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1 – Introduction

Thank you for choosing a PZRacing product. Start Plus is a state-of-the-art GPS dashboard. There are many advantages to this technology: you will no longer need to place a bulky infra-red transmitter at the side of the track, you can even view split times on the display and thanks to specially designed software, you can view all the trajectories covered on a given track.

Please note: PZRacing products are water resistant but not waterproof; do not wash the product with pressurised water and keep the lateral tab closed at all times; failure to do so could cause permanent damage to the product.

1.1 – GPS Technology

The Global Positioning System (also known as GPS) is a satellite positioning and navigation system which, thanks to a network of artificial satellites in orbit, sends information about geographic coordinates and the time to a GPS receiver, in any weather conditions and on any place on Earth. Its functioning principle is based on a spherical positioning method which measures the time taken by a radio signal to cover the distance from a satellite to a receiver. One of the main features of GPS receivers is the update frequency expressed in Hertz (Hz); this measurement unit indicates how many times per second the satellite receiver is capable of updating its position. Start has a state-of-the-art GPS receiver with an updating frequency of 50Hz (50 times per second), which translates into higher precision in calculating the time and visualising trajectories.

1.2 – Package content

- Start Plus
- USB cable type C
- N°3 flanged screws for plastic adaptor
- N°2 plastic adaptor for bolt
- M8x3cm bolt for fixing onto the bracket
- Self-locking M8 nut
- Metal washers
- No.2 anti-vibration PVC plane washers
- RPM cable 2mt

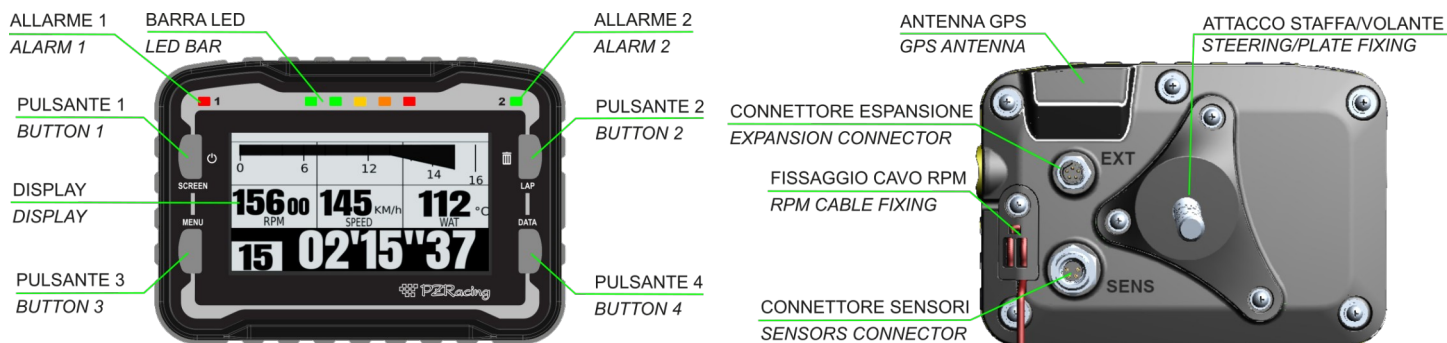
1.3 – Technical features

- Integrated 50Hz GPS receiver
- 1/100s precision
- Management of up to 3 split times
- GPS speed visualization
- Ideal time
- 2 predicted time visualizations
- 3 display screens + 2 configurable
- Storage of values per lap and absolute best
- Trajectories memorization
- 2 alarm configurable ("Best & Split Time"/Shiftlight/Temp warning)
- Led bar configurable (rpm or chrono mode)
- 2 engine meters
- 2 odometers
- Retrieval of up to 9 analogue channels and 3 digital channels
- 50Hz sampling of the connected channels
- Inserted gear indicator (optional)
- Data download by USB port & Wi-Fi
- Automatic circuit recognition
- Global circuits database
- PC set-up of a new circuit
- PC software for data analysis
- Integrated lithium battery
- Optional external battery connection
- Automatic shut down
- Back light
- Anti-impact container
- Water resistant
- Size: 135x94x33mm

1.4 – Important information for correct usage

- This device is to be used exclusively in open spaces
- In order to use the device, you must wait for satellite reception to have been completed; the GPS icon in the top left hand corner will appear on a black background when reception is complete (see chap. 4.3)
- After a long period of inactivity, satellite detection may take up to 4/5 minutes
- In normal conditions when used on the track, satellite retrieval will only take a few seconds.

2 – Dashboard components



3 – Installation

3.1 – Positioning

Start Plus's built-in GPS makes installation very simple; position the dashboard in such a way as to have good visibility towards the sky and an excellent view for the pilot. The Start GPS receiver is located in the ledge at the top of the instrument.

The better the positioning of the instrument, the better the satellite reception will be; the better positioning of the instrument is at 45 ° with respect to the ground, the closer you get to this position the better the satellite reception will be.

In horizontal position the GPS signal suffers strong degradations as the GPS receiver view only one part of the sky and will also receive an amount of reflected waves from the ground that disturb the signal quality.

For installation on karts we recommend positioning on the steering wheel using the appropriate bolt fixing kits. The two kits allow installation with two different angles, one parallel to the fixing surface and one inclined. In the event that using the parallel one, the GPS receiver of the product is covered by the steering wheel handle, use the inclined fixing kit. This, in addition to better reception, also allows a better view of the display to the pilot.

For installation on motorcycles and scooters, it is recommended to use the best possible positioning for the rider but trying to place the instrument as close as possible at a 45 ° angle to the ground.

N.B: check that nearby and over the upper side of the product, where the gps receiver is located, there's no metal, carbon or electronic items; one of these items could cause the degradation of the satellite signal and the malfunction of the lap timer.

N.B: don't place an onboard camera neraby the lap timer because the internal electronic of the camera cause the degradation of the satellite signal and the malfunction of the lap timer.

You can fix the instrument by creating a bracket or by using a hole in the steering wheel and following the instructions below:

<ul style="list-style-type: none"> - Prepare a bracket with a 8-8,5mm thickness or use the hole in the steering wheel - Insert the head of the M8 bolt in the designated space on the back of the shell of the Start device - Fix the bolt with the plastic adaptor making the seat match the head of the bolt. - Secure the 3 screws to fix the plastic adaptor - Insert an anti-vibration washer in the bolt between the shell and the bracket - Insert the bolt into the bracket - Insert the second anti-vibration plane rubber washer - Insert the plane metal washer - Place the nut provided on top of the metal washer and screw to hold in place 	
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Please note: absence of anti-vibration washers or incorrect positioning of these could damage the device due to vibrations of the vehicle. This type of damage is not covered by the guarantee as it is not caused by a product defect but incorrect installation.

3.2 – Power

Start is fitted with a 1750mA lithium battery; you can see the status of the battery on the icon in the top right hand corner of the main screen.

Battery charge	Low battery

To charge the battery, attach the USB connector of Start Plus to a power source or USB port on your PC using the USB cable provided; the image of a battery being charged will appear on the display.

Once the battery is fully charged, "Charging complete" will appear on your display; you can now disconnect the USB cable.

(only Start Next) You can also charge the product directly on the vehicle by purchasing the optional SS12V100 cable or the SS12CAR cigar lighter cable; when using these devices, the battery will be charged only when the product is switched on.

3.3 – Internal memory

The memory contains sessions and data saved by the device; it also contains system configuration folders and the coordinates of the finish lines of the tracks. The memory card contains the following folders:

- Folder: SYSTEM File: CONFIG.CFG (file for all product configurations)
- Folder: TRACKS File: *.TRK (file for the finish line and split time coordinates)
- Folder: SESSIONS File: *.SES (saved sessions file)
- Folder: MANUALS File: *.pdf (instructions manuals in several languages)
- Folder: IMAGE File: *.bmp (startup image, monochrome bitmap 240x128px)

Please note: All the names and contents of the folders and files have been appropriately formatted; DO NOT change them manually; only use Race Pro software to read/write the file.

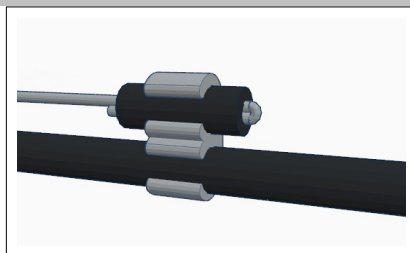
3.4 – RPM cable installation

Important information regarding installation - READ CAREFULLY

- On two-stroke vehicles with strong electromagnetic emissions, such as scooters, go-karts and pocket-bikes, it is necessary to use resistive spark plugs and shielded caps with 5K resistance. If you don't use shielded caps and resistive spark plugs, the device could measure the wrong values. Spark plugs manufacturers often mark resistive spark plugs with the letter "R" in their code. For example, NGK BR7ES is a resistive spark plug, while B7ES is its non-resistive equivalent.

Separate coil (high voltage spark plug wire):

Insert the black wire into the plastic cylinder, bend the end part of the wire to form a "U" and reinsert the wire into the cylinder; fasten this to the spark plug wire using the double clip (see reference image on the side). Place the clip at the same distance from the spark plug wire and coil.



Integrated coil ("cigar-shaped" coil on the spark plug):

Turn the coil power plugs 6-8 times and fasten with a cable tie.

In both cases, make sure other coils do not interfere with the plug, as this would detect erroneous rev values. Make sure the plug is not close to other plugs and try to fasten it to the frame for all its length. Should the rev values be incorrect, check the device settings.

To fix the RPM cable to the dashboard, unscrew the cross screw that fixes the RPM cable holder (see photo Chap. 2) in the rear side of the dash; insert the cable into the plastic part making a "U" as in the photo on the side, close the RPM cable holder by passing the cable through the appropriate slot and fasten everything with the cross screw.



4 – Usage

4.1 – Switch on/off

To switch on the device, keep the ON/OFF button pressed until the logo appears on the display. To switch off, keep the ON/OFF button pressed until the device switches off.

In case the dashboard is powered externally via an SS12V100 cable, the ON / OFF button will be disabled and the dashboard will automatically switch on and off with the external power supply, therefore it is necessary to connect to a power supply under key.

Start Plus also has an automatic shut down feature which switches the device off after 20 minutes of inactivity.

4.2 – Registering sessions

Start Plus will begin to register a new session every time the three following conditions are met:

- the GPS signal has picked up the satellite signal
- the chronometer has been activated (we remind you that the chronometer starts when the internal accelerometer retrieves the departure of the vehicle)

4.3 – GPS signal

GPS signal acquisition can take from a matter of seconds to a couple of minutes. If the device has been switched off for days or the circuit has changed, the time required for the first satellite retrieval can take 4/5 minutes; when used regularly, detection takes very little time. Acquisition of the GPS signal is indicated on the display by the GPS icon:

GPS receiver has detected the satellites	GPS receiver has not yet detected the satellites

It is also possible to check the signal received by the satellites by accessing the menu, selecting the INFO icon and subsequently the SAT icon; the ID numbers of the satellites will appear together with the dB power signal received; if the signal bar is full the satellite is being used, if not, it isn't.

4.4 – Buttons

All the functions of the dashboard are accessible via the buttons on the front of the dashboard (see image Chap. 2)

Button 1: ON / OFF, Turn on / off and change display screen

Button 2: LAPS, display of stored sessions

Button 3: MENU, access to the dashboard menu

Button 4: DATA, display of the minimum and maximum values stored by the instrument

N.B: The 4 buttons have different functions by accessing the various product menus, the functions will be indicated in the icon next to the button itself.

5 – Configuration

5.1 – Backlight

To change the intensity of the backlight, enter the MENU using button 2, select SETUP and then select BACKLIGHT.

By default, the backlight is set to an average threshold, you can change it by viewing the intensity in real time.

N.B: we do not recommend turning off the backlight during daytime driving, the intensity of the backlight affects the visibility of the screen even in sunlight.

5.2 – Alarms

To modify the two alarms, enter the MENU using button 2, select SETUP and finally select ALARMS.

Number: selection of the alarm to be modified (1 alarm on the left, 2 alarms on the right, see Chap. 2)

Mode: activation or deactivation of the alarm

Color: choice of the color of the alarm

Parameter: choice of the parameter to associate to the alarm (RPM, Temp, Thermo K, Best Lap)

Value: setting the alarm switch-on value

5.3 – Led Bar

The 5-led bar at the top is completely configurable, enter the MENU using button 2, select SETUP and finally select BAR

- OFF: the led bar will remain completely off

- CHRONO: the led bar will be used to display the gap between the current time (estimated time at the finish line) and the best lap of the session.

Each lit LED corresponds to a 0,1s difference from the best lap; if the LEDs are green, the expected time will be less than the best session time, if they are red, it is worse.

For example: if two green LEDs are lit while driving, it means that the estimated time at the finish line will be 0.2 seconds lower than the best time of the session.

- RPM: the led bar will display the rpm, it will be necessary to set a minimum and a maximum for the bar

5.4 – User settings

To change the user setting, enter the MENU using button 2, select SETUP and then select USER.

In this menu we will find several items that can be set regarding the pilot's preferences:

Language

It is possible to select the language of the device:

- English (default)

- Italiano

- Deutsch

- Francais

- Espanol

- Portugues

Format

Setting date and time format:

Time format setting: 12h o 24h.

Data format setting: day/month/year or month/day/year.

Time zone

Time zone setting, set the time difference from Greenwich Mean Time (GMT).

Recording

Recording mode can be set according to two configurations:

ALWAYS: recording always activated, every time the chronometer starts to count; a new file will be created and a new session will be recorded (default)

MANUAL: recording is manual, every time you go back to the main screen, you will be asked to save the new session

Freeze time

Sets the seconds per visualisation of the time per lap upon reaching the finish line OFF – 60 seconds (30 seconds default)

Crono mode

Setting of the visualization of the time during lap:

ROLLING: classic visualization with time rolling

PRED. DELTA: predicted delta, predicted difference of the current lap with the best lap

PRED.TOTAL: predicted total, predicted time visualization

RPM max bar

Setting the maximum engine revs value for the graphic bar: 8000 - 18000 rpm (default 12000 seconds)

5.5 – Dash settings

To change the dash setting, enter the MENU using button 2, select SETUP and then select DASH.

In this menu we will find several items that can be set regarding the dashboard's preferences:

Speed unit

Setting the speed unit: Km/h (metric, default), mph (imperial)

Temperature

Setting the temperature: °C (Degrees Celsius, default), °F (Fahrenheit)

Pulse RPM

Set the RPM reading parameters:

1 - one pulse per drive shaft rotation (ex. standard 2 stroke engines)

2 - two pulses per drive shaft rotation (ex. 2 stroke engines with waste spark)

4 - four pulses per drive shaft rotation (ex. 2 stroke engines with waste spark)

1/2 – one pulse per two drive shaft rotations (ex.: standard 4 stroke engines)

Input BOX 1

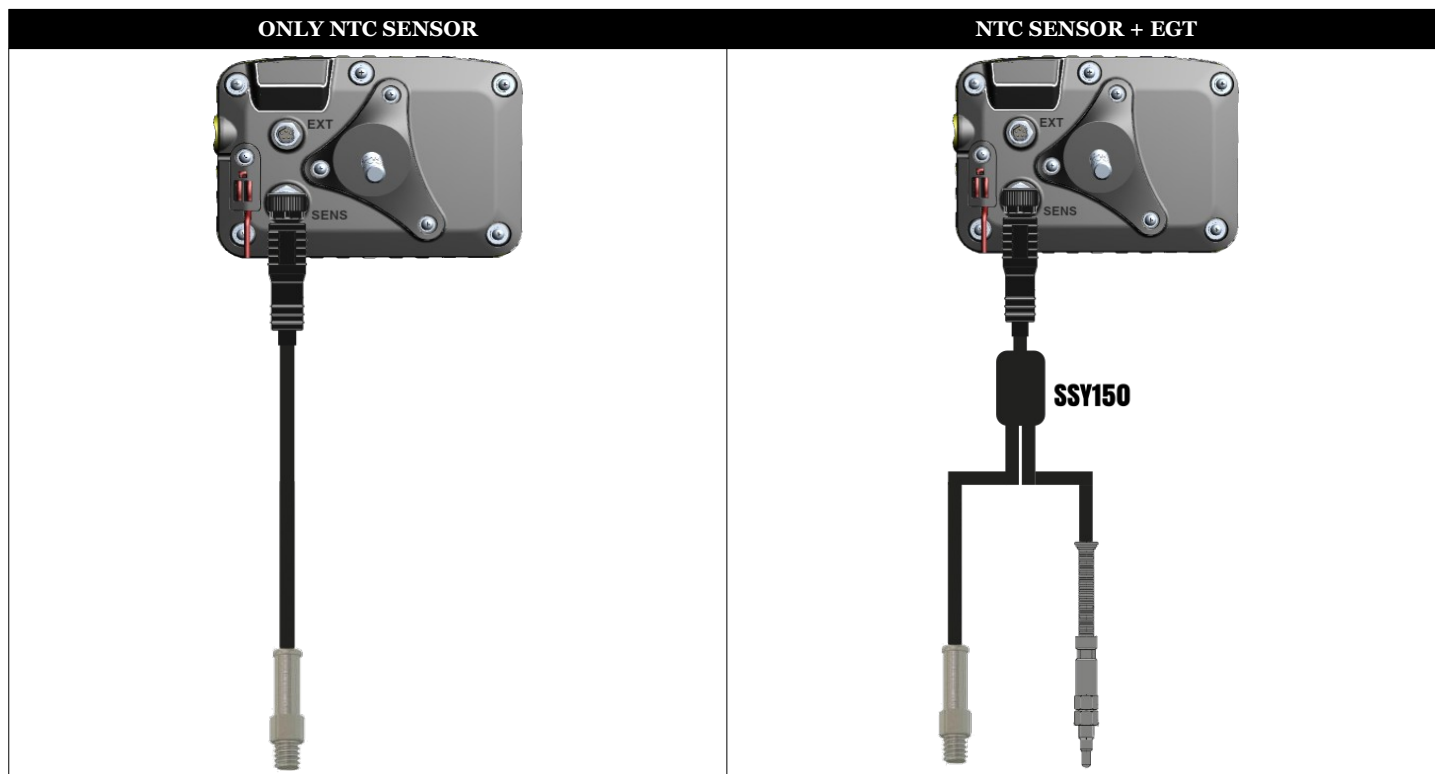
Box 1 in PZRacing products is the box dedicated to the functions of Engine RPM, Engine Temp and input of the first Analog channel.

Box 1 Internal

RPM: inductive using the cable supplied with the instrument

TEMP: temperature acquired by connecting the NTC sensor directly behind the dashboard (SENS connector)

EGT: exhaust gas temperature, 150cm Y cable (code SSY150) required to connect to the SENS connector behind the dashboard.



Box 1 External

By selecting Box 1 External, the acquisition of internal channels will be disabled (RPM + TEMP + EGT) and it will be necessary to use one of the expansion modules connected to the EXT connector on the back of the dashboard.

For example, for installation on road motorcycles, it will be possible to connect a BOX-MINI for the detection of electronic engine revs, speed, TPS and engaged gear (calculated), or it will be possible to install one or more BOX-E4 and create its own acquisition.



Power OFF

When the dashboard is powered externally, it is possible to select whether to make it switch off when the power is removed, or to have it remain on.

Power OFF: ON (Start Plus will turn off with power supply)

Power OFF: OFF (Start Plus will remain on when power is removed)

6 – Screens

6.1 – Screens activation and deactivation

Start Plus can display the data on 5 different screens, 3 of which are fixed but can be excluded, 2 are completely configurable by the user. It is possible to change the screen by briefly pressing the power button 1, this can also be done while driving.

By default, the 3 fixed screens are activated, if you want to exclude, proceed as follows:

- Press the button 3 MENU
- Press the buttons 1-2 ARROW until the DISPLAY icon is displayed
- Press button 3 CONFIRM
- At this point, select one of the screens by pressing the ARROW (1-3 buttons) and activate or deactivate the display using button 2

6.2 – Configurable screen setting

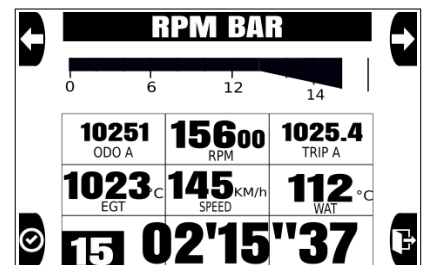
As already mentioned, two of the five dashboard screens are fully configurable by the user.

First of all they will be activated following the procedure of the previous chapter, then just select MODIFY on the same screen.

The dashboard display is divided into 9 quadrants (3 x 3), for each quadrant you can enter a different parameter to be displayed. Just be careful because some fields occupy two or three quadrants horizontally, for example the graphic bar of the engine revs occupies 3 quadrants and therefore will occupy the entire row.

First of all, select the desired parameter by scrolling it with the arrows (buttons 1 and 2), the selected parameter is displayed in the black rectangle at the top center, press the confirmation button (button 3) to select and then scroll to the quadrant in which you want display the selected parameter and press the confirm button again.

Proceed in this way until you complete the screen. If you have made a mistake in placing a parameter, simply overwrite the data with a new one. At the end of the procedure, press the exit button (button 4).

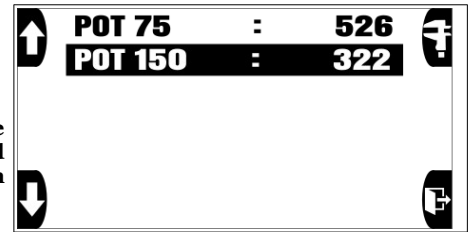


7 – Calibration

7.1 – Suspensions (only with optional box expander)

It is possible to calibrate the linear potentiometers directly from the instrument.

N.B: it is necessary to have configured the analogue channels from the RacePro software using the presettings for the linear potentiometers (POTENTIOMETER 150mm and POTENTIOMETER 75mm), it is possible to calibrate only the analogue inputs set with one of these two voices.



Enter the menu, select CALIBRATION and then SUSPENSION, the analog inputs set as linear potentiometers will be displayed, select the potentiometer you want to calibrate, bring the potentiometer to its maximum extension and press CALIB.

7.2 – Gear indication (only with optional box expander)

Start can display and memorize the gear engaged in three different ways:

- making a ratio between GPS speed and engine revs
- making a ratio between the electronic speed signal and engine revs
- detecting the analog output of the gear potentiometer

N.B: the indication of the gear entered via GPS speed is linked to the quality of the signal, therefore subject to interference and less reliable than the other two modes.

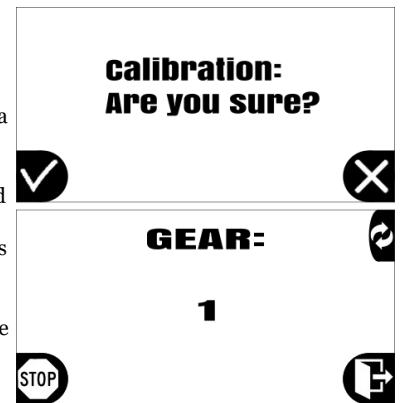
Setting the gear using RPM/SPEED GPS ratio

The gear calibration via GPS speed must be performed on the road/track, so position the vehicle on a long straight road and wait for the product to be "linked" to the satellites.

Enter the MENU, select CALIBRATION then GEAR, then select "RPM/SP.GPS".

Press the CALIBRATION button (button 2) to calibrate the gear engaged; the screen that will appear will be a confirmation screen with the options "YES" and "NO".

- Press the "Yes" button.
- The number "1" will appear, engage first gear, release the clutch and continue at constant engine speed (about 5000 rpm).
- When the vehicle is at constant rpm (do not accelerate or decrease speed while pressing the button) press button 2 at the top right, then engage second gear and continue at constant rpm (about 5000 rpm).
- Continue in this way for all gears of your vehicle.
- When the display will show the number following the number of gears (e.g. if the vehicle has 6 gears, the number 7) press the STOP icon to end the calibration.



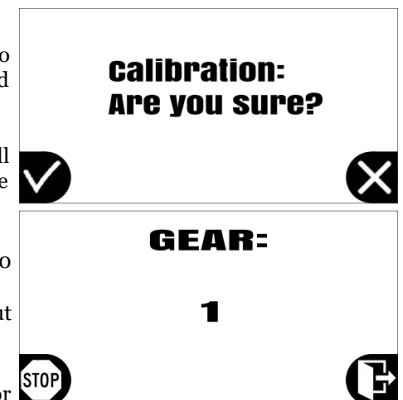
Setting the gear using RPM/SPEED ratio

Calibration of the gear engaged via an electronic speed signal is possible and recommended to be carried out on the rear or kart stand (if the speed is detected by the rear wheel).

Enter the MENU, select the CALIBRATION item and then GEAR, then select "RPM/SPEED1" if you want to use the speed of the Box Expander 2 or the BOX-MINI, select "RPM/SPEED2" if you want to use the speed detected by the Box Expander 3.

Then press the CALIBRATION button (button 2) to calibrate the gear engaged; the screen that will appear will be a confirmation screen with the options "YES" and "NO". Before pressing "YES", it is advisable to turn on the vehicle and engage first gear with the clutch pulled. Perform the calibration as described below:

- Press the "Yes" button.
- The number "1" will appear, engage first gear, release the clutch and continue at constant rpm (about 5000 rpm).
- After about five seconds the number "2" will appear, engage second gear and continue at constant rpm (about 5000 rpm).
- Continue in this way for all gears of your vehicle.
- When the display shows the number following the number of gears (e.g. if the vehicle has 6 gears wait for number 7) press the STOP icon to end calibration.



Setting the gear using analog input

Under "Input", select analogue input to which the gear potentiometer output is connected.

Then press "Calibration" to calibrate the gear; the screen which will appear will be a confirmation screen with the options YES and NO. You do not need to start the vehicle to perform the calibration, but you need to access the instruments panel.

- Press "Yes".
- Number "1" will appear, put into first gear.
- After about five seconds, number "2" will appear; put into second gear.
- Do this with all the gears of your vehicle.
- When the number that comes after the number of gears appears on the display (ex. if your bike has 6 gears, wait for number 7), press STOP to terminate calibration.

7.3 – Steering wheel angle / lean angle

It is possible to calibrate the linear potentiometers directly from the instrument.

8 – How to use and choose the finish line/circuit

Before using the device, you need to choose the way in which you want to use the Start device:

CLOSED CIRCUIT: circuits where the start and finish line coincide (ex. racetracks, kartdromes, etc.)

POINT TO POINT: circuits where the start and finish line do not coincide (ex. rallies, up-hill races, etc.)

ACCELERATION: for acceleration races where the finish line corresponds to reaching a certain distance or speed (ex. 0-100 km/h, ¼ mile, etc.)

DYNO BENCH: to use the lap timer even without GPS signal, ideal for dyno bench use

You select the finish line and circuit from the TRACK menu; access the Menu and click on the TRACK icon.

8.1 – Closed circuit

The standard mode of a track chronometer, in which a session is made of multiple times per lap; each time the finish line is crossed, the chronometer records the time taken to perform the lap and sets the chronometer back to zero to start a new lap.

On the first line where "Select" appears, click on RACE (you can amend your choice by pressing SHIFT); press CONFIRM to confirm.

8.2 – Point to point

Standing start mode; thanks to the internal accelerometer, Start Plus will retrieve the starting point; the finish line will be retrieved using the GPS coordinates stored on the device, like with a normal circuit, in the TRACKS folder of the memory card.

For a standing start, you need to set on MANUAL the start mode of the recording (see chap. 5); this way you can first position the vehicle up to the starting point, then press YES to request the beginning of the storage when the vehicle is standing and ready to start the lap.

In the TRACK menu, press "Select" and choose RACE (you can change your choice by clicking on SHIFT), press CONFIRM to confirm your choice.



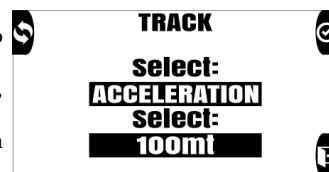
8.3 – Acceleration

Standing start mode; thanks to the internal accelerometer, Start will retrieve the starting point; the finish line will be retrieved using one of the options suggested depending on the type of race you are doing. Using this mode, each session has a single lap.

Press "Select" and choose ACCELERATION (you can change your choice by clicking on SHIFT), press NEXT to confirm your choice.

You will then be asked the finish line "Mode"; you can choose from the following entries: 100mt, 150mt, 400mt, 800mt, 1000mt, 0-100Km/h, 0-160Km/h, 0-60mph, 0-120mph, 1/2mile, 1/4mile, 1/8mile.

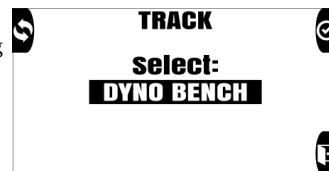
By choosing ACCELERATION, the storage function of a new session is automatically set to MANUAL so you can position the vehicle on the starting line and then press YES when the vehicle is standing and ready to start.



8.4 – Dyno Bench

Dyno Bench mode is the ideal to record data from your bike without GPS signal, so you can use it even on a building to record performance of your motorbike over a dyno bench.

Select DYNO BENCH and then press CONFIRM



9 – Storage of a new finish line/circuit

You can download a list of the most famous world circuits directly from our website; if your racetrack is not available, you can create a new circuit using the RacePro software (see the software manual for details) or directly on the track by doing as follows.

Enter the TRACK menu and select the NEW icon (button 3), a screen entitled NAME and a generic name for the new track (TRACKxxx) will appear, at this point you can press the CONFIRM and go to next step leaving the generic name or press the SHIFT button to modify the track name.

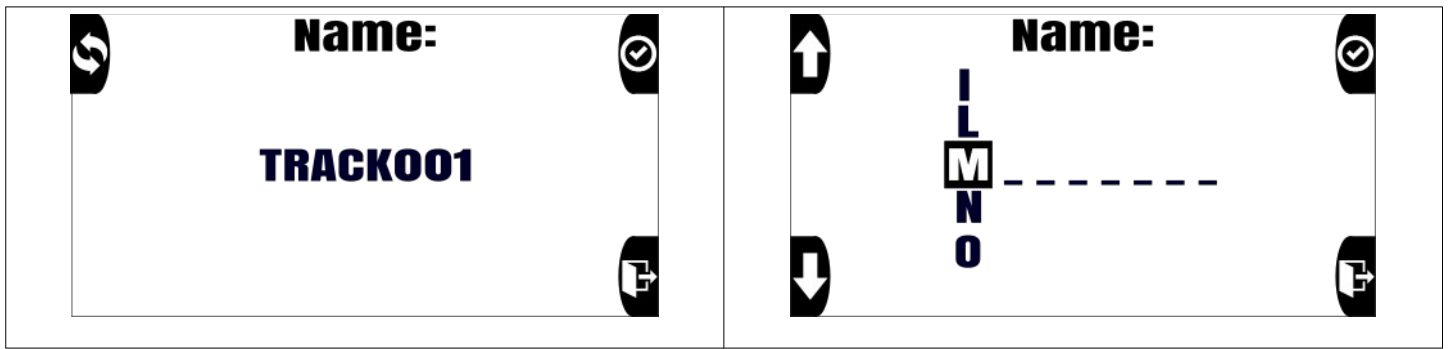
N.B: once the track has been created, it will no longer be possible to change the name assigned.

9.1 – Changing the name of the track

If you do not want to change the name of the track, press the CONFIRM button while the automatic track name is displayed, you will go directly to storing the coordinates (chap 9.2), if you want to change the name, press the REPLACE button (button 1).

The track name consists of 8 characters, you will need to select one or more characters for the track name.

Select the first character by scrolling through all those available using the ARROW buttons 1 and 3, press the CONFIRM button to confirm and move to the next character. So on for all characters.



If the name has less than 8 characters, press the CONFIRM button without selecting any characters. Once all eight characters have been confirmed, the dashboard automatically switches to the creation of the track coordinates

9.2 – Setting of finish line coordinates

GPS: it informs us whether the GPS receiver is connected to the satellites.

S1: saves the coordinates of split time 1.

FINISH: saves the coordinates of the finish line

EXIT: exits the procedure without saving

Wait for the GPS to retrieve the satellites (the letters GPS on a black background like in the photo); place yourself in the spot where you wish to store the coordinates, press the "S1" button if you wish to save split time 1, press "Finish" if you want to save the finish line. When you press the button you have chosen, the icon you selected will turn into a confirmation icon CONFIRM, if you press "Finish", the procedure will be complete and the track will be saved in the TRACKS folder of the memory with the name choosen; if you press "S1", the next screen will appear where you can set the second split time or simply the finish line, and so on up to three split times.

10 – Session analysis

To view the stored sessions, press the LAPS button (button 2) from the main screen

10.1 – Viewing all sessions

Select the ALL icon within the LAPS menu to view all stored sessions.

The sessions will be displayed in chronological order from the most recent, displaying the main data of the session. Press the CONFIRM button to view all times recorded in the session

Lap	Total Time	Split 1	Split 2	Split 3
0	00'07"85	00'00"00	00'00"00	00'00"00
1	00'48"95	00'16"32	00'32"47	00'00"00
2	00'50"25	00'17"54	00'33"52	00'00"00
3	00'55"36	00'18"45	00'35"19	00'00"00
4	00'49"27	00'16"48	00'32"55	00'00"00

For each lap will be displayed: the number, the total time and the various split times. Press the arrow buttons to move the cursor and select the desired lap with the CONFIRM button

By selecting the single lap it will be possible to view in detail all the main parameters memorized from the dashboard (GPS speed, RPM, TEMP, Thermo K), their maximum and minimum values together with a special display function of the value in real time. It is possible to select the parameter to be displayed by pressing the REPLACE key (button 3), the cursor will select the indicated parameter, then through the side arrows it will be possible to scroll the time by displaying the cursor on the graph, a point on the map and the corresponding values in time real.

Parameter	MIN	MAX	0m 15s
Speed km/h	50,4	131,0	80,5
RPM	9060	14409	11520
Temp °C	52,2	52,4	52,2
Thermo K	370	532	524

10.2 – Deleting a session

In the session selection screen, display the session to be deleted, then hold down the CONFIRM button until the message "Delete parameter: Are you sure?" appears. If you want to delete it, press the CONFIRM button.

10.3 – Session display by track

Select the TRACK icon in the LAPS menu.

A list of all the circuits in which the sessions have been stored will appear and the relative "Best Lap" on the side. Scroll the cursor using the arrows, select the desired track and press the CONFIRM button. All available sessions will be shown filtered for the selected track.

Track	Best Lap
CORRIDON	00'48"95
POMPOSA	00'52"36
ALA	00'56"22
CREMONA	00'59"18
MISANINO	00'58"95

10.3 – Session display by date

Select the DATE icon in the LAPS menu.

The summary of the first date will appear in chronological order, the best 3 times of the day will be displayed with relative minimum and maximum parameters. Scroll the dates using the arrows, select the date desire and press the CONFIRM button.

All available sessions will be shown filtered for the selected date.

19/11/21			
Speed Km/h	RPM	Temp °C	Thermo K °C
132.1 50.2	14409 0	52.7 28.9	540 262
1° Best 00'43"27			
132.1 50.4	14367 9233	52.5 50.5	529 368
2° Best 00'43"60			
130.5 51.7	14299 8941	52.7 50.5	536 370
3° Best 00'43"78			
131.0 50.4	14409 9060	52.2 50.0	532 370

11 – Viewing values in real time

GPS			
LAT: -115.356874 LON: -24.542365			
SPEED GPS: 154.5 DIR: 145.6			
BOX CONNECTIONS			
RPM: ----	SPEED 1: ----	SPEED 2: ----	
TEMP: ----	ANALOG 3: ----	ANALOG 6: ----	
Thermo K: ----	ANALOG 4: ----	ANALOG 7: ----	
Steering: -54	ANALOG 5: ----	ANALOG 8: ----	
DASH CONNECTIONS			
INDUCTIVE RPM: 12850 POWER: 0.00			
TEMP: 58.8 THERMO K: 145.6			
DASH CONNECTIONS			
INDUCTIVE RPM: 12850 POWER: 0.00			
TEMP: 58.8 THERMO K: 145.6			
DASH CONNECTIONS			
GEAR: 0 LEAN: +41			

The real time values screen allows you to see all the measurements retrieved by the GPS, all the analogue and digital measurements retrieved by the Box Expander.

To access this screen, access the menu, select the INFO icon and then select VALUE, a screen will open with all the values displayed in real time. With regard to the analogues (ANALOG X) and SPEED 1 and SPEED 2, these will appear with their default name if they have not been changed; if they have been changed, the name associated to the analogue access will appear.

To change the name, you need to open the configuration file CONFIG.CFG in the RacePro software and refer to the software manual.

12 – PC connection

12.1 – USB data download

The files contained in the memory are managed like any files in a digital archive memory (USB stick, memory card, etc.); this is why there is no download time, you simply need to connect the Start Plus device to the PC and copy the files contained in the SESSION folder.

The *.SES file is formatted as follows:

NAME DATE TIME CIRCUIT BEST-LAP IDEAL-TIME.SES

Do not rename the session files under any circumstances; Start will no longer be able to open the files.

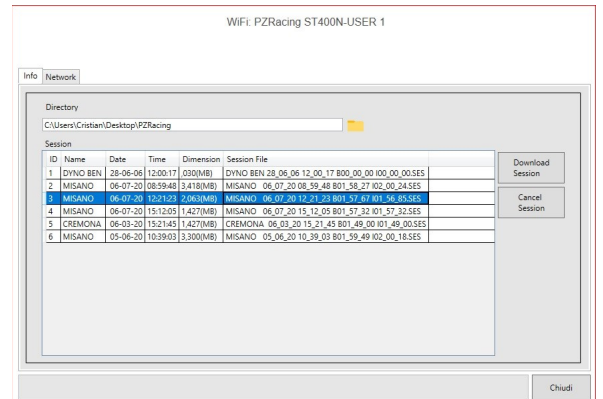
To eliminate the content of the memory, eliminate all the files inside the SESSION folder.

12.2 – Wi-Fi

The new Start Plus is equipped with an integrated Wi-Fi module that will be used for data download and settings related to storage. Wi-Fi turns on when the product is turned on and turns off when the motorcycle exceeds 30Km/h, to reactivate the Wi-Fi it will be necessary to turn off and on the GPS receiver.

N.B: the Wi-Fi module is active only on the main screen and when the product is charging, it is deactivated when you browse the menu.

After connection between RacePro and Start Plus, all the sessions stored in memory will be displayed, select a session and click the “Download Session” button to start the data download or the “Delete Session” button to delete the session.



The default data for the Wi-Fi network are the following:

Network name: PZRacing ST400P-USER 1

Password: 12345678

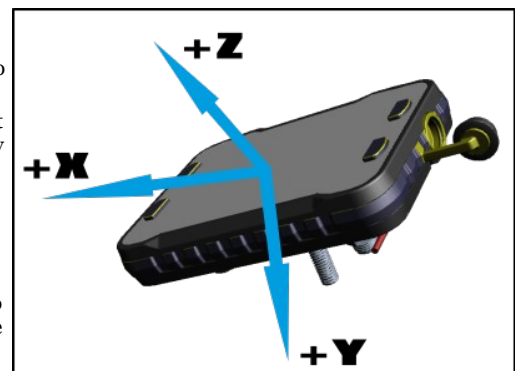
From the software, in the Network tab, it is possible, **and recommended**, to change the last part of the network name (USER 1) and the password. Once modified it will be necessary to close the RacePro program, turn off and on the dashboard.

13 – Accelerometer

Start Plus is equipped with an internal accelerometer that is used for detecting the start and to store the values on the recorded file.

We remind you that in order to have a correct reading of the values of the internal accelerometer it is necessary to install the Start Plus integral with the vehicle frame, therefore the data stored by installing the lap timer on the steering wheel or on the fork plate will not be truthful.

On the side the orientation of the accelerometer axes.



14 – Self-diagnosis

Start Plus has a self-diagnosis function that allows you to verify all the features of the product. To perform the diagnosis, access the Menu, press the INFO icon, then press the TEST icon; once

diagnosis has started, the product will verify all the internal components and signal OK in the event of a positive outcome and ERROR in the event of a negative outcome.

15 – Firmware installed and date of first use

It is possible to check both, the date of the first use of the product and the version of the firmware installed at start-up.

By holding down the power button, after the initial logo has been created, the version of the firmware installed will be displayed at the bottom right of the display and, at the bottom left, the date of first use (date on which the first session has been created).

16 – Replace the startup image

It is possible to change the startup image by inserting an image in the IMAGE folder. The image must have the following characteristics:

Format: Bitmap (.bmp)
Dimensions: 240x128px
Color: monochrome

Any image with different characteristics will be discarded and the default one will be used.

17 – Reset procedure

In the event that the dashboard freezes on any screen without the possibility of turning off either from the button or by connecting the USB cable, it is possible to turn off the device through a hidden reset procedure.

Simultaneously press the lower buttons (buttons 3 and 4) for approximately 15 seconds until the product turns off.

Do not use this procedure to turn off the dashboard routinely but only in case of need.

18 – Demo mode

Start has a demo mode which allows you to see the time per lap on the main screen and to change the values.

To activate demo mode, you need to create a folder in the memory of the product and call it DEMO (in capital letters); when switching on the device, Start will recognize the folder and activate the demo mode.

To bring the device back to normal mode, simply eliminate the folder from the memory.