

# Racing Guide 2017

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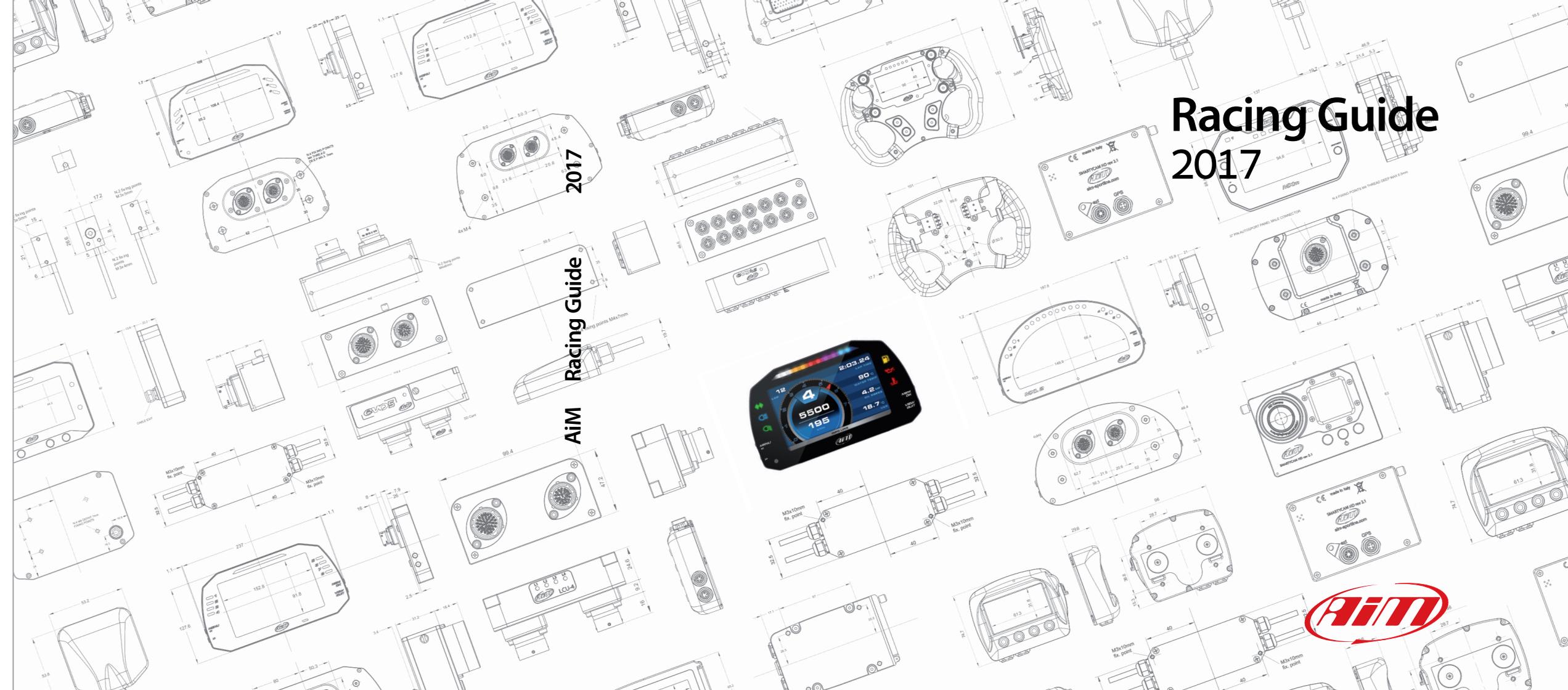
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2017

Racing Guide

AiM





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Many good reasons for choosing an AiM Dash Logger.



## The most precise and comfortable way to get lap times, and much more

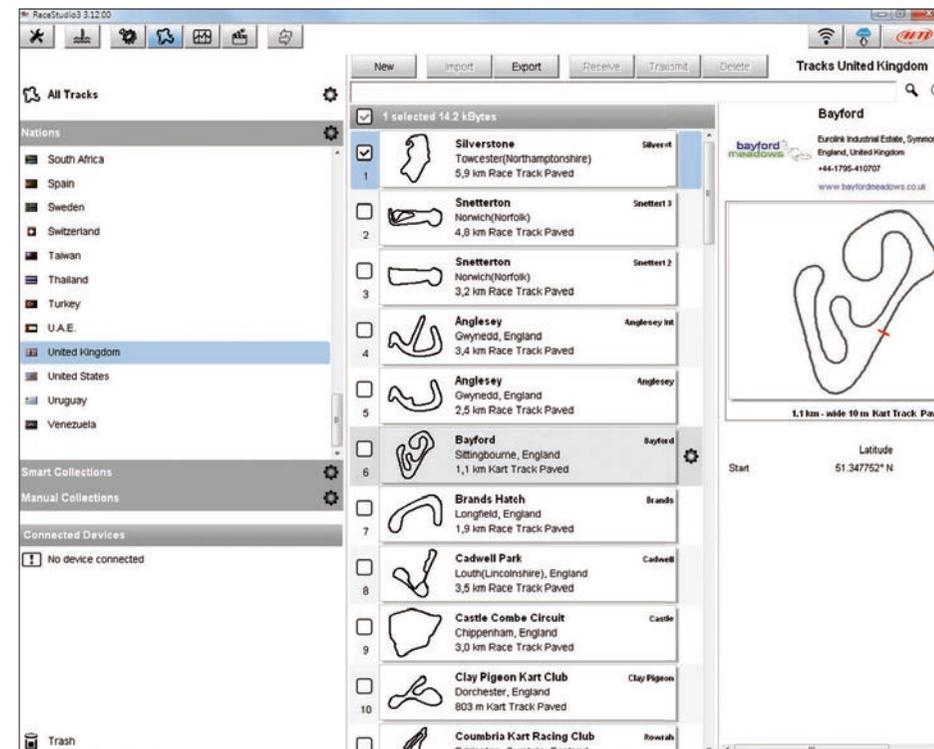
The new GPS08 Module, included in all kits, receives data from two satellites constellations: GPS and GLONASS, updated ten times per second.

This guarantees great rapidity in locking the signal after switch-on and an extraordinary precision, which permits to sample lap times with a max. 2/100 second tolerance.

So even the predictive lap time will be much more reliable: in any moment of your race, you will know your time gap vs. your best lap with absolute precision.

Additionally, GPS08 samples position, speed and lateral/in-line acceleration at any point of the track: all the data needed for a precise evaluation of vehicle and driver behavior.

Each AiM system can rely on a database of almost two thousands tracks all over the world, constantly reviewed and enriched by our technicians, so as to be always updated.



## A great variety of data sources

■ **Analog inputs:** 0-5V, 0-12V, Thermocouples recorded up to 1000 Hz each

■ **Digital inputs:** events, phonic wheel speed, ABS speed, RPM

■ **ECU connection:** a 1,000+ protocols database, continuously updated and available on all systems, to receive CAN, K-line, RS232 data

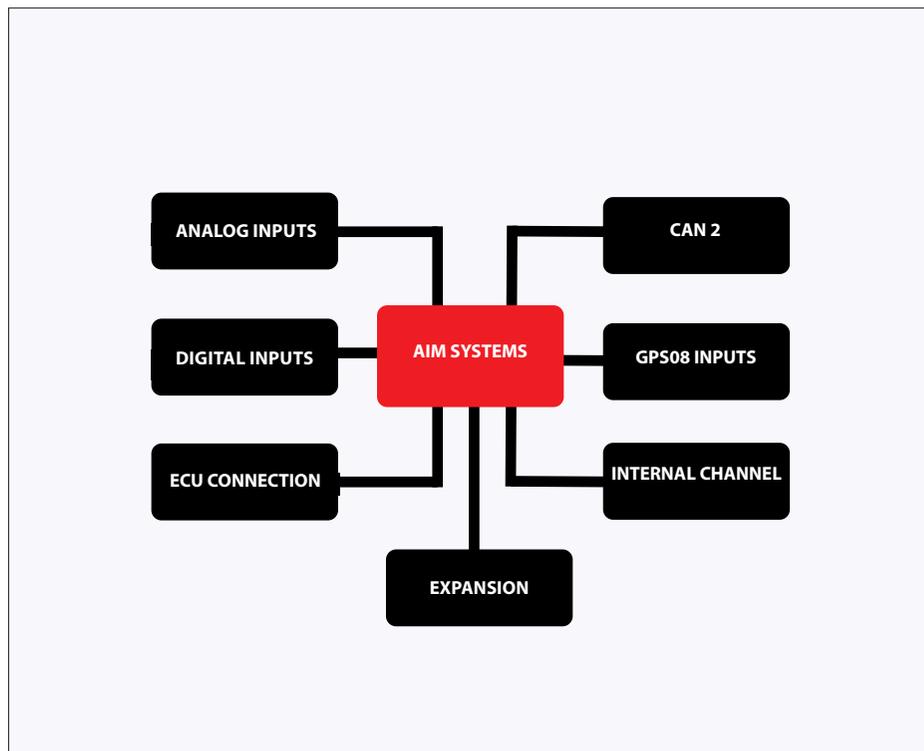
■ **Second CAN:** to allow external units connection

■ **Expansion modules:** all systems performance can be expanded adding all the analog/digital sensors you may need, lambda probes, SmartyCam HD on-board camera

■ **GPS inputs:** speed, acceleration, track position with outstanding precision

■ **Internal channels:** 3D accelerometer and 3D gyro, sampling data up to 100Hz.

All data are recorded with millisecond precision, so as to guarantee perfect synchro of samples, which is necessary for a correct data analysis.

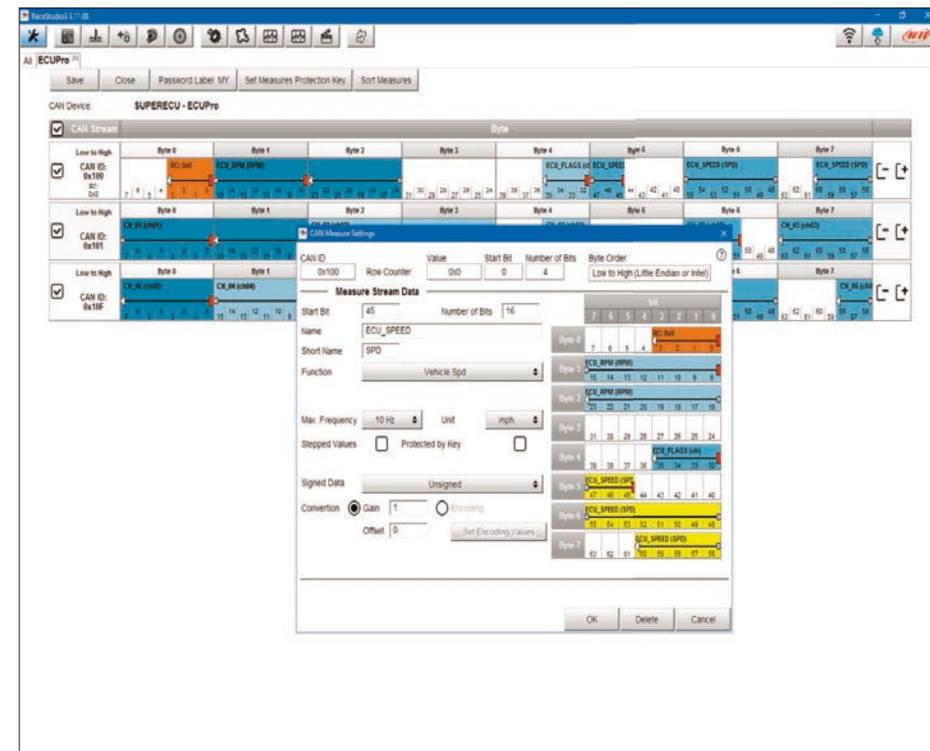


## A software-integrated ECU Driver Builder

For those who wish to define their own ECU driver, RS3 provides a Driver Builder, a powerful tool to perform that task.

Among other functions, you will also find:

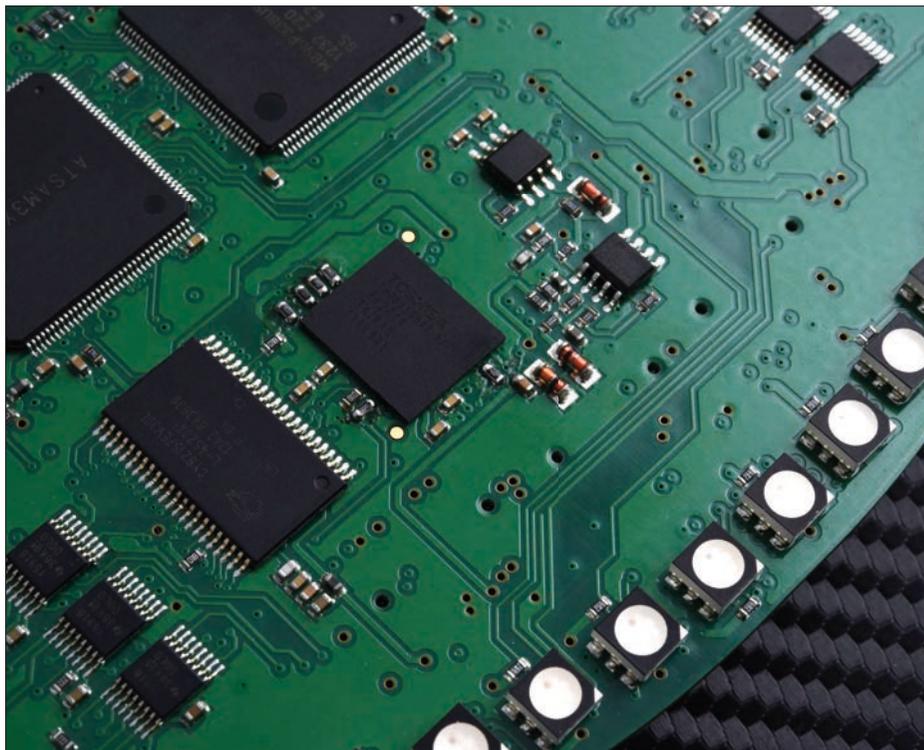
- Possibility to define simple or multiplexed frames
- Totally flexible fields format, from 1 to 64 bit, Little or Big Endian
- Possibility to define ASCII codes associated to individual fields
- Possibility to convert the received values, defining Gain and Offset
- Password protection to share protocols with other developers
- Software key definition to hide the desired fields to end-users, while maintaining them available for authorised technicians analysis.



## Huge memory for data recording

A 4Gb internal memory means recording data for hundreds of racing hours.

Should it be not enough, an external SD card module is available.



## CAN data transmission in a flexible and easily configurable way

It is also possible to define a CAN message to be transmitted at the desired frequency via one of the two available CAN ports.

The message can include any of the available channels, coming from direct connections as well as from expansions, ECU, GPS or internal math channels.

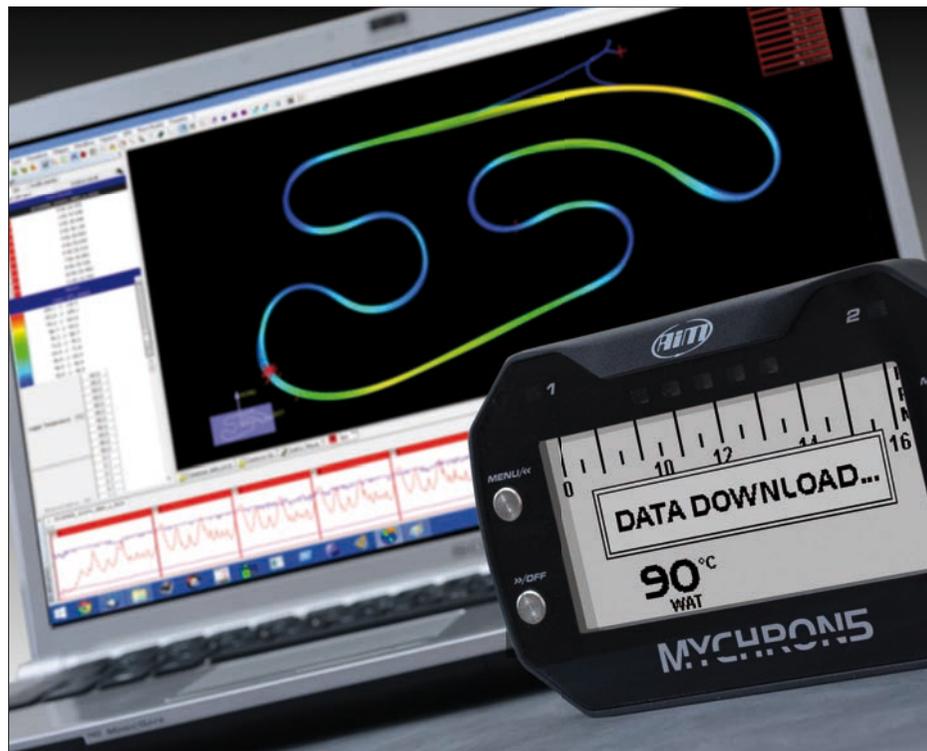
The screenshot shows the RaceStudio3 3.12.00 software interface. The main window is titled "MXG 01 - CAN Output". Below the title bar, there are several tabs: "Channels", "ECU Stream", "CAN2 Stream", "Math Channels", "Parameters", "Shift Lights and Alarms", "Display", "SmartyCam Stream", and "CAN Exp". The "CAN2 Stream" tab is selected. The interface shows a table for configuring CAN messages. The table has columns for "CAN ID (hex)", "Byte 0", "Byte 1", "Byte 2", "Byte 3", "Byte 4", "Byte 5", "Byte 6", and "Byte 7". The "Bit Rate Protocol (bit/s)" is set to "1 M bit/s". The "Name" field is empty. The table contains four rows of data, each with a checked checkbox in the "CAN ID (hex)" column. The first row shows "0x100" with "ECU\_FR\_SPEED" in Byte 0, "ECU\_FL\_SPEED" in Byte 1, "ECU\_RR\_SPEED" in Byte 4, and "ECU\_RL\_SPEED" in Byte 7. The second row shows "0x200" with "AccelerometerX" in Byte 0, "AccelerometerY" in Byte 1, "AccelerometerZ" in Byte 4, and "ECU\_RPM" in Byte 7. The third row shows "0x300" with "ECU\_MIL\_LAMP" in Byte 0, "ECU\_OIL\_SW" in Byte 1, "GyroX" in Byte 2, "GyroY" in Byte 4, and "GyroZ" in Byte 7. The fourth row shows "0xFFC0021" with "Lap Time" in Byte 0, "Lap Number" in Byte 4, and "GPS Speed" in Byte 7. Below the table, there is a button labeled "+ Add New Payload" and two buttons labeled "Export" and "Import".

## Easy and fast data download

The ever increasing amount of data are recorded within the logger in ZIP format.

This way the file size can be greatly reduced, so as to allow a much faster data download.

The WiFi module included in all systems (EVO4S excluded) makes interaction between the AiM logger and your PC quite easy, up to 50 meters away: being able to download data leaving the PC in the van, instead of moving it close to the car, can be a very convenient and time-saving solution.



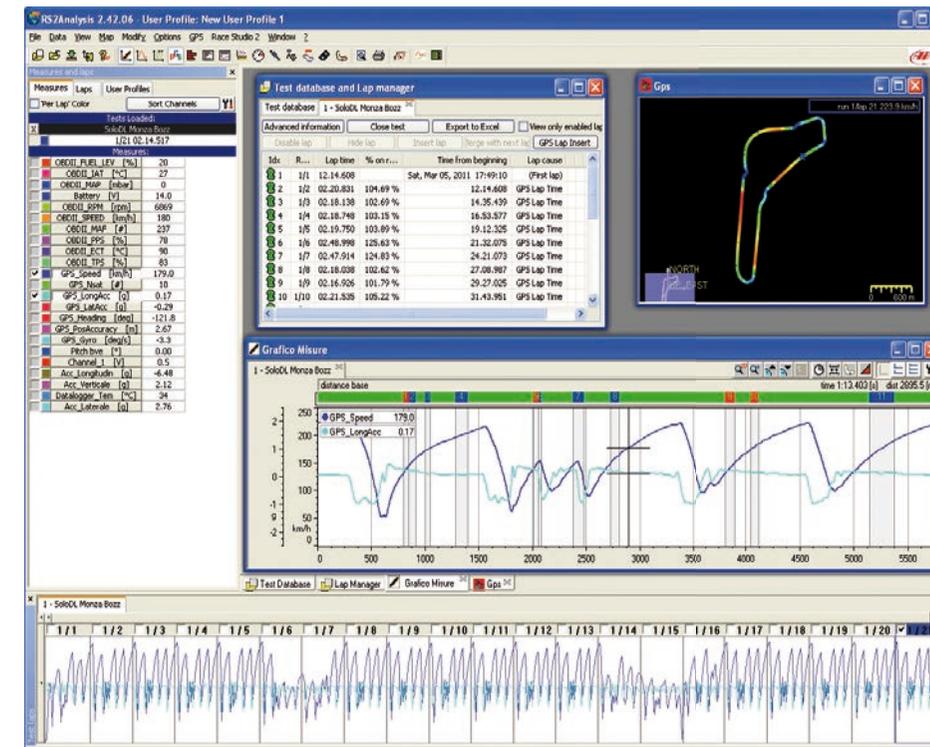
## Race Studio 3 the powerful software for configuration and analysis

Race Studio 3 is the heart of all AiM systems. With RS3 you can manage all activities related to:

**Configuration:** you can create, modify, delete, import and export configurations with all channels, ECU drivers, Math channels, Display Pages, Digital outputs, Alarms, Shift Lights and all the expansions you need. You will also be able to manage the map of all your racing tracks and compare two laps watching the video recorded by SmartyCam HD cameras.

**Analysis:** you can also analyse all data on your PC: graphs, histograms and tables will help you study your performance, providing an objective support to avoid mistakes and improve performances.

And - last but not least - Race Studio 3 comes for free with all systems and all its updates are freely downloadable from AiM website or, if you wish, from the dedicated 'Web updates' option available in RS3 Start Page.



## A constant, professional after market assistance

All our systems are guaranteed for years, until the electronic components are available on the marketplace.

Which means that - whenever a system is down for reasons not linked to bad usage by the user - it will be fixed for free. Even if bought five-six years before.

Any doubt, call or email us: all around the world you will find an AiM technician ready to assist, for all the time needed and with no additional cost.

In case of bugs (which sometimes occurs: racing conditions are so terribly different that something can be missed), you will be put in touch with the engineers who developed the system, who will listen to you to determine what did not work. Shortly, the problem will be analysed and solved.



Even on track our technicians are with you to help using correctly our systems, changing configurations, suggest solutions or just replacing a broken sensor.

Find your local dealer browsing the huge list of AiM partners all over the world ([www.aim-sportline.com](http://www.aim-sportline.com) - Contact Section).



## MXL2

The powerful Dash Logger for all racers

- High contrast LCD with integrated graphical portion
- Dual color backlight
- 6 configurable RGB alarm LEDs
- 10 RGB LED shift light array
- WiFi connectivity
- 3 CAN connections
- Connections with industry leading 1,000+ ECUs
- 3-axis accelerometer + gyroscope
- 8 analog inputs at a max 1000 Hz each
- 4 digital speed inputs
- Coil RPM input
- Lap signal input
- 2 digital outputs
- Realtime fully configurable math channels



### All the racing data you may ever need

MXL2 is the powerful AiM dashlogger providing all the info needed by racers: it samples and shows key info like speed, laptimes, RPM, all temperature/pressure data you need and much more.

The product has been designed with the aim to make configuration and usage smooth and easy either for amateurs and for people with sophisticated technical background.

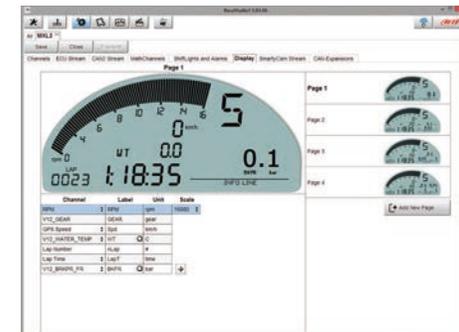
### A wide range of data sources

The dash logger samples data come from your ECU, the internal accelerometer and gyro, as well as from the GPS08 module included in the kit, analog/digital inputs and predefined math channels.

For the most demanding, system performance and data acquired can also be incremented adding up to eight expansion modules.

### Choose your own data layout

If you need to monitor a huge amount of data, you can organize them defining up to eight different custom pages, choosing among a wide library of page styles, defining which data to be shown, their end of scale and measure units.



## Integrated Shift Light Array

An integrated shift light is a hallmark of the MXL, but an even better 10 LED shift light array is found in the MXL2.

Choose from a host of advanced multicolored RGB shift light patterns that can be customized to your liking, and for each unique gear when required.

## Flexible Alarms

Six configurable RGB alarm LEDs. You choose the conditions, you choose the colors.

Select a solid alarm - or flashing one - and the flashing frequency, choose to have an accompanying text message, and set the alarm priorities.



## Sharp Liquid Crystal

The MXL2 display features a high contrast traditional LCD, with a black to white ratio nearly double its predecessor, fused with a graphical LCD offering great flexibility in information display and alerts.

The MXL2 now offers a dual colored backlight of high contrast white and red which can also be changed conditionally. An ambient light sensor keeps the backlight at optimum brightness levels.

## WiFi Connectivity

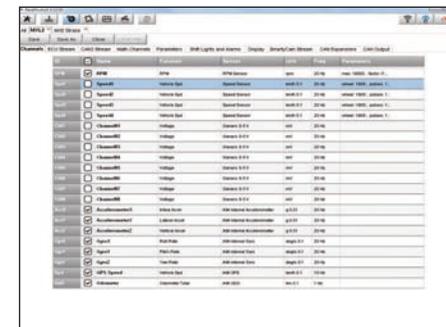
MXL2 makes it even more convenient to configure, calibrate, and download your data wirelessly, using a secure 802.11 WiFi connection: no need to move your PC close to the car anymore, you can do it from your van up to 50 meters away.

## RaceStudio3, the almighty software

RaceStudio3 is the true 'engine' of your MXL2, as it will manage all your activities related to:

### Configuration

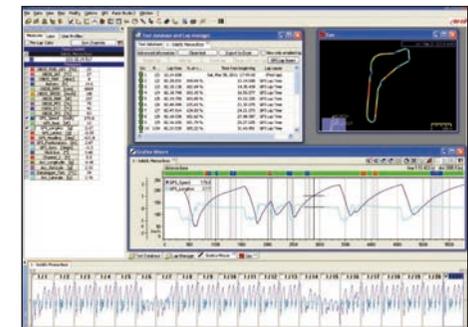
With Race Studio 3 you can create, modify, delete, import and export configurations with all channels, ECU drivers, Math channels, Display Pages, Digital outputs, Alarms, Shift Lights and all the expansions you need. You will also be able to manage the map of all your racing tracks and compare two laps



watching the video recorded by SmartyCam cameras.

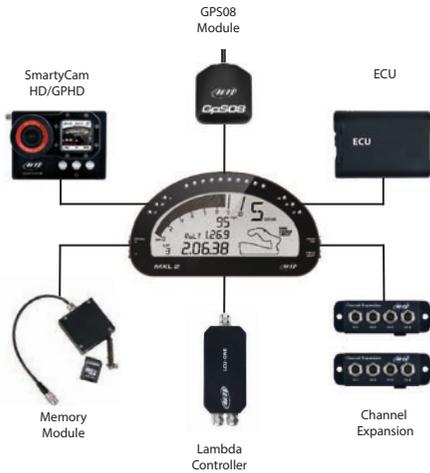
### Analysis

With RaceStudio3 you can also analyze all data recorded by MXL2 and downloaded to your PC: graphs, histograms and tables will help you study your performance, providing an objective support to avoid mistakes and improve performances.



## More Expansions

These are only some of the items that can be added to our MXL2 range for incrementing the performance and the data acquired.



## Technical Specifications

- Display	LCD display + graphical portion
- CAN connections	3
- ECU connections	CAN, RS232 or OBDII
- ECU compatibility	1,000+ industry leading ECUs
- External modules connection	Yes
- Expansion CAN connection	GPS, Channel expansion, Lambda Controller, SmartyCam HD
- Analog inputs	8
- Digital inputs	4 Speed inputs, 1 RPM input, lap signal
- Connectors	2 Autosport connectors
- Accelerometer + gyroscope	Internal Three-axial ± 5G
- Internal memory	4 GB
- Alarm LEDs	6 RGB freely configurable
- Shift Lights	10 RGB LEDs freely configurable
- Backlight	Bicolor white or red
- Light sensor	Yes
- Body	Anodized Aluminum
- Pushbuttons	Metallic
- Dimensions	187,8x103x21mm
- Weight	530g
- Waterproof	IP65

## MXG/MXS

The color TFT Dash Loggers for motorsports

- Extra wide 7"/5" High Contrast TFT Display
- Fully user configurable
- 8/6 configurable RGB alarm LEDs
- 10 RGB LEDs shift light array
- WiFi connectivity
- 3 CAN connections
- Connection with industry leading 1,000+ ECUs
- Three - axis accelerometer + gyroscope
- 8 analog inputs at a max 1000 Hz each
- 4 digital speed inputs
- Coil RPM input
- Lap signal input
- 2 digital outputs
- Realtime fully configurable math channels



### A Wide range of data sources

MXG and MXS have been designed to acquire and display data coming from your ECU, the internal accelerometer and gyro, as well as from the GPS08 Module included in the kit, analog/digital inputs and predefined math channels. Performance and data acquired can also be incremented adding up to eight expansion modules. The only difference between the MXS and MXG is size: 7" display for MXG, a compact 5" display for MXS, better fit for narrow cockpits.

### ECU connection

MXG/MXS acquire data from the ECU of your vehicle. The list of available ECU drivers, constantly updated and upgraded, includes >1,000 different ECUs, either Stock and Racing. They are sorted by manufacturer/vehicle model: for each ECU you find the proprietary communication protocols, including the standard OBDII ones. From a hardware point of view, AiM systems manage the following data lines: CAN, RS232, K-Line.



## Analog/digital inputs

MXG/MXS analog inputs are recorded up to 1000 times per second each. You can connect and monitor all kinds of sensors, like:

- Ratiometric potentiometers
- Pressure sensors
- Thermo-resistances
- K-type thermocouple

... and many others, all your custom sensors included. They also feature digital inputs:

### Speed signals

From the ECU, from the GPS and from the wheel sensors.

### RPM

From the ECU or from a digital input connected to a square wave signal (8 to 50 V) or to a low voltage (from 150 to 400 V) of the coil.

### Lap signal

Lap and split times are sampled by the GPS or via optical receiver/transmitter.

## Second CAN line

The CAN2 line manages data coming from your additional modules (i.e. ABS, traction control, infrared temperature sensors and more...).

This feature meets the requirements of a growing number of racers, as the use of additional modules is becoming quite common in a number of series.

## Internal accelerometer and gyro

The internal three-axial accelerometer and the gyroscope provide MXG/MXS a very powerful array of information, enabling you to quantify the dynamic characteristics of your vehicle.

Measuring acceleration forces and gyro rates can assist in determining how to improve your vehicle performances.

## Math channels

The dashloggers can be configured to display those values (i.e. brake bias, calculated gear) in real time.

## CAN output

With the CAN Output you can send messages directly to an existing CAN network in order to improve the range of vehicle control possibilities

## Two digital outputs

Each of them can give an output of 1 amp at 12 volts: they can be configured in order to be turned on/off depending on the value of the analog or digital inputs.

They permit to automatically run external systems, i.e. to switch on/off additional lights, to activate/de-activate a cooling fan or circulation pumps, etc. when a certain event happens.

## Choose your own data layout Flexible Alarms

You can organize this huge quantity of data defining up to eight different custom pages, choosing among a wide library of page styles, defining which data to be shown, their end of scale and measure unit.

## High contrast TFT display and an integrated Shift Light Array

A high contrast TFT display identifies MXG/MXS at the first glance.

An ambient light sensor keeps the backlight at optimum brightness levels.

A ten LEDs shift light array is found in the MXG/MXS: a host of advanced multicolored RGB shift light patterns that can be customized to your liking, and for each unique gear when required.

MXG features eight (MXS six) configurable RGB alarm LEDs: you choose the conditions, you choose the colors.

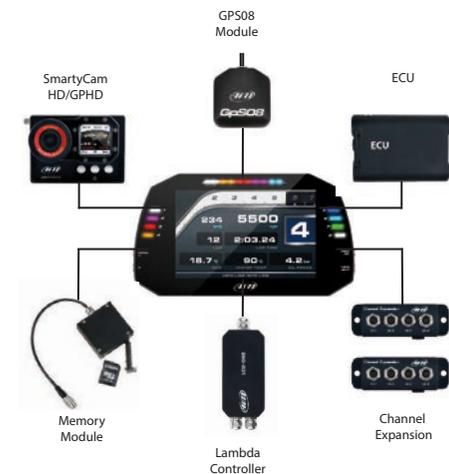
Select a solid alarm - or flashing one - and the flashing frequency, choose to have an accompanying text message, and set the alarm priorities.

## WiFi Connectivity

Configure, calibrate, and download your data wirelessly over a secure 802.11 WiFi connection.

## More Expansions

These are only some of the items that can be added to our MXG/MXS range for incrementing the performance and the data acquired.





## Technical Specifications

- Display	MXS: 5" TFT MXG: 7" TFT
- Resolution	800x480 pixels
- Contrast	MXS: 600:1 MXG: 1000:1
- Brightness	700cd/m2 - 1,100 Lumen
- Ambient light sensor	Yes
- Alarm LEDs	MXS: 6 RGB freely configurable MXG: 8 RGB freely configurable
- Shift Lights	10 integrated freely configurable RGB LEDs
- CAN connections	3
- ECU connections	CAN, RS232 or K-line
- ECU compatibility	1,000+ industry leading ECUs
- Expansion CAN connection	GPS, Channel expansion, Lambda Controller, SmartyCam HD
- Analog inputs	8 fully configurable, max 1,000 Hz each
- Digital inputs	4 Speed inputs, lap signal, coil RPM input
- Digital outputs	2 (1 Amp max each)
- Second CAN	Yes
- Accelerometer	Internal Three-axial $\pm 5G$ +Gyro
- Internal memory	4 GB
- Body	Anodized Aluminum
- Pushbuttons	Metallic
- Connectors	2 Motorsport connectors
- Dimensions and Weight	MXS: 169.4x97x23 mm - 530 g MXG: 237x127.6x26 mm - 950 g
- Power consumption	400 mA
- Waterproof	IP65

## MXm

- Backlighted, 268x128 pixel display with ambient light sensor
- 2 configurable RGB alarm LEDs
- 5 RGB LEDs shift lights
- 2 CAN connections
- ECU connection with industry leading 1,000+ ECUs
- Integrated GPS
- Three - axis accelerometer + gyroscope
- 4 fully configurable analog inputs at a max 1000 Hz each
- 1 Speed input, lap signal, coil RPM input
- Fully configurable math channels
- CAN Expansions: Channel Expansions, Thermocouples, Lambda Controllers, SmartyCam HD
- 4 Gb internal memory



## The compact, entry level dash logger

MXm is a compact-sized dash logger designed for racers needing all the essential information to monitor their vehicle behavior and improve their performance.

It has been designed to acquire and display data coming from your ECU, the internal accelerometer and gyro, as well as from the internal GPS receiver, analog/digital inputs and predefined math channels. The spectrum of data acquired can also be incremented adding expansion modules.



## ECU connection

MXm acquires data from the ECU of your vehicle: the list of available ECU drivers (CAN, RS232 or K-line), constantly updated and upgraded, includes > 1,000 different ECUs, either Stock and Racing.

## Analog/digital inputs

MXm features digital Speed/RPM and 4 analog inputs, recorded up to 1000 times per second each. You can connect and monitor temperature, pressure, suspension sensors, together with your custom sensors.

MXm also features digital inputs:

- 1 Speed signal
- Coil RPM input
- Lap signal

## Internal accelerometer and gyro

The internal three-axial accelerometer and the gyroscope provide MXm all the information needed to quantify the dynamic characteristics of your vehicle.

## Math channels

MXm can be configured to display those values (i.e. brake bias, calculated gear) in real time.

## Choose your own data layout

You can organize this huge quantity of data defining your custom pages, choosing among a wide library of page styles, defining which data to be shown, their end of scale and measure unit.

## Data recall

At the end of each session, you can recall the summary of your best laps, with max/min RPM, speed and temperatures.

## Easy to read in any light conditions

MXm features a wide 268x128 pixel graphical display. The screen can be backlit in one of the seven available colors. The incorporated light sensor makes brightness and contrast ideal in all light conditions.

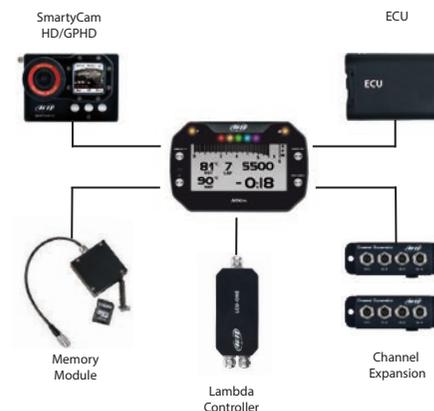
## Flexible Alarms and Shift Lights

MXm features two fully configurable RGB alarm LEDs: you can choose the conditions which turn them on/off, their color, select a solid alarm - or flashing one - and the flashing frequency.

Shift Lights are completely configurable, too. The five RGB LEDs can be customized to your liking, and for each unique gear when required.

## Expansions

A number of expansions can be added to MXm for incrementing the performance and the data acquired: Channel Expansions, Thermocouple Expansions, Lambda Controllers and the on-board camera SmartyCam HD.



## Technical Specifications

- Display resolution	268x128 pixels
- Backlight	7 configurable RGB colors
- Ambient Light sensor	Included
- Shift Lights	5 RGB LEDs
- Alarm LEDs	2 configurable
- CAN connections	2
- ECU connections	CAN, RS232 or K-Line
- ECU compatibility	+ 1,000 industry leading ECUs
- GPS	Integrated
- CAN Expansion	Channel Expansions, Thermocouple Expansions, Lambda Controllers, SmartyCam HD
- Analog inputs	4 fully configurable, max 1,000 Hz each
- Digital inputs	1 speed input, lap signal, coil RPM input
- Accelerometer	Internal Three-axial $\pm 5G$ + Three-axial Gyroscope
- Internal memory	4 Gb
- Body	Glass fiber reinforced Nylon
- Pushbuttons	Metallic
- Connector	37 pin Motorsport connector
- Dimensions	137 x 88 x 30 mm
- Weight	390g
- Waterproof	IP65

## MXS STRADA

The compact TFT Dash for road use



- 5" TFT Display
- 800x480 Resolution
- 600:1 Contrast
- 700cd/m2 - 1,100 Lumen Brightness
- Ambient light sensor
- 6 RGB freely configurable Alarm LEDs
- 10 integrated freely configurable RGB LED Shift Lights
- 2 AMP connectors
- Connection with industry leading 1,000+ ECUs
- 2 CAN connections
- External modules connection (GPS, Channel Expansion, TC Hub, Lambda controller, SmartyCam HD)
- 4 fully configurable Analog inputs, max freq. 1,000 Hz each
- 1 speed input
- lap signal
- Coil RPM input
- 1 Digital Output (1 Amp max)
- Second CAN
- CAN output

MXS Strada is a 5" color display with great visual impact, configurable to show lap times and all the info coming from the Engine Control Unit, analog/digital inputs, pre-defined math channels and - optionally - the GPS Module.

Its data sampling capability can also be incremented adding up to eight expansion modules.

### High contrast TFT display

MXS Strada features a high contrast TFT display: its visual quality is always optimal as its ambient light sensor keeps the backlight at the best brightness levels.

The dash is of course available also in the "Street Icons" version (fuel, oil, water temp, etc.).



### Watch your data in customized pages

MXS Strada shows, together with RPM scale, all the data you need, like speed, water temperature and oil pressure, laptimes and much more...

You can choose the custom pages you wish defining which data to be shown, their end of scale and measure units. Browsing pages is quite easy using the pushbuttons.



## Additional functions

MXS Strada also provides:

- a CAN Output, to send messages directly to an existing CAN network in order to improve the range of vehicle control possibilities.

- a 1 amp Digital output to automatically run external systems, i.e. to switch on/off additional lights, to activate/de-activate a cooling fan or circulation pumps, etc. when a certain event happens.

- a CAN2 line, managing data coming from your additional modules (i.e. ABS, traction control, infrared temperature sensors and more...).



## Technical Specifications

- Display	5" TFT
- Resolution	800x480 pixels
- Contrast	600:1
- Brightness	700cd/m2 - 1,100 Lumen
- Ambient Light sensor	Yes
- Alarm LEDs	6 RGB freely configurable
- Shift Lights	10 freely configurable RGB LEDs
- CAN connections	2
- ECU connections	CAN, RS232 or K-line
- ECU compatibility	+ 1,000 industry leading ECUs
- Expansion CAN connection	GPS, Channel expansion, Thermocouples expansions , Lambda Controller, SmartyCam HD
- Analog inputs	4 fully configurable, max 1,000 Hz each
- Digital inputs	1 speed input, lap signal, coil RPM input
- Digital outputs	1 (1 Amp max)
- Second CAN	Yes
- body	Anodized Aluminum
- Pushbuttons	Metallic
- Connectors	2 AMP connectors
- Dimensions	169,4x97x23mm
- Weight	480g
- Power consumption	400 mA
- Waterproof	IP65





## EVO5

### The professional Data Logger

- Connection with industry leading 1,000+ ECUs
- 2 motorsports connectors
- 8 fully configurable Analog inputs, max freq. 1,000 Hz each
- 4 speed inputs
- Lap signal
- Coil RPM input
- Internal 3 axis  $\pm 5G$  accelerometer + 3 axis gyro
- 2 Digital Outputs, up to 1 Amp each
- CAN output
- Second CAN
- GPS included in the kit
- External modules connection (Channel expansion, TC Hub, Lambda controller SmartyCam HD)
- 4Gb internal memory
- SD card included in the kit
- WiFi connection



EVO5 is the evolution of the traditional data logger that, all over the years, has become a standard de facto acquisition system in a huge amount of championships.

With its compact aluminum body, EVO5 can be easily placed in any vehicle.

Its configuration with the new Race Studio 3 software is simple and immediate.

### A wide range of sources for your data

EVO5 samples all the information you need: data coming from your vehicle ECU via CAN, RS232 or K-line, from the internal accelerometers and gyro, from the GPS08 Module included in the kit.

And from analog/digital inputs, external expansions as well as predefined math channels.

Sensors can be connected to 8 configurable analog channels, to the RPM input and to 4 wheel speed inputs.

### ECU connection

EVO5 acquires data from the ECU of your vehicle. The list of available ECU drivers, constantly updated and upgraded, includes > 1,000 different ECUs, either Stock and Racing. They are sorted by manufacturer/vehicle model: for each ECU you find the proprietary communication protocols, including the standard OBDII ones. From a hardware point of view, AiM systems manage the following data lines: CAN, RS232, K-Line.



## Sensors

Many sensors can be connected to EVO5:

- 8 analog channels with configurable 12 bit 0-5 Volt, 0-500 mV, 0-50 mV inputs or thermocouple input, used to sample data coming from temperature, pressure, suspension and other kinds of sensors.

- 4 speed inputs.

- 1 RPM input, which manages square wave signals transmitted by the ECU, or pulse signals picked from the coil command (low voltage).

- 1 built-in inertial platform: an integrated three-axial accelerometer and gyro sensor let you have the most powerful system to understand oversteering, understeering, banking, etc.

## Second CAN line

The CAN2 line manages data coming from your additional modules (i.e. ABS, traction control, infrared temperature sensors and more...).

This feature meets the requirements of a growing number of racers, as the use of additional modules is becoming quite common in a number of series.

## CAN output

With the CAN Output you can send messages directly to an existing CAN network in order to improve the range of vehicle control possibilities.

## WiFi connectivity

Configure, calibrate and download your data wirelessly over a secure 802.11 WiFi connection.

## Two digital outputs

Each of them can give an output of 1 amp at 12 volts: they can be configured in order to be turned on/off depending on the value of the analog or digital inputs.

They permit to automatically run external systems, i.e. to switch on/off additional lights, to activate/de-activate a cooling fan or circulation pumps, etc. when a certain event happens.

## Store all your data in a SD card

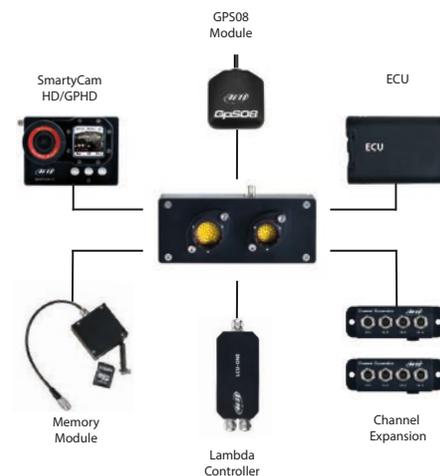
The internal SD card permits to record all possible data you may ever need.

The card is protected by a waterproof door equipped with a sensor closing all files when you open it, to prevent any data loss possibility.

Of course a USB connection is available, too.

## Expand your EVO5 as much as you need

These are only some of the items that can be added to EVO5 for incrementing the performance and the data acquired.



## Technical Specifications

- ECU connection	CAN, RS232, K-Line
- Second CAN	Yes
- External modules connection	GPS module, Channel expansion, Lambda controller, SmartyCam HD
- Analog inputs	8 fully configurable: 0-5V, 0-12V, K thermocouples. Max freq 1 KHz each
- Digital inputs	Coil RPM and 4 speed inputs
- Second CAN	Yes
- Inertial platform	Internal 3 axis +-5G accelerometer + 3 axis gyro
- WiFi connection	Yes
- Internal memory	4 Gb
- SD card	Internal: up to 128 Gb
- Digital outputs	2, up to 1 Amp each
- Body	Anodized aluminum
- Dimension	114,4X47,2X58,8mm
- Weight	300g
- Waterproof	IP65

## EVO4S

The powerful and flexible data logger

- Connection with industry leading 1,000+ ECUs
- 13 binder connectors
- 5 fully configurable Analog inputs, max freq. 1,000 Hz each
- 2 Speed inputs
- lap signal
- Coil RPM input
- Internal 3 axis  $\pm 5G$  accelerometer + 3 axis gyro
- 1 Digital Output (1 Amp max)
- CAN output
- GPS included in the kit
- External modules connection (Channel expansion, TC Hub, Lambda controller, SmartyCam HD)
- 4Gb internal memory



### A wide range of sources

EVO4S samples all the information you need: data coming from your vehicle ECU via CAN, RS232 or K-line, from the internal accelerometers and gyro, from the GPS08 module included in the kit.

And from analog/digital inputs, external expansions as well as predefined math channels. Sensors can be connected to 5 configurable analog channels, to the RPM input and to 2 wheel speed inputs.

### ECU connection

EVO4S acquires data from the ECU of your vehicle.

The list of available ECU drivers, constantly updated and upgraded, includes > 1,000 different ECUs, either Stock and Racing. They are sorted by manufacturer/vehicle model: for each ECU you find the proprietary communication protocols, including the standard OBDII ones.

From a hardware point of view, AiM systems manage the following data lines: CAN, RS232, K-Line.

EVO4S is the evolution of the well known EVO4.

It maintains the same connection logic, one connector per channel, but with a completely redesigned internal electronic board, fully compatible with the last generation of AiM dashloggers and with the new powerful Race Studio 3 software.



## Sensors connection

Many sensors can be connected to EVO4S via:

- 5 analog channels with configurable 12 bit 0-5 Volt, 0-500 mV, 0-50 mV inputs or thermocouple input, used to sample data coming from temperature, pressure, suspension and other kinds of sensors.
- 2 speed inputs, which allow to monitor the different wheels behavior.
- 1 RPM input, which manages square wave signals transmitted by the ECU, or pulse signals picked from the coil command (low voltage).

## Internal three-axial accelerometer and gyro

A built-in inertial platform lets you have the most powerful system for understanding oversteering, understeering, banking, etc.

## Digital output

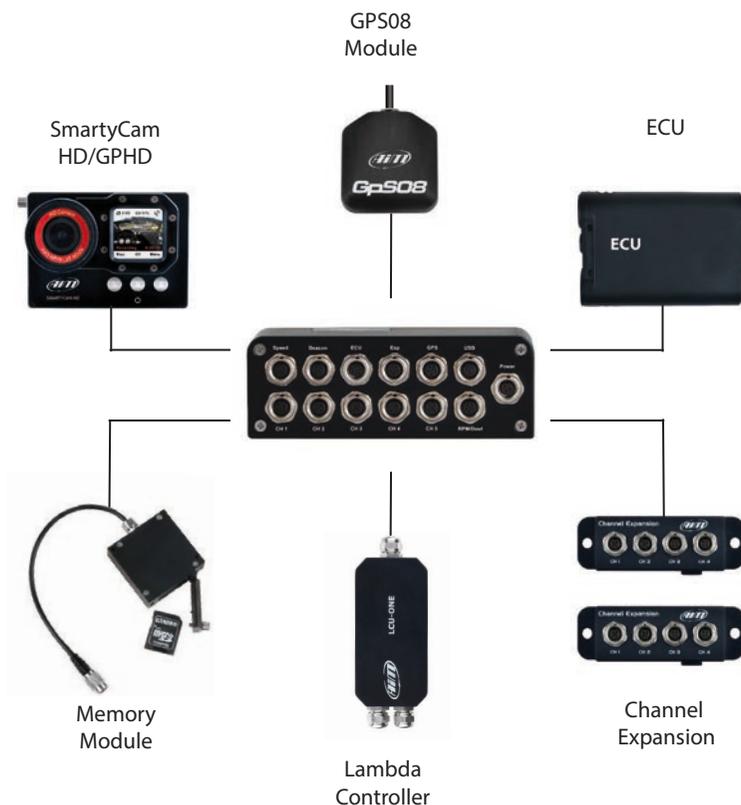
EVO4S features a 1 amp at 12 volts digital output. You can configure it in order to turn it on or off depending on the value of the analog or digital inputs, ECU values, expansion values, GPS information or math channels.

## CAN output

With the CAN Output you can send messages directly to an existing CAN network in order to improve the range of vehicle control possibilities.

## Expand EVO4S as much as you need

Add expansion modules via our built in CAN bus eg. GPS, external memory modules, channel expansions, lambda controllers. These are only some of the items that can be added to our EVO4s range for incrementing the performance and the data acquired.



## Technical Specifications

- ECU connection	CAN, RS232, K-Line
- External modules connection	GPS module, Channel expansion, TC hub, Lambda controller, SmartyCam HD
- Analog inputs	5 fully configurable: 0-5V, 0-12V, K thermocouples. Max freq 1 KHz each
- Digital inputs	2 speed inputs, lap signal, coil RPM input
- Inertial platform	Internal 3 axis +-5G accelerometer + 3 axis gyro
- WiFi connection	Yes
- Internal memory	4 Gb
- Digital outputs	1, up to 1 Amp
- Body	Anodized aluminum
- Dimension	130X46,6X35mm
- Weight	330g
- Waterproof	IP65

## GS-DASH

The display for EVO4S  
and EVO5

- Display resolution: 268x128 pixel
- Backlight: seven configurable RGB colors
- Ambient light sensor
- Five RGB LED configurable shift lights
- Four configurable alarm LEDs
  
- Fully configurable display pages
  
- Aluminum Body with Metallic pushbuttons
- Dimensions: 128 x 82 x 22 mm
- Weight: 380 g
- Waterproof IP67



GS-Dash has been designed to show data sampled by the new generation of AiM loggers, EVO4S and EVO5.

With this compact but with wide graphical display you can visualize all data coming from your vehicle's ECU, from the accelerometers and from the GPS, as well as from your custom sensors.

### Easy and immediate readability

To maximise readability of data, you need plenty of room. That is why GS-Dash features a wide 268x128 pixel graphical display. The screen can be backlit in one of the seven available colors. The incorporated light sensor makes brightness and contrast ideal in all light conditions.

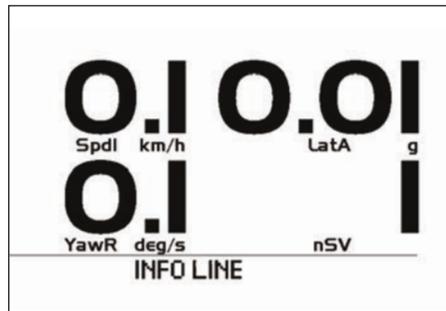
## Fully configurable shift lights and alarm LEDs



GS-Dash features five individually configurable RGB LED shift lights: you will choose color and value thresholds for their activation.

In addition, they can also be configured to show your best lap/split time or monitor RPM level. Alarm LEDs are configurable as well, in order to turn them on/off depending on the values you selected and their thresholds.

## All the data you wish, with your preferred layout



GS-Dash swaps among pages showing lap times and data in a 100% customizable way: just choose your data and create your pages displaying up to 4 fields each.

The "RPM and Lap Time" page layout is also available to display RPM Graph, Lap Time and two channels of your choice.

## Recall your session highlights

14/09/2016 12:45				
Lap	Best Lap	RPM	kmh	T2
7	01.04.06	6756 3309	193.0 64.7	90 86
9	01.05.07	6864 3386	193.6 64.6	88 85
12	01.06.22	6832 3132	194.2 65.5	86 83

A key-data summary is available at the end of each session: you can also see a list of all the laps of the session, with their times, min/max speed and min/max RPMs.



Possible GS-Dash connections.

## Technical Specifications

- Display resolution	268x128 pixels
- Backlight	7 configurable RGB colors
- Ambient Light sensor	Included
- Shift Lights	5 RGB configurable
- Alarm LEDs	4 configurable
- Display pages	Fully configurable
- Body	Anodized Aluminum
- Pushbuttons	Metallic
- Dimensions	127.8x82x22.2mm
- Weight	380g
- Waterproof	IP67

## FORMULA STEERING WHEEL 3

- Display resolution: 268x128 pixel
- Backlight: seven configurable RGB colors
- Ambient light sensor
- Five RGB LED configurable shift lights
- Four configurable alarm LEDs
  
- Fully configurable display pages
- Dimensions: 270x183x67mm
- Waterproof IP67



### Specifically designed for Formula and Sports Cars

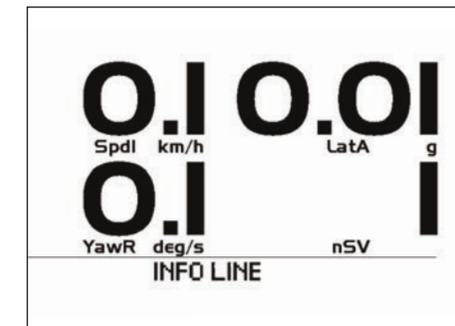
The Formula Steering Wheel 3 has been specifically designed for Formula and Sports cars. It offers the opportunity to visualize in real time all the information acquired by EVO5 OR EVO4S logger - or by a "bridge" connected to your ECU - in a typical "racing" look.

### Easy and immediate readability

The new wheel features a wide 268x128 pixel graphical display. The screen can be backlit in seven different colors. The incorporated light sensor makes brightness and contrast ideal in all light conditions.

### All the data you wish, with your preferred layout

The display pages show lap times and data in a 100% customizable way: just choose your data and create your pages displaying up to 4 fields each. The "RPM and Lap Time" page layout is also available to display RPM Graph, Lap Time and two channels of your choice



14/09/2016 12:45				
Lap	Best Lap	RPM	kmh	T2
7	01.04.06	6756 3309	193.0 64.7	90 86
9	01.05.07	6864 3386	193.6 64.6	88 85
12	01.06.22	6832 3132	194.2 65.5	86 83

## Recall your session highlights

A key-data summary is available at the end of each session: you can also see a list of all the laps of the session, with their times, min/max speed and min/max RPMs.



## Fully configurable shift lights and alarm LEDs

The individually configurable RGB LED shift lights allow to choose color and value thresholds for their activation. In addition, they can also be configured to show your best lap/split time or monitor RPM level. Alarm LEDs are configurable as well, in order to turn them on/off depending on the values you selected and their thresholds.



## Switch buttons for external functions

The Formula Steering Wheel 3 also features switch buttons to remote the desired functions among the options available in your car, like speed limiter, traction control, neutral, etc. Being electrically isolated from the others, each button operates autonomously.



## The optional paddle shifts

Formula Steering Wheel 3 features optional paddle shifts to provide a better driving experience, facilitating manual gear changes.

## Technical Specifications

- Display	Graphical
- Alarms LEDs	4 RGB freely configurable
- Shift Lights	5 RGB freely configurable
- Display pages	Up to 8 freely configurable
- BackLight	White
- Display Pushbuttons	4
- User Pushbuttons	4
- Chassis	Anodized Aluminum
- Finishing	Hand-sewn shammy leather
- Paddleshift SX-DX	Optional
- Dimensions	270x184x48 mm
- Weight	1.400g
- Waterproof	IP65

## SOLO/ SOLODL

The GPS lap timer for motorsports

- Automatic Lap time calculation based upon GPS technology
- Wide internal Track Database with more than 200 tracks
- Automatic track recognition at power on
- Freely configurable display
- Freely selectable race Mode: Speed, Performance, Point to Point, Autocross
- Internal 16 Mb memory
- SoloDL: connectable to every ECU for getting and recording all ECU data



### Find your track thanks to GPS Select your race mode

Thanks to its integrated track database Solo automatically recognizes which track you are racing and determines the starting line position in order to calculate your lap times

With a simple keyboard configuration Solo can manage four different forms of motorsports:

- Speed races in a closed circuit
- Point-to-point races
- Regularity
- Performance tests



In all of these different situations Solo gives the proper information during the test and powerful data review immediately after each session.

## Data recall on screen or on your PC

At the end of your test, you can review all the key information on Solo or download them in order to analyze your performance on PC.

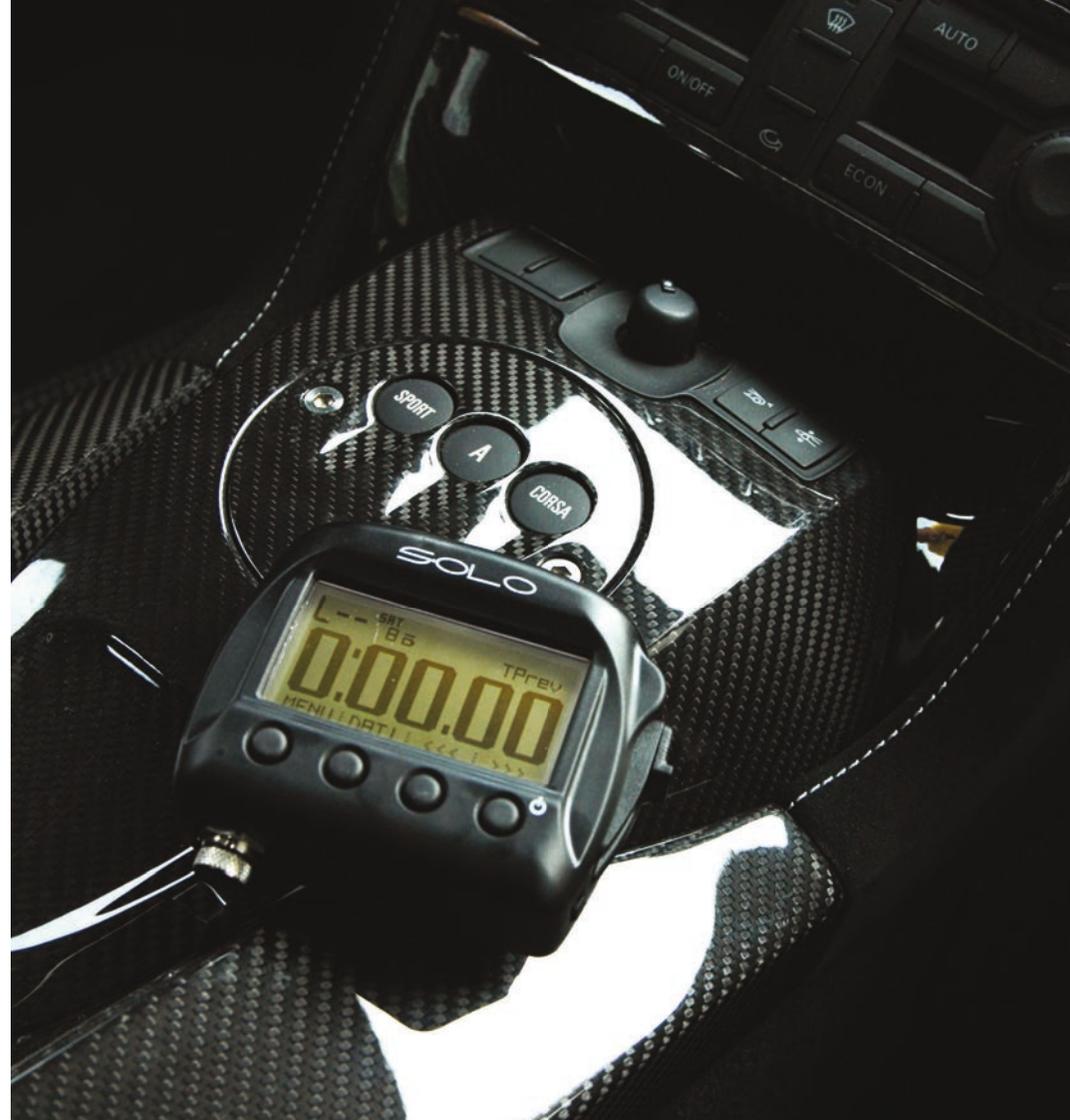
## SoloDL The GPS Lap Timer with ECU connection

SoloDL offers all the functions of Solo, plus the ability to connect to your car's Engine Control Unit (ECU) and to the optional camera, SmartyCam HD: a powerful data acquisition system recording important data - like RPM, throttle position and much more - linked to your position on track.

All this without additional sensors thank to the ECU connection.

## Solo Bar Pad

Shock resistant and safe thanks to their polyurethane structure, Solo bar pads can be easily installed on your Motocross bike.



## Technical Specifications

- Display	Graphical
- Display resolution	128x64 pixels
- Display pages	Up to 8 freely configurable
- Backlight	White
- Integrated Track database	Yes
- Accelerometer	Three-axial ± 5G
- Internal Rechargeable battery	Yes

- External power	12 V
- Memory	16 Mb
- GPS	10 Hz
- ECU connections (SoloDL)	CAN, K Line, RS232

- Dimensions	98x78x30mm
- Weight	240g, battery included
- Waterproof	IP67

## SMARTYCAM HD 2.1

The videocamera for motorsports

- H.264, 1280x720 pixel @ 30 fps Video format
- Telecentric lens with six elements
- 67° or 84° Angle of view
- Internal, rechargeable lithium battery - 1.950 mAh
- Battery duration: 120' - 150' of recording with data
- 9-15 Volt External Power
- Up to 128Gb memory
- 3 axis ± 5G accelerometer
- -10°C/+60°C Usage temperatures
- Auto Power ON/OFF
- Auto Start/Stop recording



### The Videocamera Designed for Motorsports

SmartyCam HD Rev.2.1 has been designed for motorsports with a single purpose: providing great videos that include all the technical information that will help you improve your performance. All this in the most robust and reliable system ever.

In its new version, the electronics/mechanics have been further improved, and SmartyCam HD is now even easier to manage.



### Real Time Data Overlayed on Videos

SmartyCam HD Rev.2,1 overlays all the data you need from different sources.

■ From GPS: track map and vehicle position, as well as speed, lap and split times.

■ From AiM loggers connected to your ECU: RPM, throttle, engaged gear, acceleration, temperatures, pressures and - in presence of additional sensors - also their values.

All these info will be overlayed on videos in each single point of the track.





## No "Wave Effect" with Global Shutter CMOS Sensor



Engine rumble causes vibrations, which are not a good thing for video recording.

Never again will you experience that seasick "wave effect" you get when watching videos recorded by a generic camera, when the car rolls at 7000 RPM.

SmartyCam HD has been designed for that environment and for those vibrations.

"Wave effect" is just a memory.

Time Date   GPS position   Track

Acceleration   Temp.   Trottle   Lap Time   Best Lap   Gear   RPM   Speed

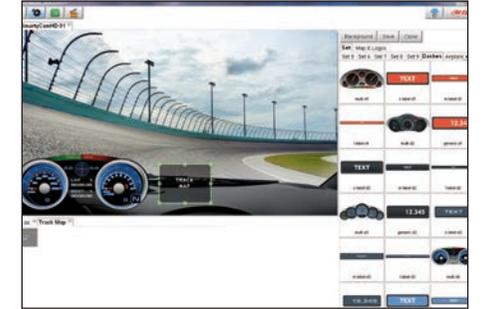


## Automatic Start & Stop

You are on the starting grid, ready to sprint, your adrenaline reaching the climax: the last thing you can worry about is... switching on the camera.

You have other things to worry about. SmartyCam HD is aware of that.

That is why it switches on/off automatically and starts/stops recording the same way.



## Racestudio3 Your software for video configuration and analysis

SmartyCam HD uses the newest RaceStudio3, the powerful software which allows to configure all details of your videos and to get plenty of fun and information out of them.

You can configure your overlays in a virtually infinite variety of modes: add your logo and the track map, and choose your graphic objects from a list of pre-determined sets with same layout or even single objects from different sets.

Your videos will be truly "yours" in all details, from the data to their graphic layouts.



## Designed to withstand extreme on-track working conditions

Frail things have a bad time on track.

An on-board camera designed for motorsports must guarantee great resistance against the extreme working conditions typical of racing and against the most adverse weather, such as: strong and prolonged vibrations, storms, continuous rain, and extremely high and low temperatures.

That is why SmartyCam HD is made in machinery molded aluminum, just like many competition car parts.



## Hight quality with small size video files



Generic HD cameras are focused on the highest pixel number.

The result is that their video files are far too large, taking too much memory.

SmartyCam HD videos have the same quality as other HD cameras but their files are smaller because the H264 compression system parameters have been optimized to a perfect balance between video quality and file size.

You can choose among three video file quality levels: one-hour recording takes 4GB (high quality), 2GB (normal) or 1,5GB (low).

Files are stored on SD cards: with current SD cards reaching 128GB capacity, you can record more than 30 hours of high-quality videos without changing the card.

## Technical Specifications

- Video format	H.264 1280x720 pixel @ 30fps 1,5-4Gb/hour
- Field of view	67° - 84°
- Lens	Telecentric with 6 elements
- SD card	Up to 128 Gb of video and data
- Display resolution	128x128 pixel
- Accelerometer	Three-axial ± 5G
- Internal battery	Rechargeable Lithium battery 1,950 mAh
- Battery charge	700 mAh 12V
- Internal battery duration	120' - 150' of recording
- External power	9 -15 Volt
- Auto Power On/Off	Yes, if connected to an AiM logger
- Auto Power Off	Yes
- Auto Start/Stop Recording	Yes
- Usage temperature	-10°C / + 60°C
- Body	Anodized Aluminum

- Dimensions	87x63x49mm
- Weight	280g battery included
- Waterproof	IP67

## SMARTYCAM GPHD 2.1

The Bullet-cam designed for motorsports

- H.264, 1280x720 pixel @ 30 fps  
Video format
- 2.4" 240x320 Display
- Telecentric lens with six elements
- 67° or 84° Angle of view
- Internal, rechargeable lithium battery - 1.040 mAh
- Battery duration: 60' - 70' of recording with data
- 9-15 Volt External Power
- Up to 128Gb memory
- 3 axis ± 5G accelerometer
- -10°C/+60°C Usage temperatures
- Auto Power ON/OFF
- Auto Start/Stop recording



If you have a formula car, or a bike, or in every situation in which SmartyCam is not so comfortable to install, here is the version with remoted bullet-cam, SmartyCam GPHD Rev. 2.1

Same video quality, same connections to Master Loggers, same features but a completely different look. It is in black anodized aluminum, billet machined with a light, robust, and really small Bullet-Camera.

SmartyCam GP HD Rev. 2.1 is very flexible: you can add optional modules to fit it perfectly to your needs, like the ECU Bridge to connect it directly to the Engine Control Unit, the GPS, or the external microphone/jack.



## Technical Specifications

- Video format	H.264 -1280 x 720 pixel @ 30fps 1,5-4Gb/hour
- Field of view	67° - 84° Telecentric with 6 elements
- Lens	Up to 128 Gb
- Supported SD card	2,4"
- Display	240x320 pixel
- Accelerometer	Three-axial ± 5G
- Internal battery	Rechargeable Lithium battery 1.040 mAh
- Battery charge	700 mAh 12V
- Internal battery duration	60 - 70 min. of recording
- External power	9 - 15 Volt
- Auto Power On/Off	Yes, if connected to an AiM logger
- Auto Power Off	Yes
- Auto Start/Stop Recording	Yes
- Usage temperature	-10°C / + 60°C
- Body	Anodized Aluminum
- Dimensions	Main box 102.5x65x26,5mm Bullet camera diam 24mm x 73,5mm
- Bullet cable	0,5 - 1,0 - 1,5 - 2,0 mt
- Weight	Main box 260g - Bullet camera 55g
- Waterproof	IP67

## GPS08/GPS08ROOF

An extremely powerful  
GPS

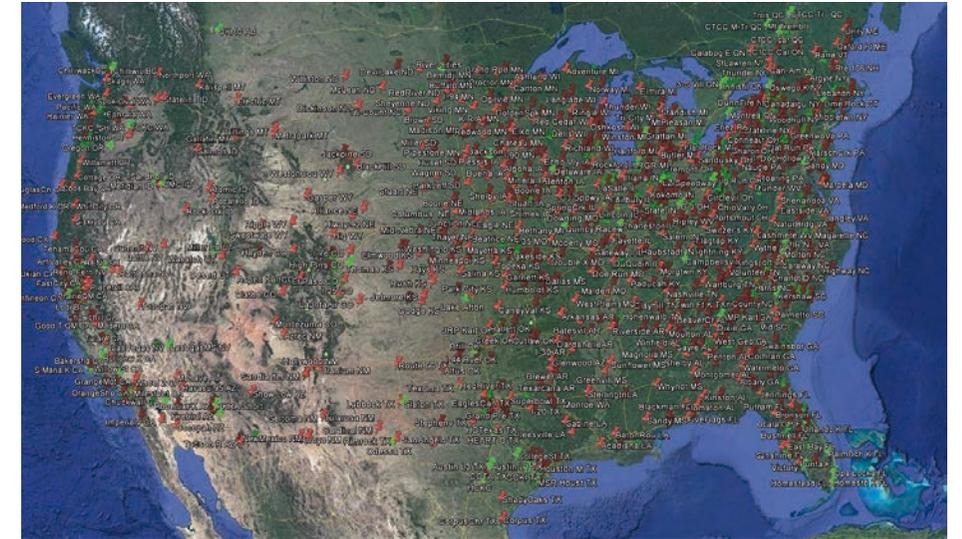
- Two satellite systems, with an average of 20 satellites connection
- Less than 1 meter tolerance
- Very fast signal locking
- No risk of missing the signal
- Samples lap times, position, speed and lateral/in-line acceleration
- Ten times/second sampling



## Top reliability and precision with two satellite systems

GPS08 is more precise than most of the existing GPS systems, as it has been designed to add to the GPS satellite's signal the Global Navigation Satellite (Glonass) system's signal. With an average of almost twenty satellites working in conjunction, GPS08 guarantees a precision and a reliability simply not comparable to the old generation GPS systems. The benefits are huge:

- An average of less than one meter tolerance, which means absolute precision in determining vehicle position.
- Satellite signal is locked very rapidly, few seconds after switch-on.
- No risk of missing the signal anymore in case of 'noise' or interferences on one system, as the other system will guarantee the signal continuity.



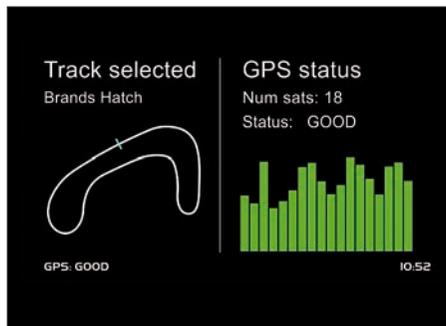
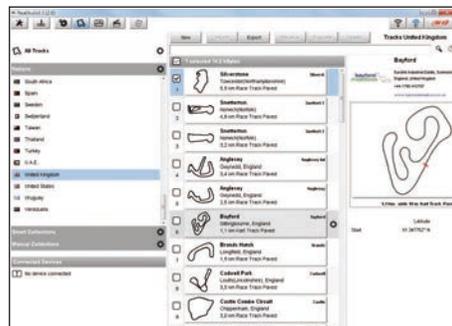
## With your track included in the AiM database, GPS08 does it all by itself

As soon as GPS08 switches-on, it identifies its position and - if your track is included in the list of tracks stored on Race Studio 3 database - will start sampling lap times.

In fact, Race Studio 3 stores the finish line coordinates (plus map, contact info and logo) of almost two thousands tracks, sorted by

Nation, circuit and surface type: you will be able to create your own collections, adding/removing tracks as you wish.

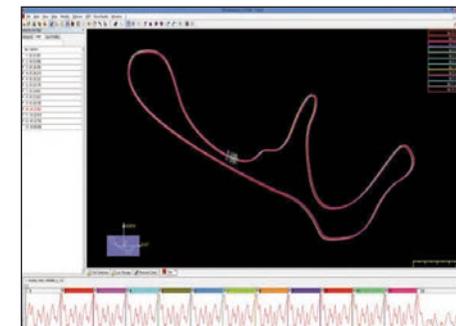
Create your own selection, download it to the AiM system and GPS08 will be ready to operate. Should your home track be missing, you can easily add it to your own tracklist when downloading your session files to Race Studio 3, and send it to AiM for inclusion in the official database.



## Much more than just Lap times

GPS08 samples ten times per second position, speed and lateral/in-line acceleration at any point of the track: all the data needed for a precise evaluation of vehicle and driver behavior, which is the necessary step to improve performance.

Thanks to GPS08, even the predictive lap time will be much more reliable: in any moment of your race, you will know your time gap vs. your best lap with absolute precision.



## For closed - roof cars...

GPS08 is also available in the "Roof" version, specifically designed for easy installation on covered cars.





## Manages SD Card up to 128 GB



Forget the slow data downloading thanks to this new small add-on: Memory Module manages an SD memory in order to record all the data of your test in a file that can be easily and quickly moved to your PC for further analysis.

The available memory is much more you will ever need: up to 128 Gb.

Memory Module can be connected through CAN bus to all AiM Loggers (EVO4S, EVO5, MXL, MXL2, MXG, MXS).



Dimensions: 55,5x78,3x18mm  
Weight: 100 g  
Waterproof: IP65

## CHANNEL EXPANSION

### CAN Device

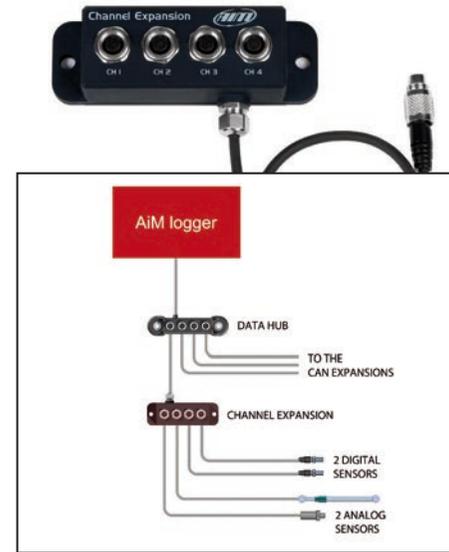
- Four freely configurable analog (or two digital and two analog) channels
- CAN connection to AiM loggers and dashloggers

### Enhancing your logger performance

This compact CAN device provides virtually endless data acquisition system expansion options. Channel Expansion hub adds up to four freely configurable analog (or two digital and two analog) channels without occupying or modifying any of the existing system channels.

By using advanced CAN technology, wiring is simplified from four cables into just a single connection, thereby reducing possible and unnecessary points of failure. It is also possible - via Data Hub - to connect to the Master as many Channel Expansion as needed.

Dimensions: 105x33x28,4mm  
Weight: 170 g  
Waterproof: IP65

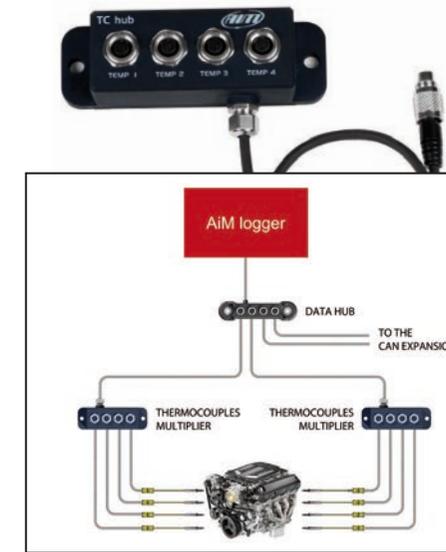


### Keep all temperatures of your engine under control

With TC Hub four additional thermocouples can be connected via CAN to all AiM loggers. Using more TC Hub you can easily keep under control all your temperature sensors data, monitoring each single cylinder exhaust gas temperature, together with water, oil and head temperatures.

TC Hub provides highly reliable, being its sampling frequency configurable up to 50Hz per channel. Its aluminum chassis makes it resistant and Waterproof.

Dimensions: 105x33x28,4mm  
Weight: 170 g  
Waterproof: IP65



## TC HUB

### Thermocouples Multiplier

## LCU-ONE

### Lambda Controller

- Sampling A/F ratio and punctual Lambda values from 0.65 to 1.6
- Wide band Bosch LSU 4.9 probe included in the kit
- Available in three versions providing CAN, Analog and CAN+Analog outputs



### Full control of your engine

LCU-ONE Lambda controllers allow you to perfectly tune the carburetion of your engine, significantly improving your car performances.

All LCU-ONE lambda controllers use a wide band Bosch LSU 4.9 probe for its capacity of saving the original calibration for all its life and for its duration: Bosch LSU 4.9 probe, in fact, has been designed to last for more than 100.000 km on a stock car.

### High precision sampling

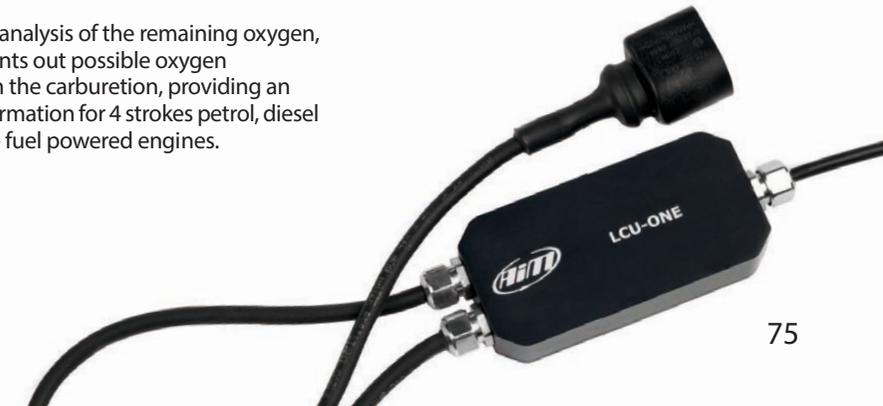
LCU-ONE's can detect punctual Lambda value from 0.65 to 1.6, offering you an extremely precise measurement, very useful for engine tuning.

Through the analysis of the remaining oxygen, LCU-ONE points out possible oxygen excess/lack in the carburetion, providing an essential information for 4 strokes petrol, diesel or alternative fuel powered engines.

### Three variants to cover all needs

LCU-ONE range is available in three different versions:

- LCU-ONE CAN: uses a CAN bus and is extremely easy to install.
- LCU-ONE Analog: uses a serial line for programming and an analog output proportional to lambda value. To be even more user-friendly, these two versions of LCU-ONE switch on/off together with the logger.
- LCU-ONE CAN + Analog, equipped with both CAN bus and analog output.



## LCU 4

The 4-in-1  
Lambda controller

- Sampling A/F ratio and punctual Lambda values from 0.65 to 1.6
- Wide band Bosch LSU 4.9 probe included in the kit
- Pressure sensor
- Fully configurable outputs



LCU 4 has been specifically developed to keep control of 4/8-cylinder engines with a single unit: monitoring carburetion data of each cylinder allows to better understand where/how to operate.

Like LCU-One, LCU 4 uses wide band Bosch LSU 4.9 probes.

### Two key information to optimize carburation

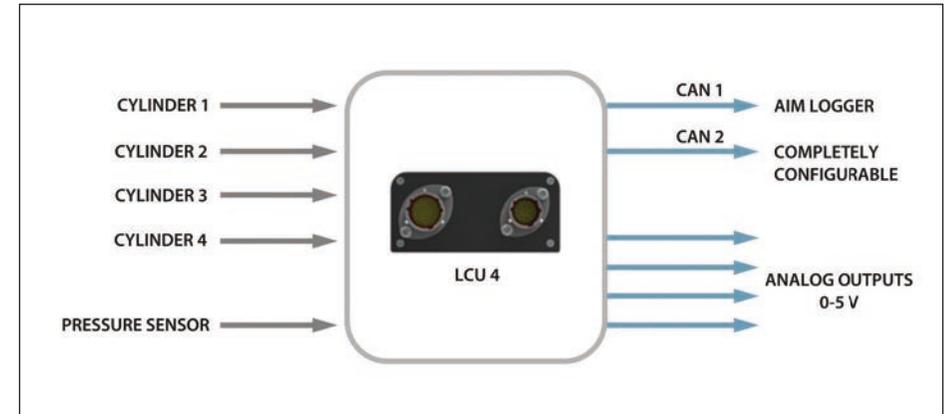
LCU 4 provides Lambda value and A/F ratio for each cylinder.  
Lambda values are punctually sampled from 0.65 to 1.6, offering you an extremely precise measurement.

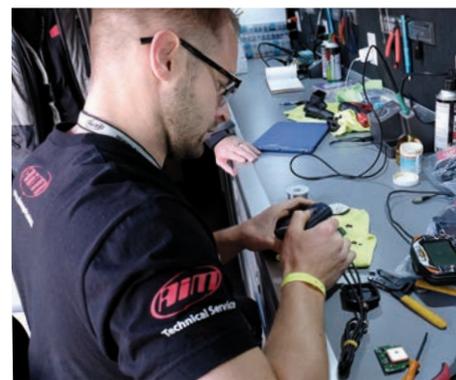
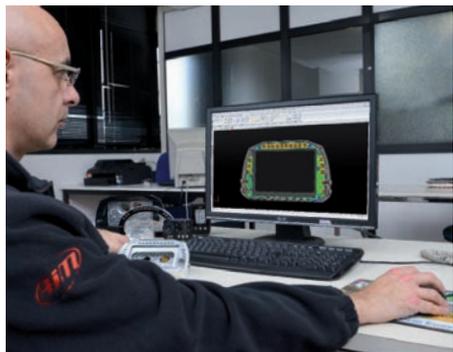
A pressure sensor also has been added to offer a more complete and reliable information.

### Fully configurable data outputs

LCU 4 has been designed to provide the data in the way preferred by the user, via:

- a CAN line connection to an AiM logger
- a CAN2 line to send messages to an existing CAN network
- 0-5V Analog outputs, proportional to lambda values





## SHIFT LIGHT MODULE

- 10 configurable RGB LEDs
- CAN connection to AiM loggers and dashloggers



### Position your shift lights where you wish

Ten completely configurable RGB LEDs to keep your engine under control.

You can easily set the LED color and the RPM threshold value that turns it ON, also in dependence upon the gear number. Shift Light Module is CAN compatible with the following AiM systems:

Shift Light Module is CAN compatible with the following AiM systems:

- MXL2
- MXG
- MXS
- EVO5



## ECU BRIDGE 2 RPM BRIDGE 2

### ECU BRIDGE 2

- Configurable ECU interface
- CAN protocol for external modules (visors or SmartyCam HD)
- USB port for PC communication
- External power 8/18 V

### RPM BRIDGE 2

- Coil signal 150-400 V
- Square wave signal 4-50 V
- CAN protocol for external modules (visors or SmartyCam HD)
- USB port for PC communication
- External power 8/18 V

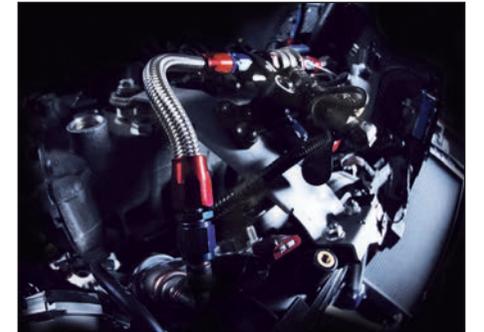


## Show your engine data on the new GS-Dash and SmartyCam videos.

ECU Bridge 2 and RPM Bridge 2 are needed whenever engine data are to be visualized on the new GS-Dash and Formula Steering Wheel 3, and of course with the SmartyCam HD on-board cameras, if no recording is required.

The bridges must be configured with Race Studio 3 software to acquire data directly from the ECU of your vehicle: the list of available ECU drivers (CAN, RS232 or K-line), constantly updated and upgraded, includes 1,000+ different ECUs, either Stock and Racing.

RPM Bridge 2 is to be used whenever the car has got no ECU (i.e. classic cars): RPM data will be obtained with connection to the coil or reading a square wave signal generated by the ignition system.



# MyChron5



# MYCHRON5

- Integrated GPS
- Wide display with configurable multicolor backlight
- Graphical display resolution
- Completely configurable pages
- Calculated Gear Number
- 2 freely configurable RGB Alarm LEDs
- 5 freely configurable RGB ShiftLight LEDs
- Nylon body
- Metallic pushbuttons
- Rechargeable Lithium Iones Battery
- WiFi connection
- Compatible with MyChron4 add-ons
- Waterproof IP65



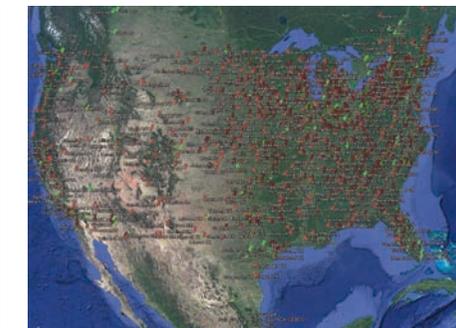
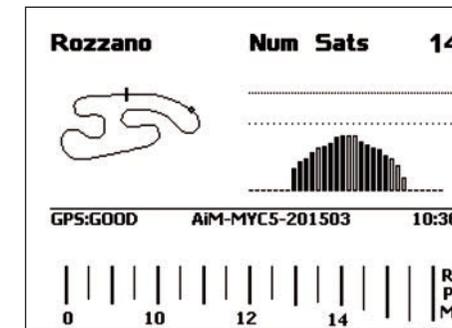
## The most precise and reliable GPS ever

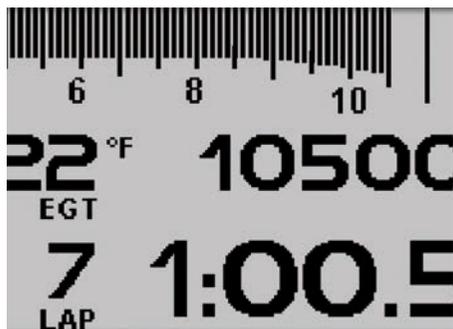
MyChron5 integrated GPS samples lap times as well as speed, position on track and acceleration... with a reliability simply not comparable to traditional tools and even with previous GPS systems.

The system adds to the GPS satellite's signal the Global Navigation Satellite (Glonass) system signal: an average of almost twenty satellites working in conjunction, MyChron5 GPS guarantees absolute precision. MyChron5 GPS can recognize the finish line

coordinates of hundreds of kart tracks all over the world. Opening Race Studio 3 software you will see the huge list of tracks included in the AiM database: you will be able to create your own collection, adding/removing tracks.

So, immediately after switch-on, MyChron5 GPS will determine its position, identify the track and start loading start/finish line coordinates and start sampling lap, predictive and split times.





### Completely configurable pages

Define as many pages as you wish, showing graphic bars or just digits, via software or directly on your system. In case your kart is a shift kart, you can decide to show the gear number, automatically calculated in a few hundredths of meters while you are driving.



### ShiftLight and Alarm LEDs

Five RGB shift lights can be configured for each gear, choosing LED color and RPM threshold values which will turn them on/off. They also allow RPM monitoring in a glance. Even alarms are managed in a very flexible way: you choose the situation that generates the alarm, the LED behavior (blinking frequency and color) when the alarm appears and the conditions for its switch-off.



### Ambient Light Sensor

MyChron5 provides optimum viewing in diverse lighting conditions: the display brightness is automatically adjusted according to the environment light.



### WiFi connection

Download your data to your PC, look at the OnLine measures, upgrade your firmware, transmit parameters using the well known DataKey or through fast WiFi connection.



### A robust housing with wider display

The new Nylon chassis with metallic pushbuttons guarantees even more resistance to shocks and water.

The anti-scratch non-reflecting polycarbonate screen and the wider display ensure great readability.



### Rechargeable Lithium Battery

No problems with traditional batteries anymore: MyChron5 is powered by a dedicated rechargeable - and removable - lithium battery. It is long-lasting (about 10 hours duration) and easy to recharge, placed on its magnetic basement connected to the power adapter. The usual external power connection is also available.



## MyChron5 2T

Like its predecessor, MyChron5 2T gives the chance to control two engine temperatures instead of one, coming from thermocouples or thermoresistors.



## Compatible with MyChron4 add-ons

Adding new modules you will get all the additional information you need:

### LCU-One

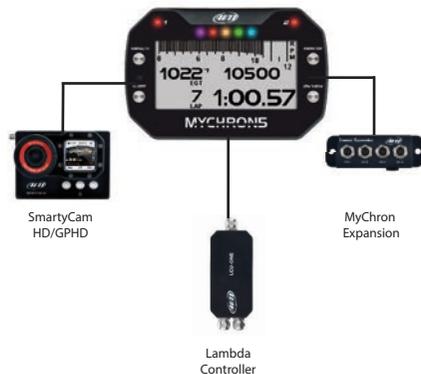
Perfectly tuning your engine carburetion.

### Mychron Expansion

The channel multiplier that permits to check when you brake and accelerate, as well as Power Valve behaviour.

### Smartycam HD

For professional videos with real-time data overlaid.



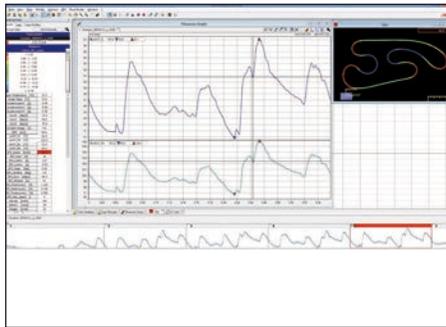
## Technical Specifications

- GPS integrated	10 Hz GPS
- RPM	Up to 25.000 RPM
- Temperature	Thermocouple/ Thermoresistance
- Lap time	GPS based (included)
- Inertial Platform	Optical or Magnetic receiver (optional)
- WiFi connection to PC	For steering wheel position (included)
- Memory	Yes
- Display resolution	4 Gb - more than 3.000 hours of continuous logging
- Backlight	268x128 pxl
- Alarm	Multicolor, freely configurable
- ShiftLights	2 freely configurable RGB LEDs
	5 freely configurable RGB LEDs
- Battery	Rechargeable 3 Amp Lithium Ion
- Battery duration	Up to 10 hours
- Battery charger	Included
- Body	Nylon fiberglass
- Dimensions	137x88,4x29mm
- Weight	390g battery included
- Analysis software	Freely downloadable RaceStudio

# TYRE TEMPERATURE SENSOR

## Tyre temperature sensor

The Tyre Temperature sensor has been specifically designed to measure the surface temperature of tyres, providing important info for chassis tuning, tyre exploitation, and driver behaviour. It can be connected to MX series or EVO series analog inputs directly or via Channel Expansion. The sensor, with a 35° Field of View, measures temperatures between -20 and 120°C and provides a 0-5V output signal.



## Kit for karts

To be used on karts, the sensor needs a dedicated Infrared Temperature Controller device.

