

Configuring the sensor with Race Studio 3 software

Question:

How can I configure a generic fuel level sensor using Race Studio 3 software?

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 enter Live Measures function with Race Studio 3 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 3 **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.



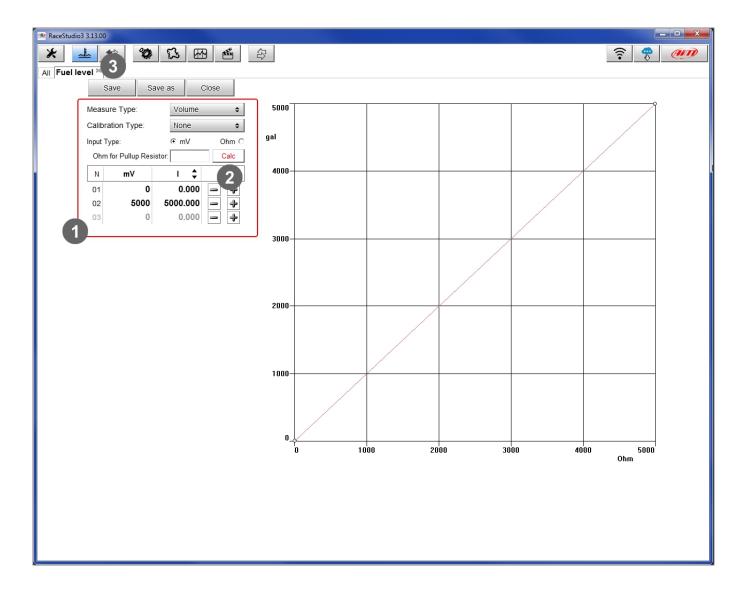
Proceed as follows:

- run the software, press "custom sensor" (1) to enter the related page;
- press "New" (2), fill in the sensor name (3) and press "OK" (4)

RaceStudio3 3.13.00			
	2	llie	r 🥐 🥭
	New Import Export Delete	Custom Sens	
All Custom Sensors			٩ ()
	Name	Туре	Date
Sensor Types Manual Collections	My Sensor mm	Position	23 marzo 2016
	Set Sensor Name and Notes		
	Sensor Name		
	Fuel level		
	Comment		
	4 OK Cancel		



- set the box highlighted here below (1) as follows:
 - Measure type :volume
 - Calibration type: None
 - o input type: mV
- fill in the table below with the values collected adding rows (+) if needed
- press "Calc" (2)
- press "Save" (3)





To load the sensor in your device configuration:

- select the configuration and the channel where to set the sensor on in the example channel 2 –

 (1) and fill in the panel that shows up
- select Function: "Volume -> Fuel level" and Sensor: "Fuel level" (2)
- fill in the following fields keeping in mind that the Measure Filter Level is **strictly** connected to the sampling frequency (**3**) and press "Save" on the panel.

🔊 RaceStudio3 3.13.00			X 🗆 🗆
* 🚣 🏍 🀲 🔂 🖽	€		?
Save Save As Close Transm	nit Channel Settings	X	
Channels ECU Stream CAN2 Stream Math Channels	annels Name	Channel02	s CAN Output
ID 🔽 Name	Name for display	Fuel	req Parameters
RPM 🔽 RPM	Function	Fuel Level	20 Hz max: 16000 ; factor: /1 ;
Spd1 Speed1	- 2		20 Hz wheel: 40 ; pulses: 1 ;
Spd2 Speed2	Sensor	Fuel level	10 Hz wheel: 40 ; pulses: 1 ;
Spd3 Speed3	Sampling Frequeney	20 Hz 🗘	10 Hz wheel: 40 ; pulses: 1 ;
Spd4 Speed4	Unit of Measure	gal 🗘	20 Hz wheel: 40 ; pulses: 1 ;
Ch01 Channel01	Display Precision	2 decimal places	20 Hz
Ch02 Channel02 1	Measure Filter Level	Low pass 0.800 sec 🗘	20 Hz
Ch03 Channel03			20 Hz
Ch04 Channel04	3		20 Hz
Ch05 Channel05		Low pass 0.400 sec	20 Hz
Ch06 Channel06		Low pass 1.600 sec	20 Hz
Ch07 Channel07	Voltage		20 Hz
Ch08 Channel08	Voltage	Generic 0-5 V IIIV	20 Hz

The software comes back to "Channels" layer and the sensor is set on the channel as shown below.

• Transmit the configuration to the device pressing "Transmit".



🕿 RaceStudio3 3.13.00										
* =		°Ç	<u>۲</u> ۲ ۲	公					(î -	(IIII)
All EVO5										
Save	Save As		Close Transmit							
Channels	Channels ECU Stream CAN2 Stream Math Chann Click to save and transmit the configuration SmartyCam Stream CAN Expansions CAN Output									
	ID	\checkmark	Name	Function	Sensor	Unit	Freq	Parameters		
	RPM		RPM	RPM	RPM Sensor	rpm	20 Hz	max: 16000 ; factor: /1 ;		
	Spd1		Speed1	Vehicle Spd	Speed Sensor	mph 0.1	20 Hz	wheel: 40 ; pulses: 1 ;		
	Spd2		Speed2	Vehicle Spd	Speed Sensor	mph 0.1	20 Hz	wheel: 40 ; pulses: 1 ;		Ĩ
	Spd3		Speed3	Vehicle Spd	Speed Sensor	mph 0.1	20 Hz	wheel: 40 ; pulses: 1 ;		
	Spd4		Speed4	Vehicle Spd	Speed Sensor	mph 0.1	20 Hz	wheel: 40 ; pulses: 1 ;		
	Ch01		Channel01	Voltage	Generic 0-5 V	mV	20 Hz			、 I
	Ch02	✓	Channel02	Fuel Level	Fuel level	gal 0.01	20 Hz			
	C 603	\square	Channol03	Valtage	Conoric 0.5 V	m1/	20 11-			,