AiM Infotech

Car/bike rotatory potentiometer – Race Studio 3 configuration – Throttle

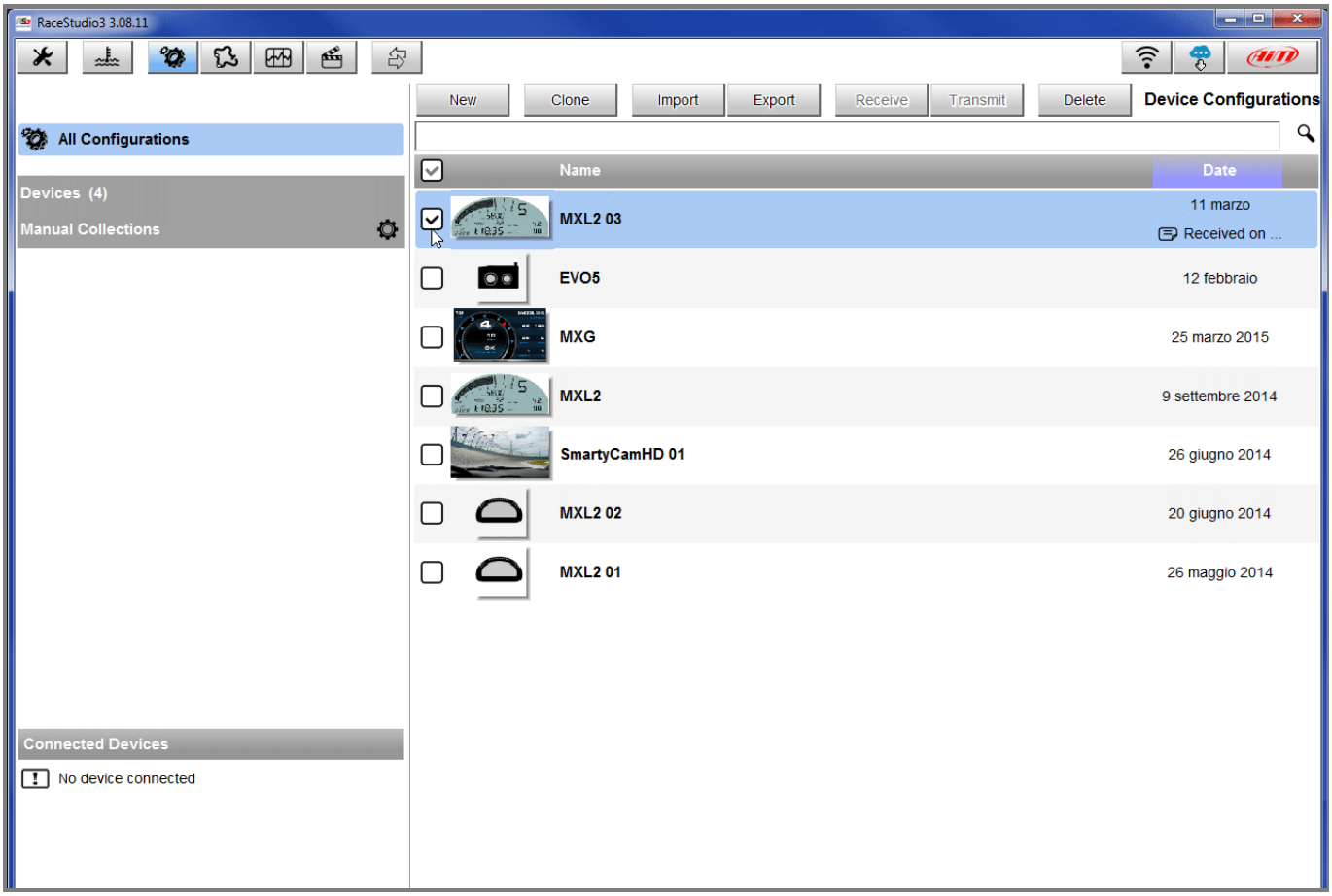
Release 1.00

1 Introduction

This datasheet explains how to configure with Race Studio 3 the throttle potentiometer for car/bike installations. AiM instruments can measure the relative displacement between two different points using a sensor (rotary potentiometer) directly connected to the two measure points. This sensor may be used to measure angular displacements, such as throttle position.

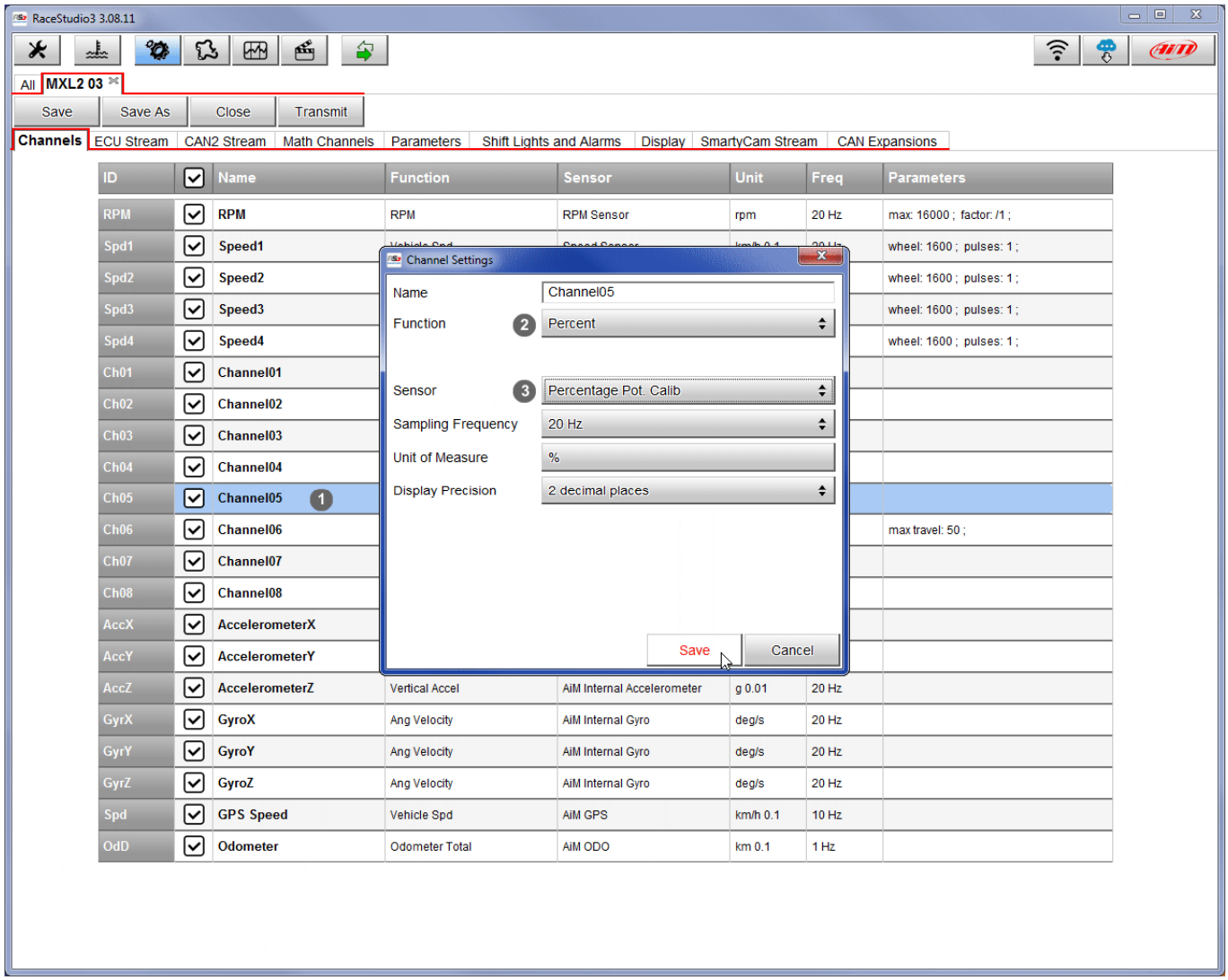
2 Setup with Race Studio 3

To load the potentiometer in the logger configuration run the software and select the configuration you are going to load it on.



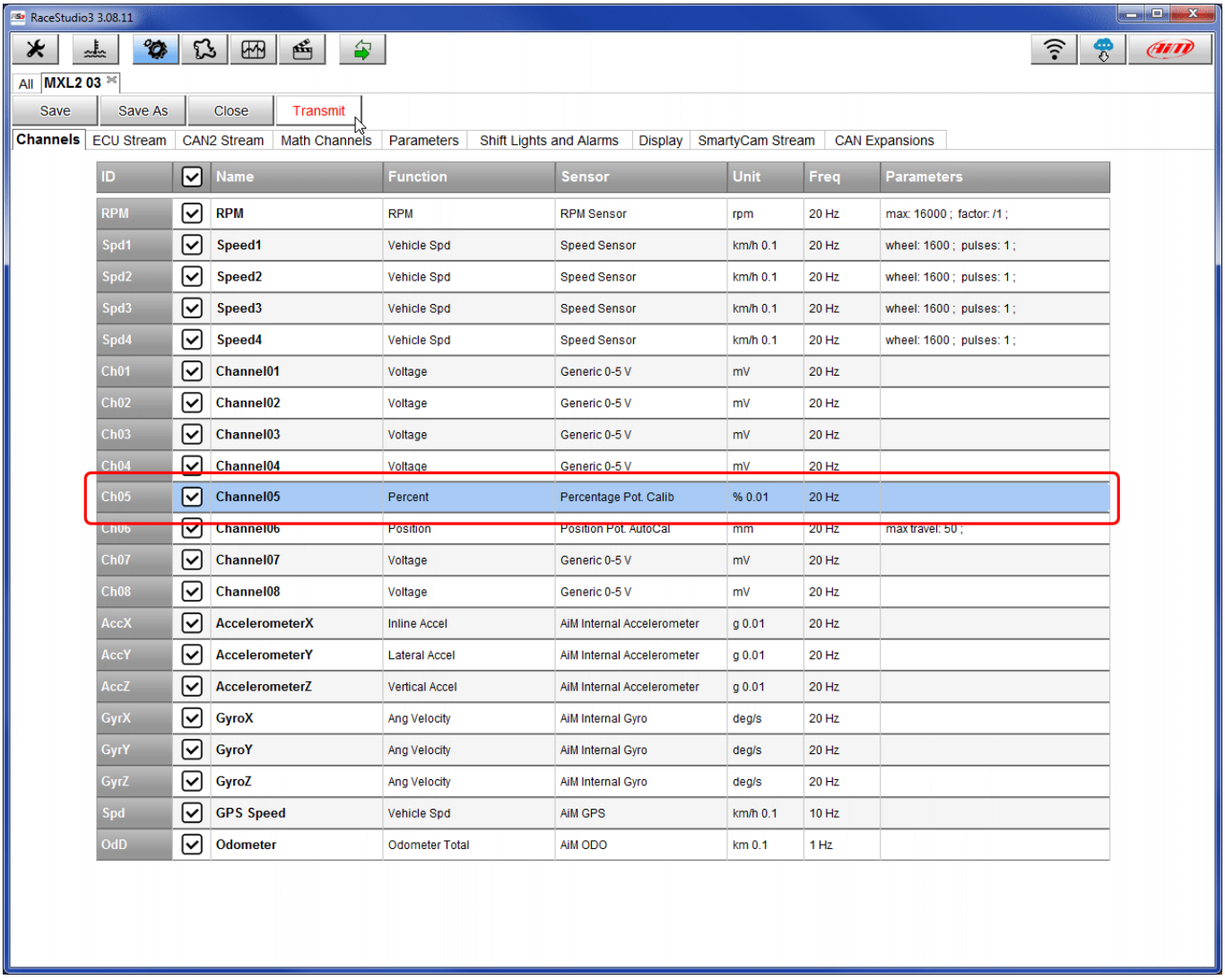
Enter the configuration (in the example MXL2 03) and the related "Channels" layer.

- Select the channel where to set the potentiometer on – in the example channel 5 (**1**) and fill in the panel that shows up
- Function: "Percent" (**2**)
- Sensor: "Percentage Pot. Calib" (**3** – this implies that the potentiometer will be calibrated as shown in the following pages)
- Fill in the other fields
- Click "Save"



When the software comes back to "Channels" layer the potentiometer has been set on the desired channel as shown here below.

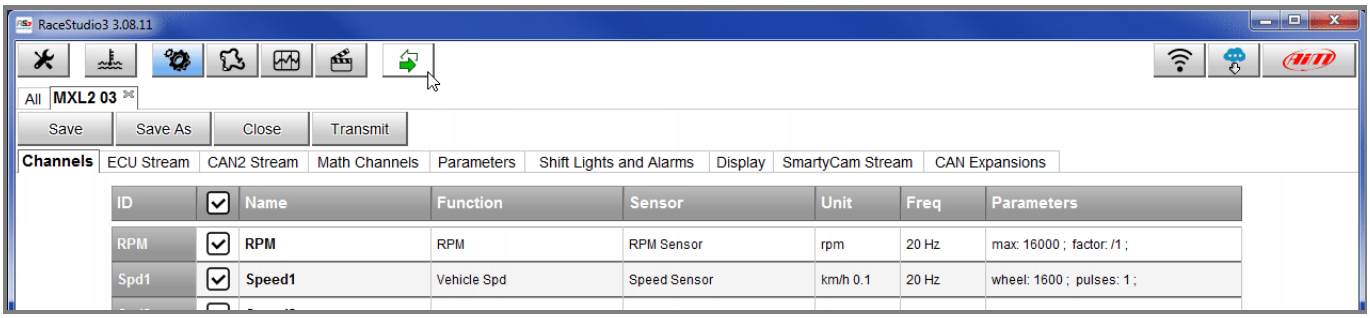
- Transmit the configuration to the logger pressing "Transmit" on the top keyboard.



ID	Name	Function	Sensor	Unit	Freq	Parameters
RPM	RPM	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 ;
Spd3	Speed3	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Spd4	Speed4	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	Percent	Percentage Pot. Calib	% 0.01	20 Hz	
Ch06	Channel06	Position	Position Pot. AutoCal	mm	20 Hz	max travel: 50 ;
Ch07	Channel07	Voltage	Generic 0-5 V	mV	20 Hz	
Ch08	Channel08	Voltage	Generic 0-5 V	mV	20 Hz	
AccX	AccelerometerX	Inline Accel	AiM Internal Accelerometer	g 0.01	20 Hz	
AccY	AccelerometerY	Lateral Accel	AiM Internal Accelerometer	g 0.01	20 Hz	
AccZ	AccelerometerZ	Vertical Accel	AiM Internal Accelerometer	g 0.01	20 Hz	
GyrX	GyroX	Ang Velocity	AiM Internal Gyro	deg/s	20 Hz	
GyrY	GyroY	Ang Velocity	AiM Internal Gyro	deg/s	20 Hz	
GyrZ	GyroZ	Ang Velocity	AiM Internal Gyro	deg/s	20 Hz	
Spd	GPS Speed	Vehicle Spd	AiM GPS	km/h 0.1	10 Hz	
OdD	Odometer	Odometer Total	AiM ODO	km 0.1	1 Hz	

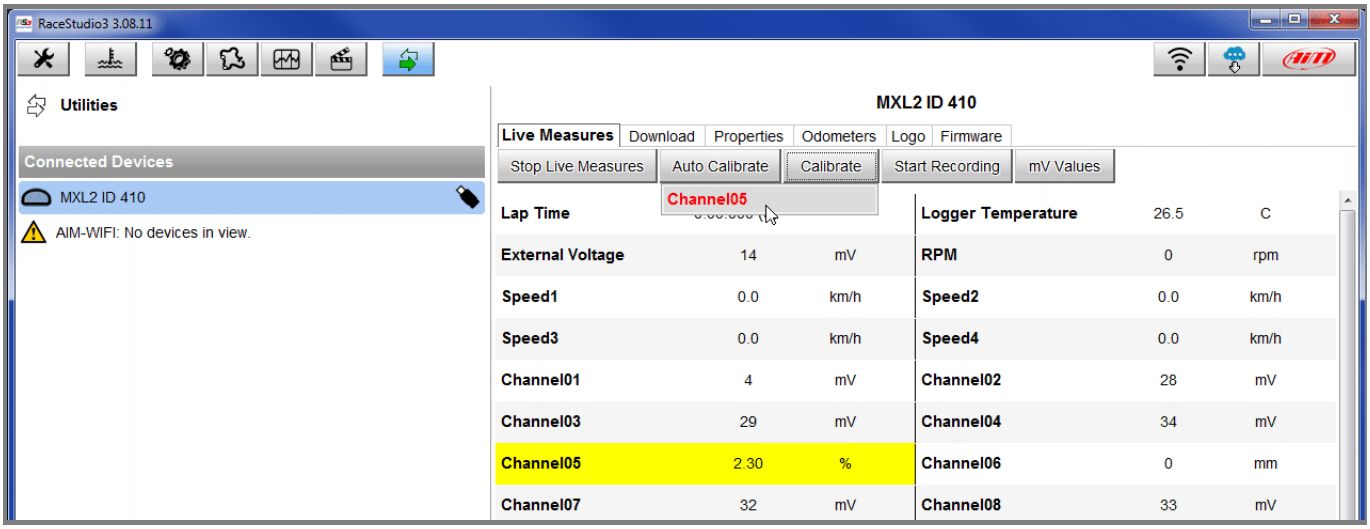
To calibrate the potentiometer:

- press "Device" on the top keyboard

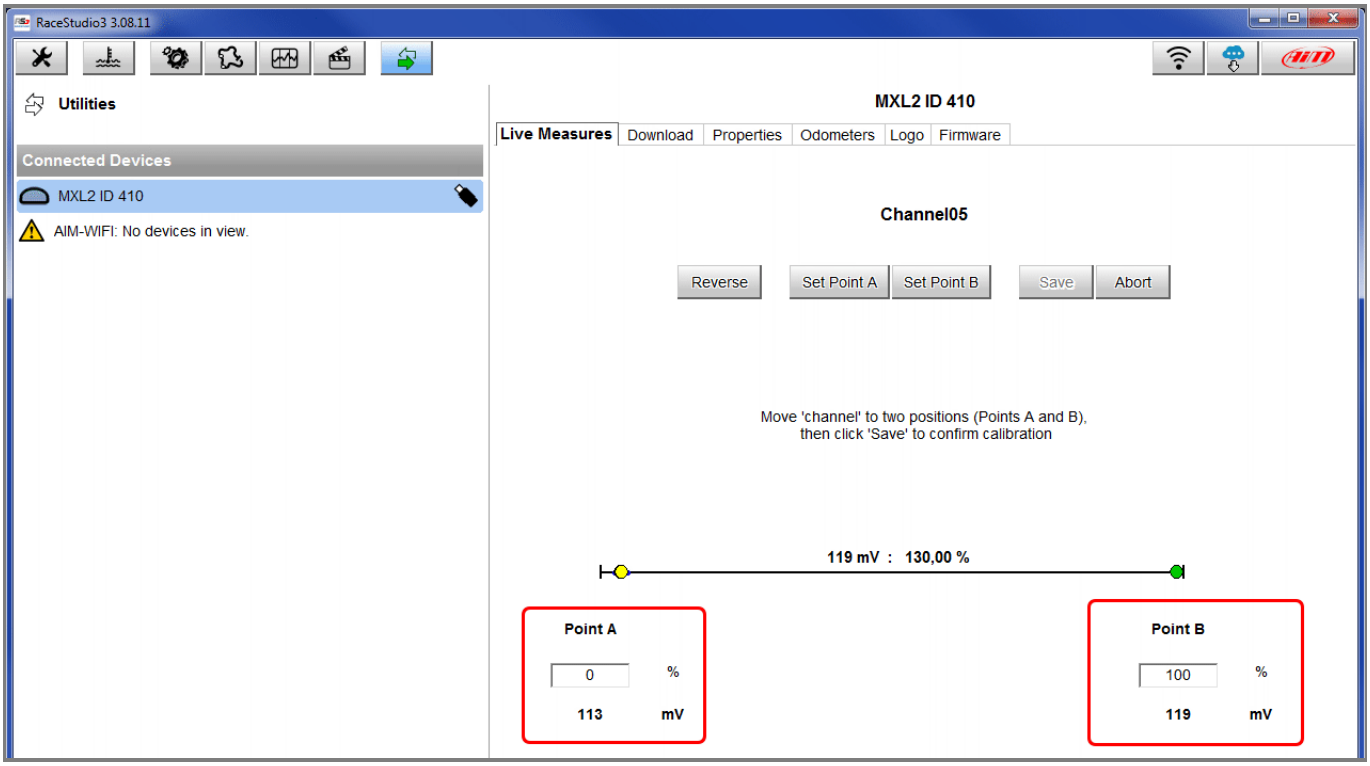


- select the configuration – in the example "MXL2 ID 410"

- press "Calibrate";
- the system shows all channels to be calibrated: choose the one where the potentiometer has been set – in the example "Channel 5"



- fill in the values corresponding to the two measure points:
    - o "0" for point "A"
    - o "100" for point "B"



- with the potentiometer in its zero position press "Set Point A" as shown here below on the left;
- with the throttle all open press "Set Point B" as shown here below on the right
- press "Save"