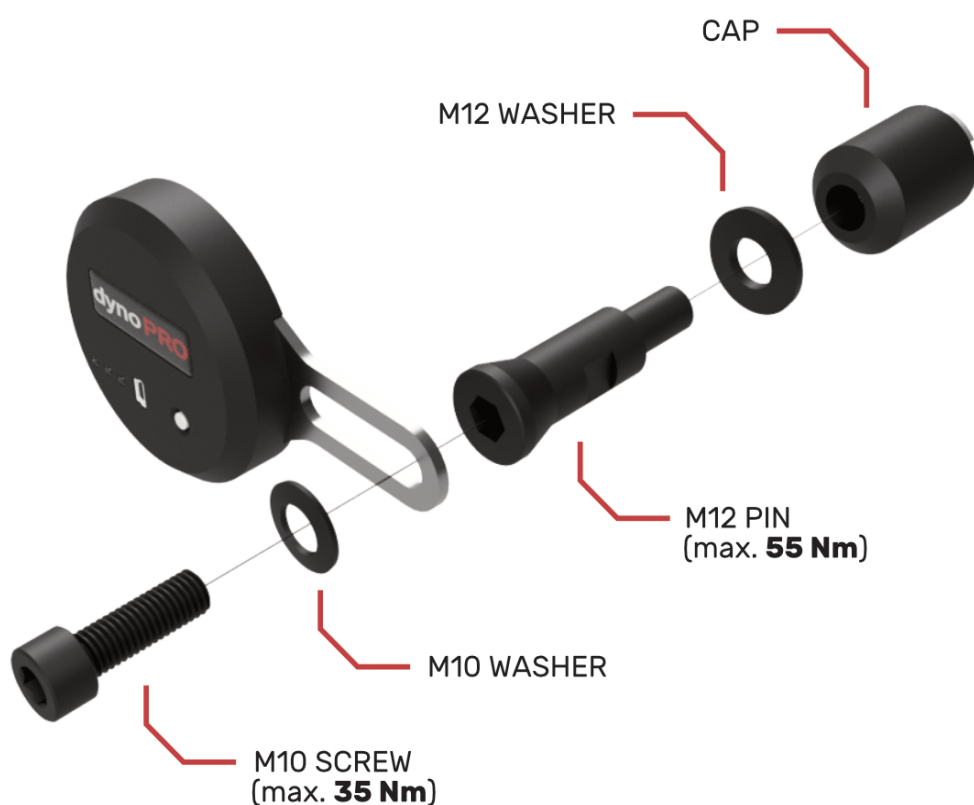
The Dyno probe has 2 LEDs indicating the status of charging and fully charged the battery. After connecting the charger, the orange LED lights up, and after charging ends the orange LED turns off and the green LED lights up. If no LED lights up, the charger is connected incorrectly or there is no power.

B) Mount the Dyno probe using the attachments provided and start using the ON/OFF switch. After pressing the button, the white STATUS LED will first blink and then after a successful calibration light up permanently. Calibration takes about 3 seconds.

After the measurements are completed, turn off the Dyno Probe by pressing and holding the power button for about 2 seconds. Shutting down will be signaled by a fast blinking and then the white diode will turn off.

For vehicles with 1-axle drive, the Dyno probe is mounted on a non-drive axle, preferably for safety reasons on the right side of the vehicle. Mounting for 4x4 cars is on the right side of the vehicle.

Installation begins with checking the size of the screw on the wheel of the vehicle. Available attachments in the set are 17mm, 19mm, 21mm, 22mm. After determining the size of the screw, choose the cap and put it on the wheel fixing screw. Screw the M12 pin to the cap with the 10mm Allen key provided, with a torque of about 55 Nm. The next step is to screw the Dyno Probe to the pin using an M10 screw with the included 8mm Allen key with a torque of 35Nm. Position the Dyno probe about the wheel axis (the probe has a regulation range). The deviation during assembly of the probe from the wheel axis does not affect the accuracy of the measurement but can cause vibrations.



C) Insert the OBD2 Probe into the OBD2 16pin diagnostic socket of the vehicle. The OBD2 Probe indicates the correct insertion into the socket by the power LED.

If the vehicle does not have an OBD2 16pin socket, any adapter can be used. Standard position of ground (-, GND) is 4th and 5th pins of the OBD2 probe, 12V (+): 16th pin. One wire communication are on pin 7, two wires CAN on 6. and 14.

If in doubt, please contact technical support.

D) Get into the vehicle, fasten seat belts, start the engine and turn on the tablet with the dynoPRO software.

## 6. Software launch

Start the tablet. The device is fully configured and ready to work. Android starts up in about 1 minute. After launching, the main screen shows a number of standard Android applications and the DynoPRO application – launch the application called **DynoPRO**. After starting the application there are 4 options available:

- MEASURE – power measurement mode,
- OBD2 – OBD2 diagnostic mode,
- ANALYSIS – data analysis of previously performed measurements,
- SETTINGS – application settings, measurements and help

It is recommended to enter SETTINGS first. After the settings, it is recommended to enter the OBD2 diagnostic mode and check if the device connects to the vehicle in the OBD2 mode. If everything is OK, then switch to the power measurement mode – MEASURE. On the first screen, configure the measurement giving the parameters: measurement name, vehicle weight (from registration or weight scale), tire size read from the tire, e.g. 210/55R17 or 210 55 17 (correction is possible: +- number of mm due to tire wear). Then we move on. At the bottom of the screen is the probe status bar: Dyno Probe and OBD2 Probe. Before measuring, please check if they are active. The program allows you to configure additional parameters read from the OBD2 Probe. The RPM parameter is enabled by default. During measurements, please set a maximum of 2 additional real values because a larger number may reduce the resolution of the measurements.

The measurement consists of 2 phases. The first is the acceleration phase, and the second is the phase of idle deceleration after shifting to neutral gear. The second phase lasts about 10s. The program will automatically signal the end of the deceleration phase with an audible signal and will automatically generate a graph.

To start the measurement, press GO. The message "You can go" appears. The program is currently waiting for the start of the first measurement phase (you can start with a delay, the start is counted from the moment where motion is detected by the Dyno Probe).

The end of the measurement occurs automatically after the end of the 2nd phase (deceleration).

**Measure power on vehicles with a manual transmission** on gear no. 3 or 4 in the full RPM range. In order to accurately calculate the torque and obtain the correct graph, accelerate the vehicle calmly in 1st and 2nd gear at low revs, and then after shifting to 3rd gear, press the accelerator pedal maximally and hold it until engine cut-off. Put the gear in neutral state and start the 2nd phase (deceleration). This phase lasts about 10s and its end is signaled automatically after which the program automatically generates a graph, and the user can freely control the vehicle.

**Power measurement on vehicles with automatic transmission** also consists of 2 phases. The first is the acceleration phase, and the second is the phase of deceleration after shifting into neutral. The acceleration phase begins after pressing the green GO button on the screen.

Make measurements on vehicles with an automatic transmission with any strategy that the given transmission allows:

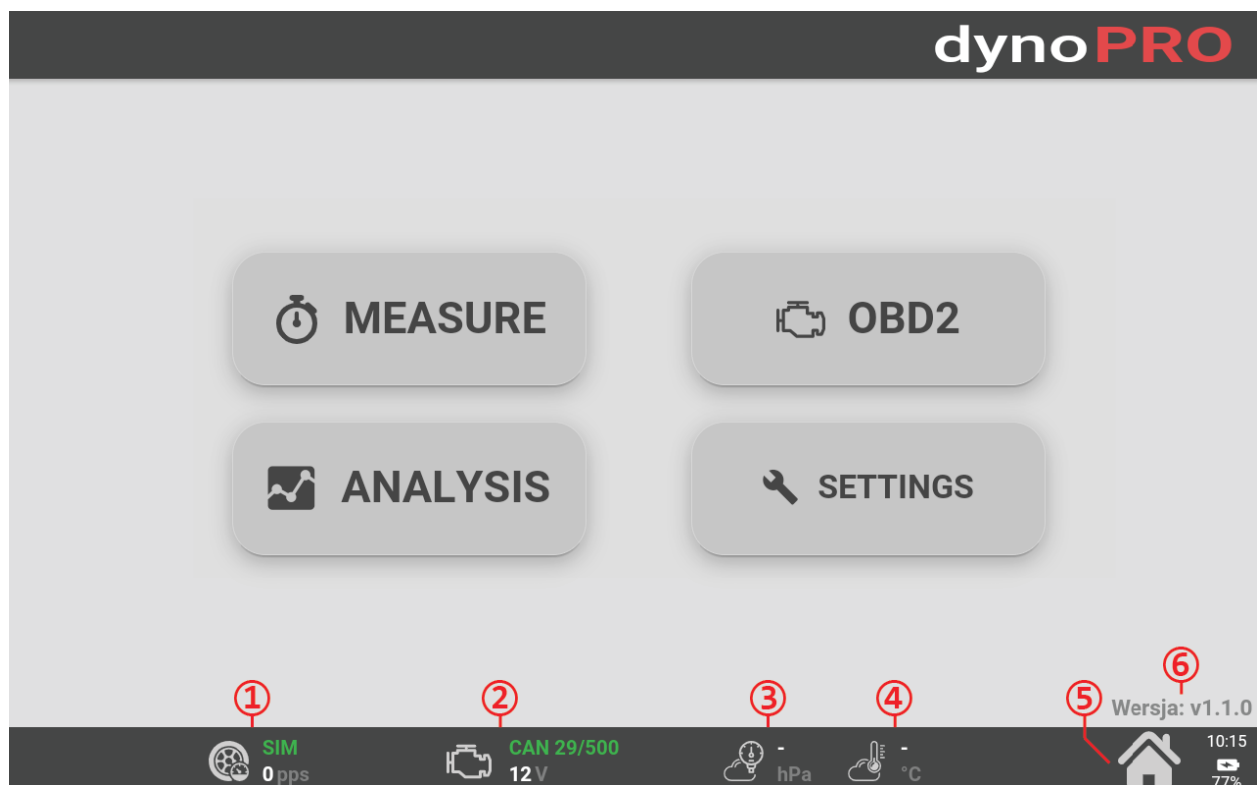
a) After pressing the GO button, press the acceleration pedal to maximum and accelerate the vehicle to 100km/h or more, then put the transmission in neutral gear after which the program automatically enters the phase of speed deceleration and finally signals with a sound its completion and generates a graph, and the user can freely control the vehicle.

b) After pressing the GO button, use the same procedure as in the manual gearbox, choosing the gear on the manual gearbox control.

**The program also calculates very accurate acceleration time** from 0 to 100 km/h, up to 200 km/h and covering a  $\frac{1}{4}$  mile section. In this case, tap the GO button and press the accelerator pedal to the maximum position regardless of the type of gearbox. After reaching the measured speed or  $\frac{1}{4}$  mile distance, brake the vehicle with the brake pedal. In the case of braking, the power values will be incorrect but the acceleration results will be correct and will automatically be displayed on the screen when a given speed or part of road is reached.

## 7. DynoPRO application

### Main screen



**MEASURE** – measurement mode

**OBD2** – OBD2 diagnosis mode

**ANALYSIS** – analysis of previously performed measurements mode

**SETTINGS** – application settings

(1) Dyno Probe status

(2) OBD2 Probe status

(3) Atmospheric pressure during the measurement

(4) Dyno Probe ambient temperature displayed during measurement

(5) Home – switch to the tablet's main screen – hides the application

(6) Version of the running application

### Dyno probe status

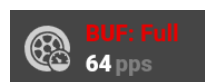
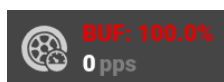
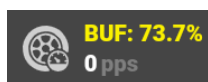
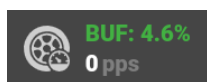
**SIM** – when enabled DEMO mode in the settings

**STOP** – waiting for probe calibration

**GO** – calibration completed, you can run

**SLOW, FAST** – while driving

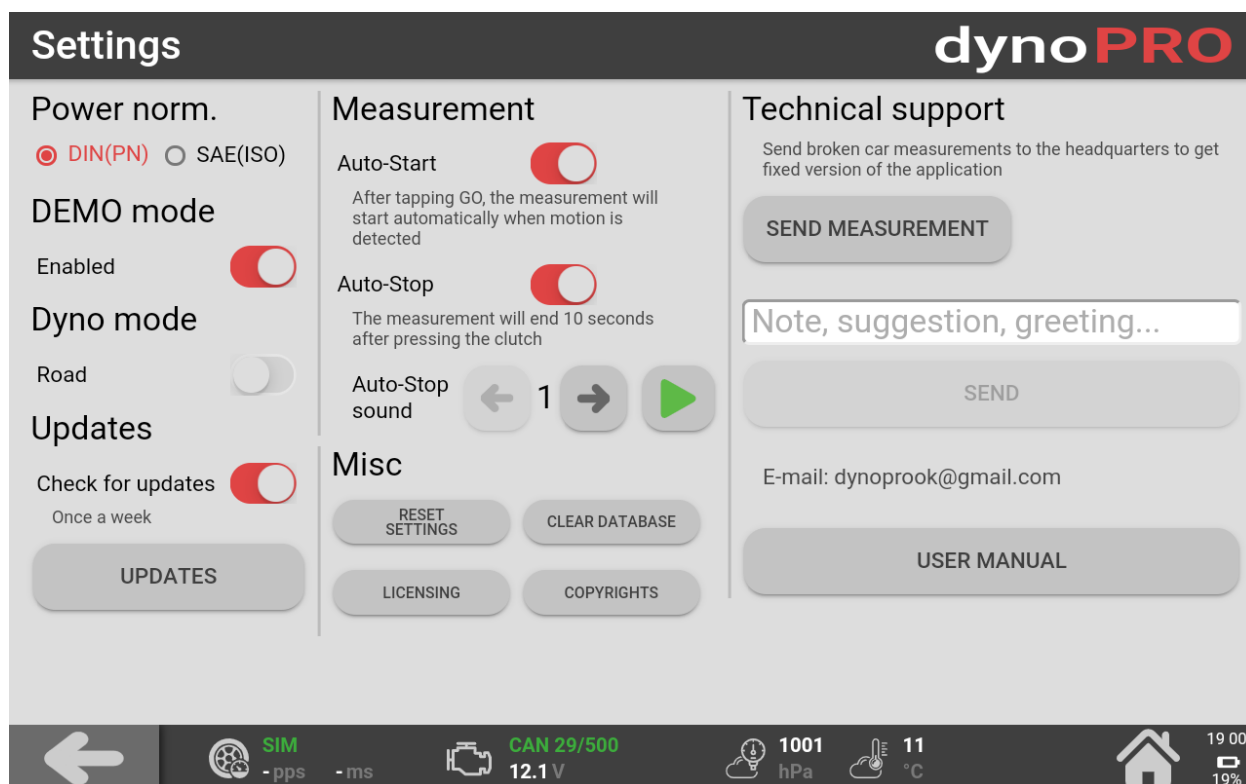
**BUF xx%** – if during the measurement the probe's wireless connection is lost, all data is buffered and sent after connection is recovered. The buffer size is 150 seconds.



**xx pps** – number of received Packets Per Second (20 during normal operation, 64 when the filled probe's buffer is sent to the tablet)

**xx ms** – probe response time (ping) – with good range is about 40 ms.

## Settings



**Power norm.** – selection of the standard used to normalize the measurement result.

The normalized measurement result can be compared to the value given in the registration certificate, which is also normalized.

**DEMO mode** – allows you to test the application without connecting to real probes – simulates their presence.

**Dyno mode** – allows switching the application to a stationary dynamometer mode in which the Dyno Probe is permanently mounted on the braking roller.

### Updates

**Check for updates** – enables periodic checking for newer versions. When new version is found, its number will appear on the start screen.

**Update** – opens the page for updating the application – see description below.

## Measurement

**Auto-Start – ON:** the application will show "You can go" message and data recording will start automatically when motion is detected. **OFF:** data is recorded immediately after tapping GO.

**Auto-Stop – ON:** the application automatically ends the measurement after 10 seconds of the deceleration phase. **OFF:** the measurement ends when the stop button (red square) is pressed.

**Auto-Stop sound** – selection of melody signaling automatic end of measurement.

## Other

**Reset settings** – restores all visible settings to the default settings and shows the hint screen again in the Measurement page.

**Clear database** – permanently deletes all vehicles from the application database.

**Licensing** – shows the window with Open Source software licenses.

**Copyright** – shows the copyright window for this application and the physical part of dynoPRO.

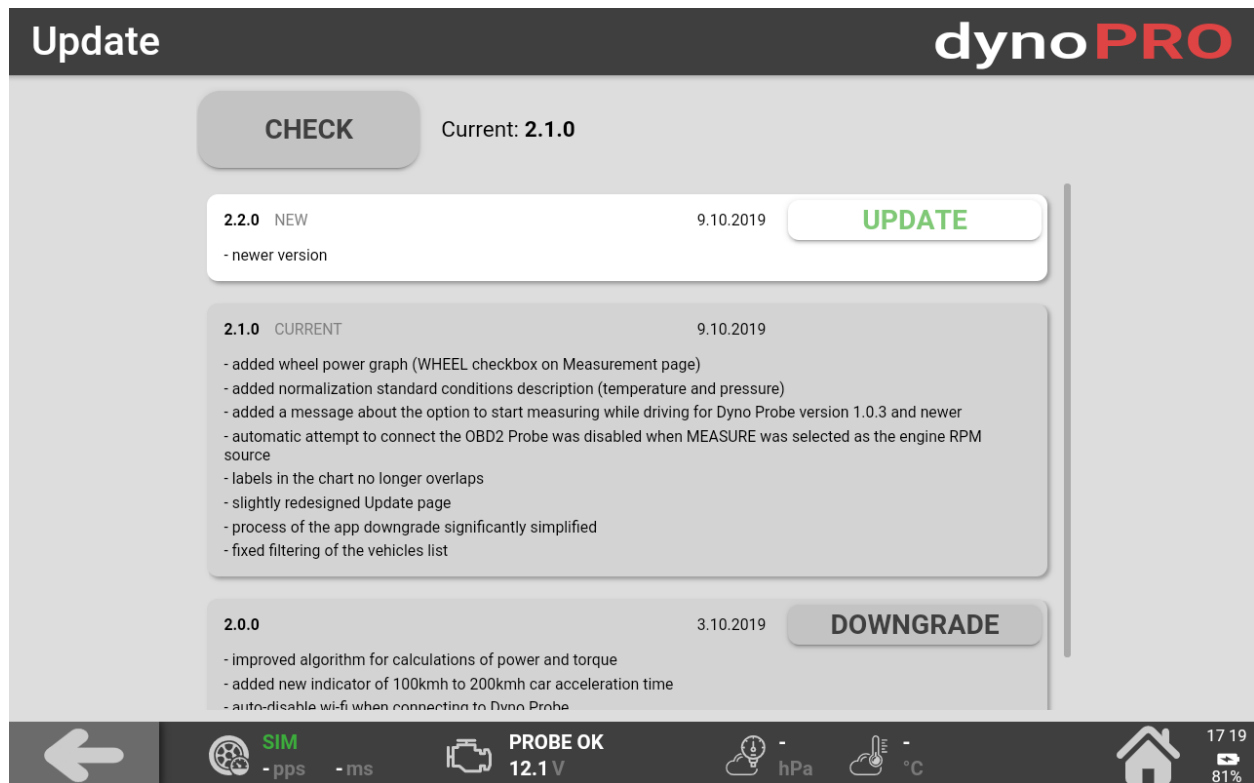
## Technical support

**Send measurement** – allows you to send measurements of the selected vehicle to the technical support department for data analysis and technical support.

**Send** – after entering the comment above sends its content to technical support.

**User manual** – opens the following document "User Manual" in a pdf browser.

## Update



**Check** – fetch the latest list of application versions over the internet.

**Update** – performs the update process. The upgrade to the newer version is fully automatic.

**Downgrade** – replace current application with older version. Due to Android limitations, installing the older version requires uninstall of the current version first. This will delete all data of the application. To prevent the loss of the database, the DynoPRO application automatically backup the entire database and after launching the newly installed version asks whether to restore the database from a backup.

## OBD2

OBD2

dynoPRO

VINSGZCZ43D13S812715  
NameMCU Engine Control  
Calibration ID18783889, 46206945, 33460989, 72862539, 26627831, 82308466, 58450886, 98167827  
Calibration verificationB9E495EF, 2D26D8C6, 2EA282B6, B615772E, 134E9DE7, 4185067F, 69F3F946, C6AD8A01

In-use performance tracking - spark ignition

|                |           |                |           |
|----------------|-----------|----------------|-----------|
| OBD Monitoring | 79 / 101  | Catalyst 1     | 155 / 50  |
| Catalyst 2     | 3 / 214   | O2 Sensor 1    | 70 / 189  |
| O2 Sensor 2    | 123 / 19  | EGR Monitor    | 84 / 229  |
| AIR Monitor    | 142 / 241 | EVAP           | 105 / 206 |
| Secondary O2 1 | 78 / 124  | Secondary O2 2 | 71 / 211  |

In-use performance tracking - compression ignition

|                  |          |                    |           |
|------------------|----------|--------------------|-----------|
| OBD Monitoring   | 200 / 16 | NMHC Catalyst      | 189 / 155 |
| NOx/SCR Catalyst | 133 / 80 | NOx Adsorber       | 23 / 222  |
| PM Filter        | 112 / 84 | Exhaust Gas Sensor | 97 / 53   |
| EGR and/or VVT   | 246 / 8  | Boost Pressure     | 19 / 244  |
| Fuel Monitor     | 56 / 37  |                    | 32 / 0    |

DTC: 10 Check-light: YES

Availability and completeness of on-board tests

CAN 29/500  
READY

INFO

DTC

CLEAR

SENSORS

SIM  
-pps -ms

CAN 29/500  
12.1 V

1001  
hPa

11  
°C

19:01  
19%

**Info** – establishes a connection with the engine controller, identifies the protocol type and retrieves information about the controller.

**DTC** – downloads a list of DTC trouble codes from the engine controller and shows their description when the fault is in the application database.

**Reset** – sends a DTC fault reset command to the engine control unit.

**Sensors** – fetch a list of real parameters supported by the controller. Press button next to a given parameter to move it to the list of monitoring in real time.

## Analysis

### Analysis

TYPE HERE NAME OR WEIGHT TO FILTER THE LIST

|     |                 |                     |         |   |
|-----|-----------------|---------------------|---------|---|
| 306 | tiguan          | 03 Aug 19r. / 14:23 | 1620 kg | 5 |
| 301 | expert 5 zmierz | 29 Jul 19r. / 18:06 | 1800 kg | 1 |
| 300 | expert 4        | 29 Jul 19r. / 17:43 | 1800 kg | 2 |
| 296 | Pojazd 296 demo | 19 Jun 19r. / 20:39 | 2164 kg | 1 |
| 283 | Auto 283 demo   | 26 May 19r. / 02:05 | 1275 kg | 2 |
| 281 | polo3.c_6       | 23 May 19r. / 17:33 | 1275 kg | 2 |
| 280 | polo3.c_5       | 23 May 19r. / 17:11 | 1200 kg | 2 |
| 279 | polo3.c_4 long  | 23 May 19r. / 17:06 | 1275 kg | 1 |
| 278 | Auto 278        | 22 May 19r. / 17:23 | 555 kg  | 5 |
| 277 | Auto 277 demo   | 19 May 19r. / 00:19 | 1275 kg | 4 |
| 276 | c amg43         | 09 May 19r. / 18:26 | 1800 kg | 3 |
| 274 | jeep archer     | 07 May 19r. / 13:48 | 2561 kg | 4 |

1 - 100 z 274

ID280

NAMEpolo3.c\_5

CREATED23 May 19r. / 17:11

WEIGHT1200 kg

RIDES2

STAT.

1. Measure 1 (00:38s)23 May 2019, 17:16

HP79 HP

TORQUE119 Nm

FORCE(G)0.14 G

100 KM/H21.4 s

1/4 MILE24.8 s

2. Measure 2 (00:35s)23 May 2019, 17:27

HP78 HP

TORQUE115 Nm

FORCE(G)0.19 G

100 KM/H19.1 s

1/4 MILE22.8 s

ANALYSIS

SIM  
- pps - ms

PROBE OK  
12.3 V

hPa

°C

20:55  
8%

**TYPE HERE ...** – entering text here will filter the list below. This applies to the name and weight of the vehicle.

**List with vehicle database** – presents all vehicles in the application database. The scrolling list contains a maximum of 100 entries. The arrows are used to show another 100 items.

Columns:

- NAME – vehicle name
- ADDED – date the vehicle was added to the database
- WEIGHT – vehicle weight in kg
- RIDES – number of measurements taken
- STAT. –whether the measurement was taken in stationary mode

**Analysis** – opens the analysis page for the selected vehicle.

**Recycle bin** – removes the selected vehicle from the application database.

## Measurement

**New car** dynoPRO

**NAME**

**WEIGHT**    $\pm$   = 1200 kg  
kerb weight [kg] correction [kg]

**WHEEL**    $\pm$   Ø = 678 mm  
or circuit in mm correction Ø [mm]

**RPM** ☐ OBD2 ☒ MEASURE

**RUN GEAR**  3.

← SIM -pps -ms CAN 29/500 12.1 V 1001 hPa 11 °C Home 19:13 14%

**Name** – a field to enter the name of the vehicle

**Weight** – vehicle kerb weight field

**Weight correction [kg]** – additional weigh such as others passengers

**Wheel** – the wheel size of the vehicle on which the Dyno probe is mounted. Enter the size of the tire or, alternatively, the outer circumference of the tire in mm.

**Ø correction** – in case of high tire wear, it is recommended to make a correction of the tire diameter. For example, at 5 mm tread wear, enter 10.

**RPM** – source of the engine RPM

**OBD2** – from the OBD2 Probe

**MEASURE** – from calibration procedure

**Result field** – it will be filled in automatically after the calibration procedure is completed

**MEASURE** – starts the RPM calibration procedure

**RUN GEAR** – gear in which the calibration procedure is performed. This is only an information field that does not affect the calibration result.

After pressing **MEASURE** the following window will appear:

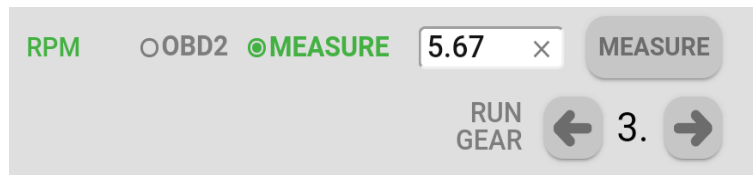
**Gear ratio measurement**

- reach 3000 RPM and keep it a few seconds until finish sound is played
- (tap SAVE to manually end measurement)

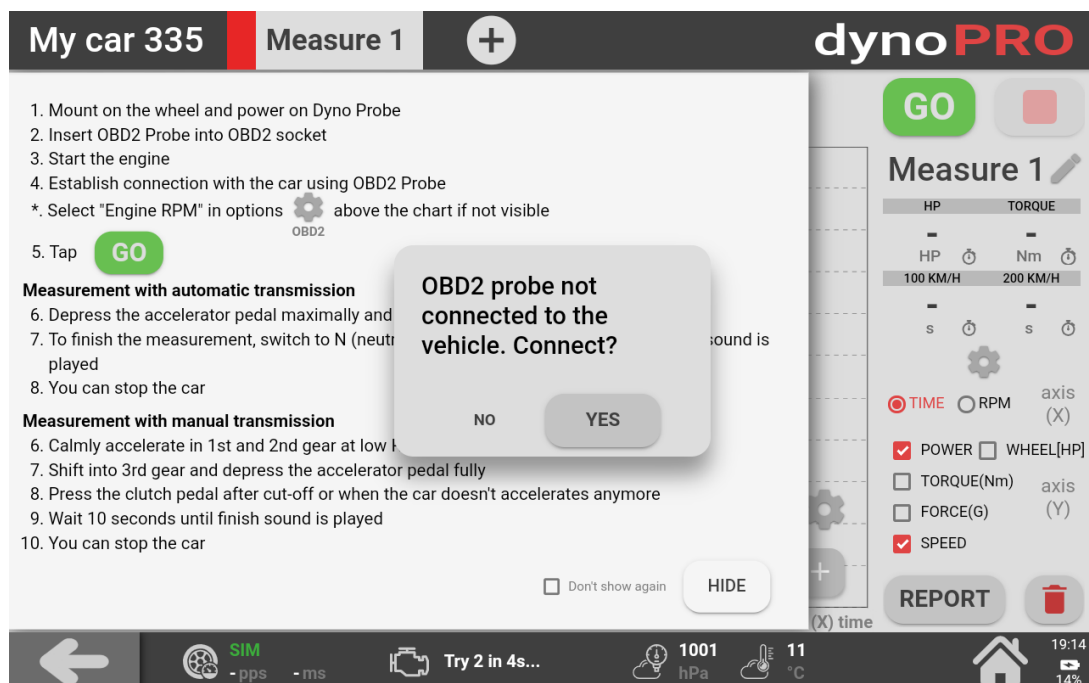
- km/h

CANCEL SAVE

After completing the measurement, the result will be entered into the **Result field**. This number is used to calculate the engine RPM from the vehicle speed. This value is different for each gear and can also be entered manually knowing the gear ratio and final drive ratio: multiply these two numbers.



**NEXT** – when all fields (except corrections) are filled in, the button becomes active. If the entered data is incorrect, the color of the field name changes from green to red. Pressing saves the vehicle in the application database and switches to the actual measurement page.

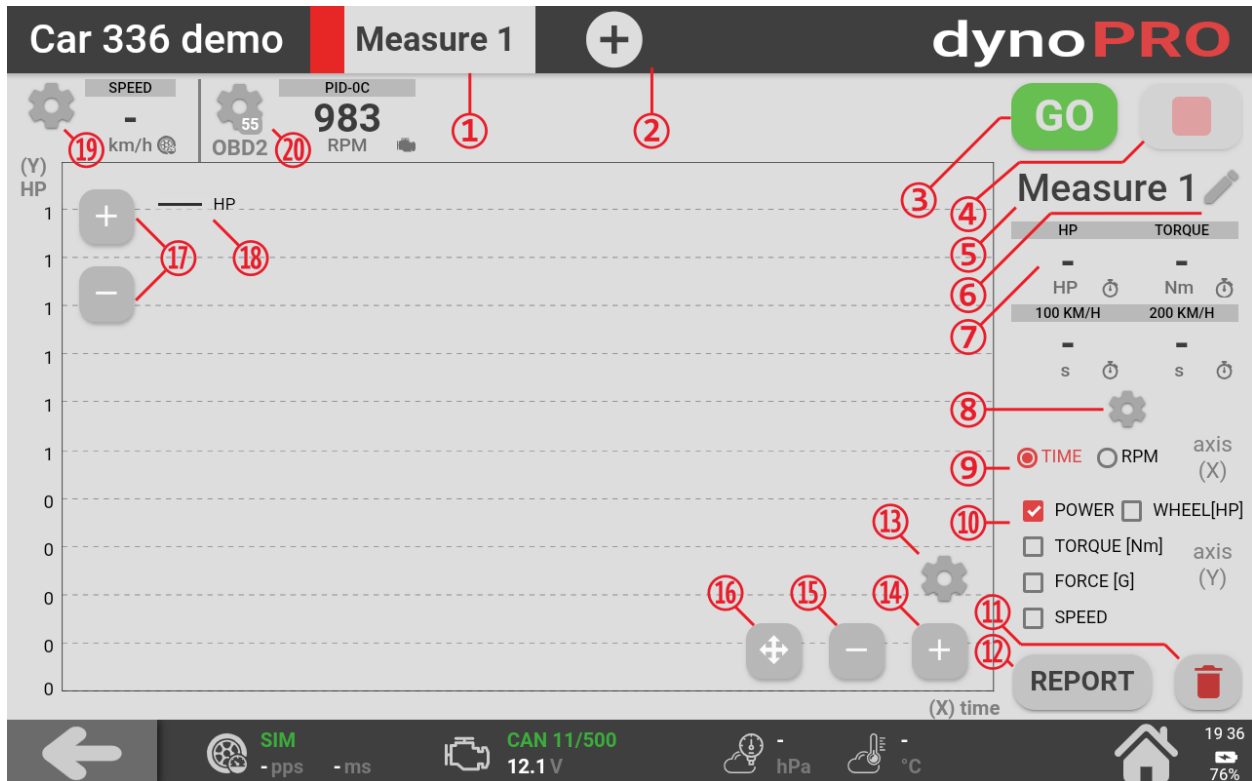


After switching to the measurement page, a short measurement instruction and a message about the lack of connection with the OBD2 Probe appear. After pressing YES the application will establish a Bluetooth connection with the OBD2 Probe.

The message will look different when the connection is established: "OBD2 Probe not connected to the vehicle. Connect?" After pressing YES, the application will connect to the vehicle and read the list of supported parameters.

After becoming familiar with the measurement instructions, press HIDE.

## The actual measurement



- (1) Measure 1 tab. The user can move between measurements by pressing the appropriate tab. Pressing the selected measurement again hides it on the chart.
- (2) Create next measurement.
- (3) Starts the measurement. Wait for the beep to indicate that Dyno Probe data is being sent.
- (4) Stops the measurement being started. Not used when the Auto-Stop option is enabled.
- (5) Name of the measurement.
- (6) Button to change the name of the measurement.
- (7) Measurement results. The list can be configured with the button (8).
- (8) Show configuration panel.
- (9) Selecting the X axis of the chart.
- (10) Selection of data presented on the chart on the Y axis. Maximum 2 data types.
- (11) Bin – deletes the currently selected measurement.
- (12) Opens the report generation page.
- (13) Advanced configuration of the chart.
- (14) Zoom in the chart.
- (15) Zoom out the chart.
- (16) Switches the chart movement mode.
- (17) Zooms in/out the Y axis of the chart.
- (18) Chart legend.
- (19) Configuration of Dyno Probe's data indicators.
- (20) Configuration of OBD2 Probe data indicators.

## Configuration panel (8)



**Filter** – filtering the power and torque graph. When the graph is heavily "wavy" you can increase this value. This value has a minimal impact on the final result of the measurement.

**Default for new car** – when checked, the selected filter value will be assigned to the newly created vehicle.

**1/4 mile, 100 KM/H, ...** – after selecting this indicator will appear in the field (7)  
Measurement results

## Report

Report

MY SUPERB COMPANY

69 Best St.

Besttown 123456

To change this logo or watermark on the chart tap settings icon in lower-right corner.

Dyno report

dynoPRO

|                        |                  |                  |                   |
|------------------------|------------------|------------------|-------------------|
| NAME expert 4          | KERB WT. 1800 kg | WHEEL 2086       | PRESSURE 1013 hPa |
| DATE 29/07/2019, 17:43 | NORM. -          | WHEEL CORR. - mm | TEMP. 30.4°C      |

|                  | HP                | TORQUE             | G FORCE | 100 KM/H | 200 KM/H | 1/4 MILE |
|------------------|-------------------|--------------------|---------|----------|----------|----------|
| <b>Measure 1</b> | 94 HP<br>3459 RPM | 225 Nm<br>2388 RPM | 0.19 G  | 23.4 s   | - s      | 26.1 s   |
| <b>Measure 2</b> | 93 HP<br>3519 RPM | 221 Nm<br>2373 RPM | 0.19 G  | 21.9 s   | - s      | 24.6 s   |

REAL POWER

GENERATE

☒ PDF
 ☐ JPG

SHOW

Files: 0

☒ Measure 1  
☒ Measure 2

⚙️

←

SIM

- pps - ms

ISO 9141-2

12.2 V

1001

hPa

11

°C

🏠

19:17

14%

**GENERATE** – generates the displayed report to PDF or JPG

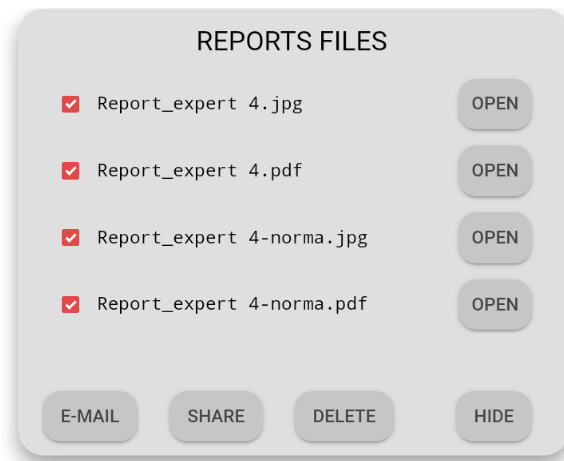
**SHOW** – displays a window with a list of generated files

**Measure 1 ...** – only selected measurements are shown in the report



– shows report settings

**List of generated reports** – after generating the report or pressing the **SHOW** button



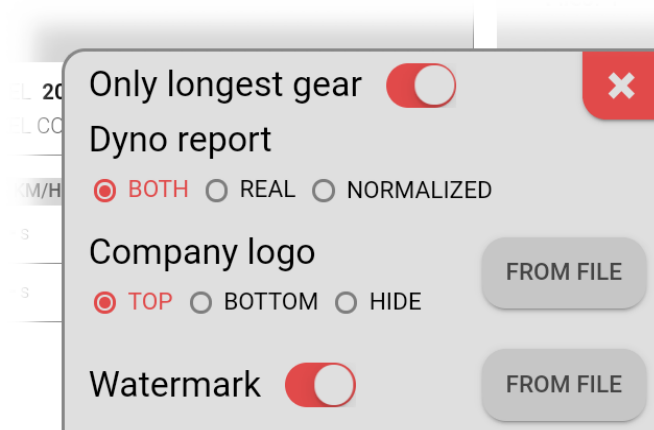
**OPEN** – opens the generated report file

**E-MAIL** – composes an e-mail message and attaches selected files

**SHARE** – displays a window with a choice of application/protocol through which the selected files will be sent/shared

**DELETE** – permanently deletes selected files

## Report Settings



**Only longest gear** – hides all but the longest detected gear for each measurement

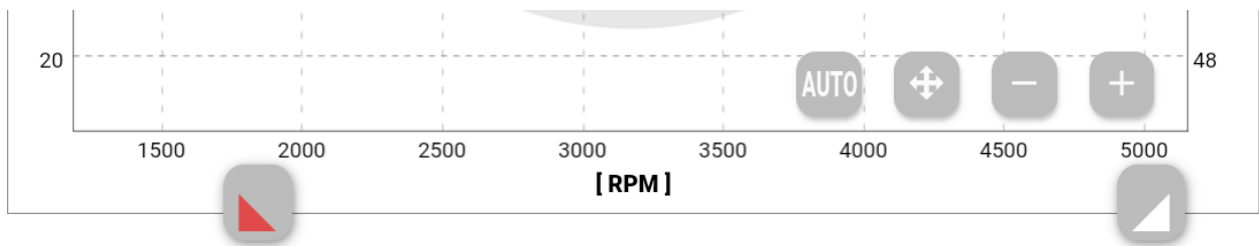
**Dyno reports** – selection of which pages are visible in the preview and will be generated in the report

**Company logo** – selection where the company logo will be visible in the report

**Watermark** – changes the visibility of the watermark graphic in the center of the chart

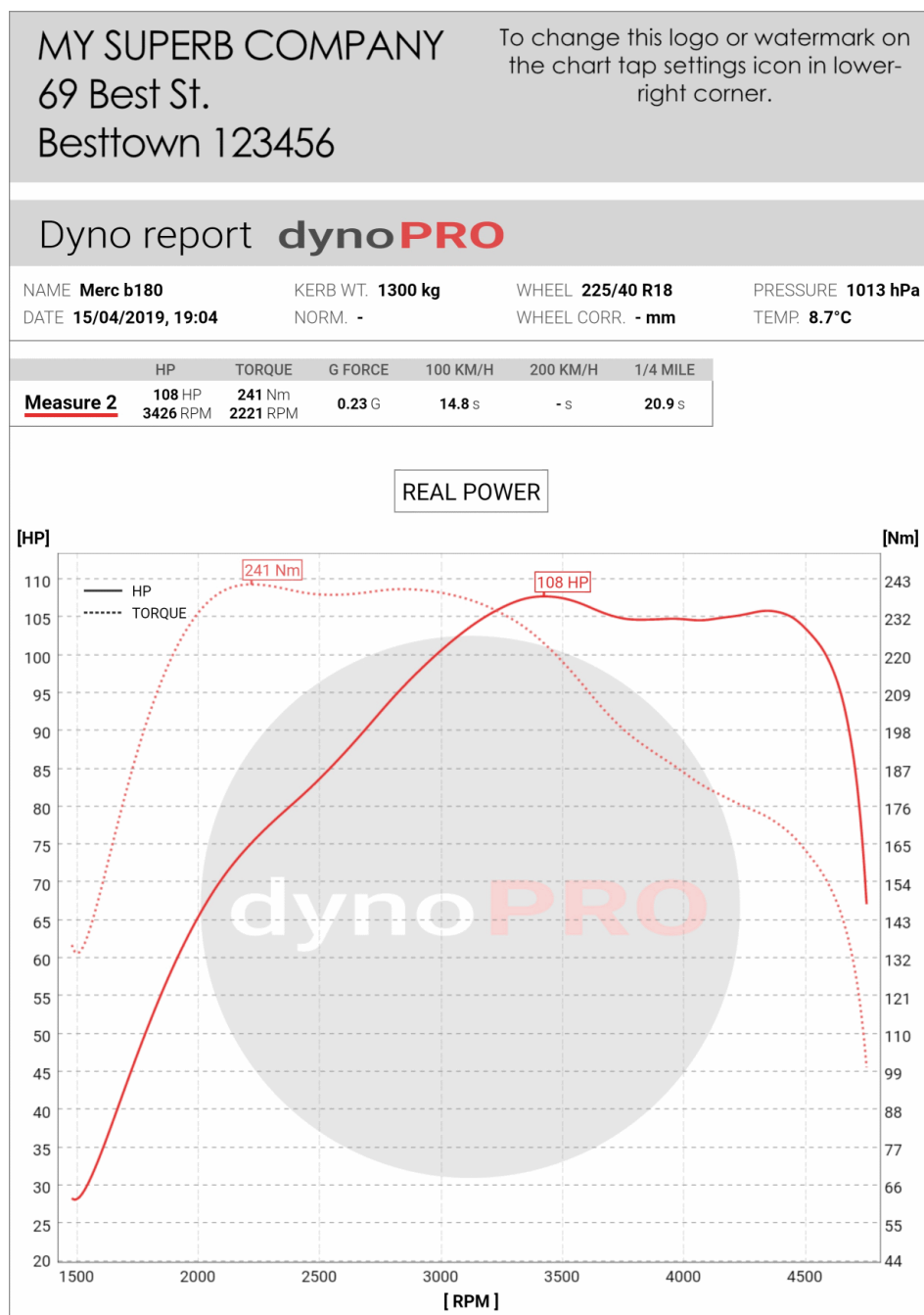
**FROM FILE** – changes company logo or watermark. Default location of company logo and watermark files are in the tablet's directory **Internal memory/Data dynoPRO/**

## Limiting sliders



If you want to hide part of the chart, you can drag the limiting sliders, which will cut off the chart on the left or right. The slider turns red when the chart is clipped.

## Example report



Measurement Mercedes B W246 2013, 180CDI 109PS, manual gearbox.

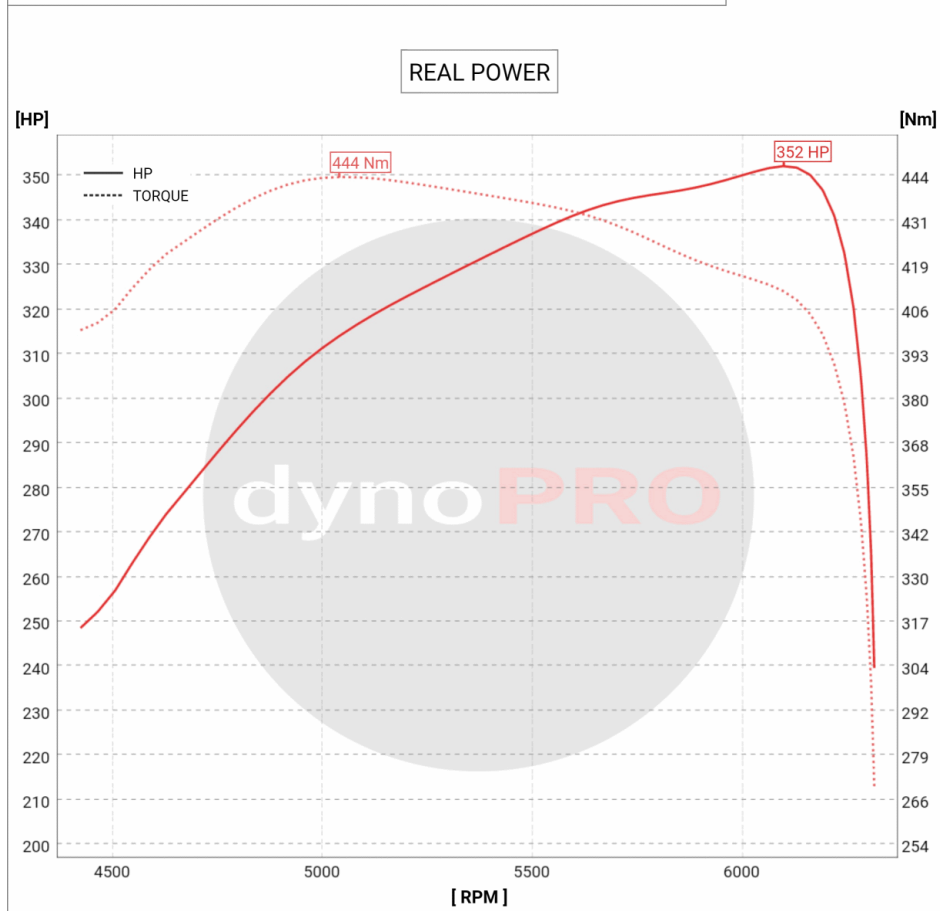
MY SUPERB COMPANY  
69 Best St.  
Besttown 123456

To change this logo or watermark on  
the chart tap settings icon in lower-  
right corner.

## Dyno report **dynoPRO**

NAME **c amg43** KERB WT. **1800 kg** WHEEL **255/35 R19** PRESSURE **1013 hPa**  
DATE **09/05/2019, 18:26** NORM. **-** WHEEL CORR. **- mm** TEMP. **12.8°C**

|                  | HP                               | TORQUE                           | G FORCE       | 100 KM/H   | 200 KM/H   | 1/4 MILE   |
|------------------|----------------------------------|----------------------------------|---------------|------------|------------|------------|
| <b>Measure 4</b> | <b>352 HP</b><br><b>6101 RPM</b> | <b>444 Nm</b><br><b>5042 RPM</b> | <b>0.42 G</b> | <b>- s</b> | <b>- s</b> | <b>- s</b> |



Sample measurement of a Mercedes C43AMG 2015 3.0T 367KM 520Nm, number of passengers when measuring 3 people. Measurement for a gear set in manual mode.

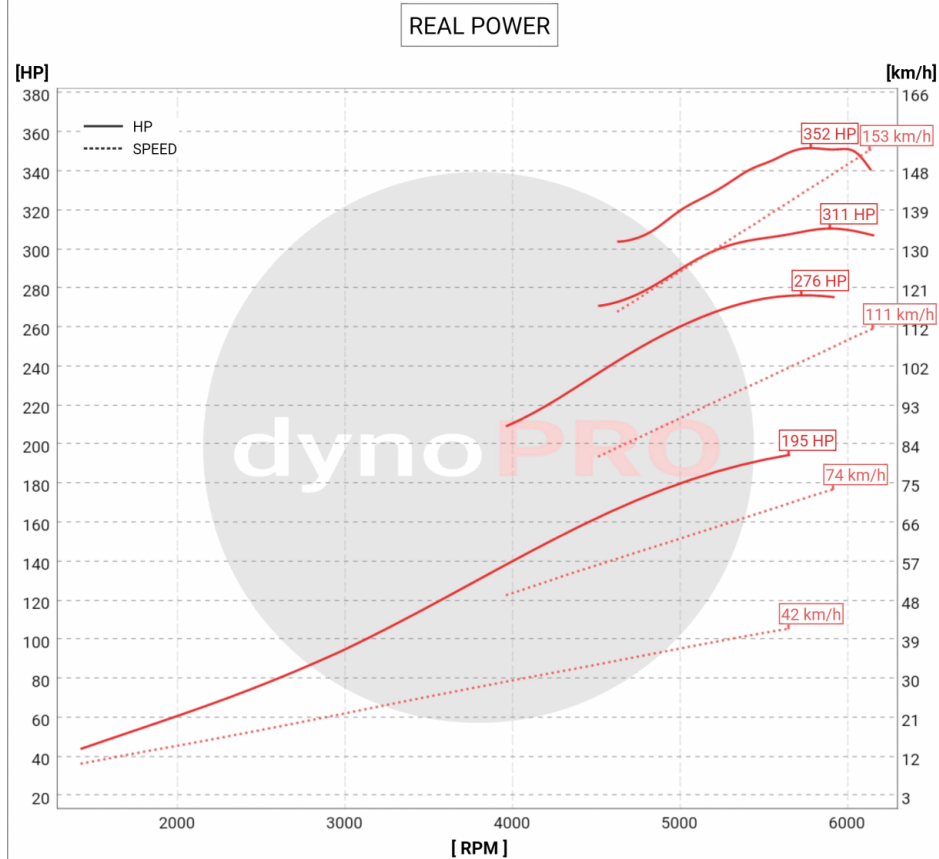
MY SUPERB COMPANY  
69 Best St.  
Besttown 123456

To change this logo or watermark on  
the chart tap settings icon in lower-  
right corner.

## Dyno report **dynoPRO**

NAME **c amg43**      KERB WT. **1800 kg**      WHEEL **255/35 R19**      PRESSURE **1013 hPa**  
DATE **09/05/2019, 18:26**      NORM. **-**      WHEEL CORR. **- mm**      TEMP. **12.8°C**

|                  | HP                               | TORQUE                           | G FORCE       | 100 KM/H     | 200 KM/H   | 1/4 MILE      |
|------------------|----------------------------------|----------------------------------|---------------|--------------|------------|---------------|
| <b>Measure 6</b> | <b>352 HP</b><br><b>5785 RPM</b> | <b>522 Nm</b><br><b>4638 RPM</b> | <b>0.66 G</b> | <b>5.8 s</b> | <b>- s</b> | <b>14.1 s</b> |



Sample measurement of a Mercedes C43AMG 2015 3.0T 367KM 520Nm, number of passengers when measuring 3 people. Measurement in automatic transmission mode. After pressing GO, the accelerator pedal was pressed all the way.

The graph shows the next gears and power distribution on them. During the study we reach the 4th gear out of 9.

Speed instead of torque is marked on the chart on the Y2 axis.

## 8. Practical remarks

1. **We measure as far as possible on a flat and straight section of road as unevenness in the form of a change in road inclination may slightly falsify the measurement.**
2. It is recommended to keep the device clean, especially the mounting elements such as caps, bolts and screws. From time to time, it is recommended to lubricate the components with a silicone spray, this will reduce jamming and facilitate removal.
3. It is recommended to use a transparent protective sticker (you can use adhesive tape) on the Dyno Probe, this will protect the Dyno Probe against adverse factors such as moisture or dust.
4. To charge the Tablet and Dyno Probe you can use any charger for mobile devices with a 5V output voltage with a micro USB or mini USB connector.
5. **The ideal solution when mounting the device is to use a torque wrench. This will minimize unpleasant surprises in the form of a loosening of the Dyno Probe on the wheel. If the probe breaks off and is damaged, we make it possible for you to replace the probe housing and carry out calibration tests.**

**The price of such a service is EUR 50 + shipping.**

6. **If possible, it is recommended that the person operating the Tablet should be in the vehicle as close as possible to the wheel on which the Dyno Probe is mounted. This significantly improves the range and stability of the connection.**
7. **The probe is mounted on the right side of the vehicle, this will limit the probe loosening due to the direction of the force closing the thread.**
8. **Please avoid holding the Tablet by the upper left corner because there is a bluetooth antenna. This significantly reduces the range of the device.**

## 9. Disposal

In the event of the device being withdrawn from use, the entire set should be sent to an electro waste collection station due to the batteries that are in the individual components of the set.

## 10. Copyright and manufacturer's certificates

All rights reserved,  
e-tronic, ul. Towarowa 29, 64-510 Wronki, POLAND  
NIP: 787-194-73-67, NIP EU: PL7871947367  
Telephone: +48 502 604 932  
e-mail: [dynoprook@gmail.com](mailto:dynoprook@gmail.com)

The device and components used to build the device meet all required standards in force in the EU.  
The device has CE, EMC, LVD, RoHS certification.

