

AiM InfoTech

AiM pressure sensor 0-100 bar  
Race Studio 2 configuration

Release 1.00

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# 1

## Introduction

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Once AiM pressure sensor 0-100 bar is physically connected to one of the device analog channels, it has to be loaded in the related configuration using AiM configuration software. In this datasheet it is loaded using **Race Studio 2** software.

You can proceed in two ways: importing the sensor configuration file, downloading it from the Products – Sensors (car/bike) section of our website [www.aim-sportline.com](http://www.aim-sportline.com), or creating a custom sensor.

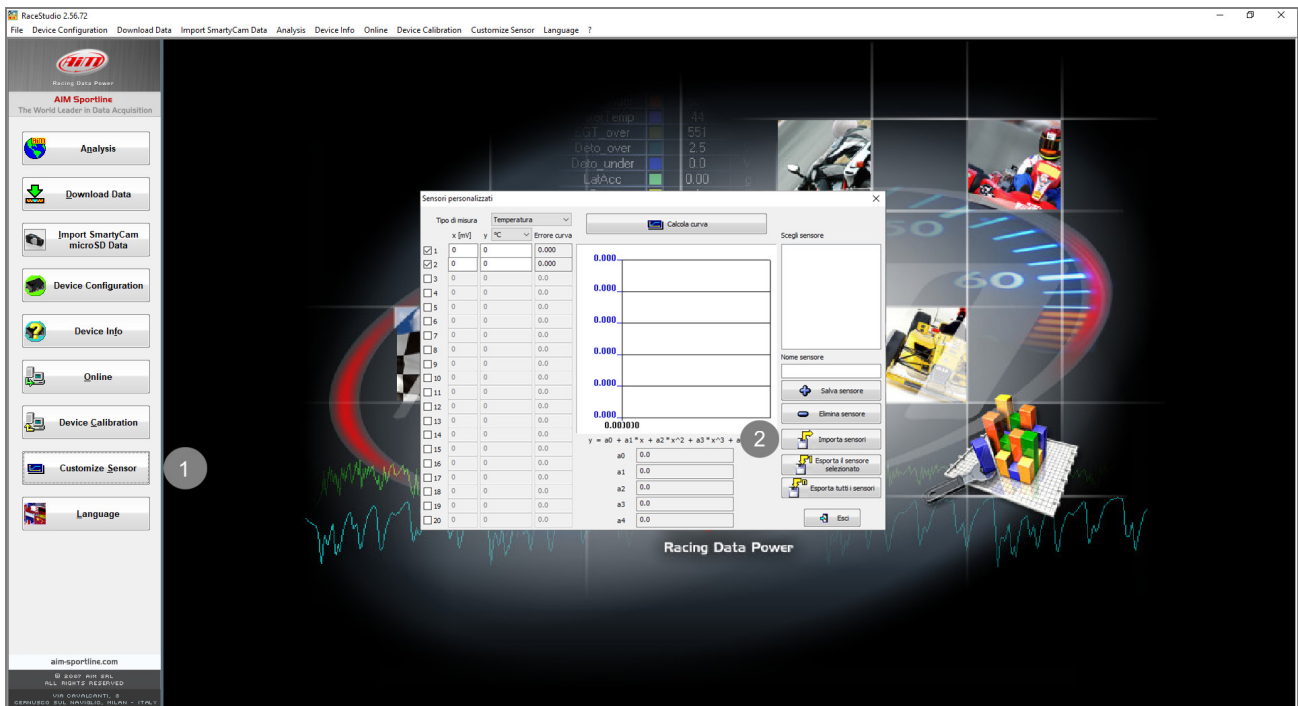
## 2 SCF\* file import

To obtain the sensor configuration file, enter the Products – Sensors (auto/moto) section of the AiM website [www.aim-sportline.com](http://www.aim-sportline.com), and click the link referred to the sensor you own (following image). Once the download is finished, save the file in a PC folder.

PRESSURE SENSORS						
Turbo pressure sensor from -1 to 3 Bar	X05SNP31004A		Datasheet	RS3 conf	RS2 conf	SCF*
Pressure sensor 0-10 bar/0-145 PSI	X05SNP31010R		Datasheet	RS3 conf	RS2 conf	SCF*
Pressure sensor 0-100 bar/0-1450 PSI	X05SNP31100R		Datasheet	RS3 conf	RS2 conf	SCF*
Pressure sensor 0-160 bar/0-2320 PSI	X05SNP31160R		Datasheet	RS3 conf	RS2 conf	SCF*
VDO pressure sensor 0-5 Bar	X05SNBO05		Datasheet	RS3 conf	RS2 conf	
VDO pressure sensor 0-10 Bar	X05SNBO00		Datasheet	RS3 conf	RS2 conf	

\*Download the sensor configuration file ready to import in RS2

To import the file in Race Studio 2, making it available in the pressure sensors list, from the Customize Sensors window (1), click Import Sensors (2) and select the saved file.



### 3 Custom sensor creation

- create a custom sensor pressing "Customize sensor" (1)
- select the type of measure (Pressure) and the measure unit (bar) (2)
- complete the first two rows of the table on the left as follows (3):

X [mV]	Y [bar]
500	0
4500	100

- press "Compute curve" (4), fill in sensor name - in the example "AiM 0-100 bar (X05PSA00100B10)" – and press "Save sensor" (5); press "Exit" (6)

The screenshot shows the 'Customize sensor' dialog box in RaceStudio 2.56.72. The dialog is divided into several sections:

- Table:** A table with columns 'x [mV]', 'y [bar]', and 'Curve Error'. The first two rows are filled with the values 500, 0 and 4500, 100 respectively.
- Graph:** A graph showing a linear fit through the data points. The x-axis ranges from 500 to 4500, and the y-axis ranges from 0 to 100.
- Fields:** A 'Sensor name' field containing 'AiM 0-100 bar (X05PSA00100B10)'. Below it are fields for coefficients a0 through a4.
- Buttons:** 'Compute Curve', 'Save sensor', 'Delete sensor', 'Import sensors', 'Export selected sensor', 'Export all sensor', and 'Exit'.

# 4 Analog channel configuration

To set the sensor in the device configuration:

- enter "Channels" tab
- set the sensor on a channel selecting "AiM 0-100 bar (X05PSA00100B10)" or "AiM 0-100 bar (X05PSA00100B38)" in sensor type column of the desired channel and transmit the configuration to the device.

The screenshot shows the 'Channels' configuration window in RaceStudio. The 'Sensor type' dropdown for 'CH\_4' is open, displaying a list of available sensors. Two specific sensors are highlighted with a red box:

- AiM 0-100 bar (X05PSA00100B10)
- AiM 0-100 bar (X05PSA00100B38)

Channel identifier	Enabled/disabled	Channel name	Sampling frequency	Sensor type	Measure unit	Low scale	High scale
RPM	<input checked="" type="checkbox"/>	Engine	10 Hz	Engine revolution speed	rpm	0	20000
SPD_1	<input checked="" type="checkbox"/>	Speed_1	10 Hz	Speed	km/h, -1	0.0	250.0
CH_1	<input checked="" type="checkbox"/>	Channel_1	10 Hz	Generic linear 0-5 V	V, -1	0.0	5.0
CH_2	<input checked="" type="checkbox"/>	Channel_2	10 Hz	Generic linear 0-5 V	V, -1	0.0	5.0
CH_3	<input checked="" type="checkbox"/>	Channel_3	10 Hz	Generic linear 0-5 V	V, -1	0.0	5.0
CH_4	<input checked="" type="checkbox"/>	Channel_4	10 Hz	Generic linear 0-5 V	V, -1	0.0	5.0
CH_5	<input checked="" type="checkbox"/>	Channel_5	10 Hz	Oil pressure Napaico KM10	V, -1	0.0	5.0
CH_6	<input checked="" type="checkbox"/>	Channel_6	10 Hz	AiM Lambda LCU-ONE (0.65 - 1.6 lambda)	V, -1	0.0	5.0
CH_7	<input checked="" type="checkbox"/>	Channel_7	10 Hz	IMB 0-20000 PSI sensor	V, -1	0.0	5.0
CH_8	<input checked="" type="checkbox"/>	Channel_8	10 Hz	Fuel level	V, -1	0.0	5.0
CALC_GEAR	<input checked="" type="checkbox"/>	Calculated_Gear	10 Hz	AVTORACE_SPS5_Pressure sensor	V, -1	0.0	5.0
ACC_1	<input checked="" type="checkbox"/>	LataAcc	10 Hz	AEM 30 PSI Press sensor	#	0	9
LOG_TMP	<input checked="" type="checkbox"/>	Datalogger_Temp	10 Hz	AEM 30 PSI INHg/PSI Press sensor	g, .01	-3.00	3.00
BATT	<input checked="" type="checkbox"/>	Battery	1 Hz	Kavlico 50 PSI Press sensor	°C	0	50