			(Hill)		
SENSOR DOCUMENTATION	22/09/2005	ANGULAR SPEED	CVPOSCOPE		
Notes: Gyroscope technical documentation, dimensions and pinout. – Version 1.01					
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/ GYRO					

Figure 1: Gyroscope

### Introduction

The Gyroscope sensor measures the angular rate change about a single axis.

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**∆**WARNING

Do not subject the sensor to shock.

The use of this sensor allows generating accurate track maps for bike applications only. Aim data loggers, such as Drack, EVO 3, MyChron 3 bike, MXL, provide predefined channels for the connection of this sensor.

### **Installation notes**

- The **Gyroscope** sensor is resistant to shock but can become critical to vibrations. For this reason we suggest You to fix it using a strip of neoprene, slightly pressed between the gyrospcope and the bikes point of installation.
- Make sure that the sensor is not installed too close to heat sources.
- Do not place the sensor near to sources of interference like ignition coils, alternators and plug leads;
- Ensure that, in static conditions, the top of the sensor is parallel to ground.

## Software

Once the **Gyroscope** has been installed it is necessary to calibrate it. In order to correctly calibrate the sensor, please use **Race Studio 2**, the software properly developed by Aim to configure your data logger and analyze stored data.

# **Race Studio 2**

In **Race Studio 2** main window, reported below, You can choose the gauge where to install the sensor. Please select the gauge and press *"System manager"* button.



# **Sensor configuration**

In *"System Manager"* main window, please press "Channels" button to set the sensors you have installed on your vehicle. The following screenshot appears.

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To set a sensor, You have to double-click in the box corresponding to "Sensor type" column and to "Ch\_x" (where x represents the channel number) row: a menu like the one reported in the above figure appears.

You can choose between different kind of sensors.

#### Please set the "Gyroscope" sensor.

Once you have set the correct sensor type, please transmit the configuration to your gauge pressing "Transmit" button.

# Calibration

Once the configuration has been correctly transmitted to your gauge, is absolutely necessary to auto-calibrate the sensor. Please click on "Calibrate" button: the below screenshot appears.

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Press "Click here to auto-calibrate all sensors of the list" button (highlighted with a red / blue arrow in the above figure): the software auto-calibrates automatically all channels of the "to be auto-calibrated" box.

Please note: when auto-calibrating the sensor, the bike must be in a vertical position on the prop-stand.

Note: once the sensor has been auto-calibrated, it is necessary to re-transmit the configuration to the data logger pressing the proper button.



#### Dimensions



### **Dimensions in millimetres [inches]**

# **Connector details**

Pin	Function	Pin	Function	
1	Gyro output	3	V Battery	
2	GND	4	N.C.	



Male binder connector pinout; external view

# Specifications

Electrical characteristics	Value		
Gyro measure range	$\pm$ 90 °/sec		
Gyro linearity	5% of full scale		
Mechanical characteristics	Value		
Operating temperature range	From -40° to +85°C		
Weight	60 g with cable		
Housing	Anodised aluminium		
Cable length	400 mm		