User Manual

MyChron6 – MyChron6 2T

Release 1.05



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Introduction

The first My-Chron appeared on the market more than 30 years ago!

The original simple concept of a personal chronograph automatically showing lap times and other important information to the racer remained the core of the system that, in the meantime, has improved and improved till arriving at the actual sixth generation.

Now we are introducing MyChron6, and we are deeply grateful to all our dealers, distributors, friends that have spent their lives on the track, attending our systems, helping everybody to start using them, repairing them when required, giving us important feedback that allowed us to constantly improve them in all these years.

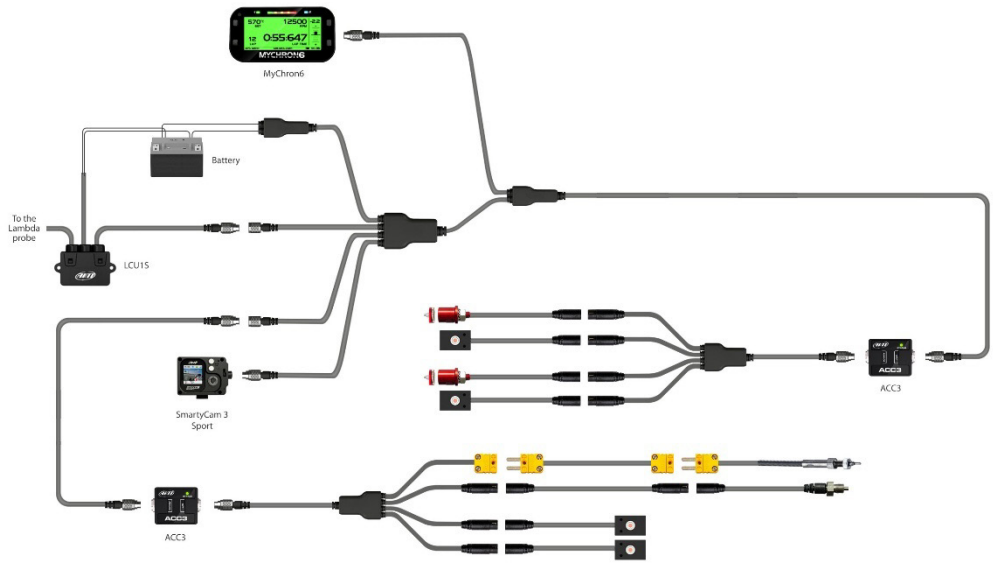
Thank you.



1 – MyChron6 in few words

MyChron6 offers the following features:

- **RPM input** from sparkplug cable, for both 2 and 4 cycles engines.
- One or two temperature inputs. It is possible to choose between thermocouple or thermoresistors; the sensors can read **Exhaust Gas**, **Under spark** and **Water Temperature**
- Through BLE (Bluetooth Low Energy) it is possible to read any **heart rate** sensor
- Thanks to an internal 6 axis IMU it is possible to get the **steering wheel angle**
- It samples and shows all parameters coming from GPS, Glonass and Galileo constellations: **speed, position, linear and lateral acceleration**, with a precision of one millisecond. The receiver has been specifically tuned for kart races and can thereby stand all lateral and longitudinal accelerations, direction changes and vibrations without problems
- GPS receiver is used for calculating **lap/split times** too; the internal database includes more than 2500 tracks, thereby automatically recognizing the track you are racing on, its start/finish line and the possible splits
- All data are stored in an **USB memory card** and/or in a **4GB internal memory**, from which they can be downloaded on a PC via USB or via Wi-Fi and analysed using AiM Race Studio 3 software
- A 16 grey levels **wide display**
- A configurable RGB **backlight** that, thanks to the light sensor, automatically switches on in low light conditions
- 5 configurable RGB LEDs you may configure to work in two different ways: they may help you choose the best up-shift moment in case you are driving a gear kart or you may use them for showing the real-time gap between the current lap and your reference lap.
- 2 RGB alarm LEDs that can be switched on in seven different colours
- A Lithium ions battery that may power your device up to 20 hours.
- A **CAN** expansion bus, for connecting:
    - SmartyCam 3
    - LCU1S Lambda controller
    - ACC3
    - Infrared temperature controller
- A **Second CAN**, for connecting future external devices



2 – What is in the kit

MyChron6/MyChron6 2T are available in different kits with thermocouples, thermo-resistor or both.

MyChron6 kits include:

- MyChron6 +1 **CHT** (Binder connector) +100cm USB cable **XM6CHT140**
- MyChron6 + 1 **CHT** (Mignon connector) + patch cable + 100cm USB cable **XM6CHT040**
- MyChron6 + M5 **EGT** + patch cable+ 100cm USB C cable **XM6EGT0**
- MyChron6 + T12 **EGT** + patch cable+ 100cm USB 2.0 cable **XM6EGTT12**
- MyChron6 + Long Life T12 **EGT** + patch cable+ 100cm cable **XM6EGTT12LL**
- MyChron6 + M10 Water **TR** + patch cable+ 100cm USB cable **XM6TRM10**

MyChron6 2T kits include:

- MyChron6 2T + 1**CHT** (Mignon) + patch cable for 1**TR** + 1**TC** + 100cm USB cable **XM62TCHT11**
- MyChron6 2T + 1 **CHT** (Mignon) + patch cable for 2 TC+ 100cm USB 2.0 cable **XM62TCHT07**
- MyChron6 2T + M5 **EGT** + patch cable for 1**TC** + 1**TR**+ 100cm USB cable **XM62TEGT11**
- MyChron6 2T + M5 **EGT** + patch cable for 2 **TC** + 100cm USB cable **XM62TEGT07**
- MyChron6 2T + T12 **EGT** + patch cable for 2TC + 100cm USB cable **XM62TT1211**
- MyChron6 2T + T12 **EGT** + patch cable for 1**TC** +1**TR**+ 100cm USB cable **XM62TT1207**
- MyChron6 2T + Long Life T12 **EGT** + patch cable for 1**TC** + 1**TR** + 100cm USB cable **XM62TT12LL11**
- MyChron6 2T + Long Life T12 **EGT** + patch cable for 2**TC** + 100cm USB cable **XM62TT12LL07**
- MyChron6 2T + M10 Water **TR** + patch cable for 1**TC** + 1**TR**+ 100cm USB 2.0 cable **XM62TTRM1011**
- MyChron6 2T + M10 Water **TR** + patch cable for 2TR+ 100cm USB cable **XM62TTRM1008**

Please note:
CHT: cylinder head thermocouple with Mignon or with Binder connector
EGT: exhaust gas thermocouple
TC: Thermocouple
TR: Thermoresistor
USB Cable: USB 2.0 Type A -Type C cable

Optional and spare parts.

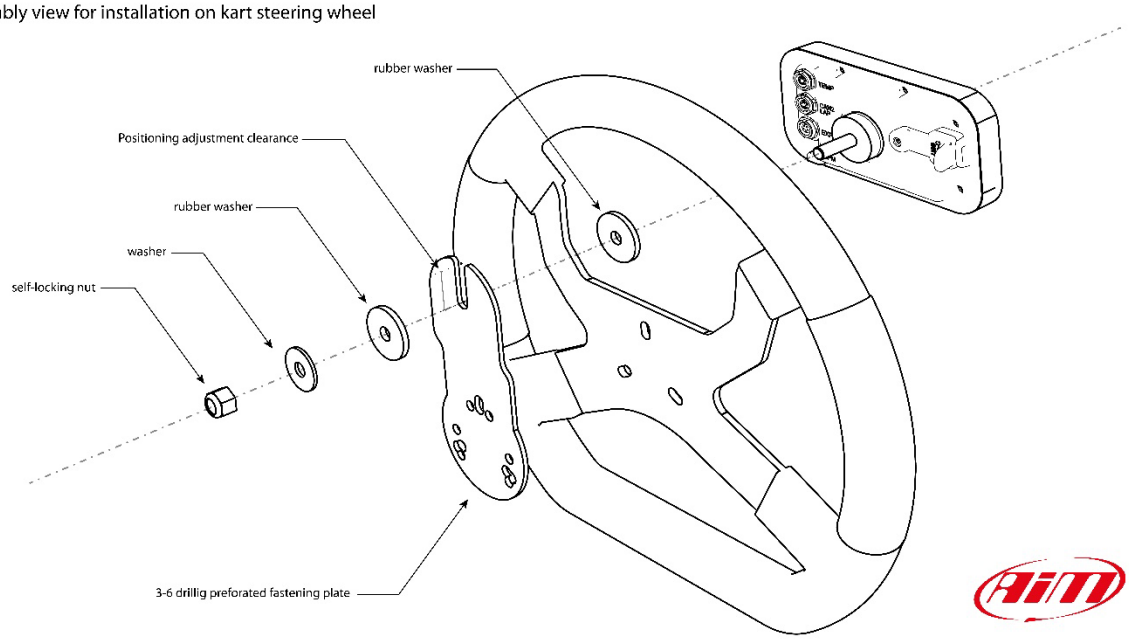
- MyChron6 external power cable **V02557020**
- M10 Water thermo-resistor **X05TRM10A4512BPS**
- T12 Exhaust Gas thermocouple **X05TCM12A1175M**
- T12 Long Life Exhaust Gas thermocouple **X05GAS12A4510M**
- M5 Exhaust Gas thermocouple **CVGAS807**
- 14mm diameter Cylinder Head Thermocouple – Binder connector **X05SOT14A4517BML**
- 14mm diameter Cylinder Head Thermocouple – Mignon connector **X05SOT14A4516MS**
- Patch cable with Mignon connector **V03CCB15M**
- Patch cable with Binder connector **V02PCB15BTR**
- Patch cable 1 thermo-resistor + 1 thermocouple **V02557110**
- Patch cable 2 thermocouples **V02557070**
- Patch cable 2 thermo-resistor **V02557080**
- 7 pins CAN 2 + Lap cable **V02602010**
- 7 pins CAN2 cable **V02602020**
- 7 pins lap cable **V02602030**
- USB 2.0 A-Type C-Type cable **X90TMPC10101**
- 16Gb Mini USB Drive **3IRUSBD16GB**

3 – Installation and powering

Your MyChron6 has been designed to be installed on a kart steering wheel. Please install the rubber washers above and under your kart steering wheel. When installing the harness be careful not to over tighten the plastic stripes because vibrations can cut the harness sheath and leave the cable long enough to stand the steering wheel angle.

MYCHRON6

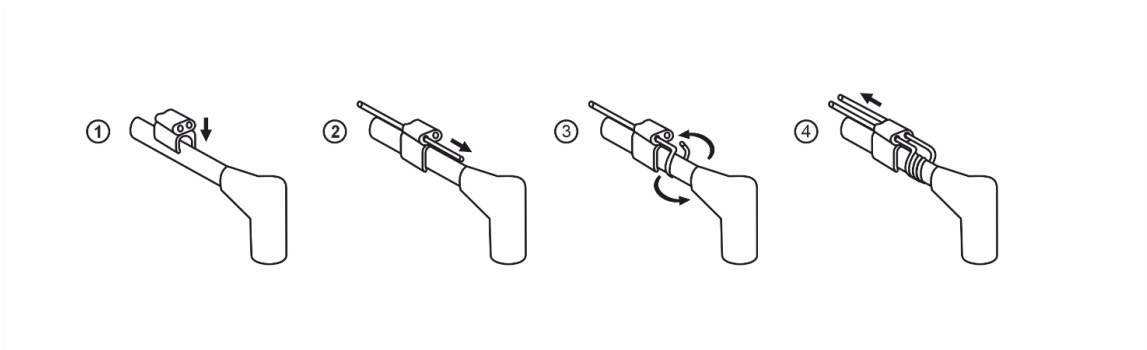
Assembly view for installation on kart steering wheel



3.1 – Installing the RPM cable on a four-stroke engine

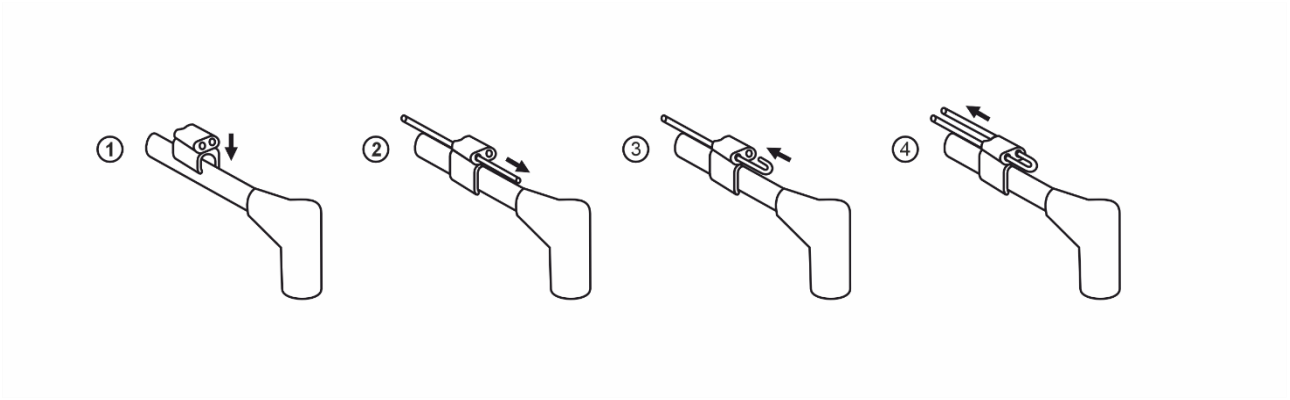
A clean RPM signal is the key to a good performance of your MyChron6.

To get a clean signal, it is important for the RPM lead be installed correctly in order to pick up the best signal from the plug wire



3.2 – Installing the RPM cable on a two-stroke engine

Make the RPM cable pass in the clip without wrappings on the spark wire as shown here below.



3.3 – Recharge and powering

MyChron6 can be charged in two ways:

- through the external power connected to the 5 pins Binder connector placed on the back of MyChron6
- Through the 100cm A-Type C-Type USB cable included in the kits

Needed charging time for a completely discharged device is about 4h and the required power delivery to enable fast charge is of almost 10 Watt.
USB connection through a PC can increase charging time if the power delivered is not enough (i.e. using a limited USB port on old PC).

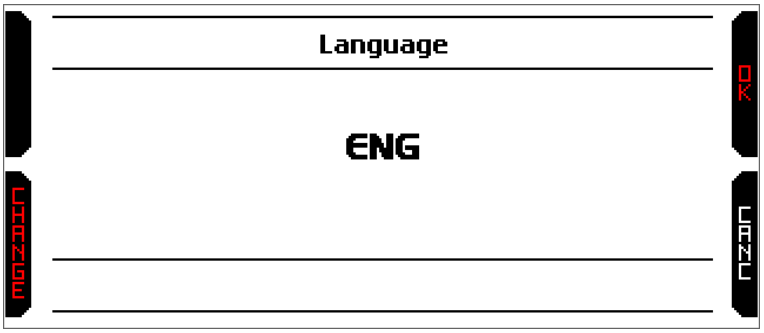
4 – Configuration Menu

MyChron6 can be fully configured through its onboard Menu. When switched on for the first time, a configuration wizard guides the user through the setup of all key features. RaceStudio 3 software is used to download and analyse data, manage the track database and configure additional featured as described in the following guide: https://www.aim-sportline.com/download/doc/eng/mychron6/aim_mychron6_rs3_user_guide_eng.pdf

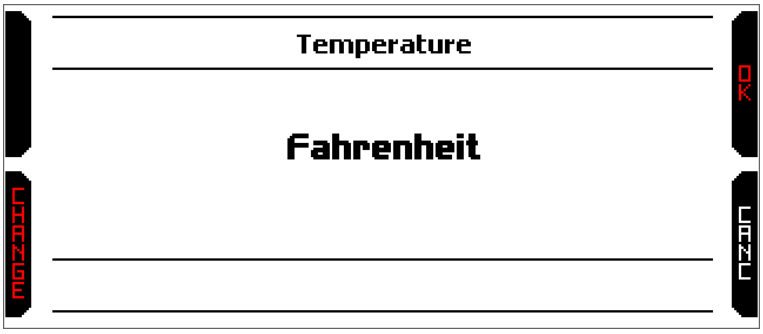
4.1 – Configuration wizard

Configuration wizard prompts some configuration pages shown here below. **Please note**: all pages are deeply explained in the related paragraphs.

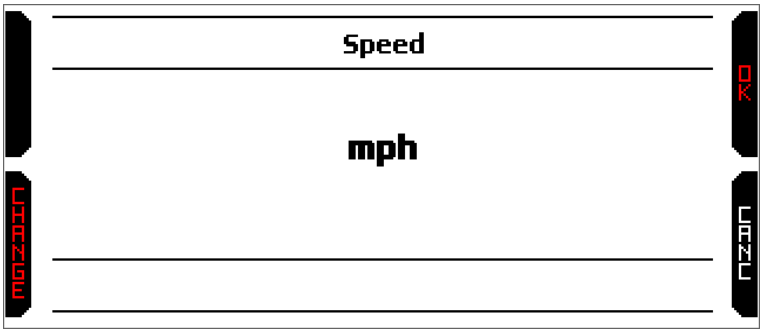
- Language: press “CHANGE” to change the language or “OK” to leave the default one.



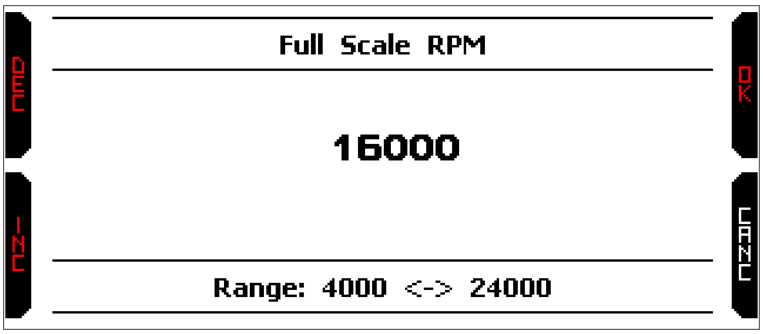
- Temperature: press “CHANGE” to change the temperature measure unit or “OK” to leave default one.



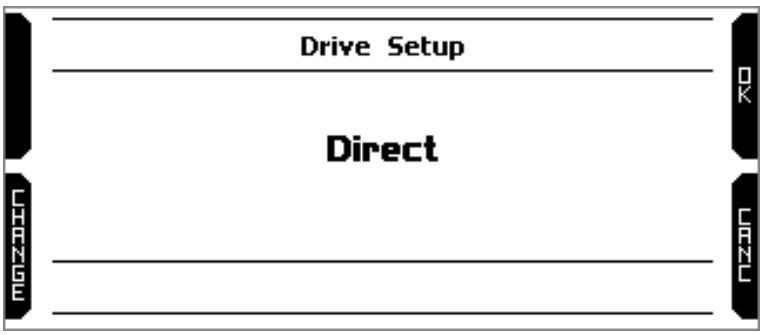
- Speed: press “CHANGE” to change the speed measure unit or “OK” to leave the default one.



- Full scale RPM: press “DEC” or “INC” to set Full RPM scale or “OK” to leave the default one.



- Drive Setup: press “CHANGE” to change the drive setup or “OK” to leave the default one.



4.2 – System Configuration

In addition to the configuration wizard MyChron6 features a full configuration menu deeply explained in the following pages.

To enter press+ “MENU” button and the page here below is prompted.



The icons allow you to set:



Backlight



System settings



Counters



WiFi



Bluetooth



Track Management



Language and zone



Configuration Wizard; **starts automatically at first switch on**.



Clear Memory

4.2.1 – Backlight

You can set the backlight as:

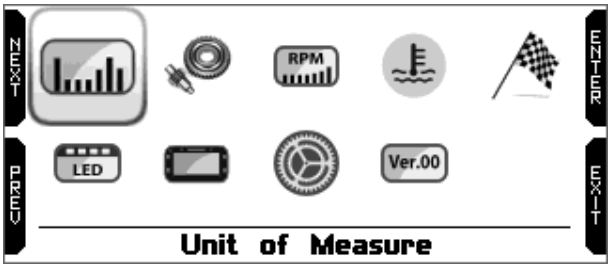
- "ON"
- "OFF"
- "AUTO": in this case the light sensor placed on the front of your MyChron6 switches on/off the backlight according to the ambient light level.

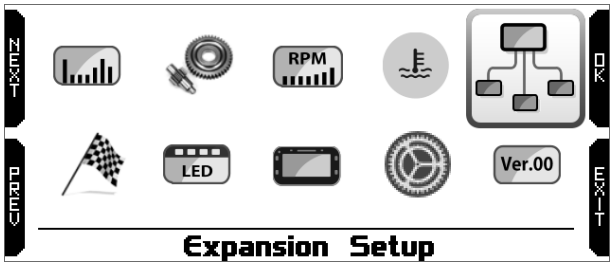
Available backlight colours are:



4.3 – System settings

MyChron6 enter main configuration page. In case MyChron6 is connected to an AiM expansion module the related icon appears (right image below).





The icons to set are:



Unit of measure



Drive setup



RPM Setup



Temperature Setup



Lap Time Setup



LED Setup



Display Setup



General Settings



System Info



Expansion Setup

4.3.1 – Unit of measure

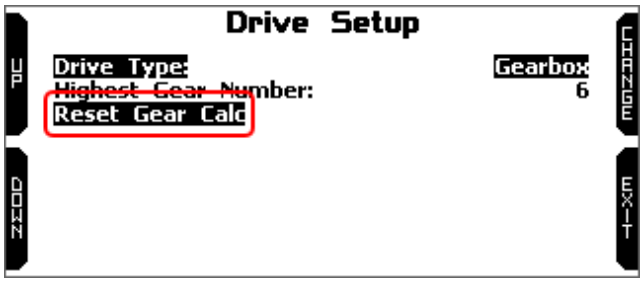
You can set the unit of measure of:

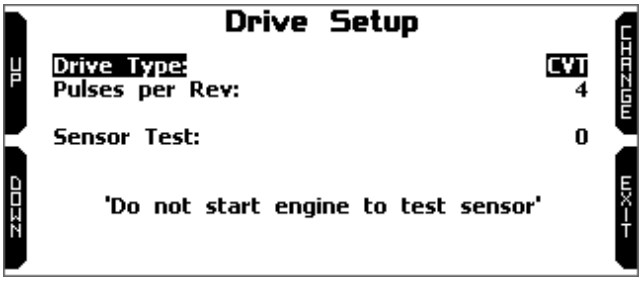
- speed: km/h or mph
- temperature: °C or °F

4.3.2 – Drive setup

Settings are different according to the system version and to the type of race you set. Available options are:

- Direct, clutch – no setting is needed
- Gearbox: needs to fill in highest gear number; **please note** for this setting to work properly gear calculation procedure is needed and this page allows to reset it too; reset option is only prompted if a gear calculation has been previously performed (left image below)
- CVT (Continuously Variable Transmission shaft): needs to set pulses per revolution (right image below). This setting needs the proper speed sensor to be connected to "CAN2 LAP" connector. Once the sensor is connected, when you select this setting, the channel disables lap time detection and switches it to a speed channel.





4.3.3 – RPM setup

You can set:

- RPM maximum (from 6000 to 24000)
- RPM acquisition frequency; the information can be read 20 or 50 times per second; 50Hz reading provides a more accurate signal but creates a bigger datafile that needs more time to be downloaded.
- RPM factor (x1, x2, /2, /4, /3): this is the ratio between the number of ignitions and the number of crankshaft revolutions. Kart typical setting is “x1” while other installations can need other factors.

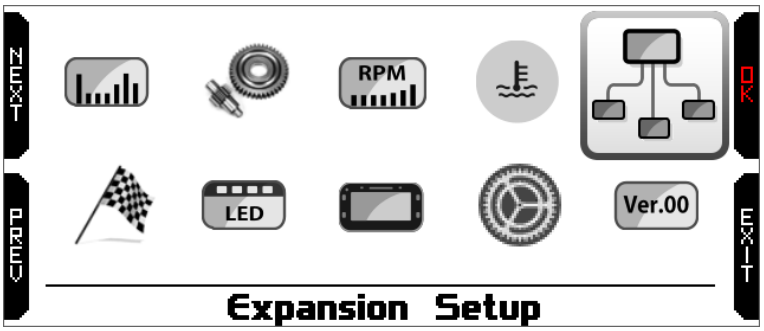
4.3.4 – Temperature setup

This page allows to set temperature channel. Available options are:

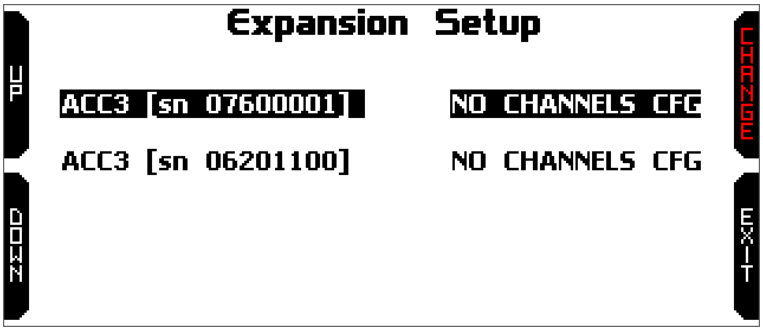
- **Automatic**: the system automatically detects the sensor functionality, choosing among exhaust gas, under spark and water temperatures. For automatically detecting the sensor types, the system checks the temperature values, that are in different ranges: this requires a minimum time for the temperatures to arrive at their typical values.
- **Manual**: allows the user to select the sensor functionality.

4.3.5 – Expansions setup (ACC3 and ACC3 with tyre temperature sensors)

In case one or two AiM ACC3 expansion(s) module(s) is/are connected to MyChron6 the related setting icon is prompted in System Setting page. Press “OK” to enter the related page.



Here below MyChron6 is connected to two AiM ACC3 Modules. The configuration procedure to perform is the same for both so you only need to select the one to configure and press “CHANGE”.

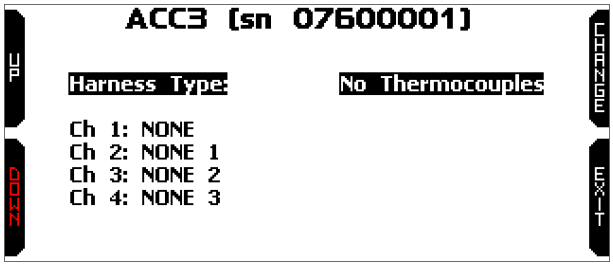


The steps to set ACC3 channels change according to the type of sensor you connect to the expansion. In the following pages different examples of ACC3 Channels configuration will be shown.

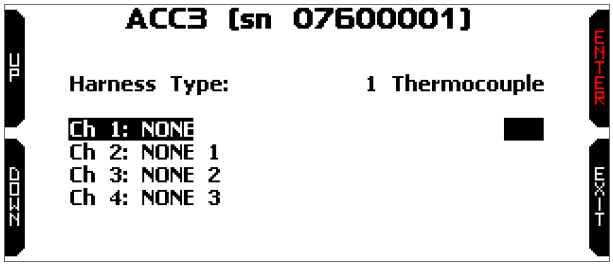
4.3.5.1 – Setting AiM ACC3 Module with temperature and throttle sensors

To configure ACC3 as connected to a **temperature sensor**:

- Enter ACC3 configuration page.
- Press "DOWN"" to select the channel to configure

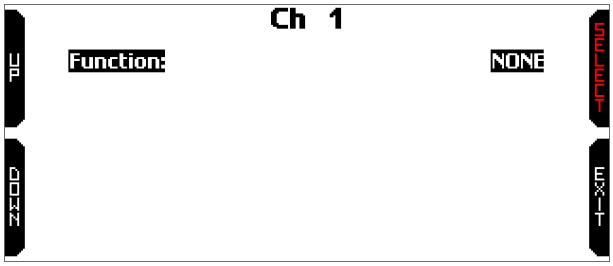


- Press "ENTER"



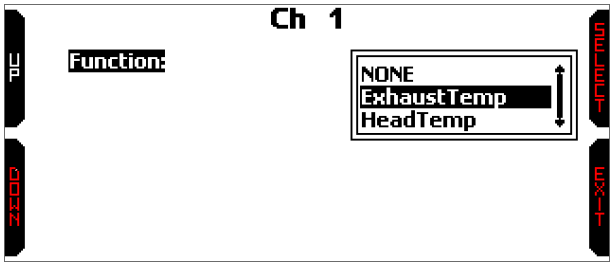
MyChron6 enters that channel setting page:

- to set the function that matches the connected sensor press "SELECT".



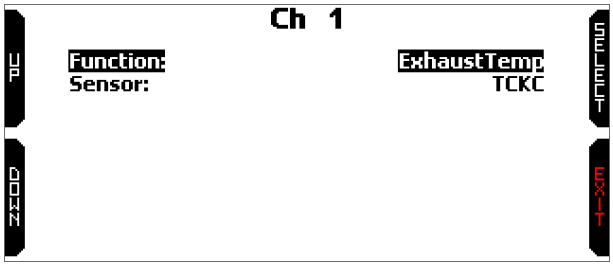
All available functions are shown:

- scroll up to "Exhaust Temp" using "DOWN" button
- press "SELECT"
- press "EXIT"

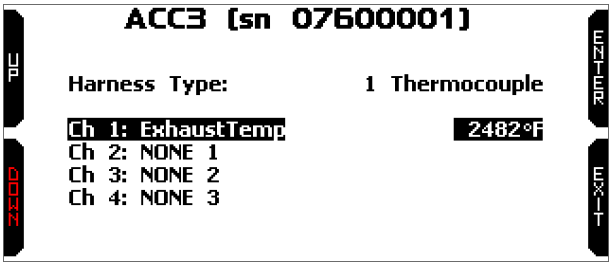


MyChron6 comes back to channels page showing the function of the channel as well as the type of sensor connected (TCKC – K Type thermocouple)

- Press "EXIT"

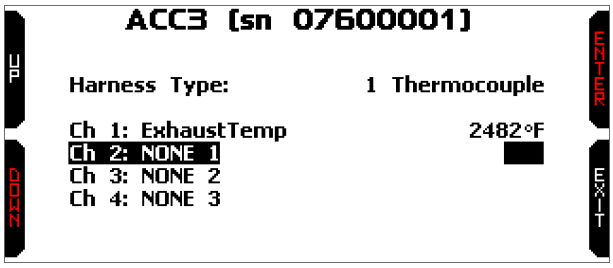


MyChron6 comes back to channels page and shows the current value of the set channel.



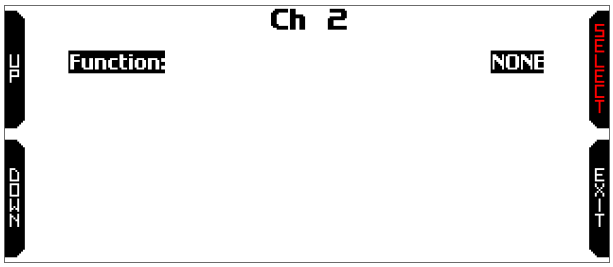
To configure a channel (Channel 2 in the example) as connected to a **throttle sensor**.

- Press “DOWN” to select the second channel
- Press “ENTER”

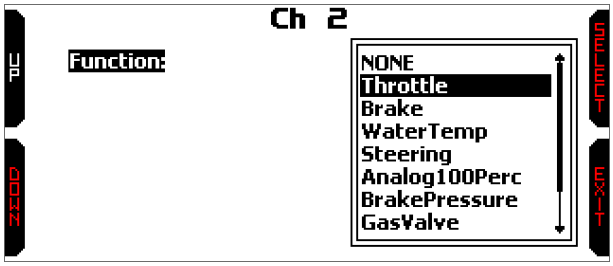


To set the function that matches the connected sensor:

- Press “SELECT”

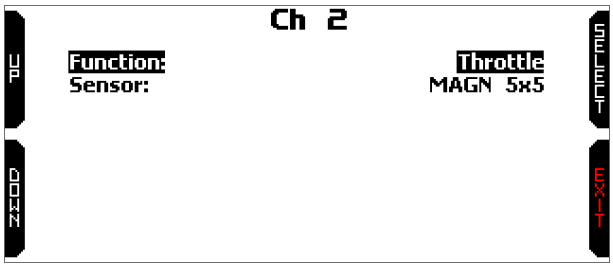


- scroll up to “Throttle” using “DOWN” button
- press “SELECT”
- press “EXIT”



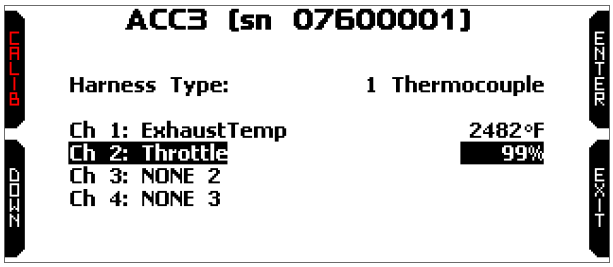
MyChron6 comes back to channels page showing the function of the channel as well as the type of sensor connected (MAGN 5x5).

- Press “EXIT”

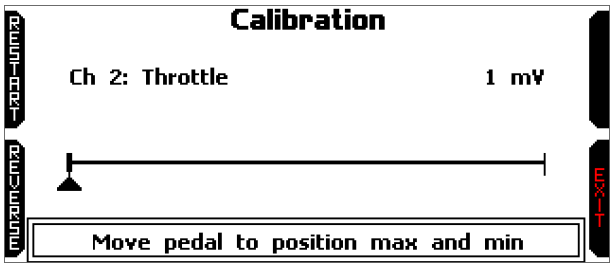


Throttle sensor current value is shown. To calibrate/recalibrate throttle sensor:

- press “CALIB”



- move throttle pedal from max to min position
- restart f needed and use reverse value if the sensor is installed reverse.
- Press “EXIT”



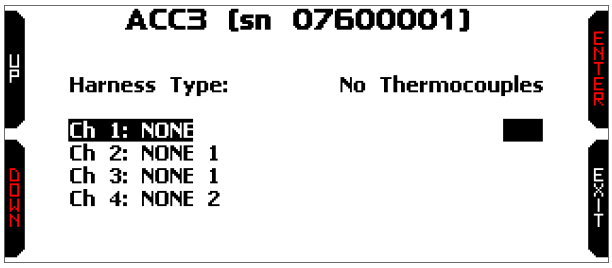
Repeat this operation for all channels.

4.3.5.2 – Setting AiM ACC3 Module with tire temperature sensors

If MyChron6 is connected to tire temperature sensors each sensor needs to be set according to its position. The steps to follow are:

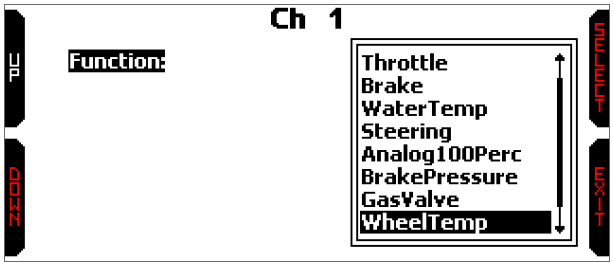
From ACC3 Channels setting page:

- press “DOWN”
- Channel 1 is selected: press “ENTER”



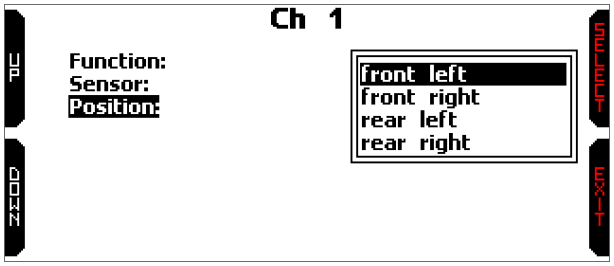
MyChron6 enters Channel 1 configuration page where the sensor is to be matched with its function:

- scroll the functions up to “WheelTemp” using “DOWN” button
- press “SELECT”
- press “EXIT”



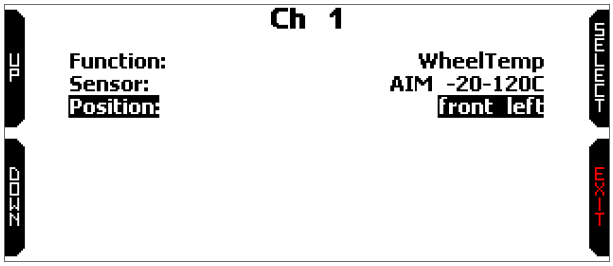
To set the position the sensor is installed:

- scroll up to “position” voice
- press “SELECT”
- select the position the sensor is installed in
- press “EXIT”



The sensor is shown on the display with all its parameters set.

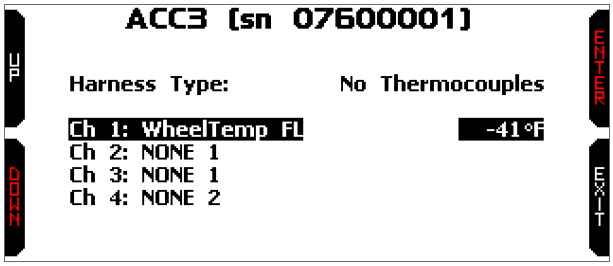
- Press “EXIT”



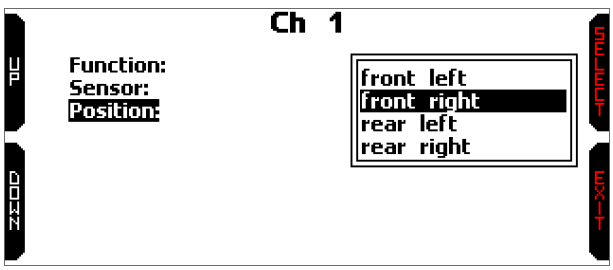
MyChron6 shows the first channel as set with its current value.

To set the other channels:

- press “DOWN” to scroll
- press “ENTER”



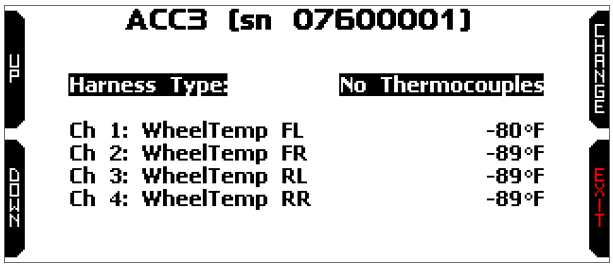
- scroll the positions according to the position the sensor is installed in
- press “SELECT”
- press “EXIT”



Repeat this procedure for all four channels.

When all channels are set MyChron6 display shows them all with the related current values.

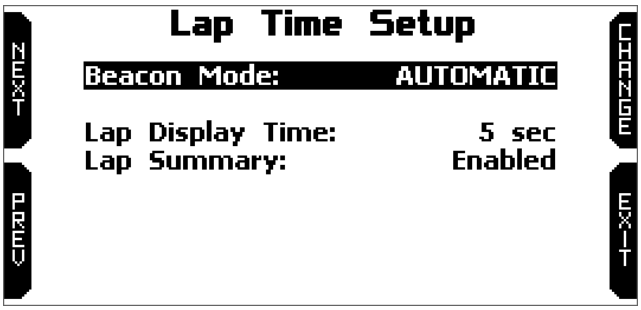
- Press “EXIT”

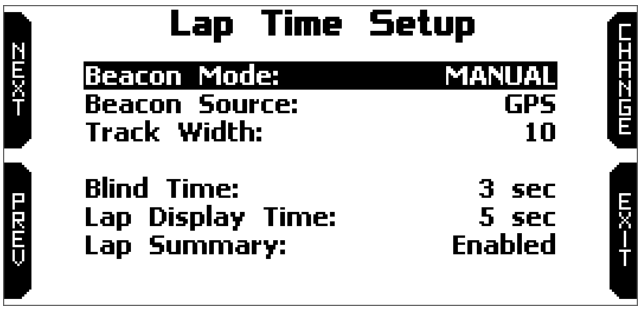


4.3.6 – Lap time setup

European version: different lap management are available:

- automatic (left image below)
- manual (right image below): you can choose GPS or optical/magnetic receiver

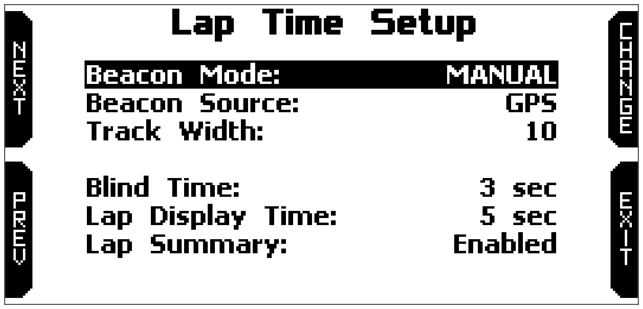


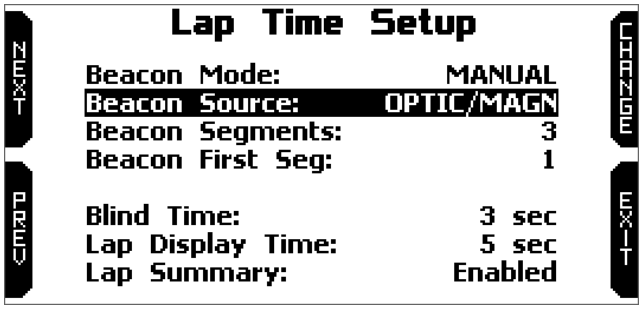


In **automatic** mode MyChron6 recognizes if an optical/magnetic receiver is connected, in addition to the integrated GPS. In this case both receivers work at the same time, continuously exchanging and comparing information about start/finish line and split points you cross. You can:

- show lap time when crossing start/finish line for a 3-60 seconds time period.
- enable/disable lap summary visualization when crossing start/finish line; in the US version only what is shown depends on the type of race – Road or Oval – set in the Wizard or in general settings.

In **manual** mode MyChron6 default setting is GPS lap time but you can also set magnetic/optical receiver (right image below).





For GPS lap time you need to:

- fill in track width (between 5 and 100m)
- set blind and lap display time (both between 3 and 60 seconds)
- enable/disable lap summary visualization when crossing start/finish line.

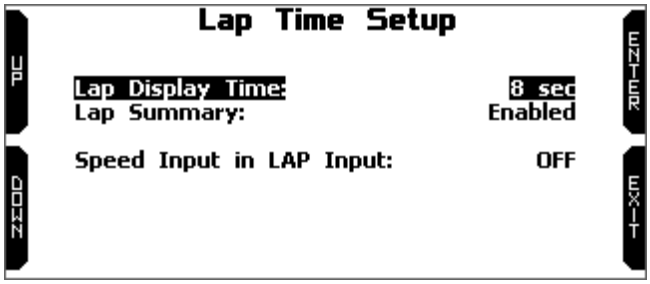
For optical/magnetic lap time you need to:

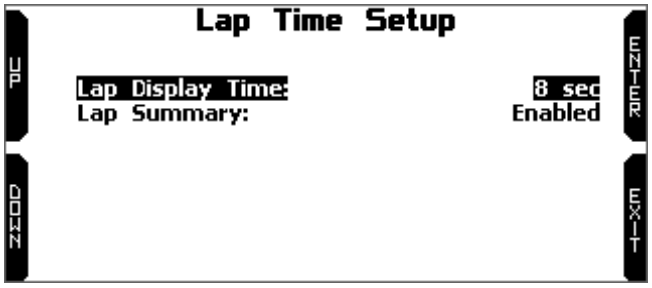
- fill in the number of beacon segments (between 1 and 6)
- set beacon first segment
- set blind and lap display time (between 3 and 60 seconds)
- enable/disable lap summary visualization or not when crossing start/finish line.

US version automatic setting available only

The parameters to set change according to the Drive Setup:

- if drive setup is: Direct, Clutch or Gearbox (left image below) you need to:
    - set lap display time
    - enable/disable Lap summary
    - enable and set/disable "Speed input in LAP input"; once this parameter enabled you need to fill in wheel circumference and number of pulses
- if drive setup is CVT (right image below) you only need to set lap display time when crossing start/finish line (from 3 to 60 seconds) and lap summary visualization; as already said data shown change according to the type of race you set.





4.3.7 – LED setup

Here you can set:

- the central LEDs bar (**LED Bar**)
- the two lateral LED corresponding to "1" and "2" (**Alarm LEDs**)

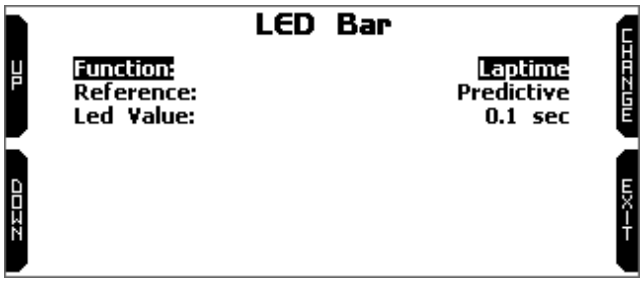
LED Bar: manages the central LEDs. Available options are:

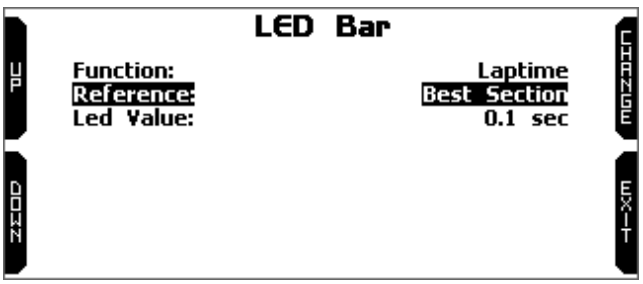
- **Lap time**
- **RPM**
- **OFF**

Choosing **Lap time** LEDs will switch on while running and – according to the option selected – show:

- gap between current lap time and best lap time (Predictive)
- gap between current split time and this split time in best lap (Best Section).

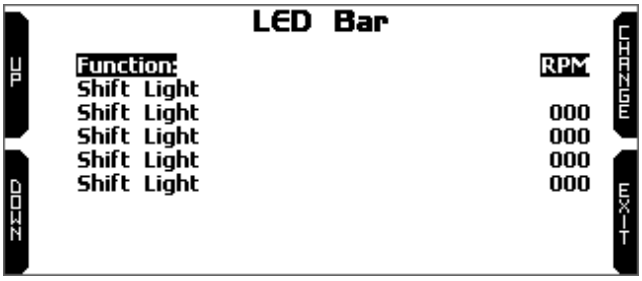
Each of the five LEDs indicates a tenth of a second gap; if lighting green they indicate an improvement while if lighting red they indicate a worsening.

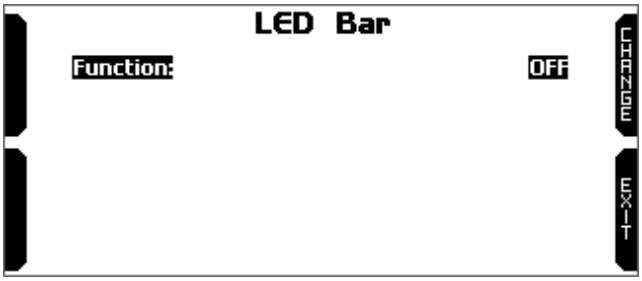




Choosing “**RPM**” (left image below) you can set RPM threshold value (up to 16.000) that switches on each LED so to know when shifting.

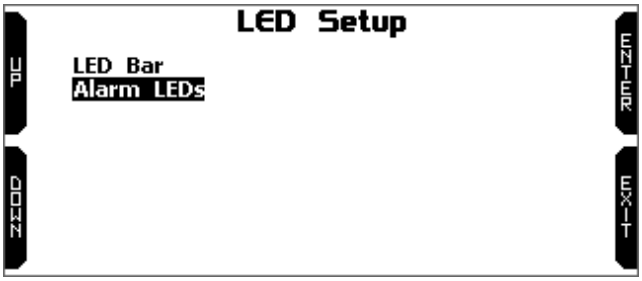
Choosing “**OFF**” (right image below) the central LED bar is disabled.

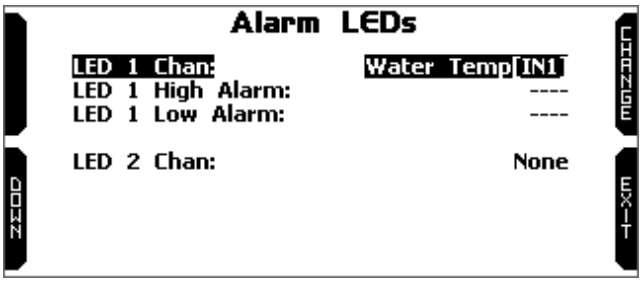




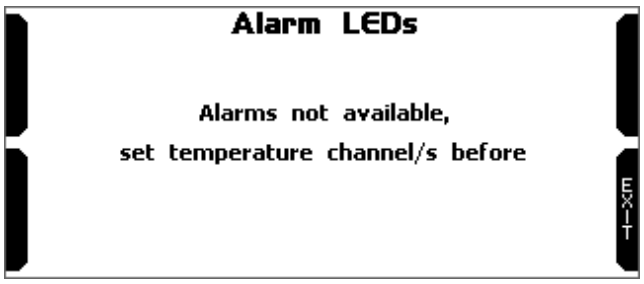
Alarm LEDs: manages the lateral LEDs corresponding to “1” and “2” that can be configured as alarms (left image below).

Entering the page (right image below) you can link each LED to a temperature sensor and set it switching on threshold, LED colour and blinking frequency.





Of course temperature sensor(s) have to be previously set as explained in the related paragraph. If the setting is missing the system warns you.



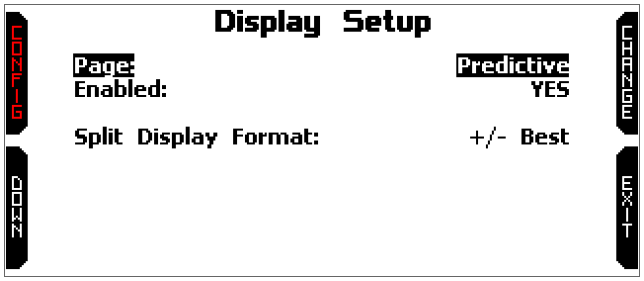
4.3.8 – Display setup

MyChron6 can show up to 8 pages, four of which are **pre-defined** pages and four are **custom** pages.
Pre-defined pages are:

- Predictive
- Cross
- RPM bar graph
- 4 custom pages

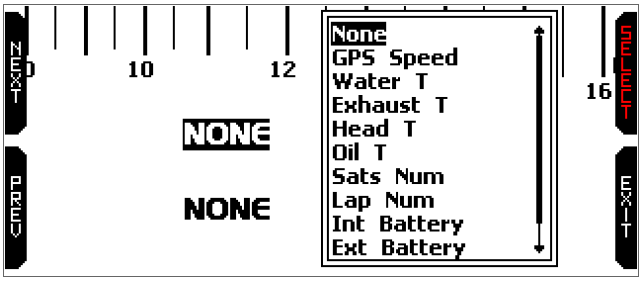
In pre-defined pages the options to set are:

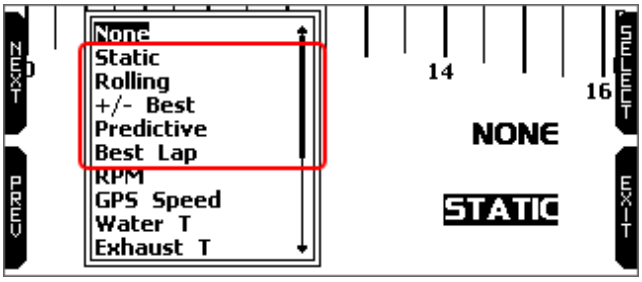
- **Enabled**: YES/NO
- **Split display format**:
    - **+/- Best**: shows the difference between current split time and best time of that split in the current session (not always related to the best lap)
    - **Actual**: shows current split time



Once **custom** enabled “CONFIG” button top left of the page appears: press it.

Each custom page can show up to four fields. Pressing “SELECT” you can choose the channel to show in each field. Please note: the only field that can show lap time in different formats is bottom right one (right image below).



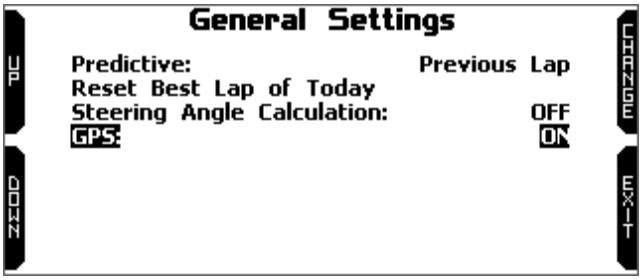


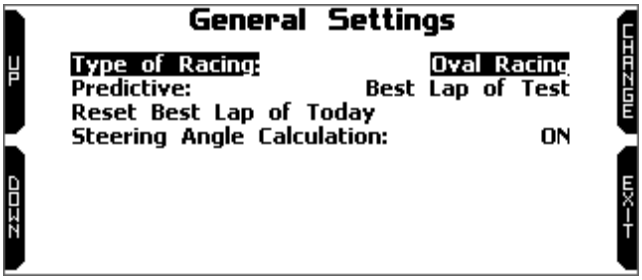
4.3.9 – General settings

In **both versions** you can:

- set predictive lap
- reset best lap of today
- enable/disable steering angle calculation.

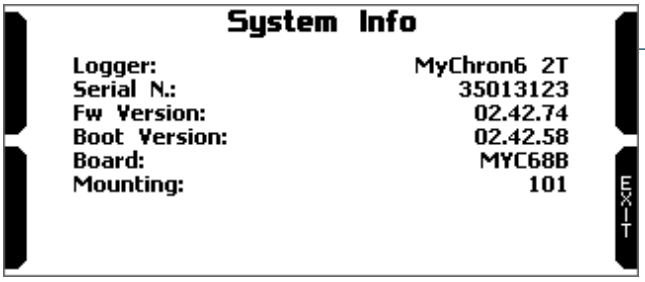
In the **European version only** you can enable/disable GPS (left image below) while in **US version only** you can select the type of racing (road or oval racing – right image below)

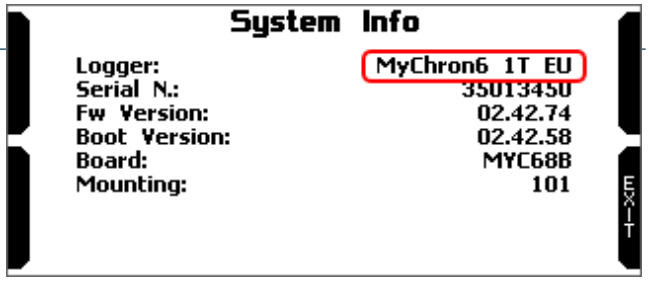




4.3.10 – System info

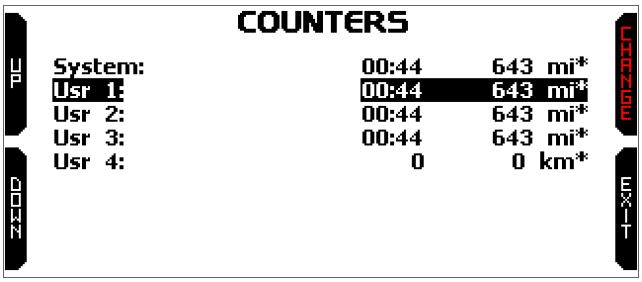
This page shows serial number as well as firmware, boot and mounting version of your MyChron6. If your MyChron6 is an European version this information is shown (right image below)





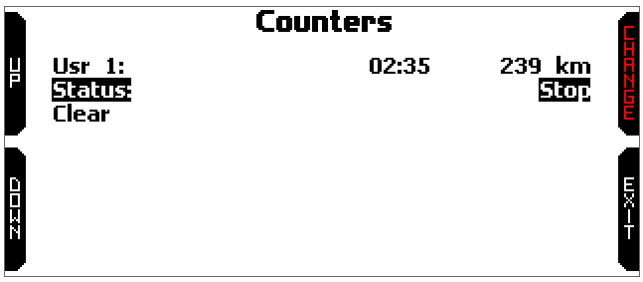
4.4 – Counters

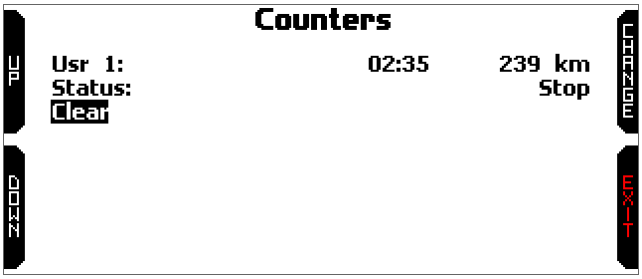
This page manages the 4 resettable odometers of MyChron6. "System odometer" is not resettable and thereby not selectable.



Each odometer can be activated or stopped and reset. Select the odometer you want to manage and press "CHANGE" (image above):

- to stop it select "Status" and press "CHANGE": status becomes "STOP" (left image below)
- to reset the odometer, select "Clear" and press "CHANGE" (right image below)
- pressing "EXIT" you go back to counters page and the counter you have cleared shows 0 km.





4.5 – Wi-Fi

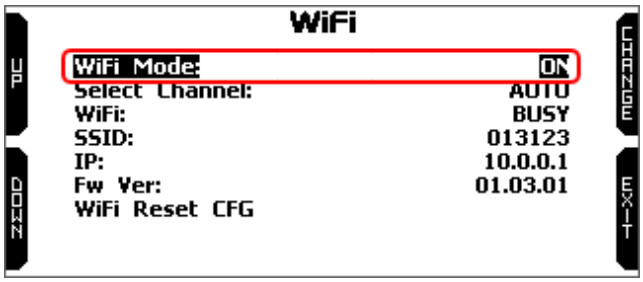
Here you can manage Wi-Fi as well as reset its configuration.
In the **US version** (left image below) available Wi-Fi modes are:

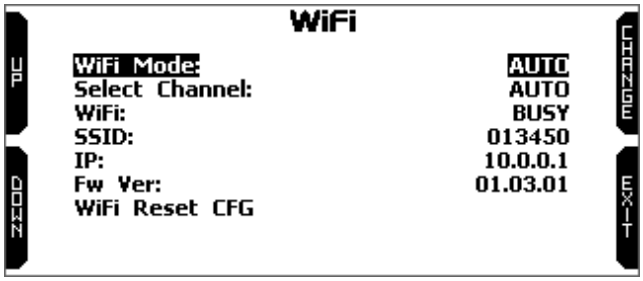
- ON: always active
- Auto: active only when the speed is less than 5 mph
- OFF (default)

In the **European version** (right image below) available Wi-Fi modes are:

- Auto: active only when the speed is less than 5 km/h
- OFF (default)

In this version "ON" mode is not available.





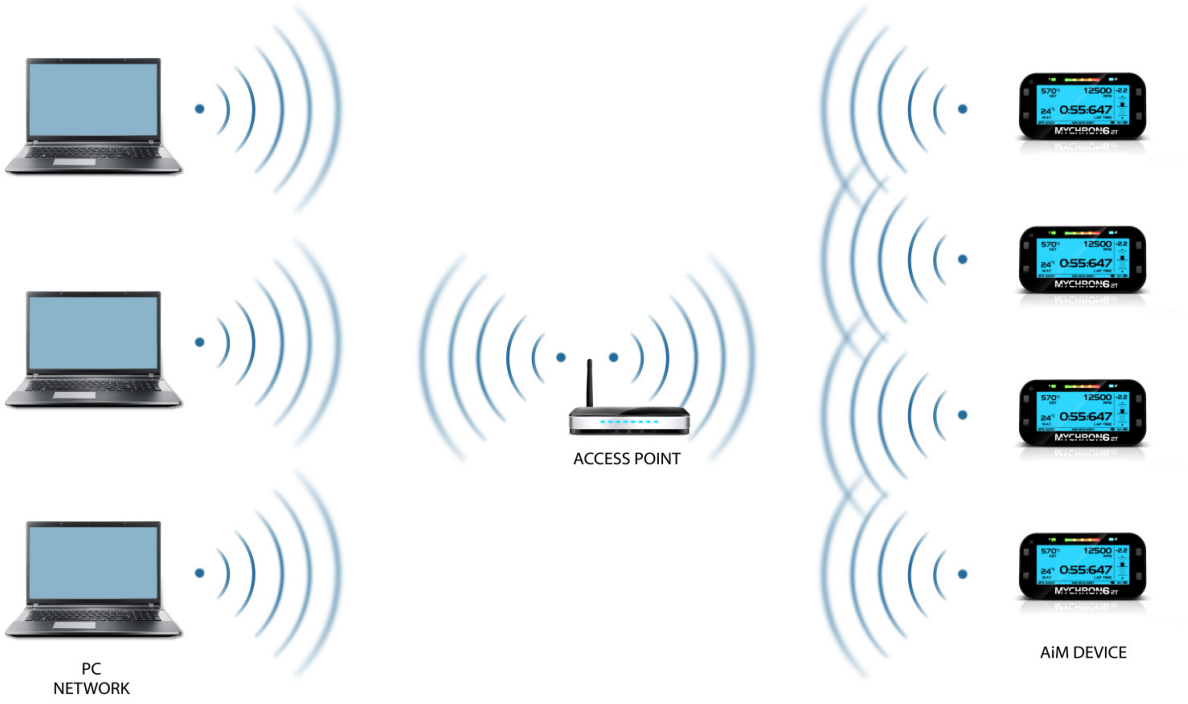
"**Wi-Fi Reset CFG**" option allows to reset Wi-Fi configurations and is very useful if you do not remember Wi-Fi password

MyChron6 Wi-Fi configuration can be made only using Race Studio 3 software. Two possible Wi-Fi modes are available:

1 – As an Access Point (AP – default setting)
This is the ideal configuration if you have one only device and one only computer. In this situation, your MyChron6 creates a Wi-Fi network and works as an Access Point you can connect your PC to.



2 – Existing network (to connect to an existing Wi-Fi network – WLAN)
This mode is more complex and implies an external access point (AP) but it is also more flexible and powerful because allows you to communicate with more than one device and with more than one computer in the same network. MyChron6 and the PC must connect to an existing Wi-Fi network made by a device that works as an external Access Point.



When working in WLAN mode MyChron6 has two available security levels:

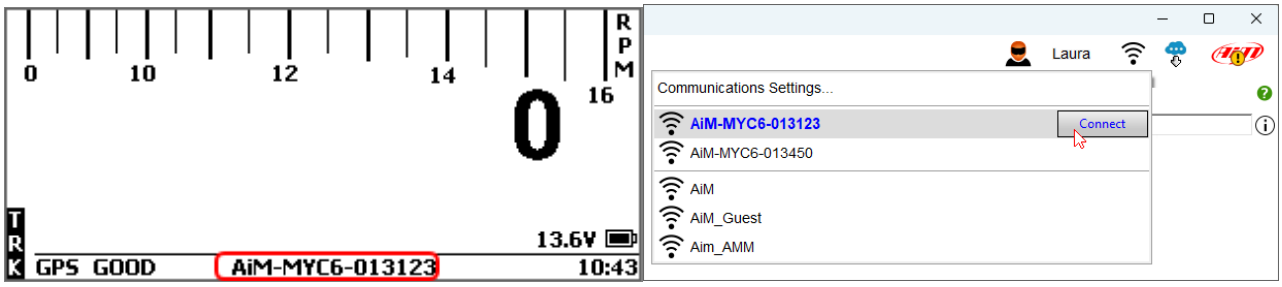
- network authentication: network password
- device authentication: MyChron6 password

Both levels allow you to use different strategies. A PC in WLAN, for example, can see several AiM devices but can communicate only with those he knows the password of. If you forget the password, you can reset Wi-Fi configuration from MyChron6 menu as explained.

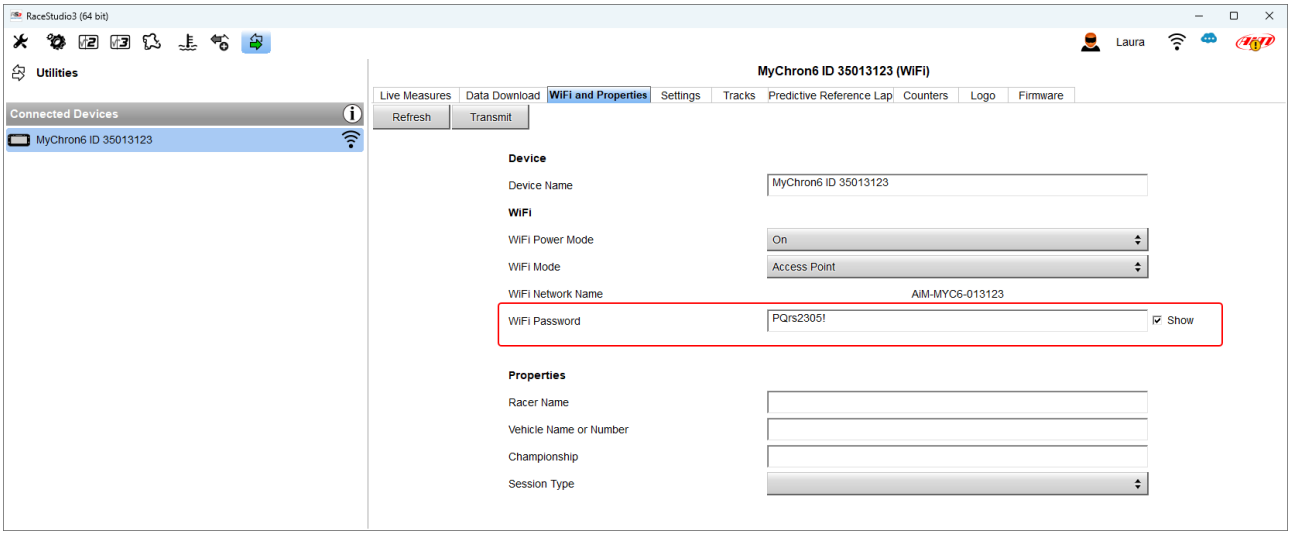
4.5.1 – Configuring MyChron6 as an Access Point (AP)

This is MyChron6 default configuration and is the easiest and most direct connection mode, ideal if you want to communicate with one MyChron6 using one PC. It is free and so completely accessible by anyone. AiM suggests to set an access password.
To establish a Wi-Fi connection:

- ensure that the Wi-Fi is enabled
- read your MyChron6 name in the bottom line of the display main page (0013123 in the image below on the left).
- run Race Studio 3
- click Wi-Fi icon, select your device and press “Connect”
- in a few seconds, the connection is established



To set other parameters create a unique password to protect the device/ network. With a password the communication is safe and encrypted using WPA2-PSKstandard.



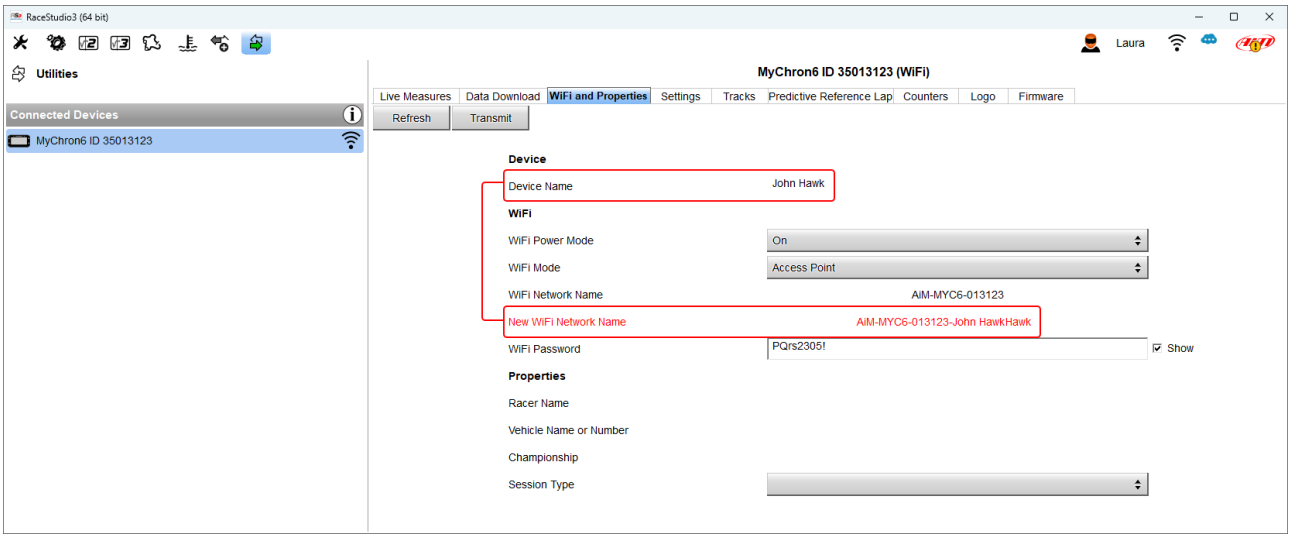
Characters allowed in the password are all letters, also capital, all digits and these characters: ‘+-_()[]{}$£!?^#@*\\\”=~.:;/%". “Space” type can be used if it is not the first one because this could cause incomprehension in some Windows™ versions.

This AP or SSID name is unique for your device. An example of name is:” **AiM-MYC6-013123**” where:

- “AiM” is the prefix of all AiM devices
- “MYC6” is the device type identifier
- “0013123” is the device serial number assigned by the factory.

To make your device more recognizable you can add a name to the SSID. The limit is of eight characters. Allowed characters are all letters, capital too, all digits and these characters: '+ - _ () [] {}!. "Space" type can be used if is not the first for not to cause incomprehension in some Windows™ versions.
Adding, for example the driver's name, John Hawk, the network name (SSID) becomes: "**AiM-M6-0013123-John Hawk**".

Once all parameters set click "Transmit". MyChron6 reboots and is configured with the new parameters. If MyChron6 is protected by a password, as recommended, Race Studio3 will ask that password to authenticate.



Please Note: the same Wi-Fi connection can be created with the operative system tool. Once the device has been authenticated in the Wi-Fi network you can communicate with it using Race Studio 3.

4.5.2 – Adding MyChron6 to an existing network

This situation is ideal for a team with multiple drivers and staff members and is desired to communicate with one or more AiM devices using the same PC network. Each MyChron6 can have its password that adds another security and privacy level to the network.

RaceStudio 3 will show all MyChron6 connected to the same network under "Connected devices" label, bottom left of the software page: click your device.

Enter "Wi-Fi and properties" tab and set it on "Existing Network"; fill in network name, network password and device password.

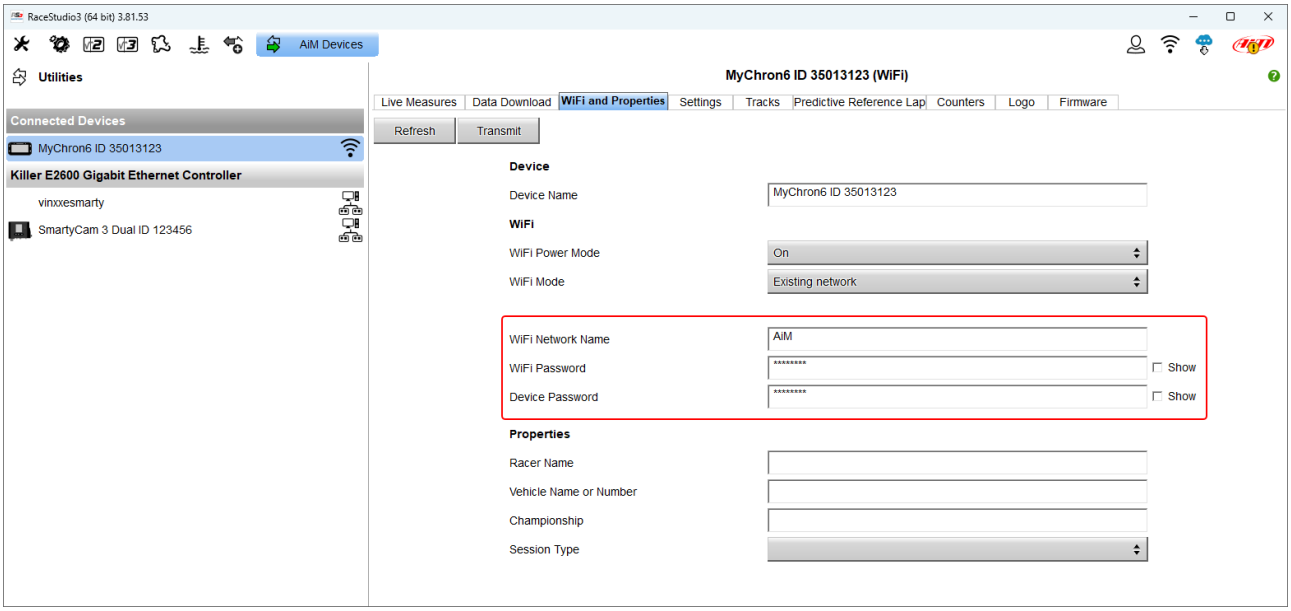
Transmit the network settings to your device clicking "Transmit": your device reboots and joins that network.

Please note: the only admitted password are those following WPA2-PSK standard.

To complete this procedure use Race Studio 3 software as here explained.

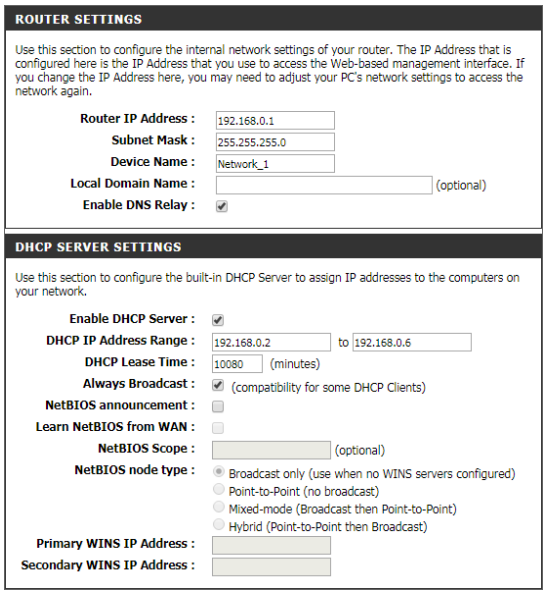
Here below you see a device “MyChron6 ID 35013123” that switched from AP to Existing Network. Network name is “AiM” and does not work with free access because is protected by a password.

To obtain connectivity on the device the PC has to be authenticated to the network. When the PC is authenticated to the network called “AiM” it can see all devices configured to access the same network.



4.5.3 – Wi-Fi network settings

In this chapter you find a short description of how to configure a WLAN including AiM devices and a PC. Here below is an example of configuration.



For a better network performance we suggest the use of a network device equipped with a DHCP server and using 3x3 MIMO technology like, for example a Linksys AS3200. To maximize the bandwidth, you should not allow the Internet on this WLAN; this means the DHCP server should be configured without any DNS address nor gateway by default.

The parameters for the device network configuration in this example are:

Wireless network name: network_2
It means that the WLAN network name is “network_2.” A PC has to be authenticated in this network to interact with any AiM device of this network.

Gateway address: 192.168.0.1
Primary DNS server: 0.0.0.0
Secondary DNS server: 0.0.0.0
(These settings prevent Internet connectivity on this WLAN.)

Subnet mask: 255.255.255.248
Enable DHCP server: yes
DHCP IP address range: 192.168.0.2 to 192.168.0.6
These settings enable a DHCP server running on this WLAN and provide an IP address in a 2-6 range. This means that this network allows 5 network hosts.
The number of devices on a WLAN network depends on the subnet mask. Here below you see typical examples of network masks and IP addresses range.

The configuration in bold is the one we suggest (if a greater number of devices is not needed), being the one that makes it easier and quicker for Race Studio 3 the identification of the devices in the network.

Subnet mask:	IP address range:	Number of devices:
255.255.255.0	192.168.0.1 – 254	254
255.255.255.128	192.168.0.1 – 126	126
255.255.255.192	192.168.0.1 – 62	62
255.255.255.224	192.168.0.1 – 30	30
255.255.255.240	192.168.0.1 – 14	14
255.255.255.248	**192.168.0.1 – 6**	**6**

4.5.4 – The Internet connectivity

For an optimal speed of your AiM device(s) we recommend not to allow the Internet on the same network and setting the WLAN in the same way. You can of course allow Internet access on your network, but this would degrade communication. This slightly slower speed can be suitable for your needs but you can also have a second Wi-Fi connection using additional hardware (NIC). This configuration would provide an optimal speed of the data network of your AiM device(s) and at the same time would provide internet connectivity with the second NIC.

4.5.5 – Connection issues

It can occur that MyChron6 is correctly connected to RaceStudio 3 via Wi-Fi but user interface does not show it. This may be because the Wi-Fi port setting is set with a static IP. To switch it to dynamic (DHCP):

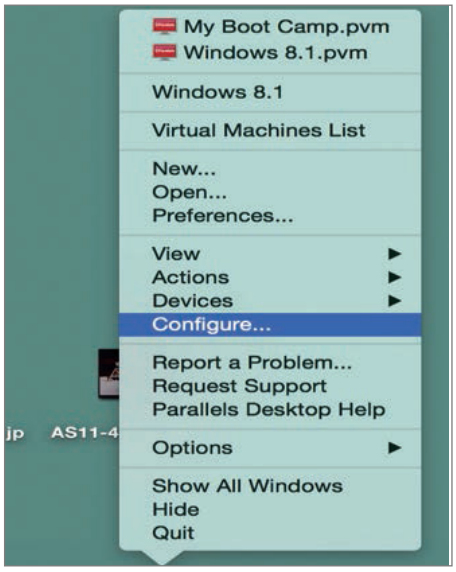
- open “Network and sharing center” in the Windows™ research engine
- right click on the Wi-Fi connection and a panel shows up
    - select “Properties” option
    - double click on “Internet Protocol version 4 (TCP/IPv4)”
    - verify that option “Obtain an IP address” is active

4.5.6 – Working on Mac™ with virtualized Windows™

RaceStudio 3 only works on Windows™ operating systems; Mac users can use a virtualized Windows™ machine.
The main problem is that the host OS (Mac) must share its Wi-Fi interface with the virtualized operative system (Windows) as Ethernet interface and not as Wi-Fi interface.

Configuring Parallels(™)

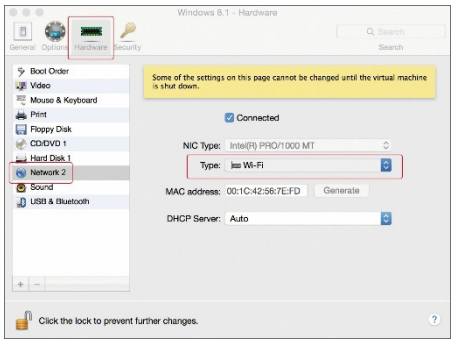
Select “Configure... in Parallels menu.



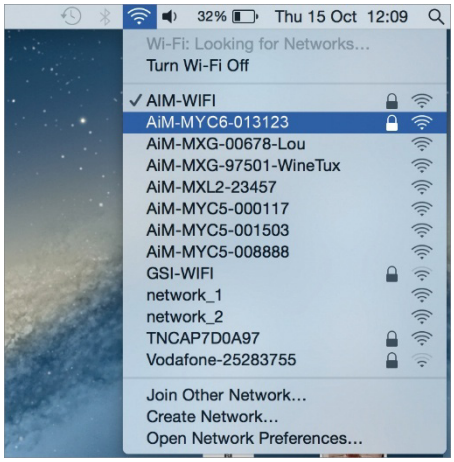
Press “Hardware” – top on the page that shows up – and select “Network 2” in the drop-down menu on the left.

Right on the configuration panel set "Type" field on “Wi-Fi”.

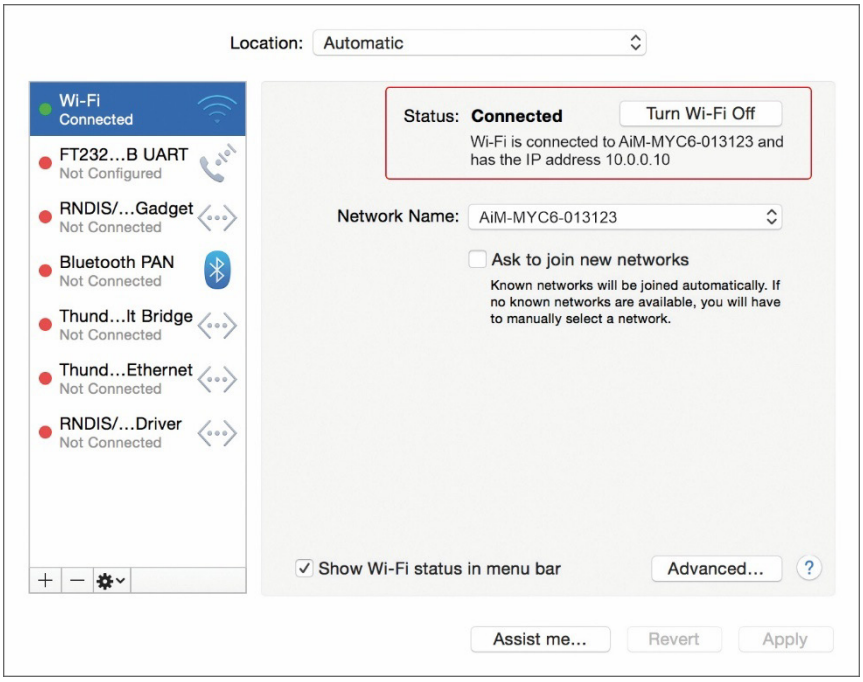
Then select the device you want to communicate with.



To ensure that the communication works select “Open Network preferences...” menu.

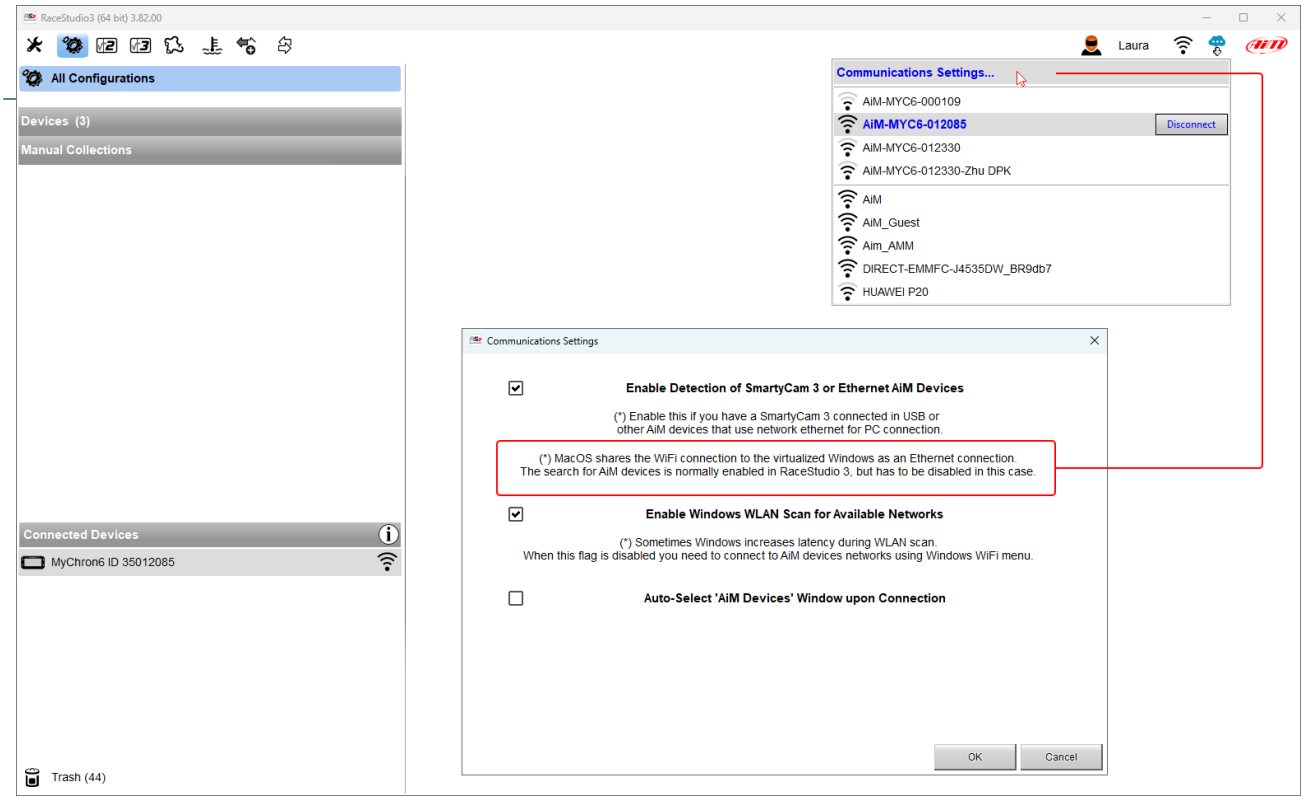


Verify that the status in the window that shows up is “Connected” and that the IP address associated is, for example, 10.0.0.10 (could be 10.0.0.11, 10.0.0.12, or generically 10.0.0.x).



To enable RaceStudio 3 correctly working on a Mac with virtualized Windows™:

- press Wi-Fi icon
- select “Wi-Fi and Ethernet Settings” option
- enable the top checkbox



4.5.7 – Connected device visualization issues

It may occur that **using Race Studio 3 on an iMac with virtualized Windows** the device connected via Wi-Fi takes some time to be shown in the network or is not shown at all. This is why we always suggest using a Wi-Fi (WLAN) router.

This router works as an Access Point allowing more external devices to connect to its network. MyChron6 Wi-Fi configuration is to be set on Existing Network as explained in the related paragraph.

It may also occur that, **updating Windows to 11-24h2 version** no Wi-Fi network is available. This is due to new privacy controls. Please click here to solve this issue.

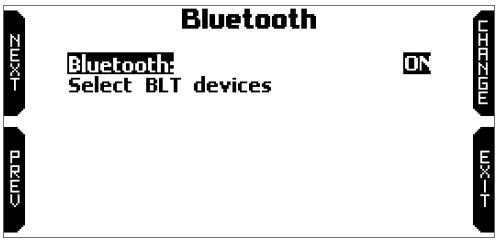
It is possible to set the time and date by hand and show them in different formats.

4.6 – BLE (Bluetooth Low energy) connection

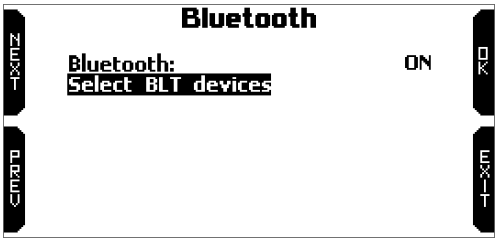
MyChron6 features a BLE (Bluetooth low Energy) communication protocol that allows us to connect with external devices.

Only the heart rate monitor, of every brand, is actually enabled, but other ones will be added in the future. To connect the device:

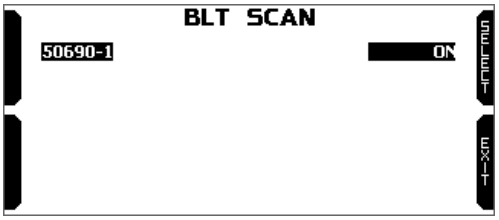
- Set “Bluetooth” ON



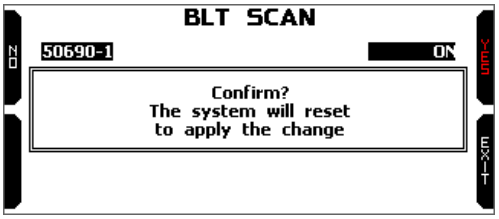
- Scroll to “Select BLT device”



- MyChron6 enters the related page and shows all available devices as “ON”: select the one to set and press “EXIT”



- the system asks for confirmation; pressing “YES” MyChron6 reboots, and the device is connected via BLE (Bluetooth Low Energy).



Once a device is selected MyChron6 stores it in the list of available devices: if selected, the data read from that device may be shown in a Display Custom Page and stored for future analysis in the AiM RaceStudio3 Analysis software.

4.7 – Track management

MyChron6 built-in GPS receiver is used for:

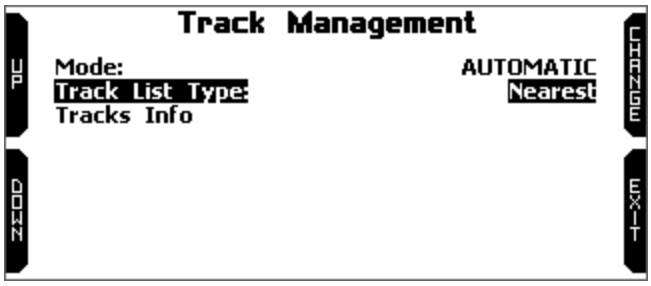
- Lap Time calculation
- Speed calculation
- Predictive lap time calculation
- Position on the track in analysis

To calculate these data the system needs the following information about the racetrack:

- Start/finish line coordinates
- Possible magnetic strips coordinates

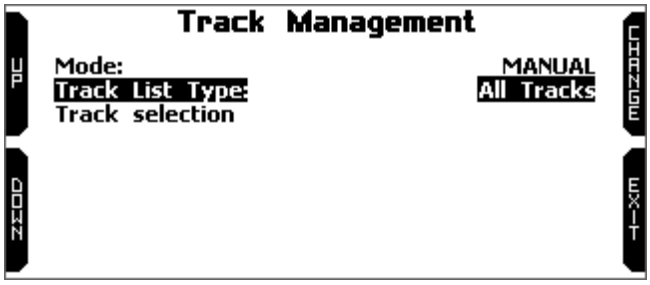
MyChron6 comes with a long list of the world main kart tracks. The tracks are constantly updated by our technicians and automatically loaded to your PC when running RaceStudio 3 Analysis Software if a connection to the Internet is available.
MyChron6 provides two track selection modes: automatic and manual.

Automatic:
MyChron6 automatically recognizes the track you are running on, loads the start/finish line and the possible split coordinates and calculates lap and split times without optical/magnetic receiver.
This is the best mode in most cases.



Manual:
Allows to manually select the track from the internal database.
Scroll to “Track List type” and choose among:

- All tracks: shows all tracks stored in the system in alphabetical order
- Custom: shows only the tracks previously created by the user (learning mode)
- Nearest: shows only tracks in a 10 km distance



To manually select a track choose “All tracks” and “CHANGE” button switches to “ENTER”: press it and MyChron6 tracks page list is prompted: select the track to set. This mode is preferred when multiple track configurations are available nearby. In this case MyChron6 would anyway recognize the track but would need at least one complete track lap. To be ready from the first lap manual mode would be helpful.

4.7.1 – Creating a track with MyChron6

In case the system is running on a track NOT included in MyChron6 database the device switches to "learning" mode and behave this way:

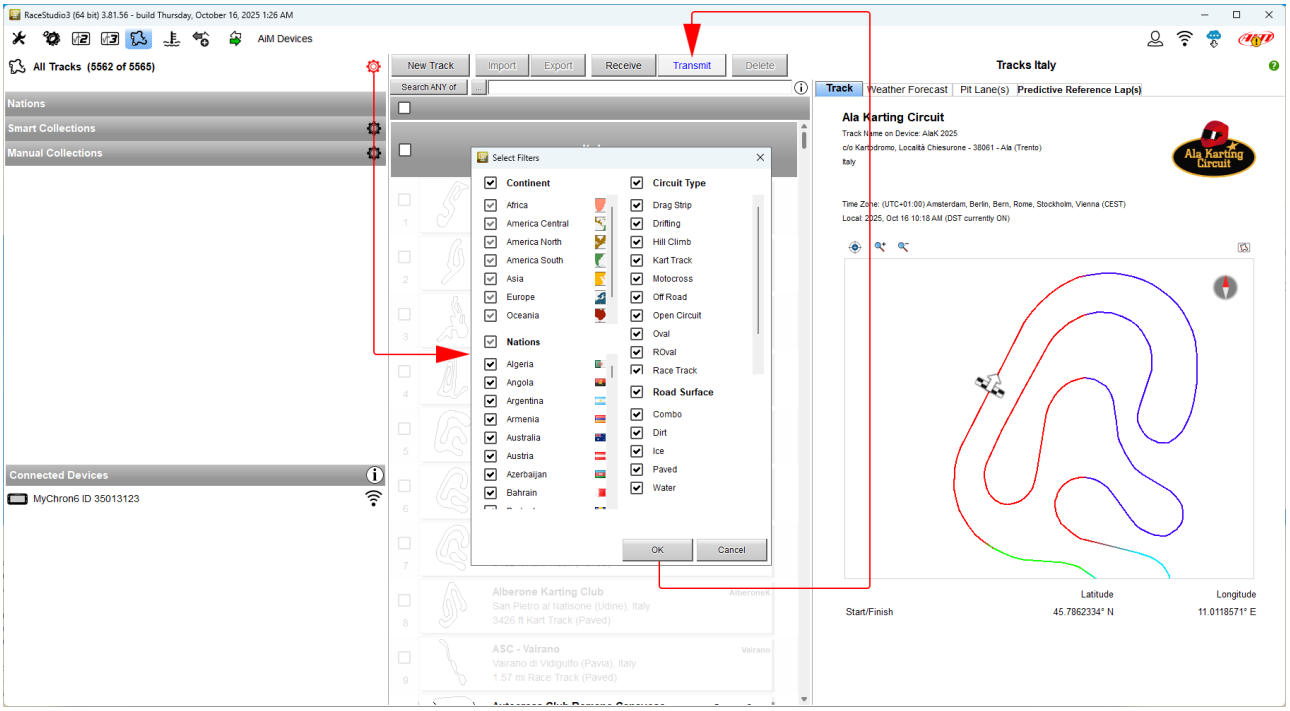
- starts sampling all track points
- detecting that is crossing the same point for the second time it realizes that the track is closed and sets a temporary start/finish line showing lap time each time it crosses that point;
- at the end of the session the system shows the track map with start/finish line; the line can be moved using MyChron6 lateral buttons
- it is possible to add this new map to MyChron6 database, modify start/finish line coordinates, name the track and transmit it to the PC at first PC MyChron6 connection.

For further information about track management with Race Studio 3 refer to "Track Manager" user manual you find in download area/software/Race Studio 3/documentation of: www.aim-sportline.com.

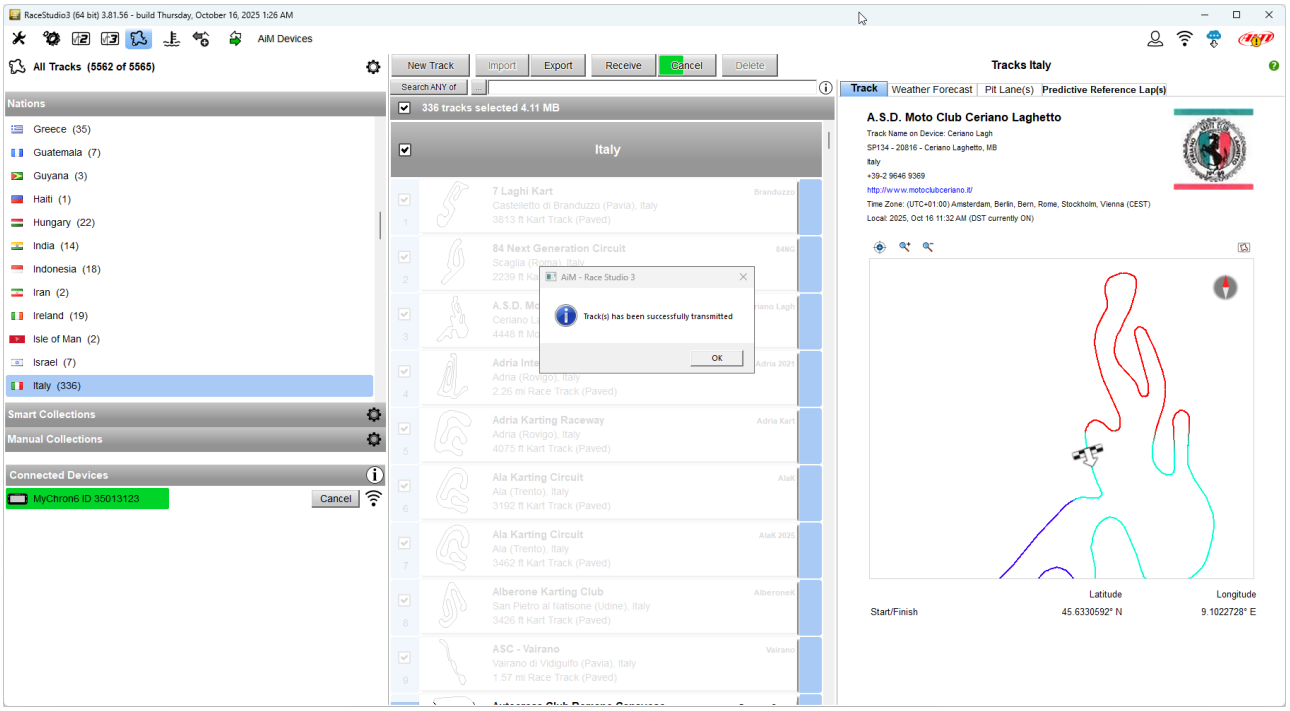
4.7.2 – Loading tracks on MyChron6

Using AiM RaceStudio 3 software you can also load tracks on it. To do so:

- run RaceStudio 3 software with MyChron6 connected
- press Track icon on the top left toolbar
- select the tracks to load on MyChro6; this can be done in different ways: by continent, by nation, by circuit type, by road surface as shown below
- press "Transmit on the central toolbar of the software



- The software transmits selected tracks to MyChron6 and notifies when the transmission finished.



4.8 – Language and Time Zone

This menu allows us to set:

- Language
- Time zone



4.8.1 – Language

Available languages are:

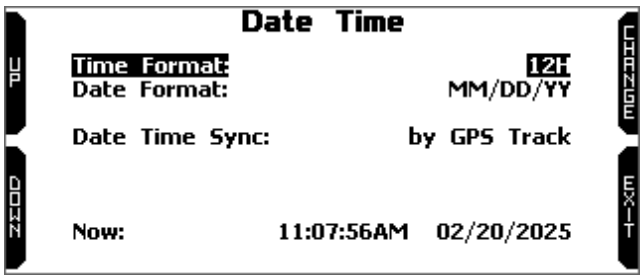
- English
- Italian
- Deutsch
- Spanish
- French
- Dutch
- Danish
- Portuguese
- Japanese
- Czeck

To select the desired language press “CHANGE” button and then “EXIT”.

4.8.2 – Time Zone

Time and Date, that will be associated with all your tests and data are, by default, obtained from the GPS messages.
Available options are:

- Time format: 12H or 24H
- Date format: MM/DD/YY or DD/MM/YY or YY/MM/DD
- Date Time Sync: the system can synchronize its date and time.
    - by GPS Track: time zone is automatically synchronized as MyChron6 receives the GPS signal (default)
    - Manual or
    - by PC: time zone is automatically synchronized as MyChron6 is connected to a PC.



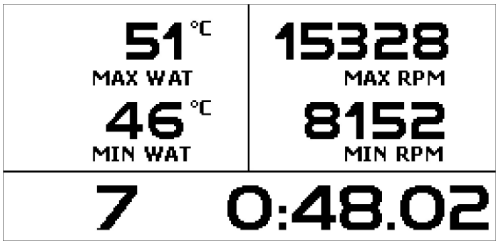
Your MyChron6 will correct that information automatically setting Time Zone and, in case, Daylight-Saving Time.

5 – On track

Road and oval racing show different information when crossing the start/finish line.

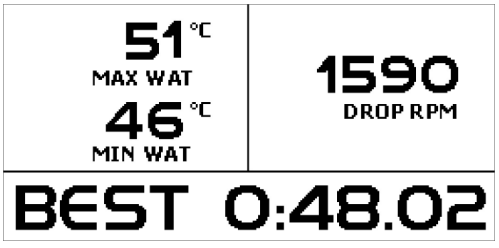
In **Road Racing** MyChron6 shows:

- max/min temperature(s) values
- max/min RPM values
- lap number
- lap time



In **Oval Racing** MyChron6 shows:

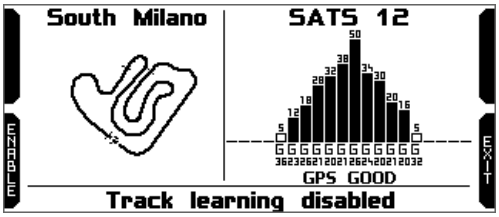
- max/min temperature(s) values
- RPM drop (difference between max and min RPM values)
- lap time



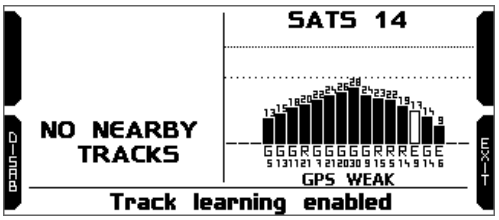
6 – Displayed pages

This is the first page that appears switching MyChron6 on and automatically disappears when the kart starts moving. To recall it press "OFF" button in MyChron6 home page. It shows:

- on the right, the satellite bar (visible satellites and signal level of each one).
- on the left, the selected track (if you are nearby only); you can select a new track manually (menu/track management) or automatically.



- if no track is available nearby the display shows "No nearby tracks" on the left and "Track learning enabled" on the bottom line as shown here on the right.

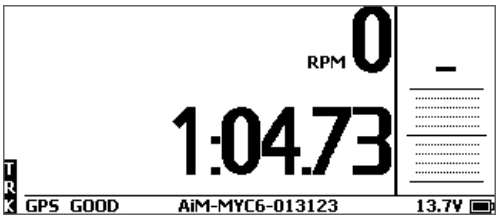


Some MyChron6 pages are available for online visualization. To scroll them, press "ON/VIEW" button. Pages can change according to the device configuration: go kart or shifter kart, possible expansions, SmartyCam, etc.

Some available pages are:

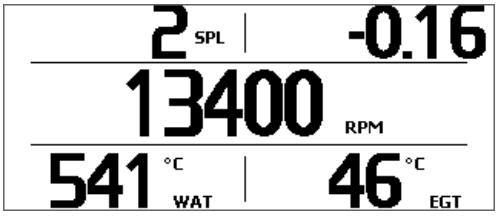
Predictive page

Beyond RPM, Temperature and Lap Time values, on the right of the display you have a useful graphical indication of predictive lap time: if the bar moves toward the high, you are improving your performance.



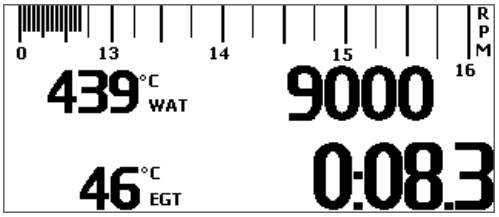
"**Cross" page**. It shows:

- Lap/split time top left
- Lap time top right (predictive here on the right)
- 3 custom fields:
  - central
  - bottom left
  - bottom right.



"**RPM Bar graph" page**. It shows:

- RPM bar graph, whose range has been set in "RPM setup"
- RPM value on the right
- Temperature value(s) on the left
- lap time information; this information is shown for the period you set in "Lap time setup"



6.1 – Data recall

At the end of the test you can recall sampled data pressing **MEM/OK** button. Data recall is different according to your MyChron6 version and to the available types of race.

In **European** version the only available racing mode is: road
In **US** version, racing modes can be:

- road
- oval

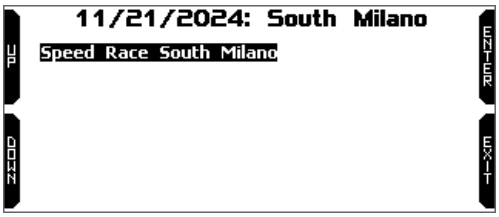
6.1.1 – Data Recall in Road racing Mode (all versions)

In Road racing mode data recall shows these pages.

- If your last test is at least 24 hours old you can enter the summary page and select the day you want to see. Press "ENTER"



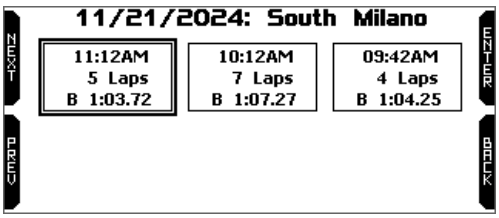
- Select the test to analyze.



In each box you see:

- test time
- number of laps
- best lap time.

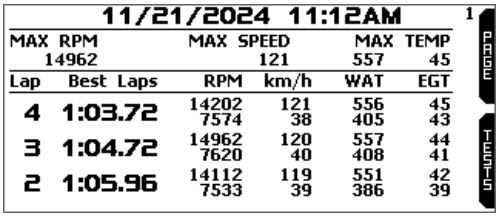
Press "**ENTER**"



The first page shows:

- The Three Best Lap times
- max/min RPM, speed and temperature(s) values.

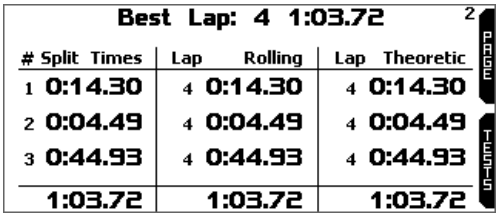
Press "**PAGE**".



The page shows:

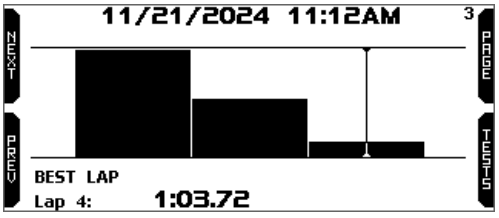
- the three best split times only if they have been set in RaceStudio 3 or detected by magnetic strips
- the three best rolling lap
- the three bets theoretic laps

Press "**PAGE**".



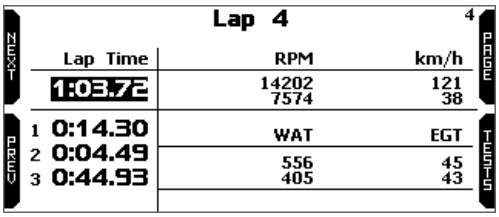
This page is a histogram test summary. Moving the cursor left and right you can see all laps and select the one you want to see.

Press "**PAGE**".

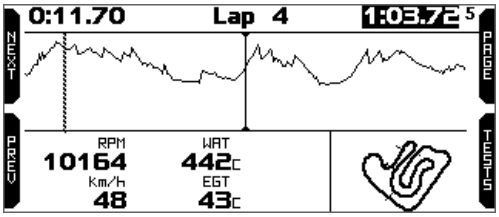


This page shows:

- best lap time top left
- 3 best split times of the best lap
- max/min RPM and speed values
- max/min values set in custom page (Water and Exhaust temperatures in the example on the right)



This page shows RPM graph of the lap, speed and temperature values of the channels set to be shown in the point where the cursor is placed.
Pressing "**Page**" MyChron6 comes back to the first data recall page.



6.1.2 – Data recall in Oval racing mode (US version only)

In Oval racing mode data recall shows these pages.

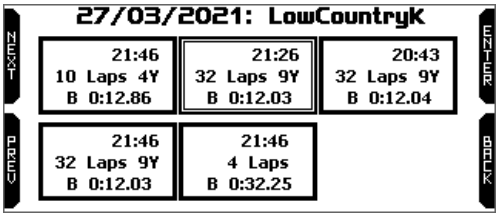
If your last test is at least 24 hours old you can enter the summary page and select the day you want to see.
Press "**ENTER**".



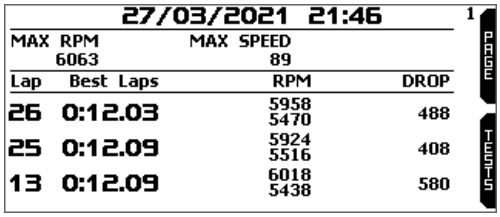
Now you can choose the test. In each box you see:

- test time
- number of laps
- possible "yellow flag" laps
- best lap time.

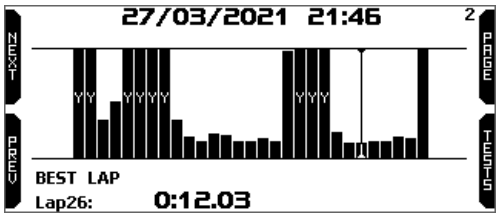
Press "**ENTER**".



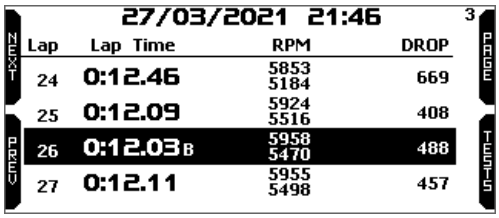
If you just finish the test the first page you see is the one here on the right.
The page shows the three best laps of that test with max/min RPM values and RPM drop.
Press "**PAGE**".



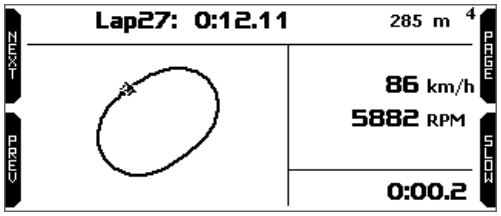
This page is a histogram test summary. Moving the cursor you can see all lap times.
Bottom on the page is best lap time with its number.
Laps labelled "Y" are "Yellow Flag" laps.
Press "**PAGE**".



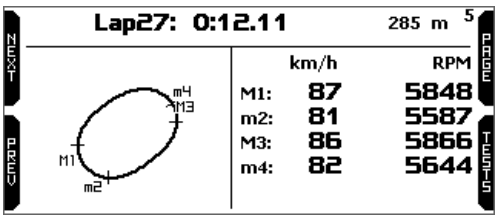
This page is a laps summary with the selected one highlighted.
It shows lap times, max/min RPM values and RPM drop.
Press “**PAGE**”



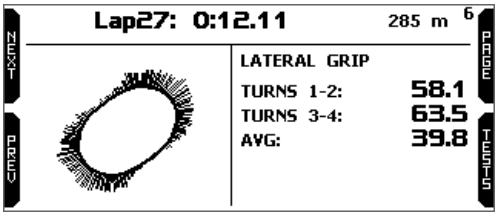
This page shows the lap playback with your vehicle that moves on the track. Press “SLOW” to reduce the vehicle speed.
Press “**PAGE**”.



This page shows the lap sectors with max speed and related RPM values.
Press “**PAGE**”.



“Grip” page shows the lateral grip in feet/sec^2 of the two turns and the grip average value (AVG).
Pressing “**PAGE**” you come back to the first data recall page.

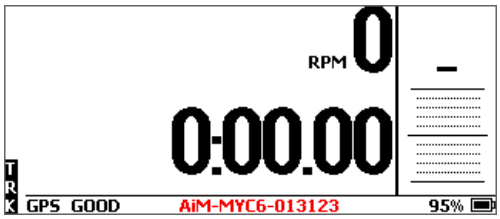


Pressing “TESTS” from any page MyChron6 comes back to test summary page.

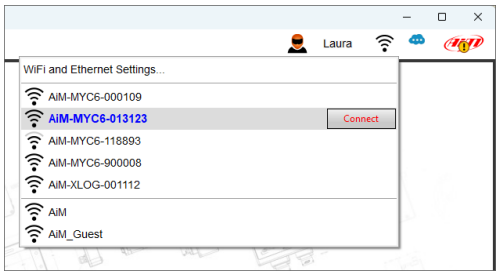
7 – Connection to the PC

You can connect MyChron6 to a PC via Wi-Fi or via USB through the USB cable you find in the kit. To connect MyChron6 via Wi-Fi:

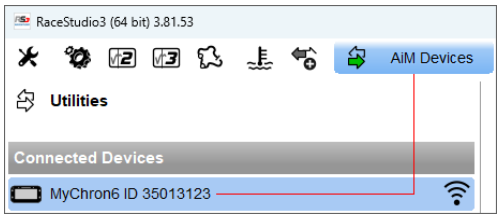
- check that MyChron6 Wi-Fi is set on “AUTO” (all versions) or on “ON” (US version only)
- read your MyChron6 name – mid of MyChron6 home page bottom line – or look for it in “System Information” page.



- Run RaceStudio 3 software and click Wi-Fi icon to see all AiM devices available on the network
- select your MyChron6

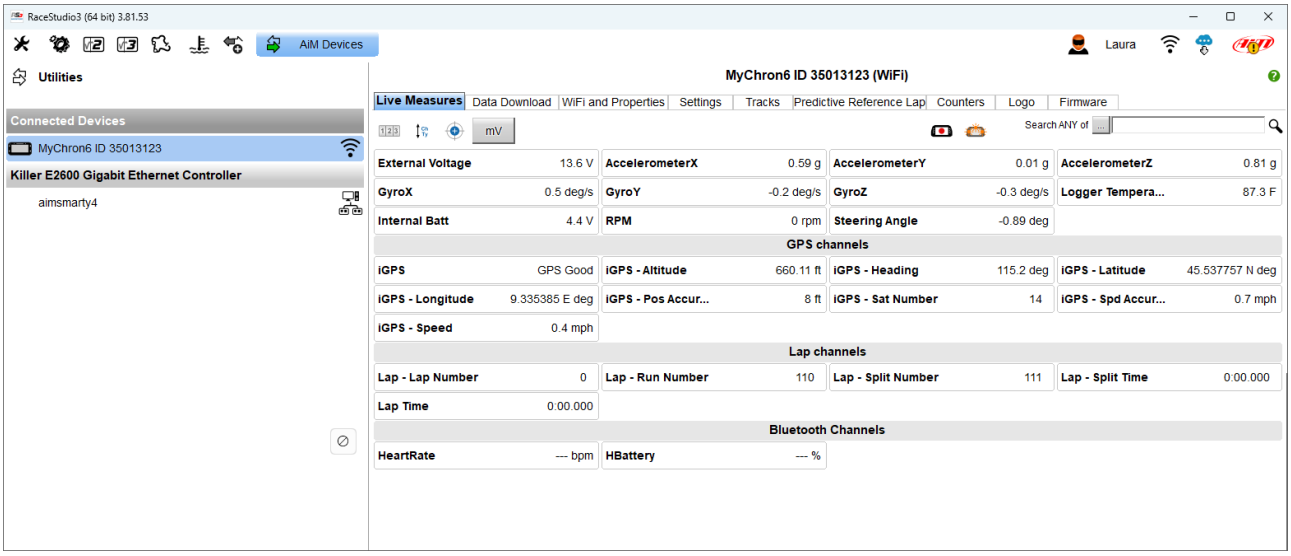


- Click AiM devices icon top left of the software bar
- Click on the device on the left of the software view



The software enters Live Measures tab as shown here below.

Please note: this view can change according to the features available when your MyChron6 has been produced.



Once the connection is established you have these tabs:

- **Live Measures**: to check all MyChron6 channels;
- **Data Download**: to download data, see the related chapter;
- **WiFi and Properties**: to manage the Wi-Fi configuration – see the related chapter;
- **Settings** to:
    - set date and time format
    - manage Time/Date synchronization
    - set backlight colour
    - enable/disable night vision and BLE (Bluetooth Low Energy)
    - enable/disable channel recording: it is possible to record it
    - set reference lap to select between Best lap of test, best lap of today, previous lap and user reference lap (see “Predictive reference lap” here below)

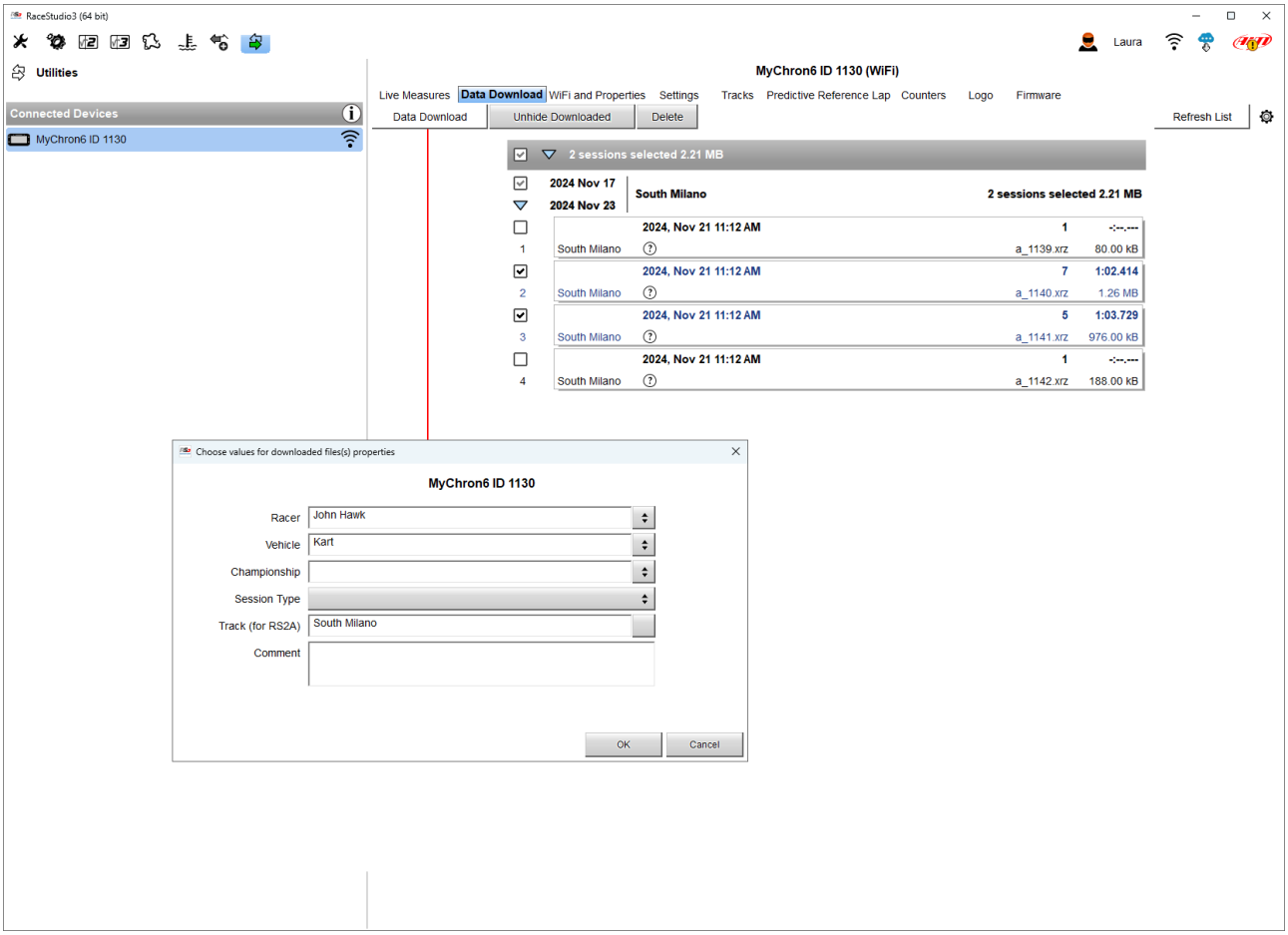
- **Tracks**: to manage the tracks stored in the device memory
- **Predictive Reference Lap**: to manage the laps stored that can be selected as reference lap
- **Counters**: to manage the device odometers; here you can reset the four user odometers as well as name them
- **Logo**: transmit/receive the logo that shows up when switching MyChron6 on; supported image format are JPEG or BMP; always use the most recent Windows™ versions whose graphic libraries are more updated
- **Firmware**: to check and/or update MyChron6 firmware.

8 – Data download

Once MyChron6-PC connection is established activate “Download” tab to download sampled data.

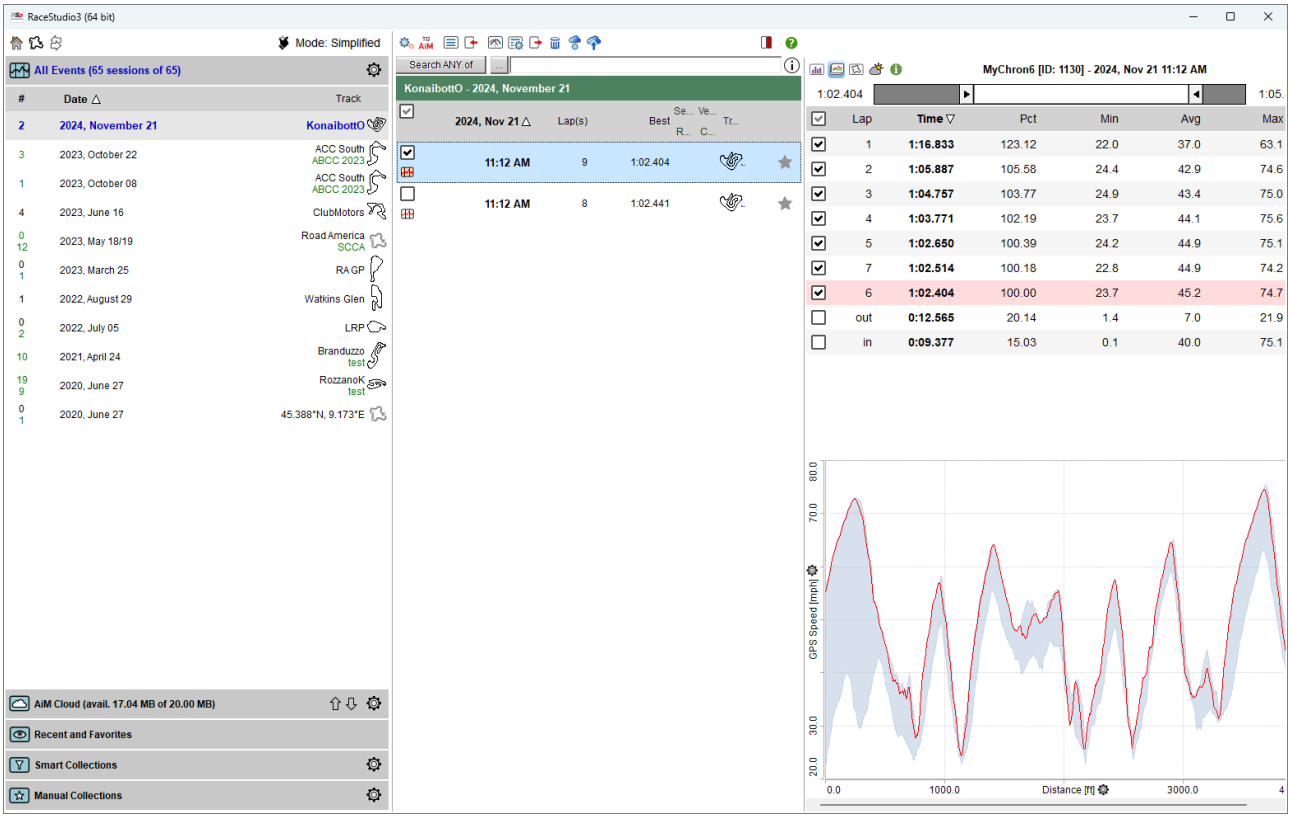
This page shows all information about the files stored in the system: number of laps, best lap, date/time and file dimensions.

Select one or more files and press “Data Download” to download and analyse them.



9 – Analysis

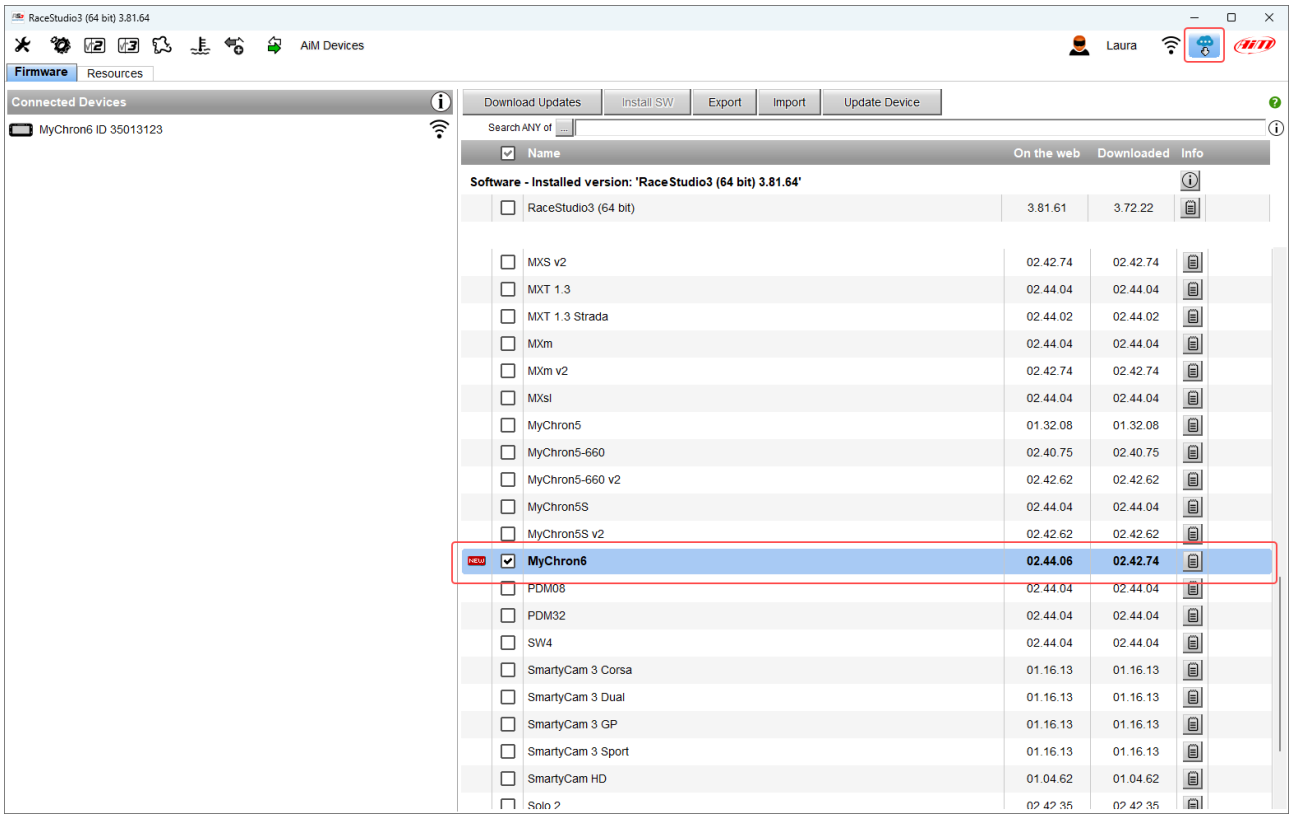
When data have been downloaded press Analysis icon and RaceStudio 3 Analysis software will open showing this page. Select the file to analyse double clicking on it. A lot of pages, graphs and images will help you analysing your data.



10 – Notification of new available versions

Our technicians and engineers are constantly working to improve both the firmware (the application that manages your device) and the software (the application you install on your PC).

Each time a new firmware and/or software version is available the icon highlighted here below appears with an arrow indicating that something is available for download (otherwise the icon only shows the cloud). Click it and freely download the new applications.

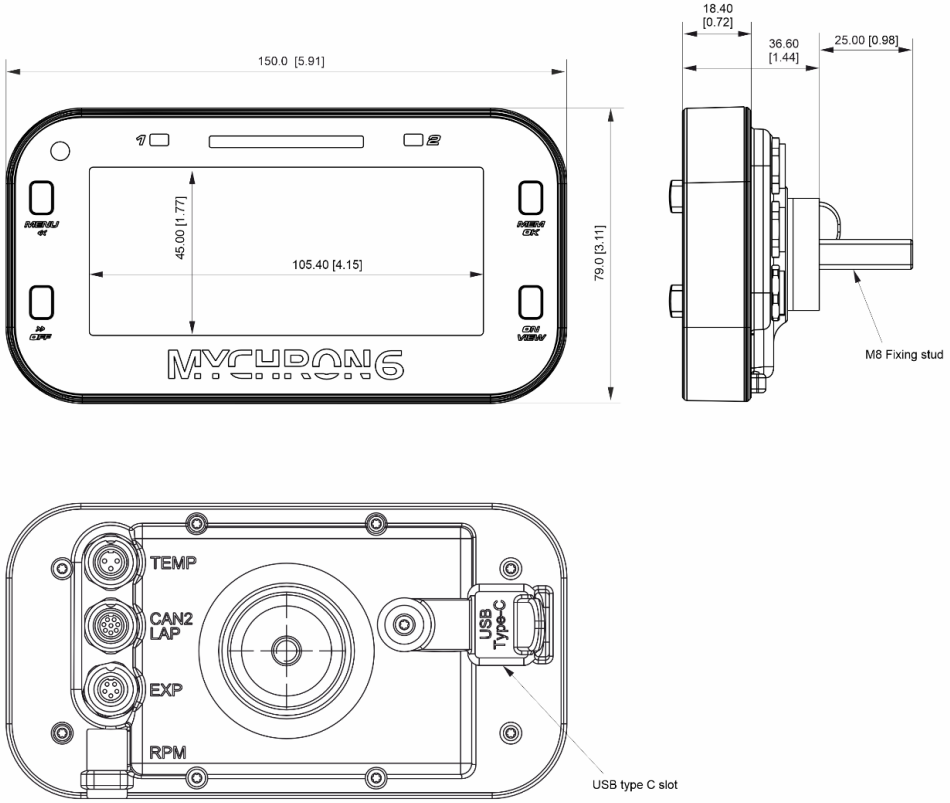


Once the new firmware has been downloaded, connect your device to the PC via Wi-Fi or via USB to perform a firmware upgrade. In a few seconds, the device is ready.

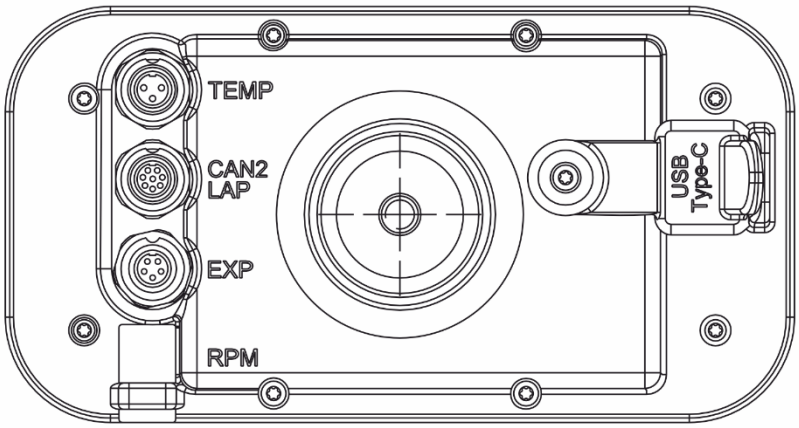
11 – Technical specifications and drawings

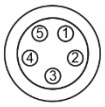
• Display	Graphical
• Display Resolution	320x136 pixels
• Backlight	8 configurable RGB colours
• Shift lights/alarm LEDs	5+2 configurable RGB LEDs
• Integrated track database	Yes
• Wi-Fi connection	Yes
• BLE (Bluetooth Low Energy) connection	Yes
• GPS frequency	25Hz
• Internal battery	Rechargeable 2900 mAh Lithium Ion
• Battery duration	Up to 20 hours
• External power	9-15V
• CAN connections	2
• Connectors	1 – 3 pins Bider 712 female 1 – 8 pins Bider 712 female 1 – 5 pins Bider 712 female
• USB connection	For data download, mass storage support and battery charge
• Temperature inputs	1 on MyChron6 2 on MyChron6 2T
• Supported temperature sensors	Thermocouple/Thermo-resistor
• Lap time	Based on built in GPS From optical or magnetic (optional) receiver
• Internal memory	4Gb – more than 3.000 hours continuous logging
• Battery life	20h approx.
• Battery charger	Included
• Body	PA6 GS30%
• Dimensions	152x81x37mm
• Weight	370g battery included
• Waterproof	IP67
• Analysis software	Race Studio Analysis freely downloadable from www.aim-sportline.com

MyChron6/MyChron6 2T dimensions in mm [inches]

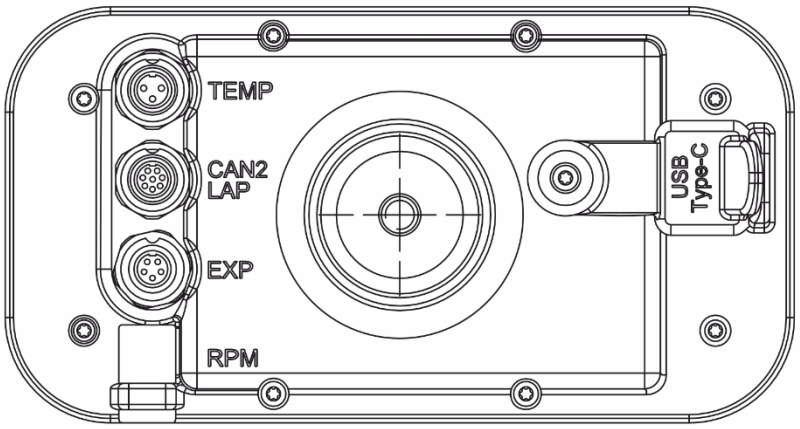


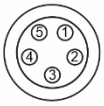
MyChron6 pinout



TEMP 3 pins Binder 712 female connector (external view)	CAN2 LAP 8 pins Binder 712 female connector (external view)	EXP 5 pins Binder 712 female connector (external view)
 1 - Thermocouple+ 2 - GND/Thermocouple - 3 - Thermoresistor	 1 - CAN2 H 2 - CAN2 L 3 - Digital Out 4 - Optical Lap 5 - +Vb Out 6 - GND 7 - Magnetic Lap 8 - Reserved	 1 - CAN+ Exp 2 - GND 3 - +Vbout CAN 4 - CAN- Exp 5 - +Vbext CAN

MyChron6 2T



TEMP 7 pins Binder 712 female connector (external view)	CAN2 LAP 8 pins Binder 712 female connector (external view)	EXP 5 pins Binder 712 female connector (external view)
		
1 - Thermocouple 1+ 2 - Thermocouple 1- 3 - Thermocouple 2+ 4 - GND/Thermo-couple 2- 5 - Thermoresistor 1 6 - GND 7 - Thermoresistor 2	1 - CAN2 H 2 - CAN2 L 3 - Digital Out 4 - Optical Lap 5 - +Vb Out 6 - GND 7 - Magnetic Lap 8 - Reserved	1 - CAN+ Exp 2 - GND 3 - +Vbout CAN 4 - CAN- Exp 5 - +Vbext CAN

Our website www.aim-sportline.com is constantly updated. Please refer to it to download the last releases of our documentation.