

TECHNICAL DOCUMENTATION	13/02/2006	LOGGER	MyChron 4
Notes: MyChron 4 technical documentation, dimensions and pinout Version 1.00			



Figure 1: Display MyChron 4

Introduction

MyChron 4 represents the new philosophy of AIM data acquisition systems: a data logger with graphical display, easy to configure, easy to read and, what make sit unique: expansible.

MyChron 4 has a graphical display that allows you to see the graphical representation of your values, configurable RPM, Optical or Magnetic Lap, 1 Mb internal memory and capacity to record up to 1000 lap with up to 4 splits or 3 hours of sample at a 10Hz sampling frequency for channel, 1 temperature (water, exhaust gas or cylinder head, thermocouple or Thermoresistor) and the automatic switch-off after 8 minutes of inactivity (only external power versions).

Moreover **MyChron 4** computes forecast lap time and shows times as absolutes and as difference with the previous lap.

All these potentialities can grow with the optional E-box connected via CAN to **MyChron 4**. Thanks to this expansion acquired channels will grow in a very simple and quick way. the E-box, in fact, has two others temperature channels and the speed channel (that together with **MyChron 4** RPM allows you to compute and show engaged gear number).

The logger shows the following parameters:

- 1 temperature input (cooling water, cylinder head or exhaust gas, thermocouple o Thermoresistor);
- RPM;
- Lap/Split Time;
- Logger or kart battery voltage;

The values stocked in 1Mb internal Memory can be downloaded both via CAN on the 32 Mb Data Key memory (optional) and via USB and Data

Key on a PC. This options avoid you to always have a Pc available for data download.

Both **MyChron 4** and the optional E-box can be internally and externally powered. **MyChron 4**, can also be powered by a magnet. Internally powered versions need one 9 V battery, while externally powered versions needs an external 9-14,5 V power source (the kart battery for instance).

Installation notes

- Most of steering wheels have existing holes in the 3 central arms that will accommodate your **MyChron 4** display unit;
- If the steering arms are solid, mark the point where the hole is to be drilled and then indent a drill reference point with a large nail or hole punch, to minimize drill wander;
- Do not over-tighten the locknut: over-tightening it may seriously damage the display unit chassis;
- We suggest to use plastic washers, given as stock, to keep your **MyChron 4** separate from the steering wheel;
- Once the gauge has been correctly installed, please plug the 3 sensors in the connectors on the instrument's back part.

Display description



Figure 2: Display Description **MyChron 4** on line.

MyChron 4 data download

The new **MyChron4**, thanks to its optional Data-key (**Figure 3**) allows you to download data in two ways:

- on the same Data Key
- on a Pc



Figure 3: MyChron4 Data Key

Using only the Data Key you only need to connect Data Key Binder male connector to the one labelled Exp/Pc on the back of the logger and data download starts automatically without the necessity of a Pc available.

Using the Pc:

- connect the Data Key both to **MyChron4**, as said before and to the Pc USB port
- run **Race Studio 2** software
- activate data download pressing the button corresponding to **MyChron4** in **Race Studio2** main window.

Software

When the logger is correctly installed and sensors have been plugged in, please configure your logger to acquire consistent and correct information. **MyChron4** is completely configurable via keyboard.

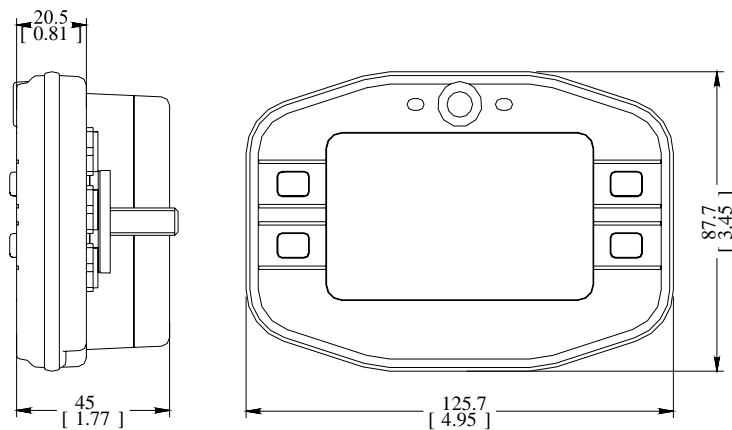
To download data in a Pc you need **Race Studio 2**, the software properly developed by Aim to analyze acquired data and supplied together with the Data Key.

MyChron4 – Power notes

MyChron4 is available in two different versions: **internally powered** and **externally powered**.

- **MyChron4** with **internal power** needs a 9V battery;
- **MyChron4** with **external power** needs an external 9-14,5 V power source (the kart battery for instance). This version of **MyChron4** has two cables, one red (power) and one black (GND) outcoming from the back of the logger and have to be connected to the external power.

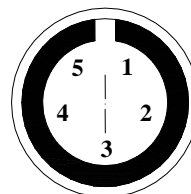
Dimensions



Dimensions in millimetres [inches]

Connector Detail (Lap)

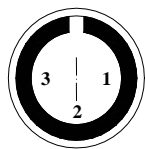
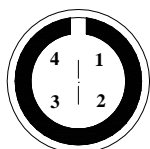
Pin	Function	Pin	Function
1	Magnetic Lap	3	V battery
2	GND	4	Optic Lap



5 pins female Binder connector pinout (external view)

Connector Detail (Temperature)

Pin	Function	Pin	Function
1	Thermocouple	3	Thermoresistor
2	GND		



Female Binder connector pinout (external view): 4 pins (left) and 3 pins (right)

Connector Detail (Exp/Pc*)

Pin	Function	Pin	Function
1	Can 0+	4	Can 0-
2	GND	5	Ext. Battery
3	+VB		

* CAN Connector for external expansion modules

Specifications

General Characteristics	Value
Input Channels	3 (Lap, RPM, Temp.)
Int. power	One 9 V battery
Ext. Power	9-14,5 V
Working Time	About 200 hours int. power
Internal Memory	1 Mb
E-box Interface	CAN
Data-key Interface	CAN
PC Interface	Porta USB
Sampling Freq.	10 Hz

Other characteristics	Value
Weight	293 g (batteria inclusa)
Display dimensions	78 x 43 mm
Impermeability	IP 65