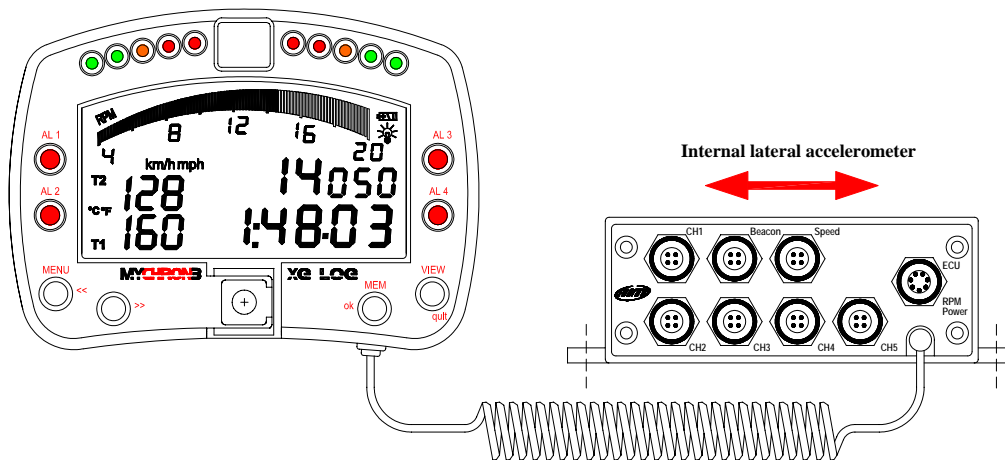**Figure 1: MyChron 3 XG LOG**

Introduction

MyChron 3 XG LOG represents the perfect synthesis between MyChron 3 Gold XG and MyChron 3 LOG advanced for car applications: this new logger merges the functionalities and the features of those 2 previous loggers and constitutes a milestone moment in AIM data logger history.

MyChron 3 XG LOG monitors and displays RPM, 5 fully configurable analog inputs (pressure, temperature, potentiometers, Lambda probe and Pitot tube, speed sensors), 2 speed inputs, internal lateral G-sensor (to map tracks), gear number and lap (split) times.

MyChron 3 XG LOG is interfaceable with the most common ECU, like Bosch, Carmo, Efi, MecTronic, MoTec and others, through an **RS232 cable** or a **CAN cable** (connected to the gauge ECU-RPM-POWER input) to sample the data out coming from the ECU.
To have a complete list of compatibles ECUs, communication protocol and connection with AIM logger, please refer to "documents" page of our website www.aim-sportline.com, where You find a dedicated datasheet called ECU-AIM logger.

The logger records the following parameters:
- 5 analog inputs: pressure and temperature sensors (VDO, thermo-resistors, thermocouples), potentiometers (linear and circular), Lambda probe and Pitot tube;
- lap and split times;
- 2 speed inputs;
- Internal lateral G-sensor to map tracks;
- Gear number;
- Logger's temperature;
- All the channels acquired from the engine's ECU.

Data are stored in a huge 8 Mbytes internal flash memory and may be downloaded to a PC through an USB cable.
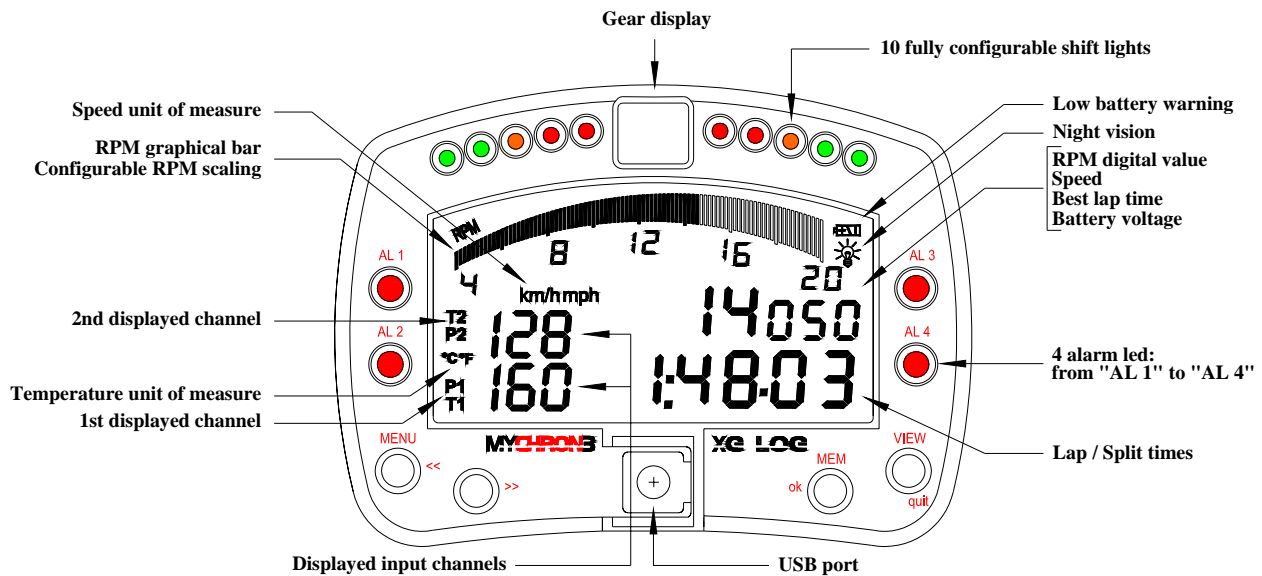For further information on the gauge's display, please refer to the following drawing.

Figure 2: MyChron 3 XG LOG display

Installation notes

- We recommend to choose a place where the instrument will not be in contact with oil or fuel, be sure that the gauge is not installed too close to heat sources and protect the instrument from vibrations;

- We remind you that **MyChron 3 XG LOG** is not equipped with internal batteries, so it needs to be powered by an external **9 – 15V** power source (i.e. the car's battery). **Do not exceed these limits.**
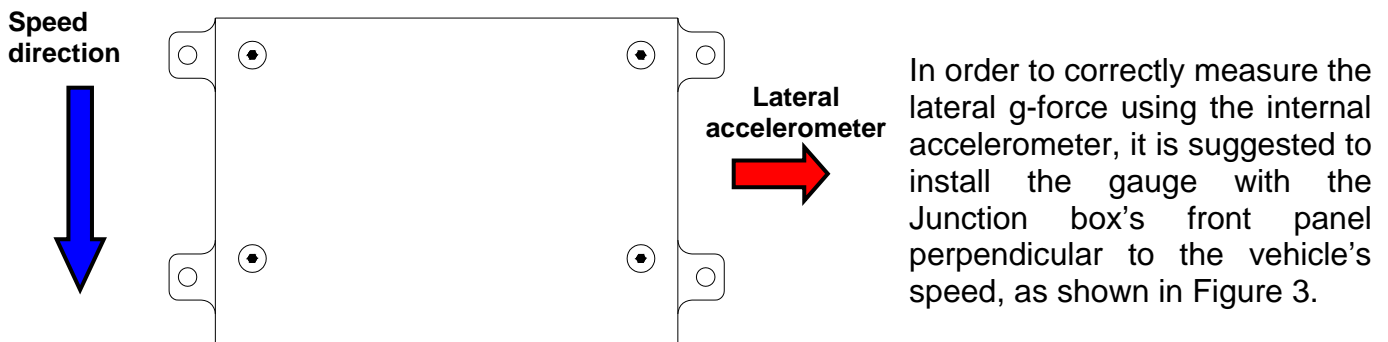
Speed direction

Lateral accelerometer

In order to correctly measure the lateral g-force using the internal accelerometer, it is suggested to install the gauge with the Junction box's front panel perpendicular to the vehicle's speed, as shown in Figure 3.

Figure 3: How to correctly install Your **MyChron 3 XG LOG** (Junction box's top side view)

- Once the gauge and the Junction box have been correctly installed, you may plug all the sensors inside the junction box front panel;

- Moreover, you may connect the gauge to the engine's ECU using the serial/CAN cable.

How to use the ECU-RPM-POWER input

Your **MyChron 3 XG LOG** is equipped with a 7 pins female connector labelled as ECU-RPM-POWER. This multi-purpose connector is used for:

- **ECU connection** – CAN protocol
- **ECU connection** – RS232 serial protocol
- **Power input**: external **9 – 15V** power source, **RED (+)** and **BLACK (-)** wires;
- **RPM input**: the logger has 2 supplementary RPM inputs for coil (150-400 V) or square wave (8-50 V) RPM signals. Usually the RPM signal is sampled from the ECU and so you do not need to use one of these 2 wires.

To connect your **MyChron 3 XG LOG** to the ECU, please use the serial RS232 / CAN cable and connect it to the gauge as shown in Figure 4.

Please note that your ECU may be equipped with a CAN or with an RS232 serial communication protocol, so you do not have to connect both "CAN + / CAN -" and "RS232 TX / RS232 RX" wires to the ECU, but only the ones concerning the correct communication protocol.
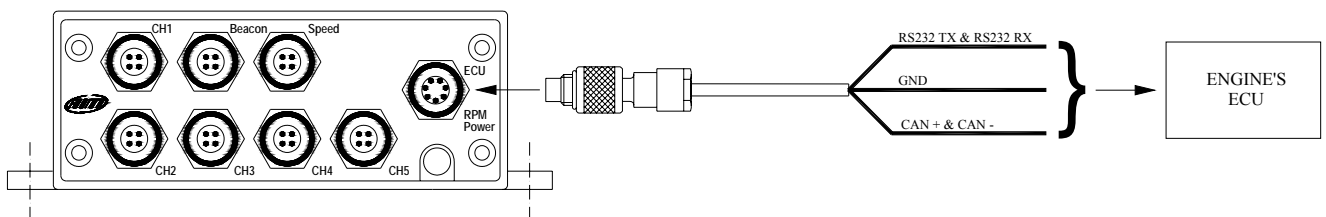

Figure 4: How to connect Your **MyChron 3 XG LOG** To the ECU

How to connect MyChron 3 XG LOG to the PC

In order to connect your **MyChron 3 XG LOG** to the PC, please use the USB data download cable and plug it both in the gauge's USB port and in the PC's USB port, as explained in Figure 5. Moreover, **please use a 9-15 Volts external power source** to switch on the gauge.
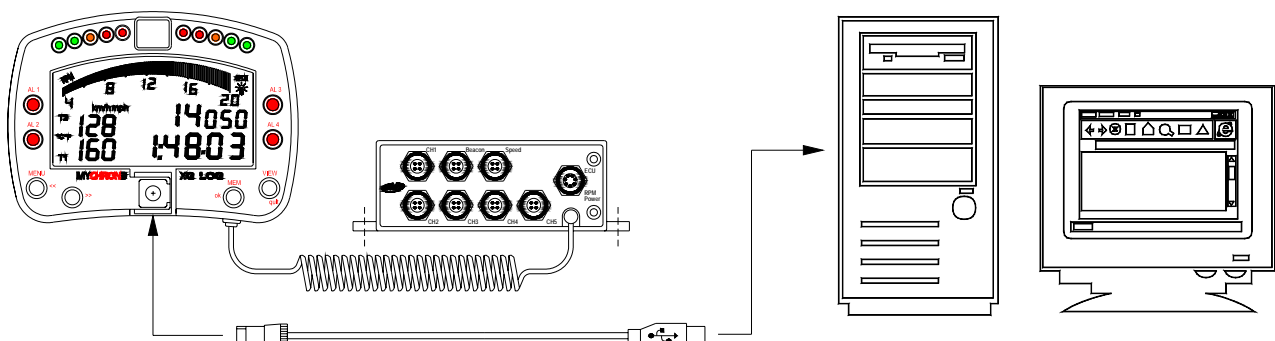

**Figure 6:** How to connect Your **MyChron 3 XG LOG** to the Pc

Software

Once the logger installed and the sensors plugged in, to configure the logger, please use **Race Studio 2**, the software developed by Aim to configure its instruments and analyze stored data.

Please run **Race Studio 2**, select "**M3 LOG / VISOR/XGLOG**", press "System manager" button and follow these steps:

1) Set the input channels
Press "Channels" button to set the sensors installed on your car; this window appears.
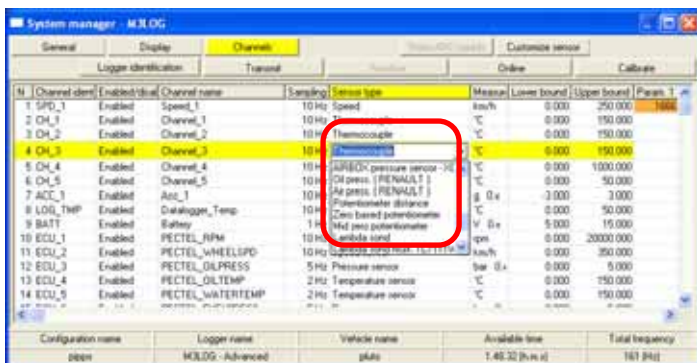
To set an input channel, double-click on the cell corresponding to the desired one: the pop up window circled above appears.

2) How to configure the gauge
Once set the desired input channels, press "Configuration" button to set all the other parameters. The window below appears.

G-force sensor and "potentiometer distance" sensor need to be auto-calibrated pressing

To correctly configure your **MyChron 3 XG LOG**, please set all parameters reported in the configuration window shown in the previous figure:

- Display language.
- Obscuring time and Number of splits.
- Speed channel, wheel circumference and pulses per wheel revolution.
- Channels and alarms concerning the 2 display pages.
- Gear channel: calculated or none

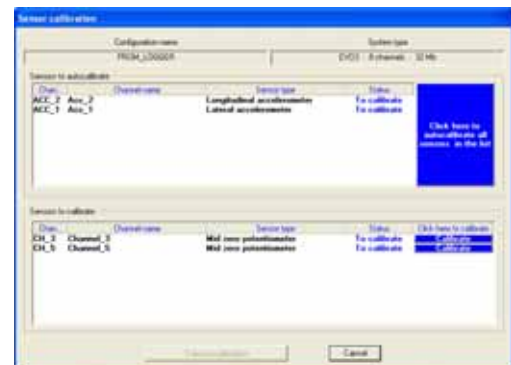### 3) Transmit the configuration

Once the input channels set and configured to transmit the configuration to the logger please press "OK" button and than "Transmit" button on the following wndow.
Please note: to transmit the configuration, the gauge must be switched on and connected to the PC, as shown in Figure 5.

4) Calibrate/auto-calibrate sensors
After configuration transmission you have to calibrate/auto-calibrate the sensors.

"Potentiometer distance" and "Internal lateral accelerometer" sensors need auto-calibration, while "Mid zero potentiometer", "zero based potentiometer" and "on-board gear sensor" need calibration. Please press "Calibrate" button and this window appears

5) Re-transmit the configuration
Once the calibration/autocalibration has

button "Click here to auto-calibrate all sensors in the list".

To calibrate "on-board" gear sensor, "Mid zero potentiometer" or "zero based potentiometer", click on the corresponding "Calibrate" button and follow the instructions prompted on your PC's monitor.

Please note: calibration/auto calibration procedure is fundamental to acquire correct data.

finished, it is absolutely necessary to re-transmit the configuration to your **MyChron 3 XG LOG** pressing the "Transmit" button.

Dimensions in millimetres [inches]
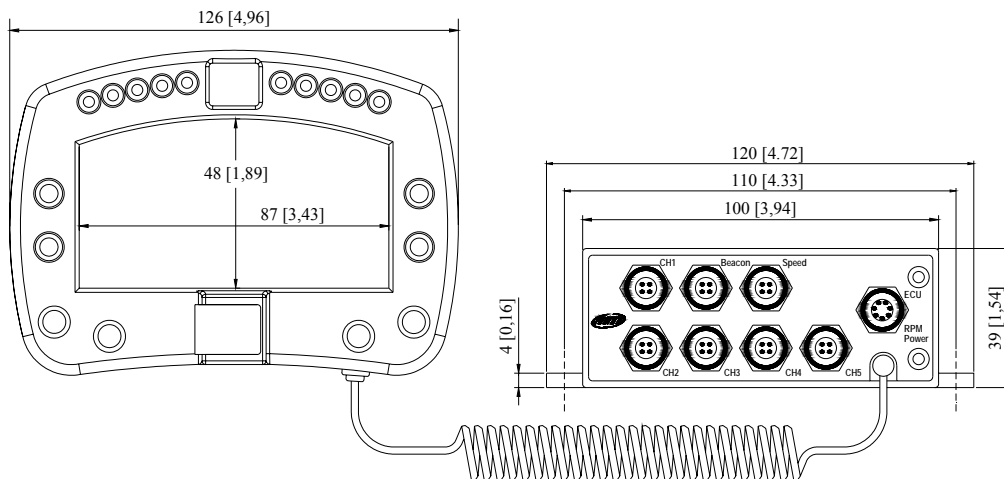
Channels 1÷5 pinout

Pin	Function	Pin	Function
1	Analog input	3	+V battery
2	GND	4	V reference

Speed channel pinout

Pin	Function	Pin	Function
1	Speed 1	3	+V battery
2	GND	4	Speed 2

Beacon channel pinout

Pin	Function	Pin	Function
1	Magn. / Opt. codified lap	3	+V battery
2	GND	4	Optic not codified lap

ECU-RPM-POWER channel pinout

Pin	Function	Pin	Function
1	CAN +	5	RS232 RX
2	CAN -	6	RPM 150-400 V (coil input) and Sq. Wave (>8V)
3	+ V batt.	7	GND
4	RS232 TX		
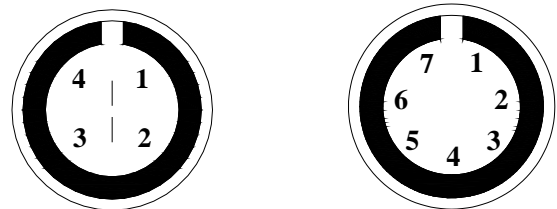
4 & 7 pins female Binder 712 connectors pinout:
external view

Technical characteristics

General characteristics	Value
Input channels	5
Input ch. from ECU	Max. 64
Max sampling freq. per channel	Up to 200 Hz
Total sampling frequency	1000 Hz
Internal g-sensor	Biaxial, ±10g
External power	From 9 to 15 VDC
Voltage output (V ref.)	4.5 V (for potentiometers)
Internal memory	8 Mb flash EPROM
ECU interface	Serial / CAN protocol
PC interface	300 kbyte/sec USB port

Other characteristics	Value
M3 XG LOG dimensions	126x92x24 mm
Display dimensions	87x48 mm
Environmental	IP 65