

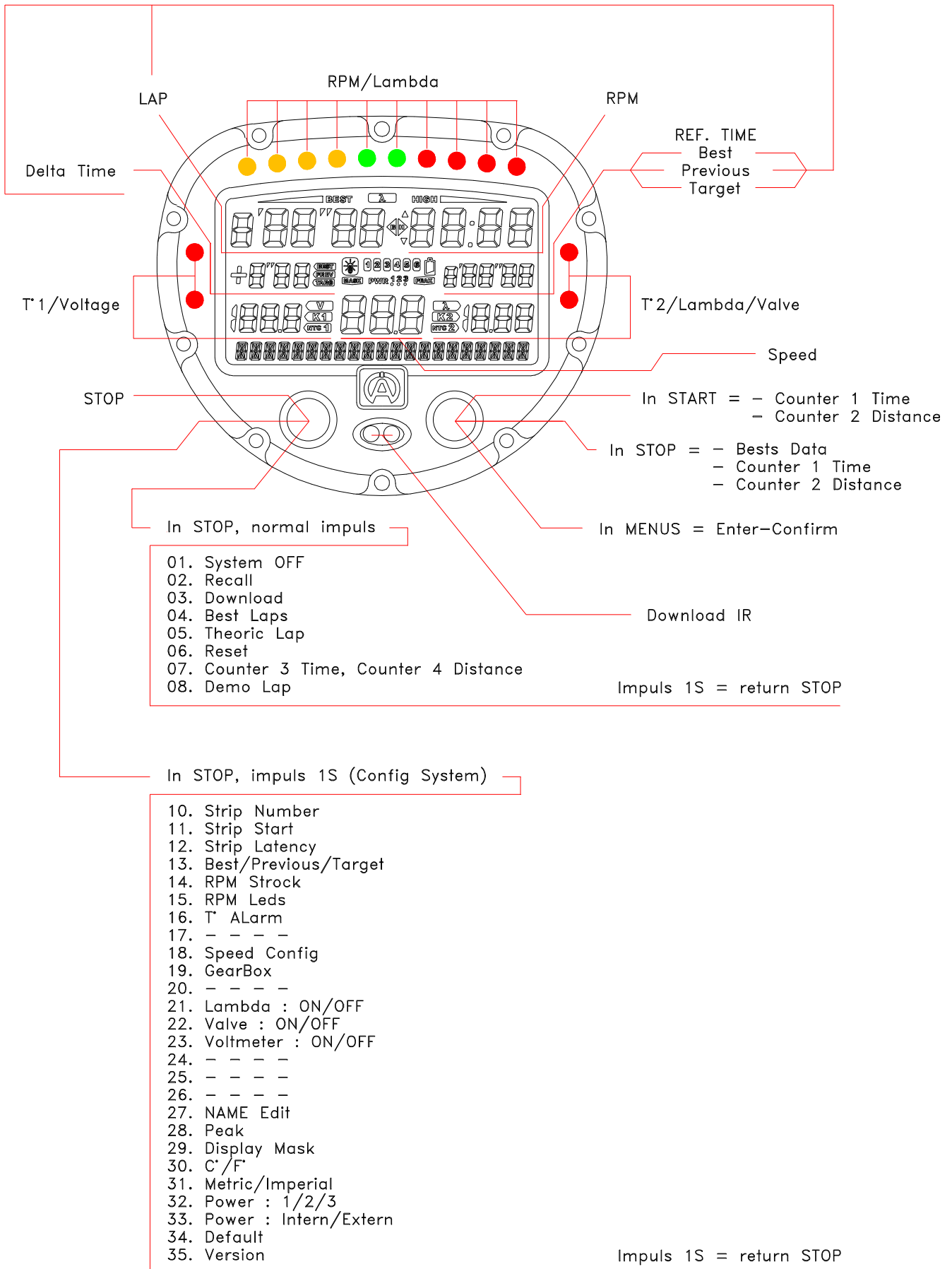
ALFANO[®]

CHRONOMETRIC SYSTEM

PRO+ LV A-145

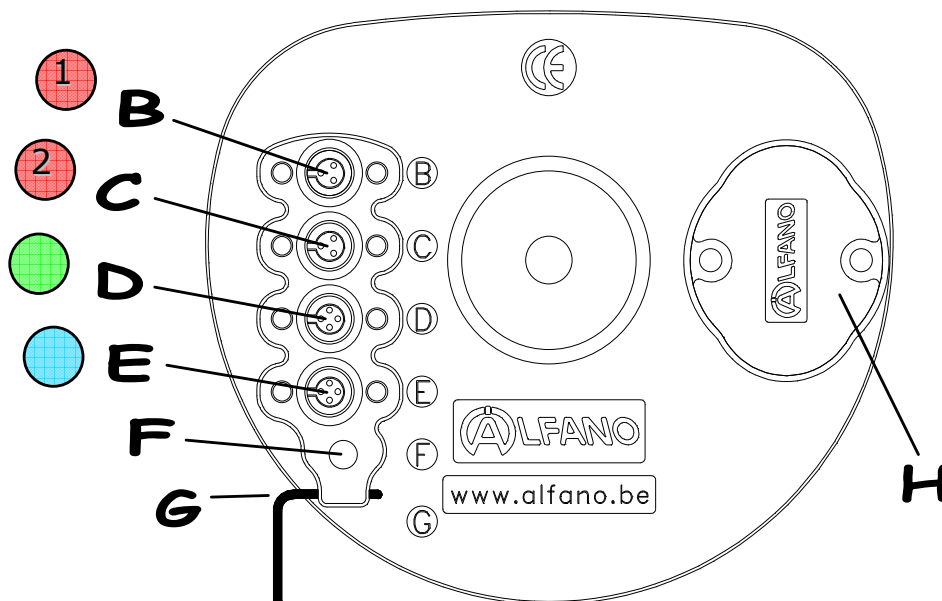


User Manual (EN)



Connection of the sensors

Backside:



B	RED (1) :	<u>T° K1</u> or <u>T° NTC1</u> or <u>VOLTMETER</u>
C	RED (2) :	<u>T° K2</u> or <u>T° NTC2</u> or <u>LAMBDA</u> or <u>VALVE</u>
D	GREEN	<u>MAGNETIC</u> or <u>INFRARED</u>
E	BLUE	<u>SPEED</u>
F		<u>RPM</u> (high sensitivity)
G		<u>RPM</u> (normal)
H		<u>2 BATTERIES</u> (Type AA – Code IEC : R6)

Information on data registration

The system contains 2 data registration modes functioning automatically.

1) Mode 1 (PRINCIPAL) the system registers all data of varying sensors every 0.1 seconds and up to 95% of the memory's capacity. NOTE: this mode is necessary for an in-depth analysis of the data with the software **VISUALDATA**. Afterwards, ALFANO automatically proceeds to mode 2.

2) Mode 2 (ENDURANCE) the system halts the registration every 0.1 seconds to leave space for the registration of the times with maximums and minimums (RPM, speed, temperatures, pressures) for every lap and for more than 24 hours.

Switching on the PRO+

Hold the two buttons « left and right » simultaneously pressed for two seconds. By releasing the buttons, the display appears and the system will ask you if you wish to activate the background screen or not. If you wish to activate it, press the right button to select the option « ON ». On the other hand, selecting the option « OFF » by pressing the left button or not doing anything, the device will automatically select the option « OFF » after a period of 2 seconds.

Detection display of weak batteries

When the batteries are weak, the system will detect it and the 4 bright temperature detector lights will start blinking rapidly one by one.



When the device is in the **START** mode, the system will automatically return to the **STOP** mode ten minutes after weak batteries have been detected, and the message « **CHANGE BAT** » will appear. It is absolutely necessary to replace the batteries since the system will refuse to restart in the **START** mode and access the menu « **Config System** ».



Note: a power cut while the ALFANO is in the **START** mode risks provoking a deterioration of the registered information.

During the display of detected weak batteries, the other bright lights and the background light will automatically switch off in order to reduce energy consumption.

Replacing the batteries

Important: it is imperative to use quality batteries from big brand names to avoid these from running in the device.

An interruption provoked by the battery's acid cancels the warranty.

Prior to replacing the batteries, always verify that the device is switched off, take off the lid of the battery compartment, remove the old batteries and afterwards place the two new batteries by verifying that the symbols "+" et "-" correspond to those engraved on the exterior of the compartment.

Protective hoods

IMPORTANT: the ports of the unused ports must always be closed by furnished caps.



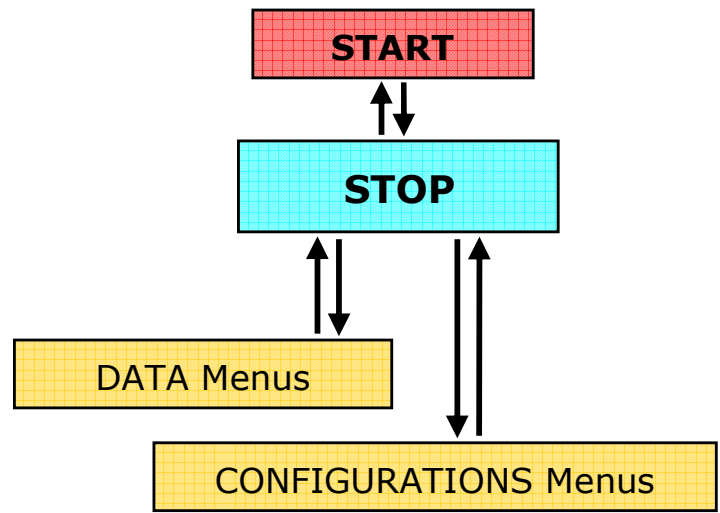
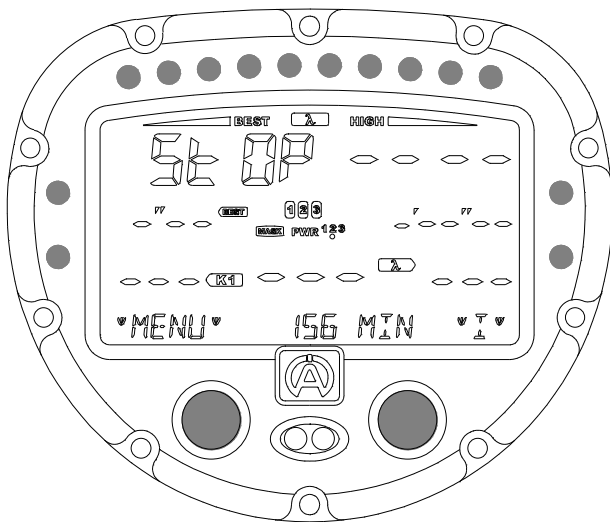
NOTICE: Please only use a screwdriver of the type **TX20** (this type of screwdriver is provided to you together with your ALFANO). Make sure you do not turn the screws to tightly. You could damage the casing.

The STOP mode

3 possibilities of being in the STOP mode.

- 1 As soon as you switch on the PRO+.
- 2 In de START mode, press the left button.
- 3 In the START mode, 10 seconds after the engine has stopped.

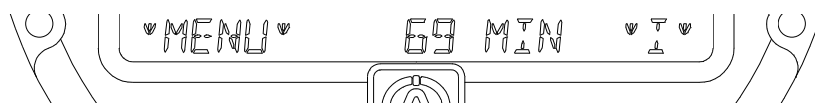
NOTE: the STOP mode is the base of all other menus. Indeed, it is as of the STOP mode that it can be accessed either in the START mode or in the DATA menu or in the CONFIGURATION menu.



The information obtained in the STOP mode

1	Press the right button: >>	<u>The best time.</u> <u>The highest RPM.</u> <u>The highest speed.</u> <u>The highest temperatures / LAMBDA.</u>
		For a period of 10 seconds
2	Press the same button another time before 10 seconds elapsed: >>	<u>Access to counter 1, total time</u> (hour/minute),
3	Press the same button another time before 10 seconds elapsed: >>	<u>Access to counter 2, distance run</u> (Km/Miles),
4	After 10 seconds or after having pressed the button (EXIT): >>	<u>Return to STOP.</u>

This screen will show you that:



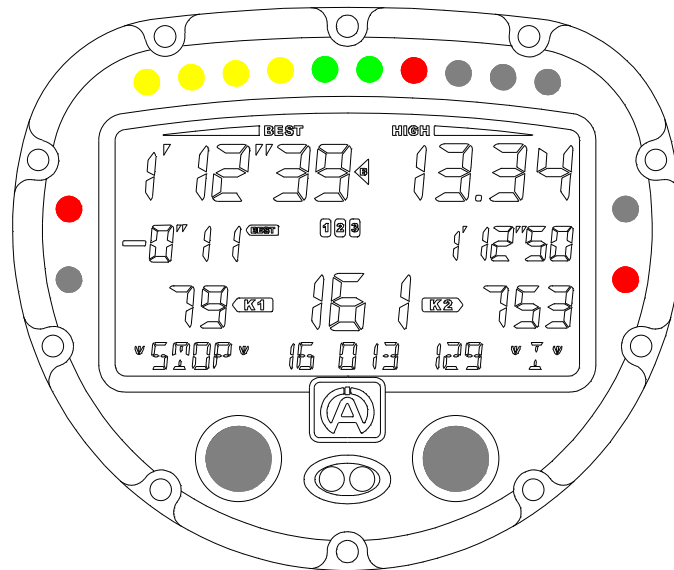
You have another 69 minutes of registration time in the PRINCIPAL mode. (PRINCIPAL mode, see page 3).

The START mode

The information obtained during the course on the PRO+:

As soon as you pass the magnetic field: the screen, following the configuration of the PRO+ and connected sensors, will show you the following:

- Time per lap
- Best time
- Previous time
- Target time
- Time gap (DELTA TIME)
- RPM + detector lights
- Speed
- Temperatures + luminous alarm
- Lambda + bright detector light
- Valve ON/OFF + bright detector light
- Battery tension



Other information during the course.

While you drive:

1	Press the right button:	>>	<u>Access to counter 1, total time</u> (hour/minute), for a period of 2 seconds.
2	Press the same button once more prior to the 2 seconds:	>>	<u>Access to counter 2, distance run</u> (Km/Miles), for a period of 2 seconds.
3	After the 2 seconds	>>	<u>Return to START.</u>

NOTE: the 2 counters « 1 and 2 » are reset to zero only during the erasing of the data by the menu « 0.6 RESET ».

This screen will show you:

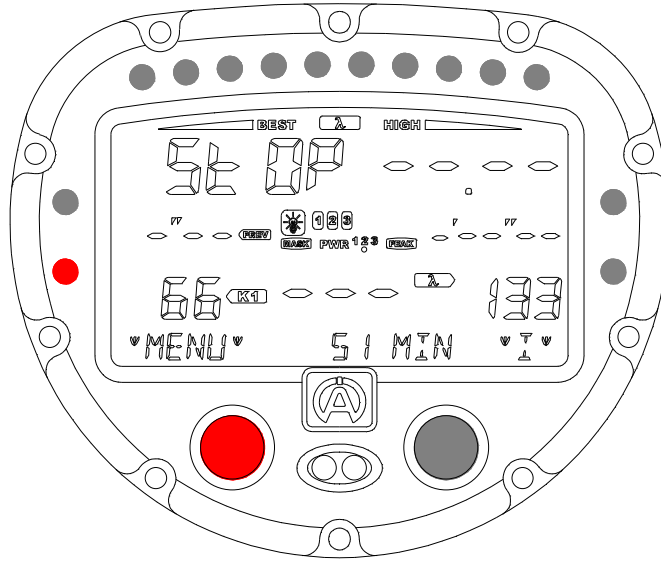


- (16) Number of exits
- (013) Number of laps of the last exit
- (129) Number of laps (total)

DATA MENU

While in the STOP mode:

Successively Press the left button to access the menus 1 to 8



Menu 0.1 : SYSTEM OFF

1	Press the right button:	>>	<u>Switching off the device.</u>
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Menu 0.2 : RECALL

1	Press the right button:	>>	<u>Access to all laps.</u>
2	Press the right/left button:	>>	<u>To consult the laps.</u>
3	Press the right button 1 sec. on (VIEW):	>>	<u>To analyze the lap by 0.1 second with the left and right buttons.</u>
4	Press the left button 1 sec. on (EXIT):	>>	<u>To exit.</u>

Menu 0.3 : Download

Presenting the interface A-421 to execute the transfer of data to the PC or VISION A-181.

Menu 0.4 : BEST LAPS

1	Press the right button:	>>	<u>Access to the best lap of each exit.</u>
2	Press the left/right button:	>>	<u>To consult the best lap of each exit.</u>
3	Press the right button 1 sec. on (VIEW):	>>	<u>To analyze the lap by 0.1 second with the left and right buttons.</u>
4	Press the left button 1 sec. on (EXIT):	>>	<u>To exit.</u>

Menu 0.5 : THEORICAL LAP

NOTE: This menu is accessible if all laps consist of minimum 2 split times and that this number of split times is the same for all laps.

1	Press the right button:	>>	<u>Access to the theoretical lap.</u>
2	Press the left/right button:	>>	<u>To consult the best split times.</u>
3	Press the left button 1 sec. on (EXIT) :	>>	<u>To exit.</u>

NOTE: During the consultation of the split times, the text line at the bottom of the screen indicates the lap belonging to you. (see page 6)

Menu 0.6 : RESET

1	Press the right button:	>>	<u>Execution of the deletion.</u>
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Menu 0.7 : COUNTERS « 3 et 4 »

NOTE: The 2 counters « 3 and 4 » can only be reset to zero in this menu.

1	Press the right button:	>>	<u>Access to counter 3, total time (hour/minute).</u>
2	Press the right button:	>>	<u>Reset to zero: time counter.</u>
3	Press the left button:	>>	<u>Access to counter 4, distance run (Km/Miles).</u>
4	Press the right button:	>>	<u>Reset to zero: distance counter.</u>
5	Press the left button:	>>	<u>To exit.</u>

Menu 0.8 : DEMO

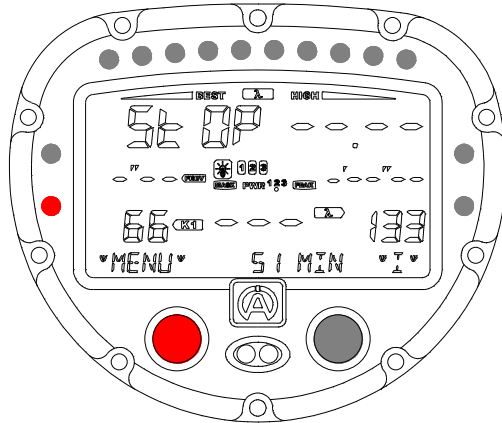
1	Press the right button:	>>	<u>Access to all laps.</u>
2	Press the left/right button:	>>	<u>To select the lap demo.</u>
3	Press the right button:	>>	<u>To start scrolling the selected lap in real time.</u>
4	Press the left/right button:	>>	<u>To exit.</u>

NOTE:

Pressing the left button for 1 second at the start of any menu will make the system return to the STOP mode.

CONFIGURATION MENU

While in the STOP mode, press the left button for 1 second:
 Afterwards, press the left button successively to access the menus 10 to 35.



Menu 10 : STRIP NUMBER

1	Successively Press the right button:	>>	<u>To configure the number of magnetic fields.</u>
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Menu 11 : STRIP START

1	Successively Press the right button:	>>	<u>To select the magnetic field on which the PRO+ must start.</u>
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Menu 12 : STRIP LATENCY

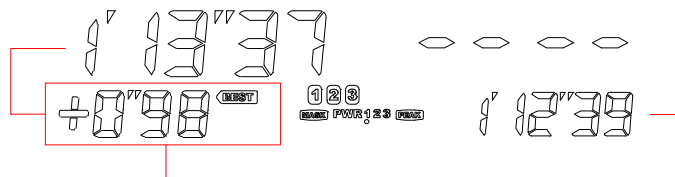
NOTE: This menu is only accessible when one single field is configured in menu 10. This configuration is useful: either to ignore one or several split times, or to avoid acquiring other infrared ALFANO emitters placed on the circuit at an untimely moment. This configuration does indeed allow you to program a time upon which the system will not react after having acquired the time per lap.

NOTICE: this programmed time must be absolute less than that of the time per lap.

1	Press the right button:	>>	<u>To enter the menu.</u>
2	Continue to press or successively press the right button on the UP arrows:	>>	<u>To increase the time.</u>
3	Continue to press or successively press the right button on the DOWN arrows :	>>	<u>To reduce the time.</u>
4	Press the left button:	>>	<u>To exit.</u>

Menu 13 : Best / Previous / Target

In order to select the comparison mode of the last loop time:



	>>	<u>BEST</u> : in the best lap
1	Successively Press the right button to select:	>> <u>PREVIOUS</u> : in the second to last lap
	>>	<u>TARGET</u> : in the programmed target time
2	To program the target time, wait 5 seconds at the TARGET position:	>> <u>So that the arrows would appear.</u>
3	Continue to press or successively press the right button on the UP arrows:	>> <u>To increase the time.</u>
4	Continue to press or successively press the right button on the DOWN arrows :	>> <u>To reduce the time.</u>
5	Press the left button:	>> <u>To exit.</u>

Menu 14 : RPM Strock

Configuring the coefficient to display the RPM:

1	Successively press the right button to:	>> select: /10, /8, /6, /5, /4, /3, /2.5, /2, /1.5, /1.25 X1, X1.33, X1.6, X2, X4, X8.
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NOTE: During the configuration and while the engine is running, you can verify the RPM at the right bottom of the screen.

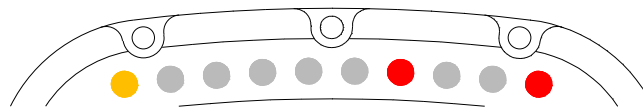
Menu 15 : RPM LEDs

Configuring the bright 10 LEDs functioning with the RPM:

NOTE: the PRO+ contains 2 configuration methods.

Method 1, configuration at 3 levels:

- A) Configuring the RPM (level 1) on LED 1.
- B) Configuring the RPM (level 2) on LED 7.
- C) Configuring the RPM (level 3) on LED 10.



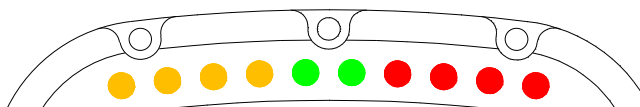
Afterwards, the PRO+ will calculate the RPM-interpolations for the other LEDs.

1	Press the right button:	>>	<u>To enter the menu.</u>
2	Press the right button on « LED 3 » :	>>	<u>To confirm the selection of method 1.</u>
3	Continue to press or successively press the right button on the UP arrows:	>>	<u>To increase the RPM of LED 1.</u>
4	Continue to press or successively press the right button on the DOWN arrows:	>>	<u>To reduce the RPM of LED 1.</u>
5	Press the left button:	>>	<u>To regulate LED 7.</u>

6	Continue to press or successively press the right button on the UP arrows:	>>	<u>To increase the RPM of LED 7.</u>
7	Continue to press or successively press the right button on the DOWN arrows:	>>	<u>To reduce the RPM of LED 7.</u>
8	Press the left button:	>>	<u>To regulate LED 10.</u>
9	Continue to press or successively press the right button on the UP arrows:	>>	<u>To increase the RPM of LED 10.</u>
10	Continue to press or successively press the right button on the DOWN arrows:	>>	<u>To reduce the RPM of LED 10.</u>
11	Press the left button:	>>	<u>To exit.</u>

Method 2, configuration at 10 levels:

- A) Configuring the RPM (level 1) on LED 1.
- B) Configuring the RPM (level 2) on LED 2.
- C) Configuring the RPM (level 3) on LED 3.
- D) Configuring the RPM (level 4) on LED 4.
- E) Configuring the RPM (level 5) on LED 5.
- F) Configuring the RPM (level 6) on LED 6.
- G) Configuring the RPM (level 7) on LED 7.
- H) Configuring the RPM (level 8) on LED 8.
- I) Configuring the RPM (level 9) on LED 9.
- J) Configuring the RPM (level 10) on LED 10.



1	Press the right button:	>>	<u>To enter the menu.</u>
2	Press the left button, followed by pressing the right button on « LED 10 »:	>>	<u>To confirm the selection of method 2.</u>
3	Continue to press or successively press the right button on the UP arrows:	>>	<u>To increase the RPM of LED 1.</u>
4	Continue to press or successively press the right button on the DOWN arrows:	>>	<u>To reduce the RPM of LED 1.</u>
5	Press the left button:	>>	<u>To regulate LED 2.</u>

Continue the same operations to regulate the other LEDs one by one until LED 10.

6	Press the left button:	>>	<u>To exit.</u>
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Menu 16 : ALARM T°

Regulating the 4 bright detector lights, LOW temperature and HIGH temperature of:

T1
T2

12

1	Press the right button to enter the menu and to regulate:	>>	<u>The LOW level of: T1.</u>
2	Continue to press or successively press the right button on the UP arrows:	>>	<u>To increase the level.</u>
3	Continue to press or successively press the right button on the DOWN arrows:	>>	<u>To reduce the level.</u>
4	Press the left button to regulate:	>>	<u>The HIGH level of: T1.</u>
5	Continue to press or successively press the right button on the UP arrows:	>>	<u>To increase the level.</u>
6	Continue to press or successively press the right button on the DOWN arrows:	>>	<u>To reduce the level.</u>
7	Press the right button to regulate:	>>	<u>The LOW level of: T2.</u>

Continue the same operations to regulate the levels of:

T2 : LOW and HIGH

8	Press the left button:	>>	<u>To exit.</u>
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NOTE: in the STOP and START modes:

The temperatures are lower than the LOW levels = The detector lights REMAIN ILLUMINATED.
 The temperatures higher than the HIGH levels = The detector lights ARE BLINKING.

Menu 17 : ----- EMPTY

Menu 18 : SPEED Config

Configuring the speed with or without sensor.

With the speed sensor:

1) Configuring the length of the wheel circumference:

1	Press the right button :	>>	<u>To enter the menu.</u>
2	Press successively the right button :	>>	<u>To select « ON ».</u>

ON = sensor installed.

3	Press the left button :	>>	<u>To confirm « ON ».</u>
4	Continue to press or successively press the right button on the DOWN arrows :	>>	<u>To reduce the Circumference.</u>
5	Continue to press or successively press the right button on the UP arrows :	>>	<u>To increase the Circumference.</u>
6	Press the left button :	>>	<u>To exit the menu.</u>

Without the speed sensor:

- 1) Configuring the length of the wheel circumference,
- 2) Configuring the number of teeth of the engine pinion,
- 3) Configuring the number of teeth of the big axle:

1	Press the right Burton :	>>	<u>To enter in the menu.</u>
2	Press successively the right button :	>>	<u>To select « OFF ».</u>
OFF = sensor NOT installed			
3	Press the left button :	>>	<u>To confirm « OFF ».</u>
4	Continue to press or successively press the right button on the DOWN arrows :	>>	<u>To reduce the Circumference.</u>
5	Continue to press or successively press the right button on the UP arrows :	>>	<u>To increase the Circumference.</u>
6	Press the right button :	>>	<u>To set up the number of teeth of the engine pinion.</u>
7	Continue to press or successively press the right button on the DOWN arrows :	>>	<u>To reduce the number.</u>
8	Continue to press or successively press the right Burton on the UP arrows :	>>	<u>To increase the number.</u>
9	Press the right button :	>>	<u>To set up the number of teeth of the big axle.</u>
10	Continue to press or successively press the right button on the DOWN arrows :	>>	<u>To reduce the number.</u>
11	Continue to press or successively press the right button on the UP arrows :	>>	<u>To increase the number.</u>
12	Press the left button :	>>	<u>To exit the menu.</u>

NOTE: The measure is represented either in MILLIMETER « Metric » or in INCH « Imperial ».

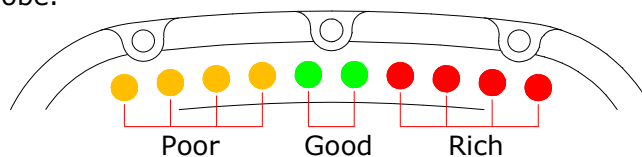
Menu 19 : ----- EMPTY

Menu 20 : ----- EMPTY

Menu 21 : LAMBDA ON / OFF

Activate « ON/OFF » or not the LAMBDA sensor:

NOTE: when the LAMBDA sensor is in the « ON » position, the 10 high LEDs of the PRO+ will solely function with the Lambda probe.



1	Press the right button:	>>	<u>To enter the menu.</u>
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2	Successively press the right button:	>>	<u>To activate « ON/OFF » or not the LAMBDA sensor.</u>
3	Press the left button:	>>	<u>To exit.</u>

NOTICE: When the LAMBDA sensor is activated « ON », this sensor will replace the sensor of temperature T2 « k » or the VALVE sensor, according to the previous configuration.

Menu 22 : VALVE ON / OFF

Activate « ON/OFF » or not the VALVE sensor:

1	Press the right button:	>>	<u>To enter the menu.</u>
2	Successively press the right button:	>>	<u>To activate « ON/OFF » or not the VALVE sensor.</u>
3	Press the left button:	>>	<u>To exit.</u>

NOTICE: When the VALVE sensor is activated « ON », this sensor will replace the sensor of temperature T2 « k » or the LAMBDA sensor, according to the previous configuration.

Menu 23 : VOLTMETER ON / OFF

Activate « ON/OFF » or not the VOLTAGE sensor:

1	Press the right button:	>>	<u>To enter the menu.</u>
2	Successively press the right button:	>>	<u>To activate « ON/OFF » or not the VOLTM sensor.</u>
3	Press the left button:	>>	<u>To exit.</u>

NOTICE: When the VOLTMETER sensor is activated « ON », this sensor will replace the temperature sensor T1 « k ».

Menu 24 : ----- EMPTY

Menu 25 : ----- EMPTY

Menu 26 : ----- EMPTY

Menu 27 : NAME Edit

To make your name or a sentence of maximum 21 characters appear on the screen:

1	Press on right button :	>>	<u>To enter in the menu.</u>
2	Press successively the right button :	>>	<u>To choose the letter/the number needed.</u>
3	Press the left button :	>>	<u>To confirm and position on the following case.</u>
4	Press the left button after the 21st case :	>>	<u>To exit.</u>

NOTE: Your name (or the sentence) will appear on the screen on activation and on extinction of the system during 4 seconds.

Menu 28 :	PEAK
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Configure the high value hangover time « RPM » and « speed » during the course:

1	Press the right button:	>>	<u>To enter the menu.</u>
2	Successively press the right button:	>>	<u>To regulate the hangover time of the RPM, OFF at 4.4 seconds.</u>
3	Press the left button:	>>	<u>To select: SPEED.</u>
4	Successively press the right button:	>>	<u>To regulate the hangover time of the SPEED, OFF at 4.4 seconds.</u>
5	Press the left button:	>>	<u>To exit.</u>

Menu 29 :	DISPLAY MASK
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Hiding the information on the screen during the course:

1	Press the right button:	>>	<u>To enter the menu « TIME ».</u>
2	Successively press the right button:	>>	<u>To select: ON / OFF.</u>
3	Press the left button:	>>	<u>To enter the menu « DELTA TIME »</u>
4	Successively press the right button:	>>	<u>To select: ON / OFF.</u>
5	Press the left button:	>>	<u>To enter the menu « REF. TIME»</u>
6	Successively press the right button:	>>	<u>To select: ON / OFF.</u>
7	Press the left button:	>>	<u>To enter the menu « RPM ».</u>
8	Successively press the right button:	>>	<u>To select: ON / OFF.</u>
9	Press the left button:	>>	<u>To enter the menu « SPEED ».</u>
10	Successively press the right button:	>>	<u>To select: ON / OFF.</u>
11	Press the left button:	>>	<u>To exit.</u>

NOTE: As soon as the PRO+ is in the START mode, all configured information OFF will be hidden.

Menu 30 :	C° / F°
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Configuring the temperature measuring unit:

1	Press the right button:	>>	<u>To enter the menu.</u>
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2	Successively press the right button:	>>	<u>To select: CELCIUS / FAHRENHEIT.</u>
3	Press the left button:	>>	<u>To exit.</u>

Menu 31 :	METRIC / IMPERIAL
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Configuring the distance measuring unit:

1	Press the right button:	>>	<u>To enter the menu.</u>
2	Successively press the right button:	>>	<u>To select: METRIC / IMPERIAL.</u>
3	Press the left button:	>>	<u>To exit.</u>

NOTE:

METRIC = For the speed: Km/h
 For counters 2 & 4: meters/KM.
 For the adjustment of the wheel circumference: mm

IMPERIAL = For the speed: Miles/Hour
 For counters 2 & 4: Miles
 For the adjustment of the wheel circumference: Inch

Menu 32 :	POWER : 1 / 2 / 3
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Configuring the luminosity of the LEDs and background lighting of the PRO+:

1	Press the right button:	>>	<u>To enter the menu.</u>
2	Successively press the right button:	>>	<u>To select: the POWER: 1, 2 or 3.</u>
3	Press the left button:	>>	<u>To exit.</u>

NOTE: The stronger the detector lights and the background light are, the faster the batteries discharge.

Menu 33 :	POWER : INTERN / EXTERN
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Configuring the power source of the PRO+:

- Either the PRO+ takes its power from its own batteries. In this case, it is advisable to use, with an eye toward energy efficiency of the batteries, the mode:
INTERN. = the PRO+ automatically shuts off after 10 minutes of non-use.
- Or the PRO+ takes its power from the battery of the vehicle with the A-431. In this case, you can select the mode:
EXTERN. = The PRO+ never shuts off but is placed in hibernation mode after 30 minutes of non-use and is automatically activated when the engine restarts.

1	Press the right button:	>>	<u>To enter the menu.</u>
2	Successively press the right button:	>>	<u>To select: INTERN / EXTERN.</u>
3	Press the left button:	>>	<u>To exit.</u>

Menu 34 :	DEFAULT
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Restoring the PRO+ with the factory parameters.

1	Press the right button:	>>	<u>To enter the menu.</u>
2	Press the right button:	>>	<u>To confirm the restoration of the PRO+</u>
3	Press the left button:	>>	<u>To exit.</u>

Menu 35 :	VERSION
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This menu gives you the possibility of seeing the serial number and the version of the software of your PRO+.

NOTE:

Pressing the left button for 1 second at the start of any menu will make the system return to the STOP mode.

Guarantee conditions

All our devices have been subjected to in-depth factory tests and are covered by a 24-month guarantee against manufacturing defects. The guarantee comes into force from the date of purchase. The date of purchase is the date indicated on the invoice/till receipt given by the seller at the moment of sale. The manufacturer undertakes to repair and replace free of charge any parts which have a manufacturing defect during the guarantee period. Any defects which cannot be clearly attributed to the material or the manufacturer will be examined at one of our approved after sales service centres and invoiced depending on the results. The guarantee does not apply in cases of opening the device, of accidental damage, negligence or inappropriate usage, in cases of installation which is unsuitable, erroneous or does not comply with the instructions appearing in the notice and in cases of phenomena not associated with the rules for operation and use of the device. The guarantee is invalidated in cases of repair or handling carried out by unauthorised third parties. Intervention under guarantee does not give the right to replacement of the device or to extension of the guarantee. Intervention under guarantee is carried out at one of our approved after sales service centres or at our head office. In the latter case, the item must reach our establishment postage paid, in other words the transport costs are borne by the user. The manufacturer accepts no responsibility in case of damage to persons or goods caused by poor installation or incorrect usage of the device.

Modifications to products

Alfano SA applies a method of ongoing development. Consequently, **Alfano SA** reserves the right to make changes and improvements to any product described in this document, without prior warning.

Damages and responsibilities

The products are used under the customer's sole direction and responsibility, and consequently the customer shall bear the damages that the products might suffer or cause. No compensation will be paid for removal of enjoyment, and ALFANO cannot be held responsible for the direct or indirect consequences of their use or rendering useless. ALFANO's obligations are duty of care and not a performance obligation.

Disposal

The device must be disposed of with respect for the environment.
The stopwatch and its accessories contain a lot of plastic parts.
When the stopwatch or one of its accessories no longer functions, they must be dealt with according to the laws of the country. Spent batteries must be disposed of in accordance with the regulations in force in your country.

ALFANO S.A.

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