**Figure 1: MXL PRO 05**

## Introduction

**MXL PRO 05** is the natural evolution of MXL PRO, a new powerful, professional and high-tech gauge, which allows you to sample and display a large number of parameters. It represents the present top of the top of the new high performance AIM gauges. **MXL PRO 05** is for "street" as well as for "track" use.

**MXL PRO 05** has a wonderful wide display and a standard backlight.

**MXL PRO 05** has 2 Deutsch connectors and includes a tachometer, 1 RPM input, **12** analog inputs (temperatures, pressures, potentiometers, Lambda probe, "on board" and custom sensors), 4 speed inputs, gear position (that can be sampled from an "on board" gear sensor or calculated from RPM and speed values) and lap time.

Moreover, the logger may be interfaced with the engine's ECU using a **RS232 serial cable** or a **CAN cable** in order to sample the data out-coming from the ECU.

To have a complete list of compatible ECUs, communication protocol and connection with AIM loggers, please refer to "documents" page of our website www.aim-sportline.com, where You find a dedicated datasheet called ECU-AIM logger.

## Main Features

**MXL PRO 05** main features are:

- wide display with standard backlight;
- RPM numerical and graphical view (configurable RPM scaling);
- 1 RPM input;
- internal lateral G-sensor to map tracks;
- 12 analog inputs;
- 4 speed inputs;
- gear number;
- 10 shift light leds: green, red and yellow;
- 6 freely configurable alarm leds for maximum/minimum alarm;

- USB data download cable for PC interface and Race Studio 2 software;
- 16 Mbytes non volatile internal memory
- lap and split times;
- configurable number of split times;
- built-in clock and calendar for test management;
- internal data acquisition system;
- total and partial (resettable) odometer;
- water resistance
- rugged and lightweight aluminium chassis

Data are stored in a great **16 Mb** non volatile internal memory and can be downloaded to a PC through the stock USB cable.
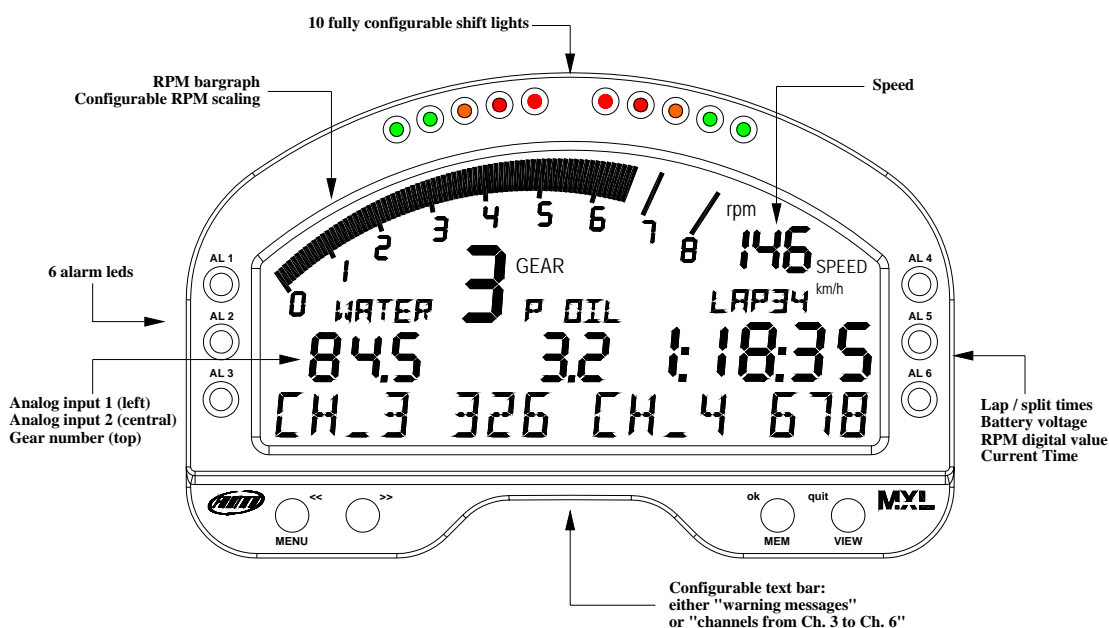For further information about the gauge's display, please refer to **Figure 2**.



**Figure 2: MXL PRO 05** display

# How to connect MXL PRO 05 to the PC

To connect your **MXL PRO 05** 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 shown in **Figure 3**. Moreover, **it is reminded to use a 9-15 Volts external power source** to switch on the gauge.
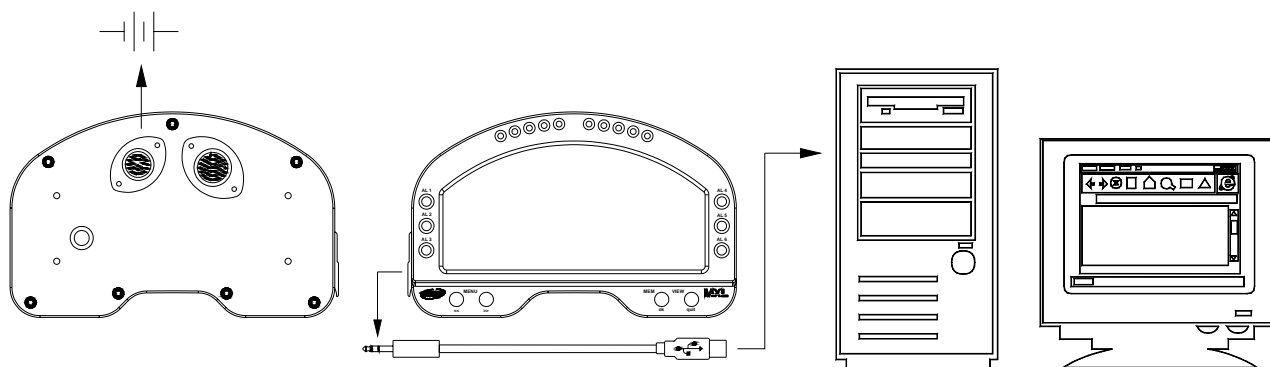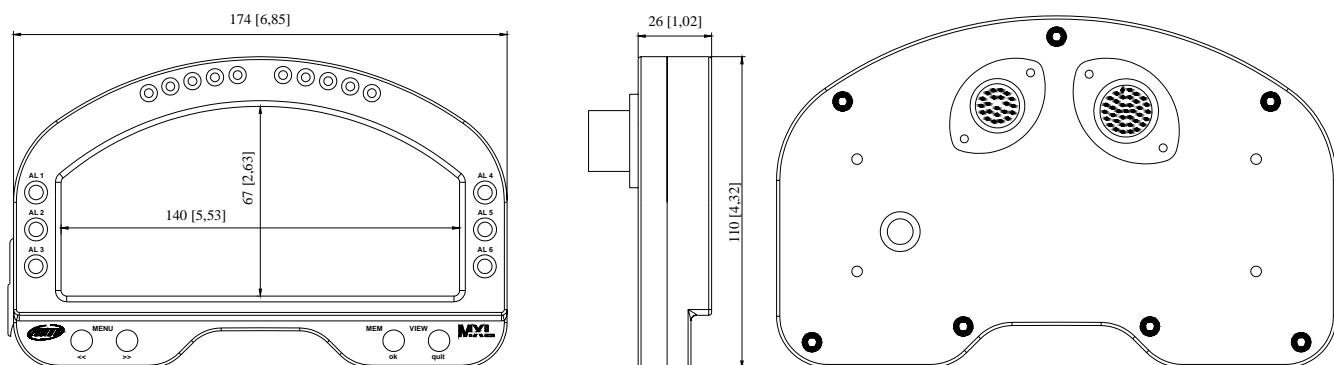
**Figure 3:** How to connect your **MXL PRO 05** to the PC
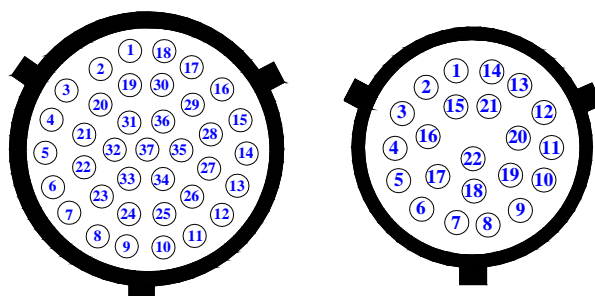
## Dimensions in millimetres (inches) and Pinout



### 37 pins Deutsch connector

| Pin | Function | Pin | Function |
|-----|----------|-----|----------|
| 1 | 9-15 V Battery input | 20 | Analog input 12 |
| 2 | Analog input 1 | 21 | V reference |
| 3 | Analog input 2 | 22 | V reference |
| 4 | Analog GND | 23 | Analog input 10 |
| 5 | Analog GND | 24 | V reference |
| 6 | V reference | 25 | Analog input 9 |
| 7 | V reference | 26 | Analog input 8 |
| 8 | Analog input 3 | 27 | Analog GND |
| 9 | Analog input 4 | 28 | GND |
| 10 | Analog input 6 | 29 | + VB |
| 11 | Analog GND | 30 | Speed 2 |
| 12 | RPM Sq. Wave >5 V | 31 | Analog GND |
| 13 | RPM Coil input | 32 | Analog input 5 |
| 14 | + VB | 33 | Analog input 7 |
| 15 | GND | 34 | V reference |
| 16 | + VB | 35 | Analog GND |
| 17 | + VB | 36 | Speed 1 |
| 18 | GND | 37 | Lap |
| 19 | Analog input 11 | | |



37 pins Deutsch Connector (external view) on the left and 22 pins Deutsch connector (external view) on the right

### 22 pins Deutsch connector

| Pin | Function | Pin | Function |
|-----|----------|-----|----------|
| 1 | + VB | 12 | GND |
| 2 | GND | 13 | + VB |
| 3 | Can 0 +[1] | 14 | MEM |
| 4 | Can 0 - [1] | 15 | VIEW |
| 5 | Speed 3 | 16 | Gear Flash |
| 6 | Speed 4 | 17 | RS 232 RX (for ECU Interface) |
| 7 | USB D+ | 18 | RS 232 TX (for ECU interface) |
| 8 | USB D- | 19 | GND |
| 9 | GND | 20 | CAN 1+ (ECU interface) |
| 10 | + VB | 21 | CAN 1- (ECU interface) |
| 11 | GND | 22 | 9-15 V Battery input |

## Technical characteristics

| General characteristics | Value |
|--------------------------|-------|
| Analog Input channels | 12 |
| Speed channels | 4 |
| Input channels from ECU | Max. 64 |
| Max sampling frequency per channel | Up to 500 Hz |
| Total sampling frequency | 2000 Hz |
| Internal g-sensor | Mono-axial, ±10g |
| External power | From 9 to 15 VDC |
| Voltage output (V reference) | 4.5 V (for potentiometers) |
| Internal memory | 16 Mbytes |
| ECU interface | Serial / CAN protocol |
| PC interface | 300 Kbytes/sec USB port |

| Other characteristics | Value |
|-----------------------|-------|
| **MXL PRO 05** dimensions | 174x110x26 mm |
| Display dimensions | 140x67 mm |
| Chassis | Aluminium |

(1) External Expansion Modules