

AiM InfoTech

AiM pressure sensor 0-100 bar  
Race Studio 2 configuration

Release 1.01

---



# 1

## Introduction

---

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.

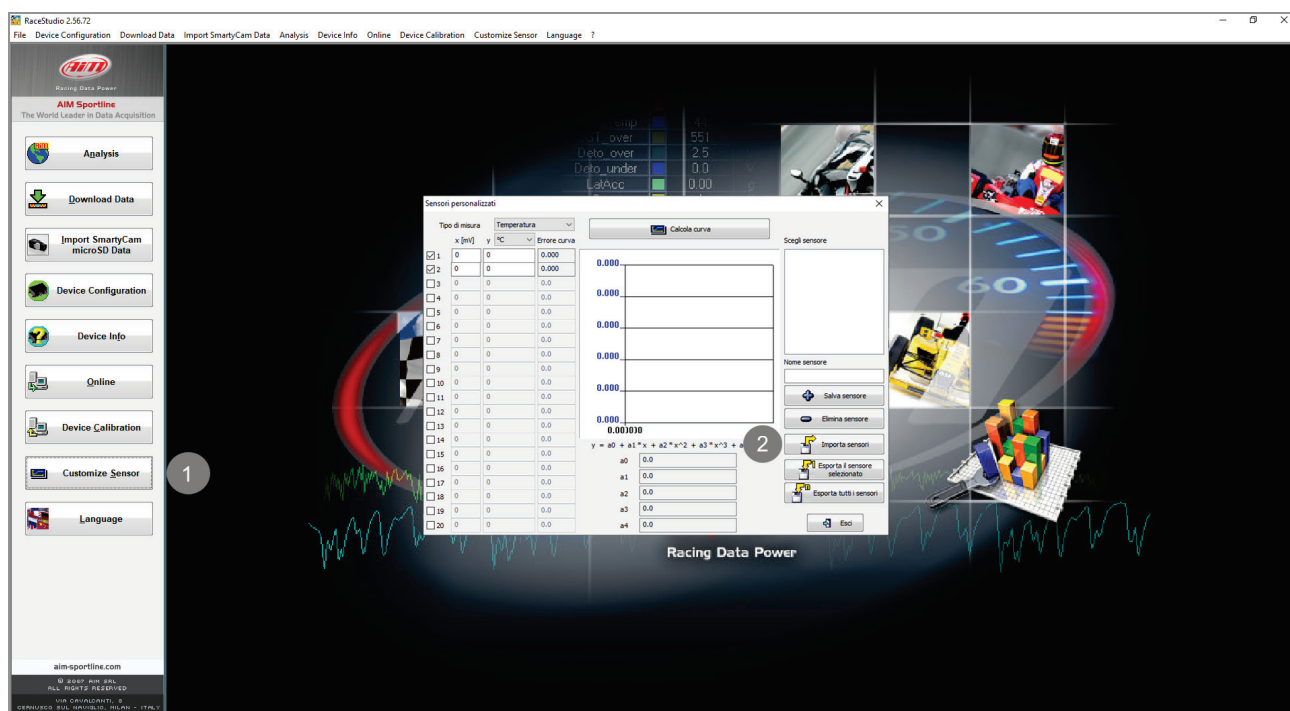
## 2 SCF\* file import

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.



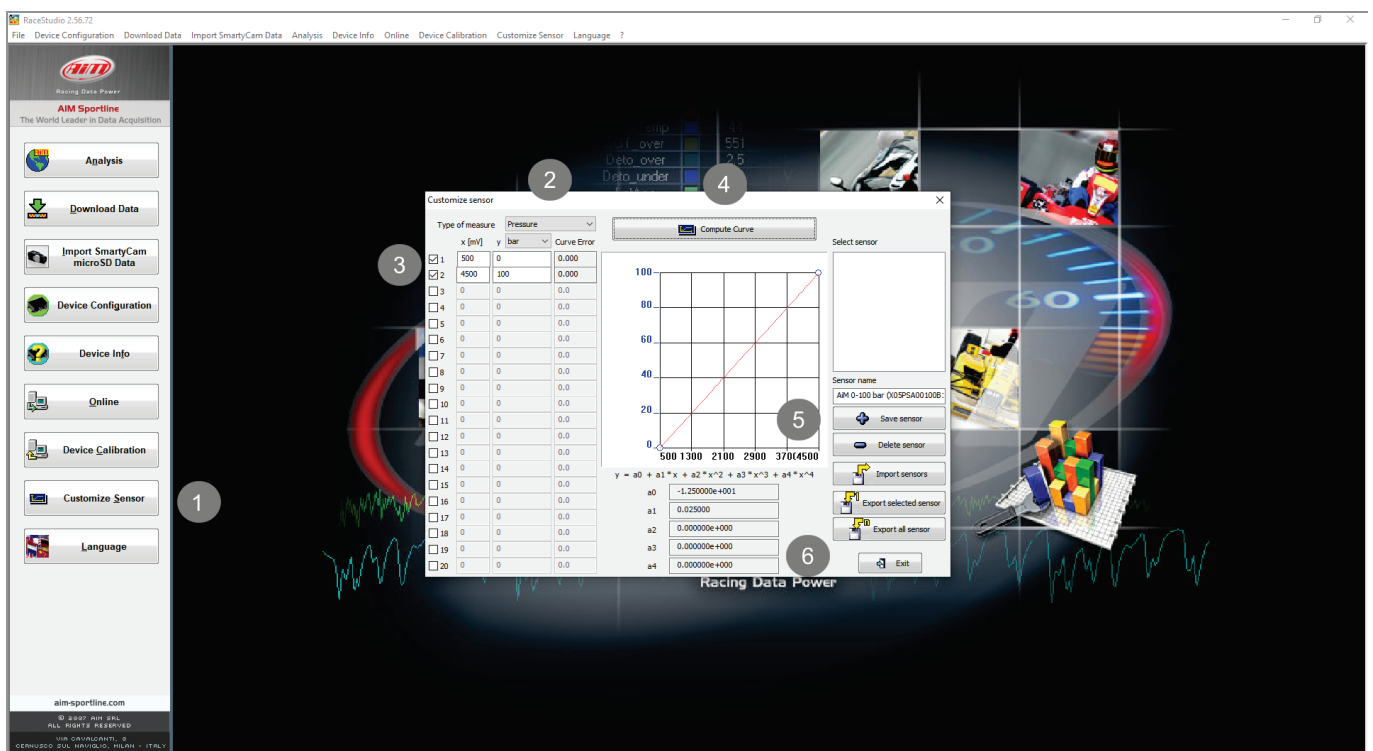
# 3

## 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 (X05PSA00100B10K)" – and press "Save sensor" **(5)**; press "Exit" **(6)**



The screenshot shows the RaceStudio 2.56.72 software interface. On the left is a sidebar with various menu items. The main window displays a 'Customize sensor' dialog box. The dialog box contains a table for sensor data points, a graph, and fields for sensor name and coefficients. Numbered callouts 1 through 6 indicate the steps for creating a custom sensor:

- 1: Click on 'Customize Sensor' in the sidebar.
- 2: Select 'Pressure' as the type of measure and 'bar' as the unit.
- 3: Complete the first two rows of the table on the left as follows:
 

| X [mV] | Y [bar] |
|--------|---------|
| 500    | 0       |
| 4500   | 100     |
- 4: Press 'Compute Curve'.
- 5: Fill in sensor name - in the example "AiM 0-100 bar (X05PSA00100B10K)" – and press 'Save sensor'.
- 6: Press '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 (X05PSA00100B10K)" or "AiM 0-100 bar (X05PSA00100B38K)" in sensor type column of the desired channel and transmit the configuration to the device.

The screenshot shows the RaceStudio 2.56.72 software interface. The 'System manager' window is open, and the 'Channels' tab is selected. The table below lists the channels and their configurations. The 'CH\_4' channel is highlighted, and the 'Sensor type' dropdown menu is open, showing a list of sensors. The 'AiM 0-100 bar (X05PSA00100B10K)' sensor is selected and highlighted in red.

| Channel identifier | Enabled/disabled                            | Channel name    | Sampling frequency | Sensor type                            | Measure unit | Low scale | High scale |
|--------------------|---------------------------------------------|-----------------|--------------------|----------------------------------------|--------------|-----------|------------|
| RPM                | <input checked="" type="checkbox"/> Enabled | Engine          | 10 Hz              | Engine revolution speed                | rpm          | 0         | 20000      |
| SPD_1              | <input checked="" type="checkbox"/> Enabled | Speed_1         | 10 Hz              | Speed                                  | km/h         | 0.0       | 250.0      |
| CH_1               | <input checked="" type="checkbox"/> Enabled | Channel_1       | 10 Hz              | Generic linear 0-5 V                   | V            | 0.0       | 5.0        |
| CH_2               | <input checked="" type="checkbox"/> Enabled | Channel_2       | 10 Hz              | Generic linear 0-5 V                   | V            | 0.0       | 5.0        |
| CH_3               | <input checked="" type="checkbox"/> Enabled | Channel_3       | 10 Hz              | Generic linear 0-5 V                   | V            | 0.0       | 5.0        |
| CH_4               | <input checked="" type="checkbox"/> Enabled | Channel_4       | 10 Hz              | Generic linear 0-5 V                   | V            | 0.0       | 5.0        |
| CH_5               | <input checked="" type="checkbox"/> Enabled | Channel_5       | 10 Hz              | Oil pressure Napaco KM10               | V            | 0.0       | 5.0        |
| CH_6               | <input checked="" type="checkbox"/> Enabled | Channel_6       | 10 Hz              | AIM Lambda LCU-ONE (0.65 - 1.6 lambda) | V            | 0.0       | 5.0        |
| CH_7               | <input checked="" type="checkbox"/> Enabled | Channel_7       | 10 Hz              | Fuel level                             | V            | 0.0       | 5.0        |
| CH_8               | <input checked="" type="checkbox"/> Enabled | Channel_8       | 10 Hz              | AVORACE SP35 Pressure sensor           | V            | 0.0       | 5.0        |
| CALC_GEAR          | <input checked="" type="checkbox"/> Enabled | Calculated_Gear | 10 Hz              | AIM 30 PSI Press sensor                | #            | 0         | 9          |
| ACC_1              | <input checked="" type="checkbox"/> Enabled | LataAcc         | 10 Hz              | AIM 50 PSI Press sensor                | g            | -3.00     | 3.00       |
| LOG_TMP            | <input checked="" type="checkbox"/> Enabled | Datalogger_Temp | 10 Hz              | GM 3 Bar Map sensor                    | °C           | 0         | 50         |
| BATT               | <input checked="" type="checkbox"/> Enabled | Battery         | 1 Hz               | KA 0-150 PSI Press sensor              | V            | 5.0       | 15.0       |

The 'Sensor type' dropdown menu for 'CH\_4' is open, showing a list of sensors. The 'AiM 0-100 bar (X05PSA00100B10K)' sensor is selected and highlighted in red.