



Race Studio 3

Alarm light signal configuration with RS3

Question:

How do I configure the alarm sensor through RS3?

Answer:

The alarm sensor configuration on your AiM device can be performed this way:

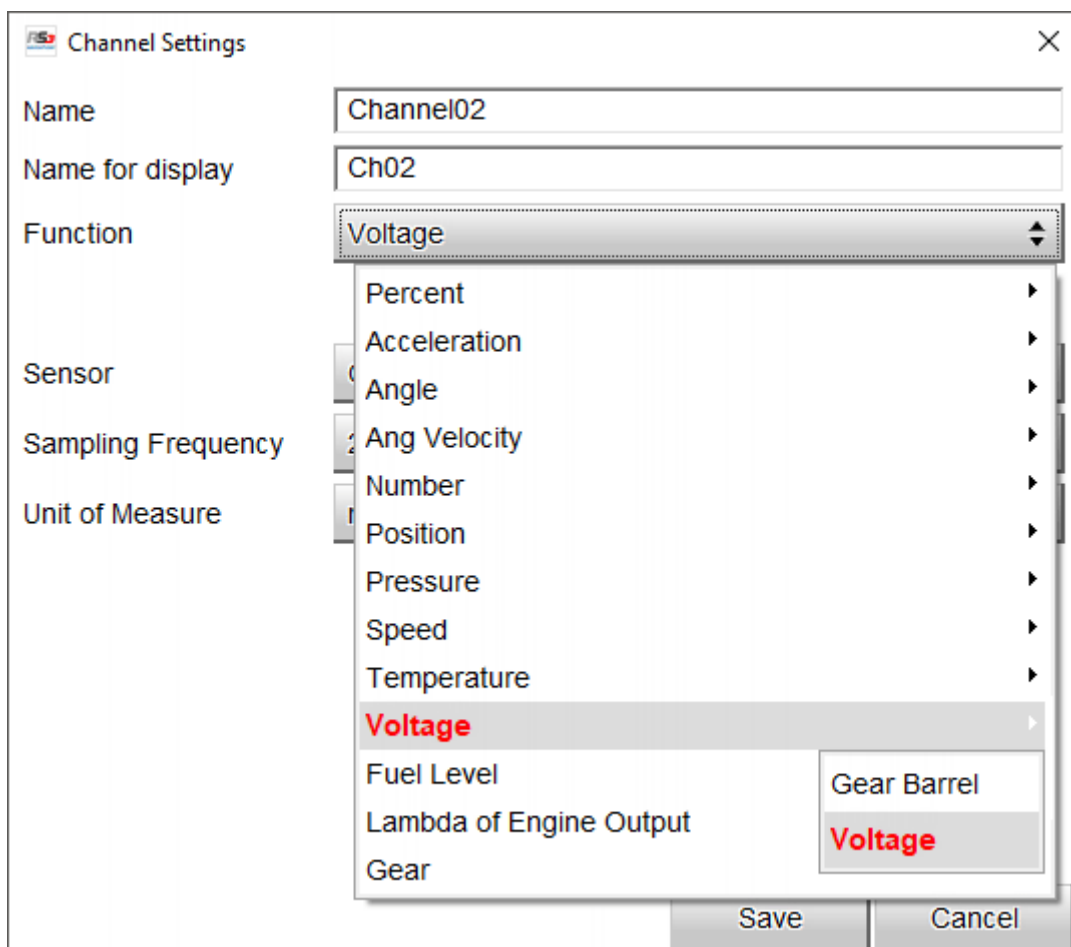
- run RS3.
- enter "Configuration" section and select the configuration to be modified or create a new one if necessary (in the example, an EVO4S configuration have been chosen).
- "Channels" layer appears showing all the available channels with their functions.

The screenshot shows the RaceStudio3 3.16.00 software interface. The 'Channels' tab is active, displaying a table of available channels. The table has columns for ID, Name, Function, Sensor, Unit, Freq, and Parameters. All channels listed have a checked box in the ID column.


ID	Name	Function	Sensor	Unit	Freq	Parameters
RPM	RPM	Engine RPM	RPM Sensor	rpm	20 Hz	max: 16000 ; factor: 1 ;
Spd1	Speed1	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Spd2	Speed2	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Ch01	Channel01	Voltage	Generic 0-5 V	mV	20 Hz	
Ch02	Channel02	Voltage	Generic 0-5 V	mV	20 Hz	
Ch03	Channel03	Voltage	Generic 0-5 V	mV	20 Hz	
Ch04	Channel04	Voltage	Generic 0-5 V	mV	20 Hz	
Ch05	Channel05	Voltage	Generic 0-5 V	mV	20 Hz	
Acc1	InlineAcc	Inline Accel	AIM Internal Accelerometer	g 0.01	50 Hz	
Acc2	LateralAcc	Lateral Accel	AIM Internal Accelerometer	g 0.01	50 Hz	
Acc3	VerticalAcc	Vertical Accel	AIM Internal Accelerometer	g 0.01	50 Hz	
Gyr1	RollRate	Roll Rate	AIM Internal Gyro	deg/s 0.01	50 Hz	
Gyr2	PitchRate	Pitch Rate	AIM Internal Gyro	deg/s 0.01	50 Hz	
Gyr3	YawRate	Yaw Rate	AIM Internal Gyro	deg/s 0.01	50 Hz	
Accu	GPS Accuracy	GPS Accuracy	AIM GPS	mm	10 Hz	
Spd	GPS Speed	Vehicle Spd	AIM GPS	km/h 0.1	10 Hz	
Alt	Altitude	Altitude	AIM GPS	m	10 Hz	
Odo	Odometer	Odometer Total	AIM ODO	km	1 Hz	

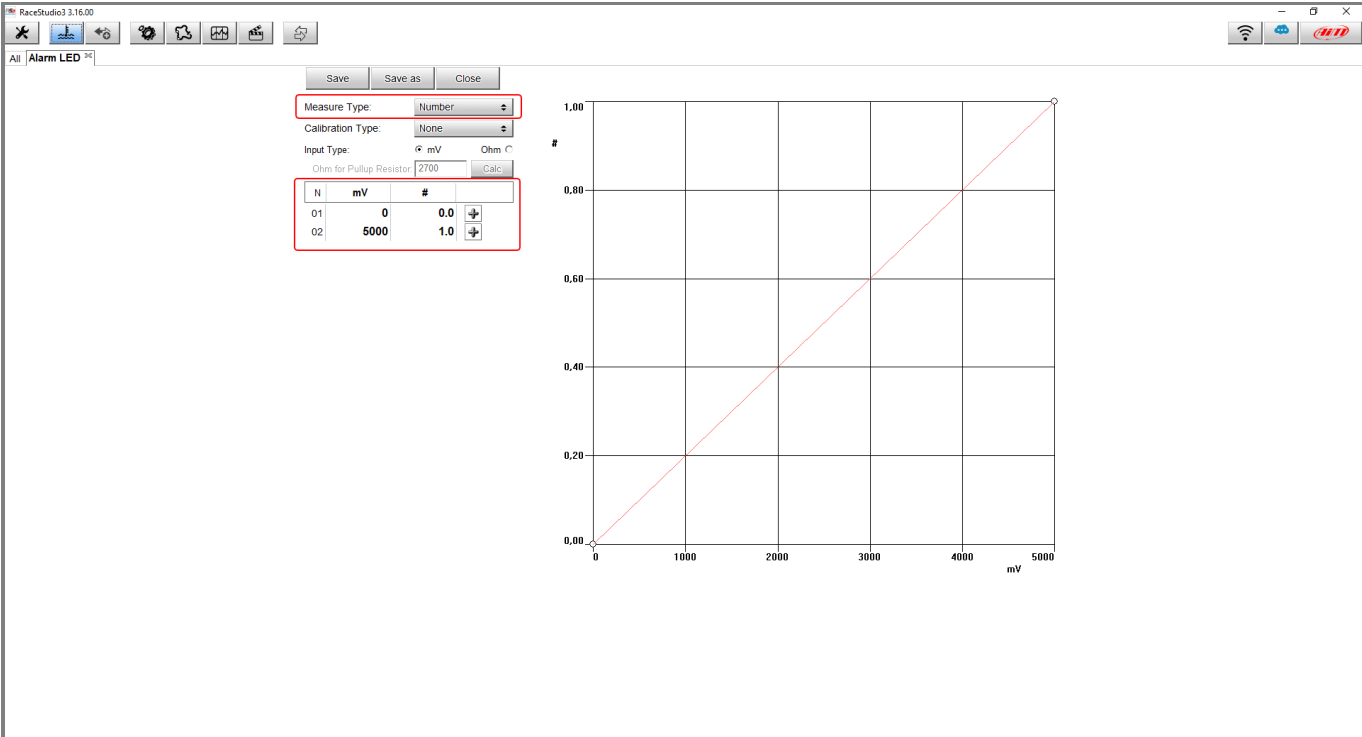
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- Click “Function” in the analog channel menu (be sure it is enabled) and choose “Voltage” or “Number” function, then choose the sensor type among these that appear clicking “Sensor”.
 - **Voltage:** Volts (V) or milliVolts (mV) are the available measurement units, shown as whole number or with maximum three decimal places; user can set the sampling frequency.
 - **Number:** to make this option appear in channel function menu you need to previously create a Custom Sensor.



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To create a custom sensors press the related icon  on the software top left keyboard: select Measure type "Number" and fill the table below with the related sensor values in Mv (with switch on and off). The recorded value is shown as whole number or with one decimal place in a 0-1 range, corresponding respectively to 0 mV and 5000 mV.



The screenshot shows the RaceStudio3 3.16.00 software interface. The window title is "RaceStudio3 3.16.00". The main area is titled "All Alarm LED 24". There are three buttons at the top: "Save", "Save as", and "Close". Below these are configuration options:

- Measure Type: Number
- Calibration Type: None
- Input Type: mV
- Ohm C
- Ohm for Pullup Resistor: 2700
- Calc

A table is displayed with the following data:

N	mV	#
01	0	0.0
02	5000	1.0

To the right of the table is a graph with a grid. The x-axis is labeled "mV" and ranges from 0 to 5000 with major ticks every 1000. The y-axis is labeled "#" and ranges from 0.00 to 1.00 with major ticks every 0.20. A red diagonal line is drawn from the origin (0, 0.00) to the top-right corner (5000, 1.00).

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To set the alarm LEDs of your AiM device, select the LEDs and display settings layers, to say:

- "Shift Lights and Alarms" layer for MXG, MXS/MXS Strada and MXL2.
- "Dashes" → "Shift Lights and Alarms" layer for EVO/4S/5 (it is necessary to specify the dash type).

Choose which one among the available LEDs will show the alarm signal, set the reference channel with its threshold:

- Voltage: threshold 2,5V
- Number: threshold 0,5 (be sure that the channel is configured to be shown with one decimal place).

Once the process is over, click "Transmit" to transmit the configuration to your device. In the following example, an EVO4S configuration is shown.

The screenshot shows the "Create New Alarm" dialog box. At the top, there is a "Description" field and "Import" and "Export" buttons. Below this, it says "If All of the following conditions are true:". A single condition is listed: "Channel02" less than "0,500" V. Below the conditions, it says "then trigger the following action(s):". There are two sections for alarm actions. The first is "Alarm actions in EVO4S", which shows "Output" set to "Open Circuit". The second is "Alarm actions in GS Dash", which shows "LED 1" set to "continuously" with a "Red" LED icon. Both sections have an "Until:" dropdown set to "condition no longer met". At the bottom right, there are "Save" and "Cancel" buttons.