

|                                                                                       |            |       |                    |
|---------------------------------------------------------------------------------------|------------|-------|--------------------|
| TECHNICAL DOCUMENTATION                                                               | 30/08/2004 | GAUGE | MyChron 3<br>BASIC |
| Notes: MyChron 3 BASIC technical documentation, dimensions and pinout<br>Version 1.01 |            |       |                    |

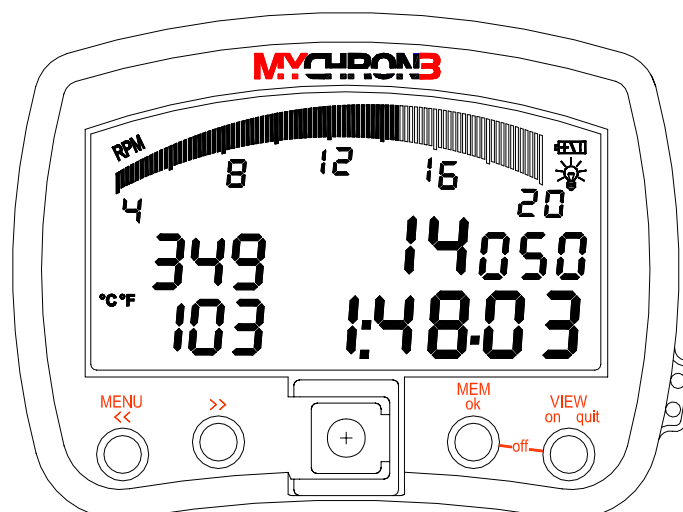


Figure 1: MyChron 3 BASIC display unit.

## Introduction

**MyChron 3 BASIC** represents the new generation of Aim data acquisition systems that provides the karter with a sophisticated and easy to read display, normally reserved for premium sports cars.

Its configurable RPM display, the magnetic sensor for kart traks with magnetic strips installed, the capacity to record up to 250 laps, the possibility to measure water, exhaust gas or cylinder head temperature, the high number of splits per lap (up to 5) and the auto power off feature after 10 minutes of inactivity (internally powered version only) make **MyChron 3 BASIC** a great tool for the kart engine as well as the kart and the driver performances monitoring.

The logger records the following parameters:

- 1 temperature input (cooling water, cylinder head or exhaust gas);
- engine's RPM;
- lap times;
- logger battery voltage;
- logger temperature;

Data are stored in the 64 kbyte internal flash memory and is downloaded to a PC through an optional USB cable.

**MyChron 3 BASIC** can be internally or externally powered. Internally powered version needs 2 AAA 1,5 V batteries, while externally powered version can be powered by a 9-14,5 V power source (the battery vehicle for instance).

## Installation notes

- Most of steering wheels have existing holes in the 3 central arms that will accommodate your **MyChron 3 BASIC** 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 3 BASIC** 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

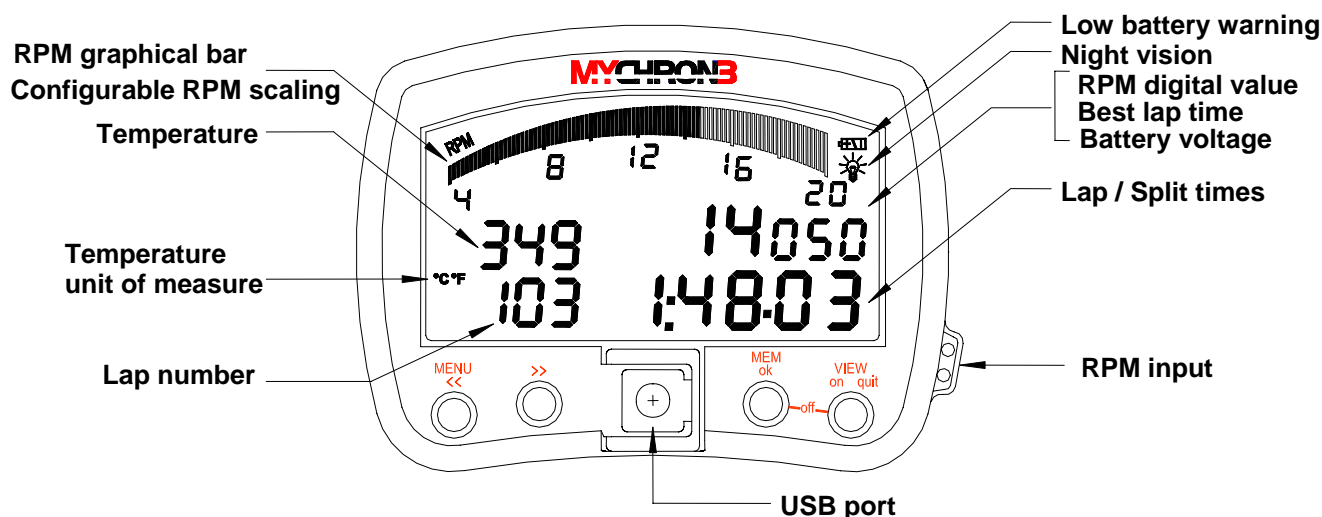


Figure 2: Description of MyChron 3 BASIC display unit.

## How to connect MyChron 3 BASIC to the PC

In order to connect your **MyChron 3 BASIC** to the PC, please use the USB data download cable (optional) and plug it both in the gauge's USB port and in the PC's USB port, as explained in **Figure 3**.

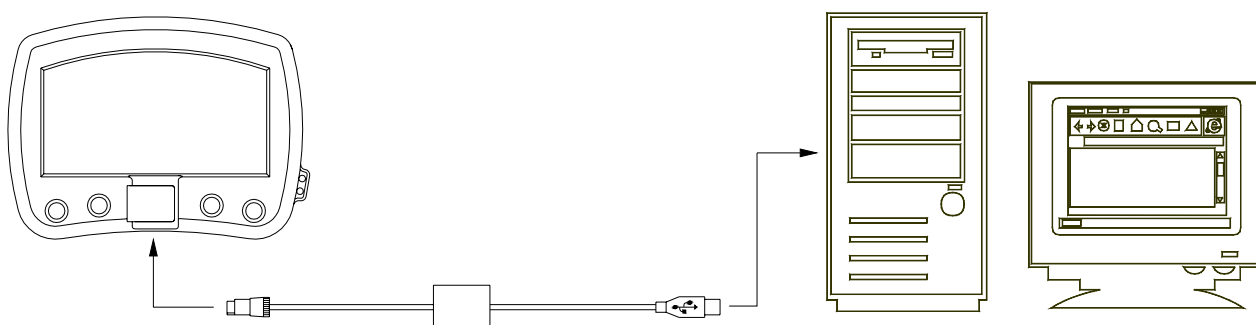
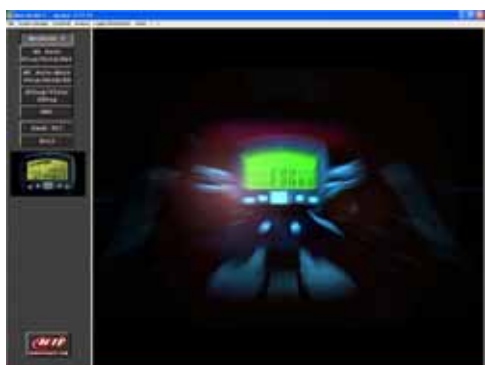


Figure 3: How to connect MyChron 3 BASIC to the Pc.

## Software

Once the data logger has been installed and the sensors plugged in it, to acquire consistent and correct information, please configure the logger. To do it correctly, please use **Race Studio 2**, the software properly developed by Aim to configure its instruments and analyze stored data.

In **Race Studio 2** main window, shown below, please select **MyChron 3**, press “System manager” and then “new” button.



### Data logger configuration

In “System manager” main window, click on “Configuration”, this window appears.



To configure **MyChron 3 BASIC**, you need to set all parameters reported in this dialog box:

- **Display language:** messages can be displayed in 6 languages: Italian, English, German, French, Spanish and Slovenian.
- **RPM multiply factor:** is the number of spark signals per engine revolution. For a 2-stroke, one cylinder engine, the correct value is “x1”
- 

- **RPM Max. value:** sets maximum scale for the RPM graphic display and for the RPM value acquired by **MyChron 3**.

Available values are: 8000, 10000, 12000, 16000, 20000, 22000 and 25000 RPM.

- **Temperature measure unit:** °C or °F.
- **Threshold temperature for the thermocouple sensor:** an alarm led switches on when a dangerous temperature is reached.
- **Number of splits:** sets the number of split you wish to divide your track in; is available only on tracks with multiple magnetic strips or beacon transmitter.

Please, remember: fill this box with the number of splits and not with the number of magnetic strips (or beacon transmitters).

- **Obscuring time:** sets the time during which the lap receiver (optic or magnetic) is “obscured” and is not able to capture lap markers. This option is useful if you do not wish to capture split times on a track where more beacon transmitters (or magnetic strip are positioned).

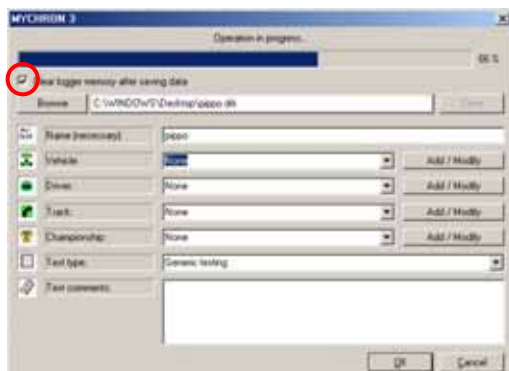
In this case, please set the obscuring time to a value of about 5 second lower than the track best lap time.

Whereas, if you wish to capture split times, set this parameters to a low value: the minimum value the instrument accepts is 3 seconds, the maximum value suggested is 8 seconds.

When all parameters have been set, please transmit the configuration to **MyChron 3** pressing “Transmit” button.

## Downloading stored data

To download stored data, connect the gauge to a PC with the optional USB cable and click “Download” button. This screenshot appears:



When the download is finished please insert the name of the downloaded file in the “Name” box and save data pressing “Save” button.

If You want to clear the logger memory after having saved data, please place a check in the checkbox beside “Clear logger memory after saving data” red circled in the figure on the left.

## MyChron Basic – power notes

**MyChron 3 BASIC** is available in two versions: the standard one with **internal power** and the optional one with **external power**.

- **MyChron 3 BASIC** with **internal power** is powered by two AAA 1,5 V batteries;
- **MyChron 3 BASIC** with **external power** is powered by an external 9-14,5 V power source (the vehicle battery for instance). This version of **MyChron 3 BASIC** has two cables, one red (power) and one black (GND) coming out from the backside of the gauge, that have to be connected to the external power source as shown in **Figure 4**.

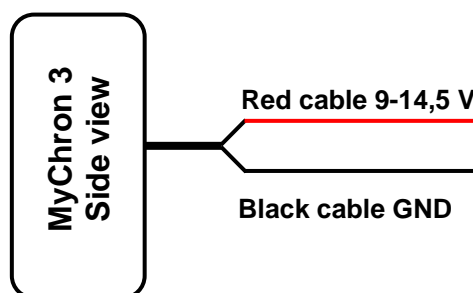
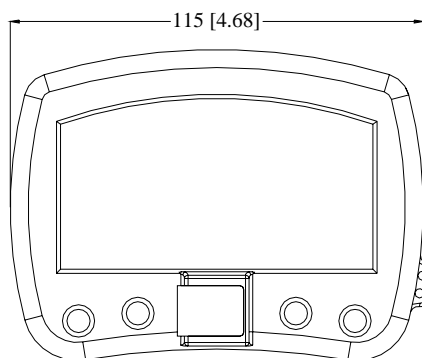
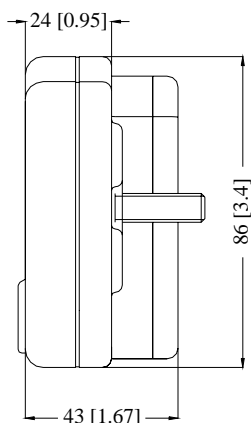


Figure 4 – MyChron 3 BASIC external power cables

Moreover **MyChron 3 BASIC** with **external power** monitors the charge status of the vehicle battery and when this is low, first a battery shaped icon appears on the display and then the gauge shows you a warning message.

## Dimensions



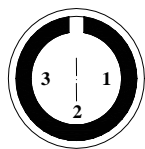
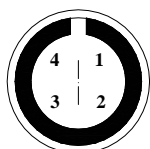
Dimensions in millimetres [inches]

### Connector details (Beacon channel)

| Pin | Function     | Pin | Function  |
|-----|--------------|-----|-----------|
| 1   | Magnetic lap | 3   | V battery |
| 2   | GND          | 4   | Optic lap |

### Connector details (Temperature channel)

| Pin | Function     | Pin | Function       |
|-----|--------------|-----|----------------|
| 1   | Thermocouple | 3   | Thermoresistor |
| 2   | GND          |     |                |



Female binder connectors pinout (external view): 4 pins (left) and 3 pins (right)

### Specifications

#### General characteristics

| General characteristics | Value                                       |
|-------------------------|---------------------------------------------|
| Input channels          | 3 (Lap, RPM, Temperature)                   |
| Internal battery        | 2 AAA 1.5 V, alkaline                       |
| External power          | 9-14,5 V                                    |
| Working time            | About 40 hours of use (internal power only) |
| Internal memory         | 64 Kbytes                                   |
| PC interface            | USB port                                    |
| Sampling frequency      | 10 Hz                                       |

#### Other characteristics

| Other characteristics | Value                    |
|-----------------------|--------------------------|
| Weight                | 300 g (battery included) |
| Display dimensions    | 85x50 mm                 |
| Environmental         | IP 65                    |