

**Race Studio 2**

Configuring a generic fuel level sensor with RS2

Question:

How can I configure a generic fuel level sensor with RS2?

Answer:

Once the sensor and the additional pull up resistor connected, you need to find the correspondence between tension read by AiM device and fuel level in the tank and ensure that your AiM device reads this correspondence.

Proceed adding fuel step by step (eg. 3 litres at a time); at the same time go Online with Race Studio 2 to read the tension (mV) detected by AiM device in real time. Take note of mill volts and corresponding litres poured in the tank to complete sensor characterization.

Once all needed info collected, use Race Studio 2 **custom sensor** menu, to fill in collected values and make the software compute the sensor curve. The new sensor is now available to be set on an analog input.

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Proceed as follows:

- run the software and press "Custom Sensor"
- select type of measure, measure unit, enable the rows you need and fill in collected values (1)
- press "Compute curve" (2), fill in sensor name and press "save sensor" (3)
- press "Exit" (4)

The screenshot shows the 'Customize sensor' dialog box in RaceStudio 2.55.94. The dialog is divided into several sections:

- Table (1):** A table with columns 'x [mV]', 'y [gal]', and 'Curve Error'. It contains three rows of data:

	x [mV]	y [gal]	Curve Error
<input checked="" type="checkbox"/>	1000	0	-0.000
<input checked="" type="checkbox"/>	5000	10	0.000
<input type="checkbox"/>	0	0	0.0
- Graph (2):** A graph showing a linear fit to the data. The x-axis ranges from 0 to 5000 mV, and the y-axis ranges from -0.0 to 10.0 gal. The equation of the fit is $y = a_0 + a_1 * x + a_2 * x^2 + a_3 * x^3 + a_4 * x^4$. The coefficients are:
 - a0: -2.500000e+000
 - a1: 0.002500
 - a2: 0.000000e+000
 - a3: 0.000000e+000
 - a4: 0.000000e+000
- Buttons (3, 4):** The 'Compute Curve' button is highlighted with a '2'. The 'Save sensor' button is highlighted with a '3', and the 'Exit' button is highlighted with a '4'.

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To load the sensor in AiM device configuration:

- press "Device configuration" on the software left keyboard, select your device and the configuration where to load the sensor
- enable "Channels" layer (1)
- select the channel where to set the sensor on and select it from the drop down menu in "Sensor type" column (2)
- transmit the configuration to the device pressing "Transmit" (3)

