

AiM Infotech

Throttle potentiometer

Release 1.03





This datasheet explains how to install and configure the throttle potentiometer for car/bike and shows its technical characteristics.

The throttle potentiometer **part number** is: **X05SNRP972**

1

Introduction

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

Installation notes

The sensor has been designed to measure rotational displacements between a fixed point, called "reference point", and a movable one.

The first installation step consists in fixing the potentiometer to the chassis using two M3 screws or a self-made iron bracket. Once the sensor mounted on your vehicle, you can connect the rotating cursor to the throttle or to the pedal or to other moving elements.

Please ensure that when the throttle is in its "zero position" (i.e. when the throttle is not pressed), the potentiometer is in its "zero position" too and when the throttle is completely pressed, the potentiometer is in its "high" position.

This instrument's mechanical measure range goes up to 130°, while the electrical measure range goes up to 106°. **Please, do not exceed the instrument maximum measure range.** If you need to measure bigger displacements, please use a different sensor: an incorrect use may seriously damage the sensor.

3

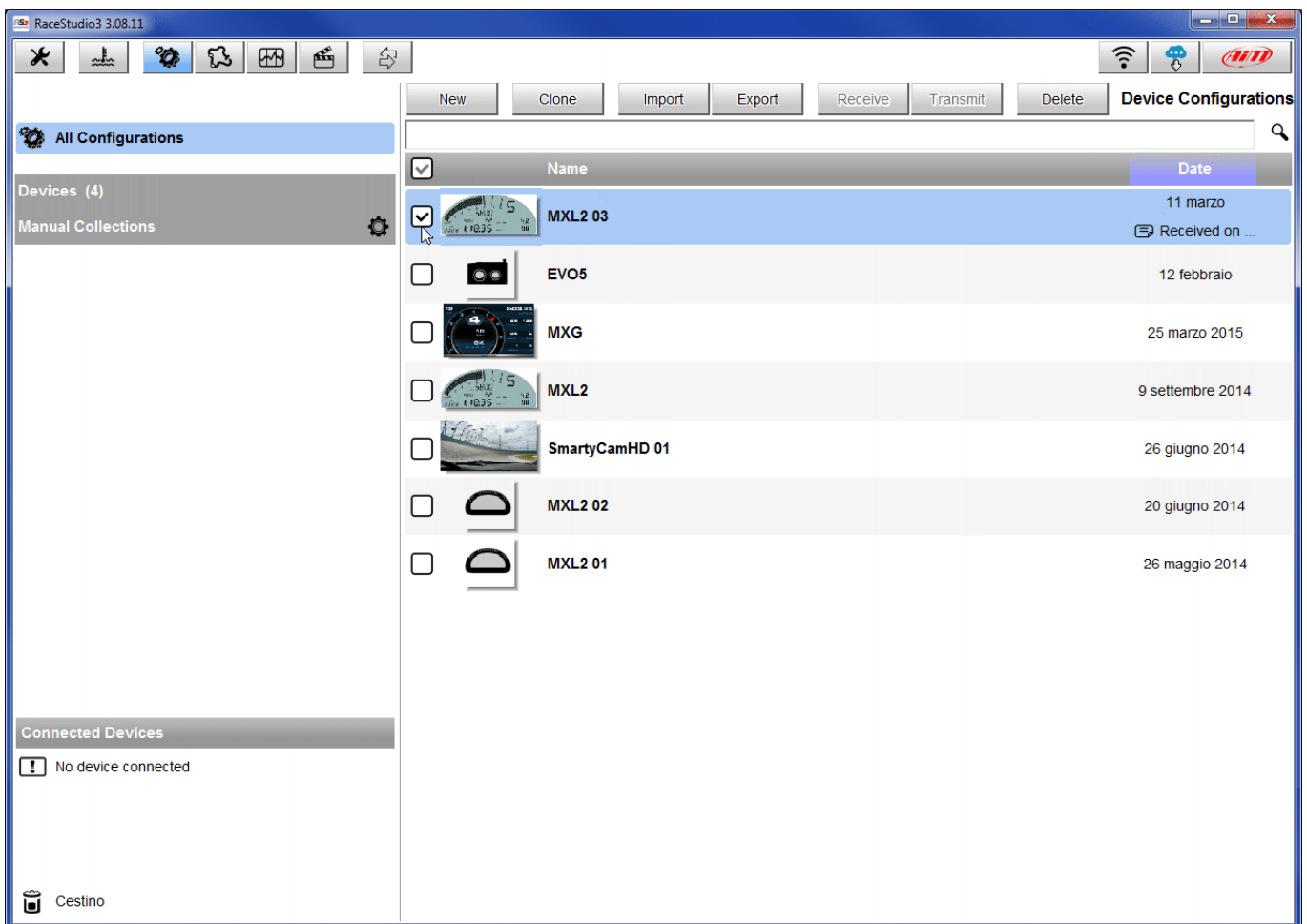
Software setup

Once the potentiometer installed it is necessary to load it in the configuration of its logger and then calibrate it.

3.1

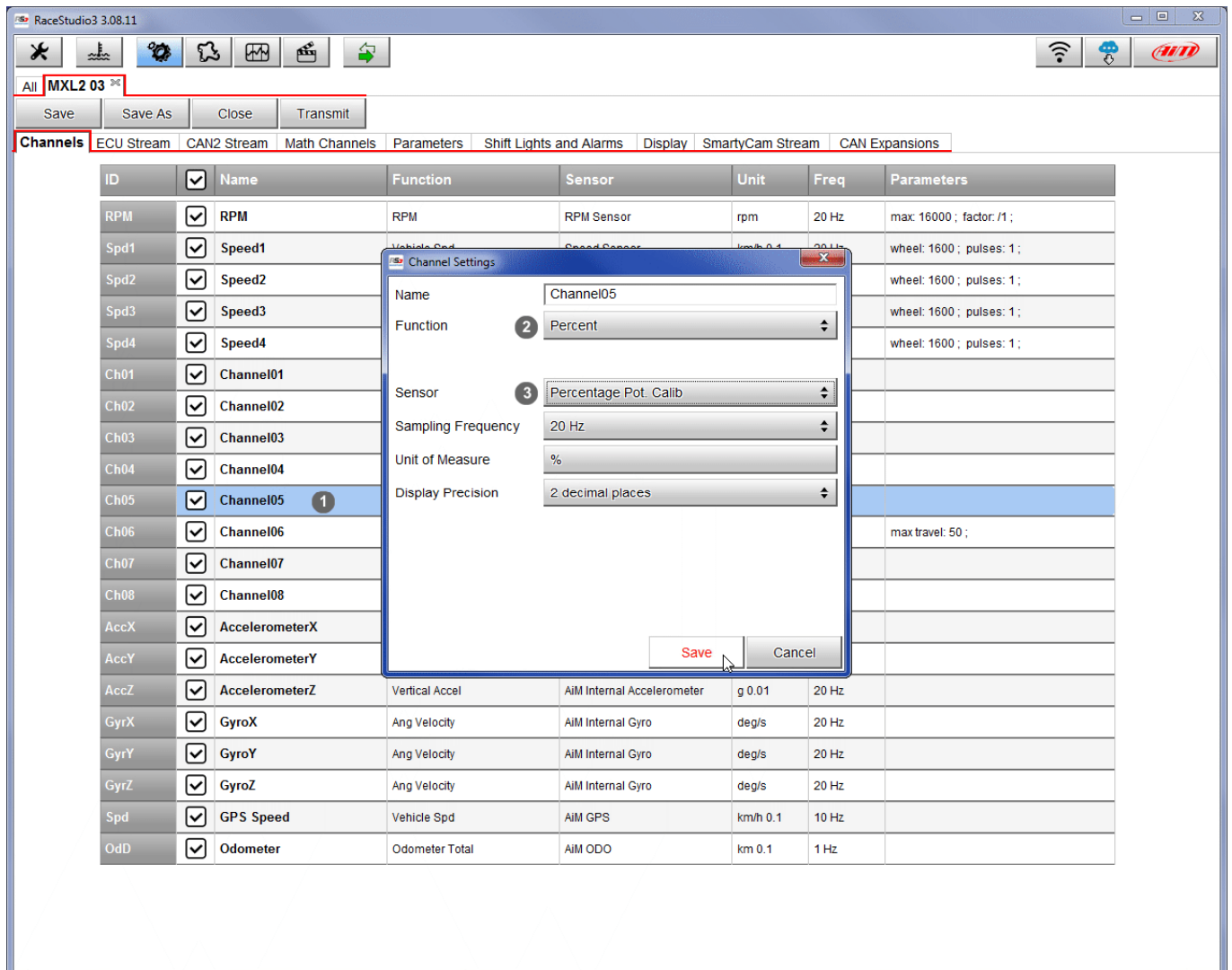
Setup with Race Studio 3

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"



The screenshot shows the RaceStudio3 3.08.11 interface. The 'Channels' tab is selected, displaying a list of channels. Channel05 is highlighted with a red circle (1). The 'Channel Settings' dialog is open for Channel05, showing the following configuration:

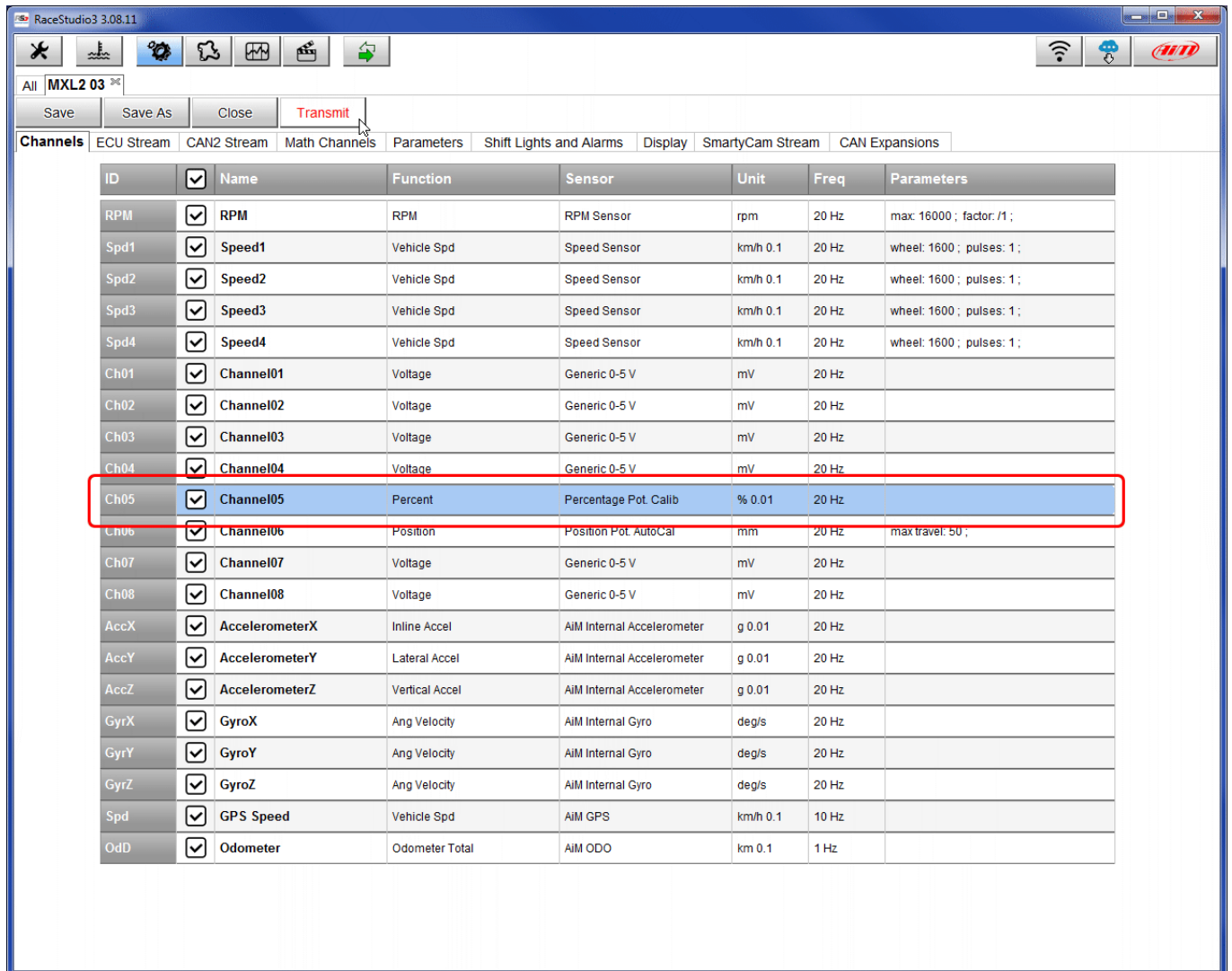
- Name: Channel05
- Function: Percent (2)
- Sensor: Percentage Pot. Calib (3)
- Sampling Frequency: 20 Hz
- Unit of Measure: %
- Display Precision: 2 decimal places

The 'Save' button is highlighted with a red circle (4).

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					wheel: 1600 ; pulses: 1 ;
Spd3	✓	Speed3					wheel: 1600 ; pulses: 1 ;
Spd4	✓	Speed4					wheel: 1600 ; pulses: 1 ;
Ch01	✓	Channel01					
Ch02	✓	Channel02					
Ch03	✓	Channel03					
Ch04	✓	Channel04					
Ch05	✓	Channel05					
Ch06	✓	Channel06					
Ch07	✓	Channel07					
Ch08	✓	Channel08					
AccX	✓	AccelerometerX					
AccY	✓	AccelerometerY					
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	

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.

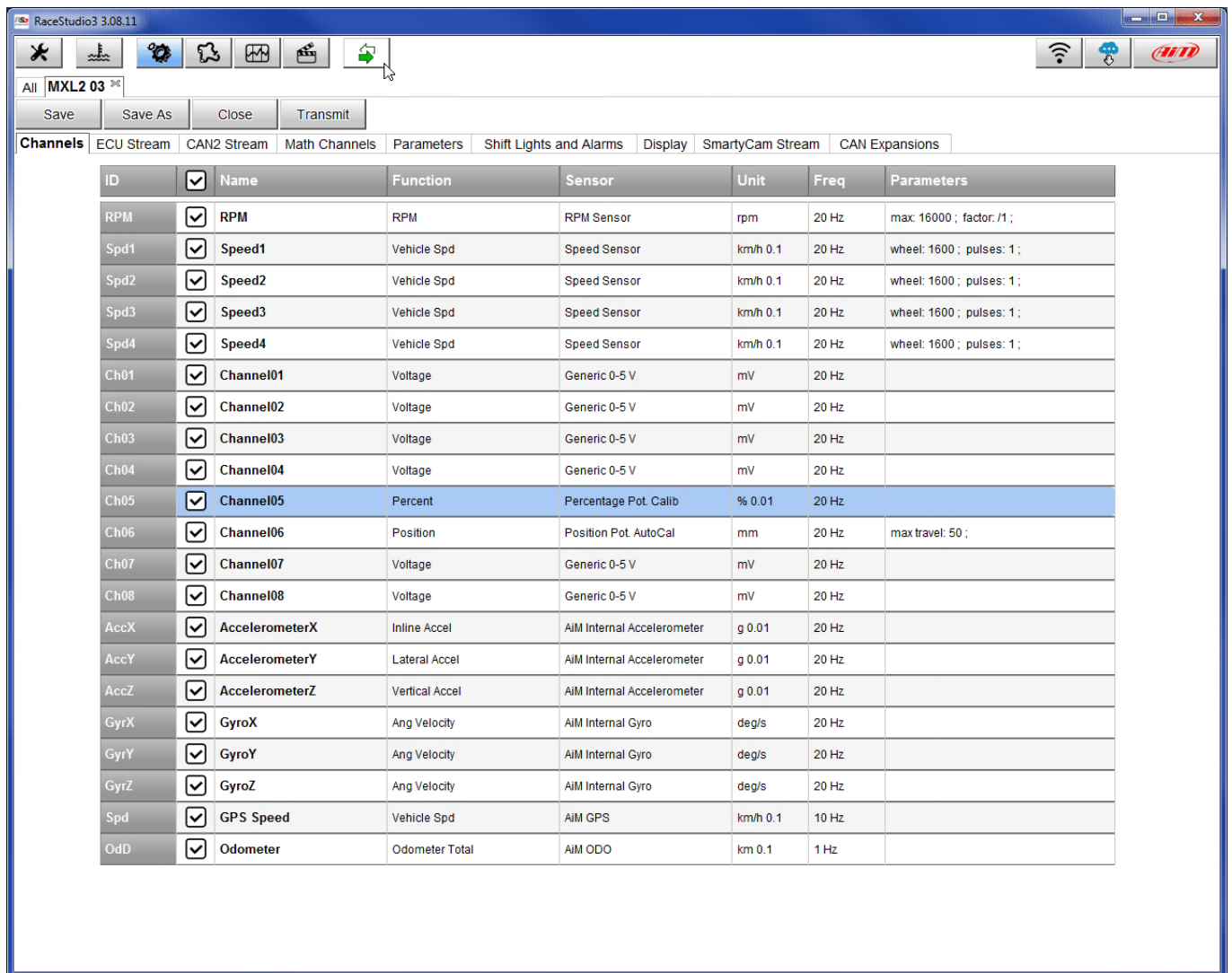


The screenshot shows the RaceStudio3 3.08.11 software interface. The top toolbar includes buttons for Save, Save As, Close, and Transmit. The 'Channels' tab is selected, displaying a table of configured channels. The 'Transmit' button is highlighted in red. The table lists various sensors and channels, with Channel05 (Percent) highlighted in blue and a red box around it.

ID	<input checked="" type="checkbox"/>	Name	Function	Sensor	Unit	Freq	Parameters
RPM	<input checked="" type="checkbox"/>	RPM	RPM	RPM Sensor	rpm	20 Hz	max: 16000 ; factor: /1 ;
Spd1	<input checked="" type="checkbox"/>	Speed1	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Spd2	<input checked="" type="checkbox"/>	Speed2	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Spd3	<input checked="" type="checkbox"/>	Speed3	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Spd4	<input checked="" type="checkbox"/>	Speed4	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Ch01	<input checked="" type="checkbox"/>	Channel01	Voltage	Generic 0-5 V	mV	20 Hz	
Ch02	<input checked="" type="checkbox"/>	Channel02	Voltage	Generic 0-5 V	mV	20 Hz	
Ch03	<input checked="" type="checkbox"/>	Channel03	Voltage	Generic 0-5 V	mV	20 Hz	
Ch04	<input checked="" type="checkbox"/>	Channel04	Voltage	Generic 0-5 V	mV	20 Hz	
Ch05	<input checked="" type="checkbox"/>	Channel05	Percent	Percentage Pot. Calib	% 0.01	20 Hz	
Ch06	<input checked="" type="checkbox"/>	Channel06	Position	Position Pot. AutoCal	mm	20 Hz	max travel: 50 ;
Ch07	<input checked="" type="checkbox"/>	Channel07	Voltage	Generic 0-5 V	mV	20 Hz	
Ch08	<input checked="" type="checkbox"/>	Channel08	Voltage	Generic 0-5 V	mV	20 Hz	
AccX	<input checked="" type="checkbox"/>	AccelerometerX	Inline Accel	AIM Internal Accelerometer	g 0.01	20 Hz	
AccY	<input checked="" type="checkbox"/>	AccelerometerY	Lateral Accel	AIM Internal Accelerometer	g 0.01	20 Hz	
AccZ	<input checked="" type="checkbox"/>	AccelerometerZ	Vertical Accel	AIM Internal Accelerometer	g 0.01	20 Hz	
GyrX	<input checked="" type="checkbox"/>	GyroX	Ang Velocity	AIM Internal Gyro	deg/s	20 Hz	
GyrY	<input checked="" type="checkbox"/>	GyroY	Ang Velocity	AIM Internal Gyro	deg/s	20 Hz	
GyrZ	<input checked="" type="checkbox"/>	GyroZ	Ang Velocity	AIM Internal Gyro	deg/s	20 Hz	
Spd	<input checked="" type="checkbox"/>	GPS Speed	Vehicle Spd	AIM GPS	km/h 0.1	10 Hz	
OdD	<input checked="" type="checkbox"/>	Odometer	Odometer Total	AIM ODO	km 0.1	1 Hz	

To calibrate the potentiometer:

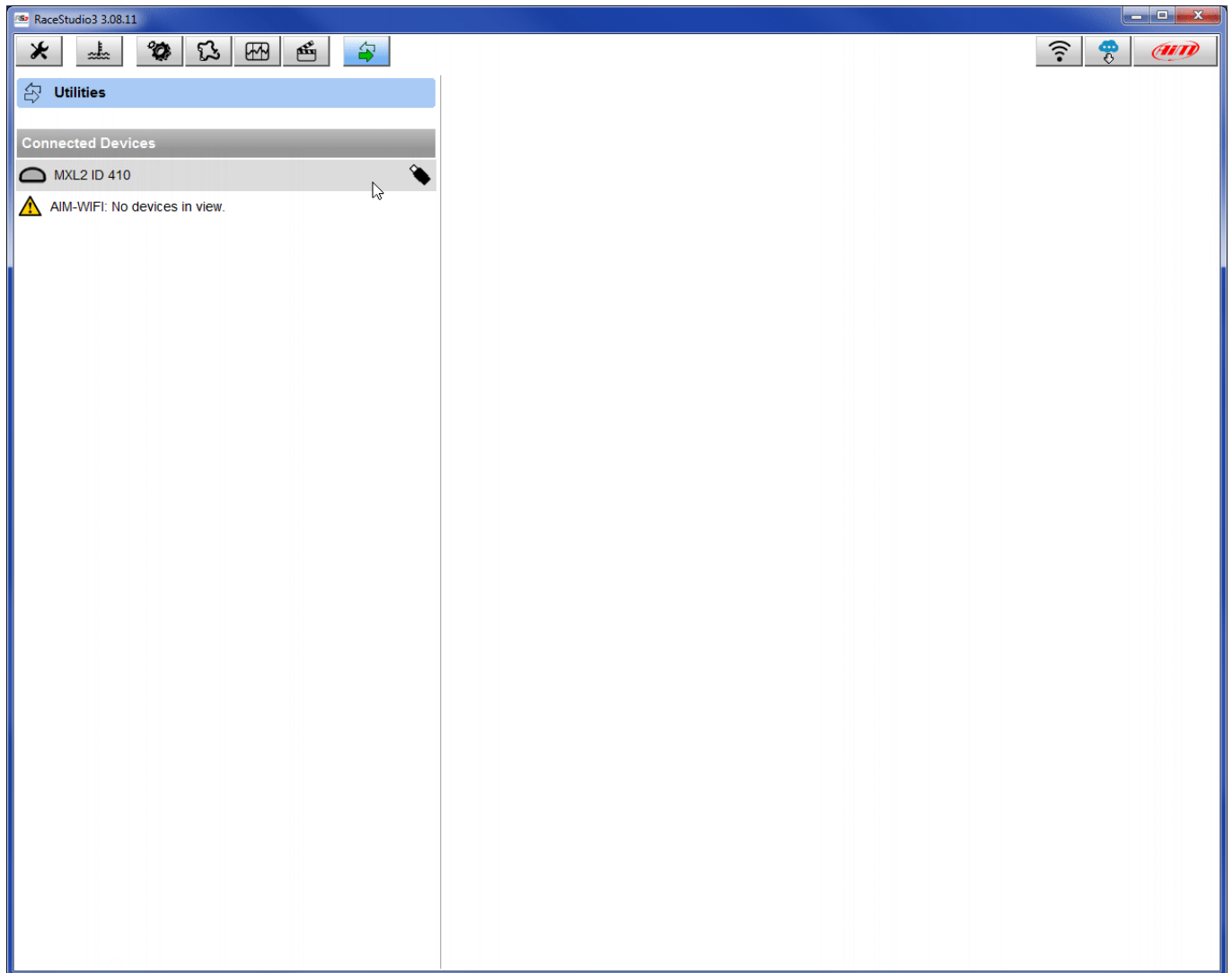
- press "Device" on the top keyboard



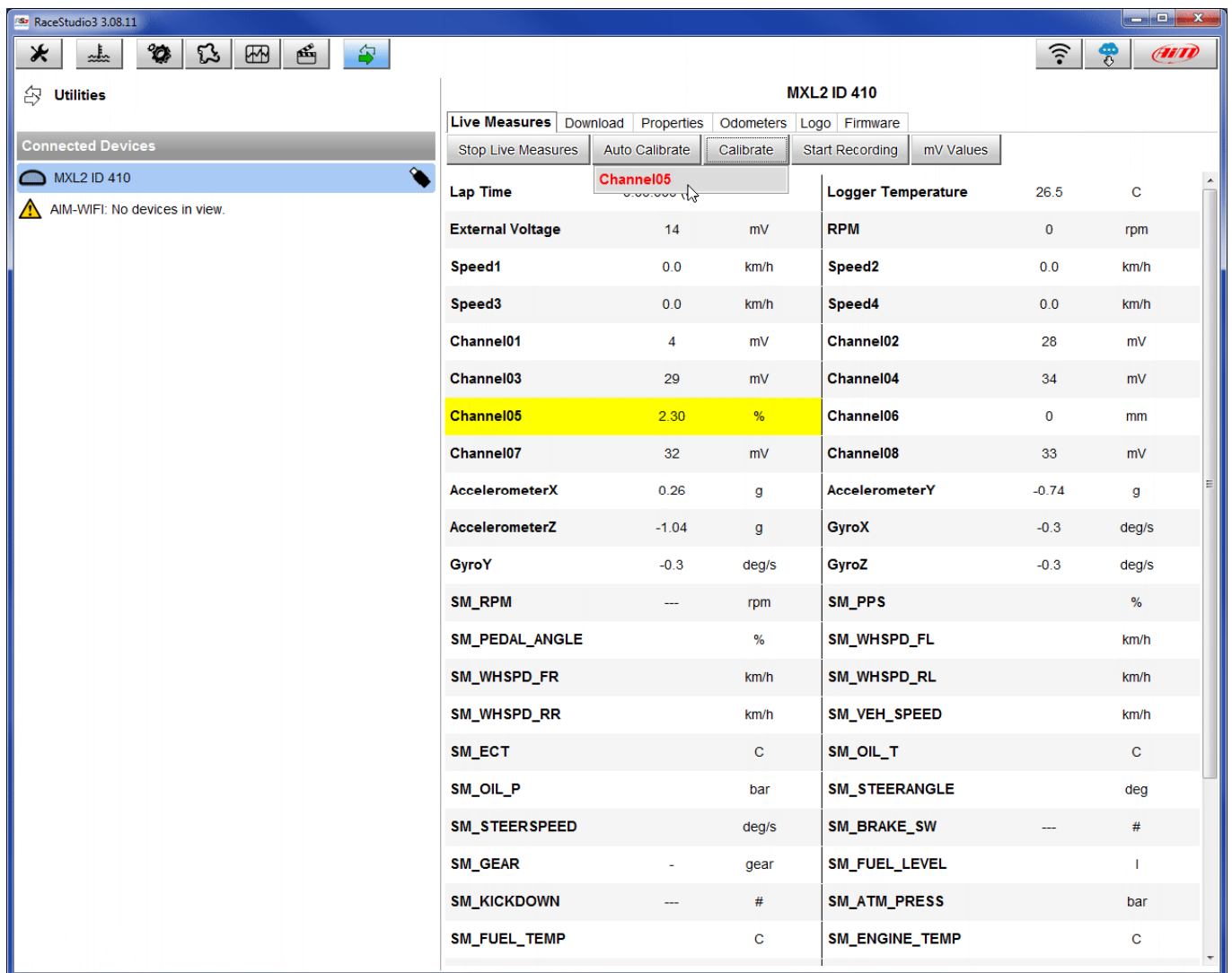
The screenshot shows the RaceStudio3 3.08.11 interface. The top toolbar has a green arrow icon (Device) highlighted. The 'Channels' tab is active, displaying a list of channels with columns: ID, Name, Function, Sensor, Unit, Freq, and Parameters.

ID	<input checked="" type="checkbox"/>	Name	Function	Sensor	Unit	Freq	Parameters
RPM	<input checked="" type="checkbox"/>	RPM	RPM	RPM Sensor	rpm	20 Hz	max: 16000 ; factor: /1 ;
Spd1	<input checked="" type="checkbox"/>	Speed1	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Spd2	<input checked="" type="checkbox"/>	Speed2	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Spd3	<input checked="" type="checkbox"/>	Speed3	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Spd4	<input checked="" type="checkbox"/>	Speed4	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600 ; pulses: 1 ;
Ch01	<input checked="" type="checkbox"/>	Channel01	Voltage	Generic 0-5 V	mV	20 Hz	
Ch02	<input checked="" type="checkbox"/>	Channel02	Voltage	Generic 0-5 V	mV	20 Hz	
Ch03	<input checked="" type="checkbox"/>	Channel03	Voltage	Generic 0-5 V	mV	20 Hz	
Ch04	<input checked="" type="checkbox"/>	Channel04	Voltage	Generic 0-5 V	mV	20 Hz	
Ch05	<input checked="" type="checkbox"/>	Channel05	Percent	Percentage Pot. Calib	% 0.01	20 Hz	
Ch06	<input checked="" type="checkbox"/>	Channel06	Position	Position Pot. AutoCal	mm	20 Hz	max travel: 50 ;
Ch07	<input checked="" type="checkbox"/>	Channel07	Voltage	Generic 0-5 V	mV	20 Hz	
Ch08	<input checked="" type="checkbox"/>	Channel08	Voltage	Generic 0-5 V	mV	20 Hz	
AccX	<input checked="" type="checkbox"/>	AccelerometerX	Inline Accel	AIM Internal Accelerometer	g 0.01	20 Hz	
AccY	<input checked="" type="checkbox"/>	AccelerometerY	Lateral Accel	AIM Internal Accelerometer	g 0.01	20 Hz	
AccZ	<input checked="" type="checkbox"/>	AccelerometerZ	Vertical Accel	AIM Internal Accelerometer	g 0.01	20 Hz	
GyrX	<input checked="" type="checkbox"/>	GyroX	Ang Velocity	AIM Internal Gyro	deg/s	20 Hz	
GyrY	<input checked="" type="checkbox"/>	GyroY	Ang Velocity	AIM Internal Gyro	deg/s	20 Hz	
GyrZ	<input checked="" type="checkbox"/>	GyroZ	Ang Velocity	AIM Internal Gyro	deg/s	20 Hz	
Spd	<input checked="" type="checkbox"/>	GPS Speed	Vehicle Spd	AIM GPS	km/h 0.1	10 Hz	
OdD	<input checked="" type="checkbox"/>	Odometer	Odometer Total	AIM ODO	km 0.1	1 Hz	

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



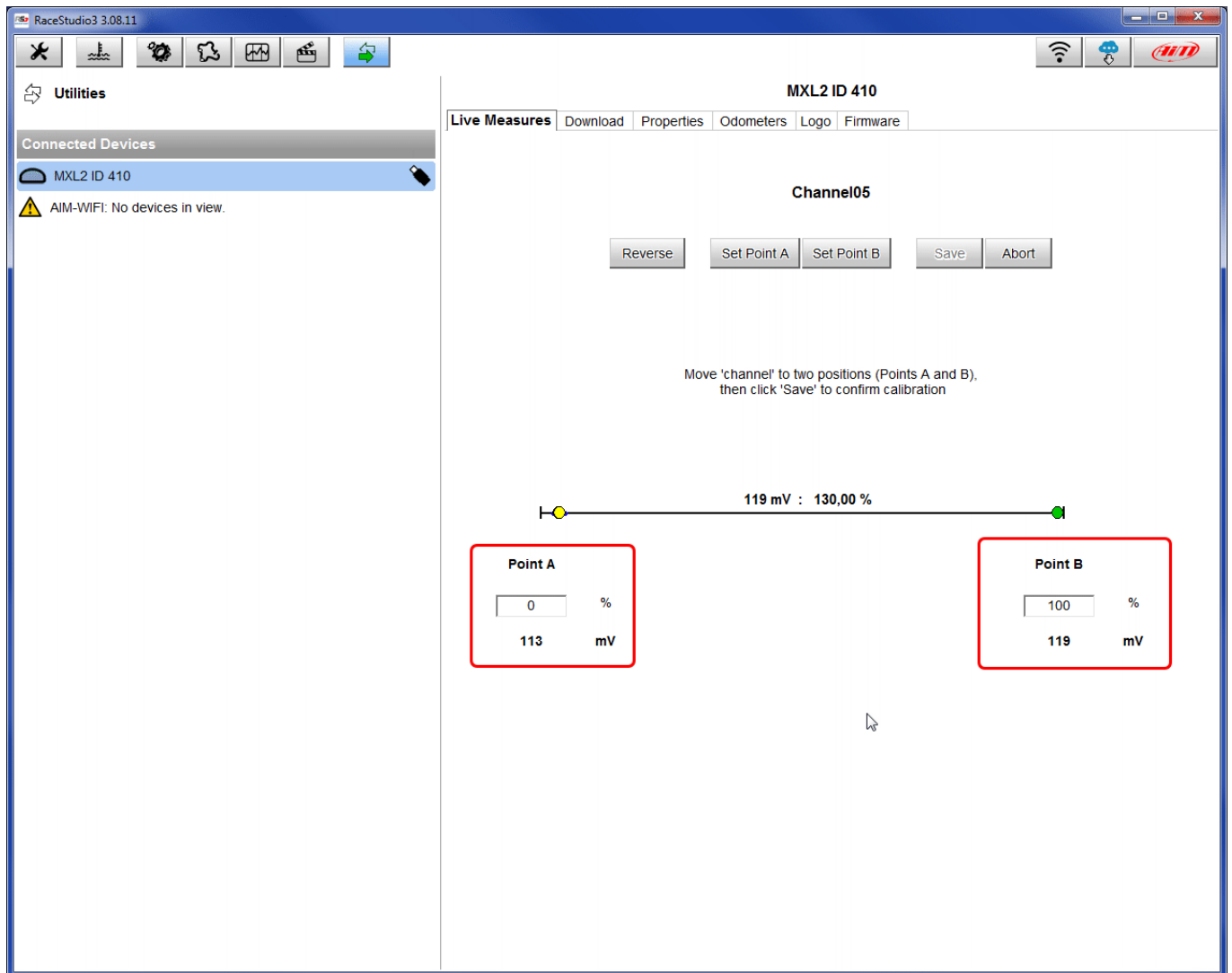
- press "Calibrate";
- the system shows all channels to be calibrated: choose the one where the potentiometer has been set – in the example "Channel 5"



The screenshot shows the RaceStudio3 3.08.11 software interface. On the left, the 'Utilities' panel shows 'Connected Devices' with 'MXL2 ID 410' listed. A warning icon indicates 'AIM-WiFi: No devices in view.' The main window displays the 'MXL2 ID 410' configuration page. The 'Live Measures' tab is active, showing a list of channels to be calibrated. The 'Channel05' row is highlighted in yellow, indicating it is the selected channel for calibration. The 'Calibrate' button is visible in the top right of the main window.

Channel	Value	Unit
Lap Time		
External Voltage	14	mV
Speed1	0.0	km/h
Speed3	0.0	km/h
Channel01	4	mV
Channel03	29	mV
Channel05	2.30	%
Channel07	32	mV
AccelerometerX	0.26	g
AccelerometerZ	-1.04	g
GyroY	-0.3	deg/s
SM_RPM	---	rpm
SM_PEDAL_ANGLE		%
SM_WHSPD_FR		km/h
SM_WHSPD_RR		km/h
SM_ECT		C
SM_OIL_P		bar
SM_STEERSPEED		deg/s
SM_GEAR	-	gear
SM_KICKDOWN	---	#
SM_FUEL_TEMP		C
Logger Temperature	26.5	C
RPM	0	rpm
Speed2	0.0	km/h
Speed4	0.0	km/h
Channel02	28	mV
Channel04	34	mV
Channel06	0	mm
Channel08	33	mV
AccelerometerY	-0.74	g
GyroX	-0.3	deg/s
GyroZ	-0.3	deg/s
SM_PPS		%
SM_WHSPD_FL		km/h
SM_WHSPD_RL		km/h
SM_VEH_SPEED		km/h
SM_OIL_T		C
SM_STEERANGLE		deg
SM_BRAKE_SW	---	#
SM_FUEL_LEVEL		l
SM_ATM_PRESS		bar
SM_ENGINE_TEMP		C

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

Channel05

Reverse Set Point A Set Point B Save Abort

Move 'channel' to two positions (Points A and B), then click 'Save' to confirm calibration

111 mV : -130,00 %

Point A Point B

0 % 130 %

115 mV 119 mV

Channel05

Reverse Set Point A Set Point B Save Abort

Move 'channel' to two positions (Points A and B), then click 'Save' to confirm calibration

5000 mV : 100,02 %

Point A Point B

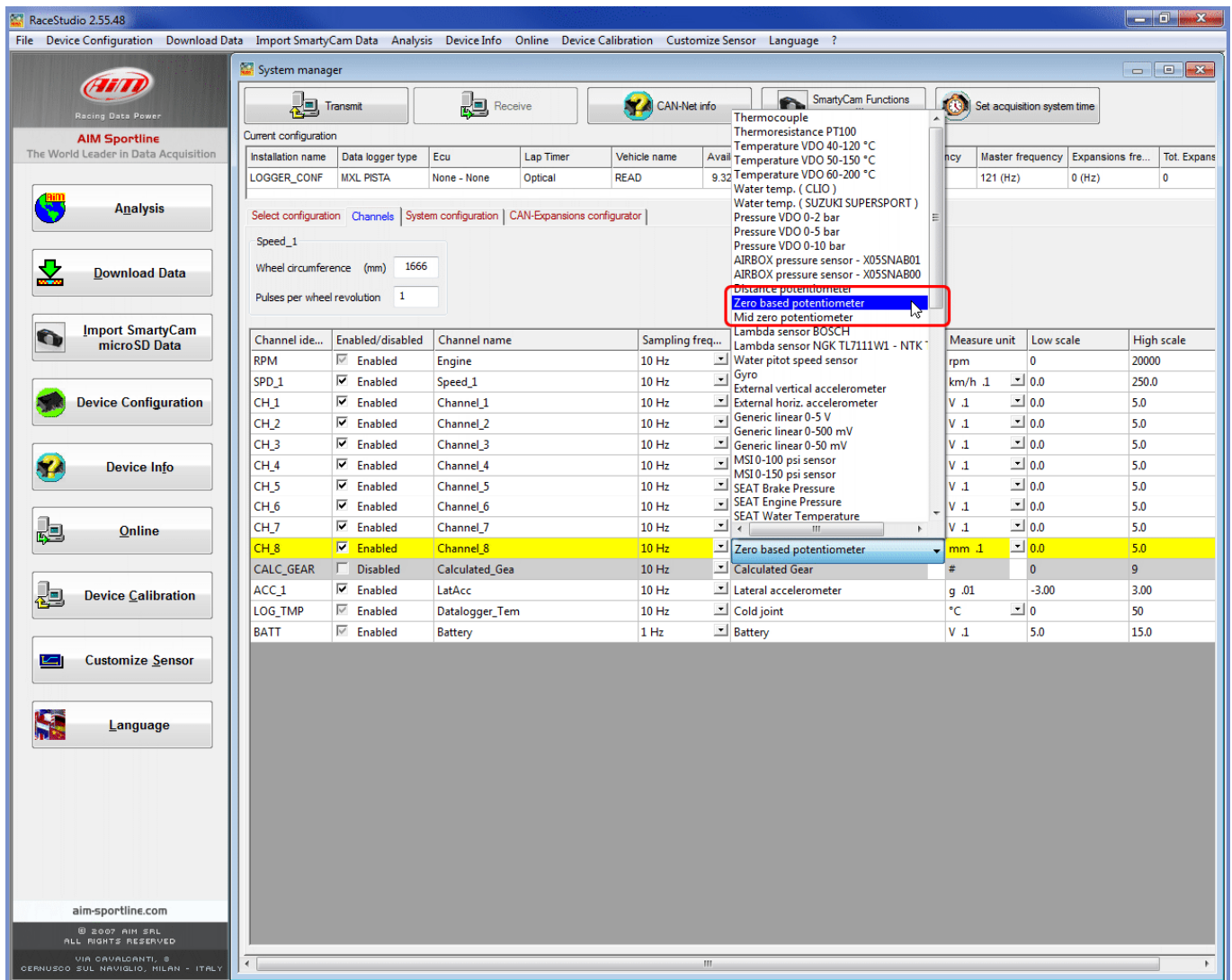
0 % 100 %

111 mV 5000 mV

3.2 Setup with Race Studio 2

To load the potentiometer in AiM logger configuration:

- run the software
- select the logger in use and the configuration to set the potentiometer on
- enter "Channels" layer
- select the channel where to set the potentiometer on (in the example channel 8) and select "Zero based potentiometer" in "Sensor type" column as shown here below.



The screenshot shows the RaceStudio 2.55.48 software interface. The 'Channels' tab is active, displaying a table of configured channels. Channel 8 is highlighted in yellow. A dropdown menu is open for Channel 8, showing various sensor options. The option 'Zero based potentiometer' is highlighted in blue.

Channel id...	Enabled/disabled	Channel name	Sampling freq.	Sensor type	Measure unit	Low scale	High scale
RPM	✓ Enabled	Engine	10 Hz	Lambda sensor BOSCH	rpm	0	20000
SPD_1	✓ Enabled	Speed_1	10 Hz	Water pitot speed sensor	km/h .1	0.0	250.0
CH_1	✓ Enabled	Channel_1	10 Hz	Gyro	V .1	0.0	5.0
CH_2	✓ Enabled	Channel_2	10 Hz	External horiz. accelerometer	V .1	0.0	5.0
CH_3	✓ Enabled	Channel_3	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_4	✓ Enabled	Channel_4	10 Hz	Generic linear 0-500 mV	V .1	0.0	5.0
CH_5	✓ Enabled	Channel_5	10 Hz	Generic linear 0-50 mV	V .1	0.0	5.0
CH_6	✓ Enabled	Channel_6	10 Hz	MSI 0-100 psi sensor	V .1	0.0	5.0
CH_7	✓ Enabled	Channel_7	10 Hz	MSI 0-150 psi sensor	V .1	0.0	5.0
CH_8	✓ Enabled	Channel_8	10 Hz	SEAT Brake Pressure	V .1	0.0	5.0
CALC_GEAR	✗ Disabled	Calculated_Gea	10 Hz	SEAT Engine Pressure	V .1	0.0	5.0
ACC_1	✓ Enabled	LatAcc	10 Hz	SEAT Water Temperature	V .1	0.0	5.0
LOG_TMP	✓ Enabled	Datalogger_Tem	10 Hz	Zero based potentiometer	mm .1	0.0	5.0
BATT	✓ Enabled	Battery	1 Hz	Calculated Gear	#	0	9
	✓ Enabled			Lateral accelerometer	g .01	-3.00	3.00
	✓ Enabled			Cold joint	°C	0	50
	✓ Enabled			Battery	V .1	5.0	15.0



Transmit the configuration to the logger pressing "Transmission".

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Analysis
Download Data
Import SmartyCam microSD Data
Device Configuration
Device Info
Online
Device Calibration
Customize Sensor
Language

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System manager

Transmit Receive CAN-Net info SmartyCam Functions setting Set acquisition system time

Current configuration

Installation name	Data logger type	Ecu	Lap Timer	Vehicle name	Available time	Time with GPS	Total frequency	Master frequency	Expansions fre...	Tot. Expans
LOGGER_CONF	MXL PISTA	None - None	Optical	READ	9.32.39 (h.m.s)	4.06.35 (h.m.s)	121 (Hz)	121 (Hz)	0 (Hz)	0

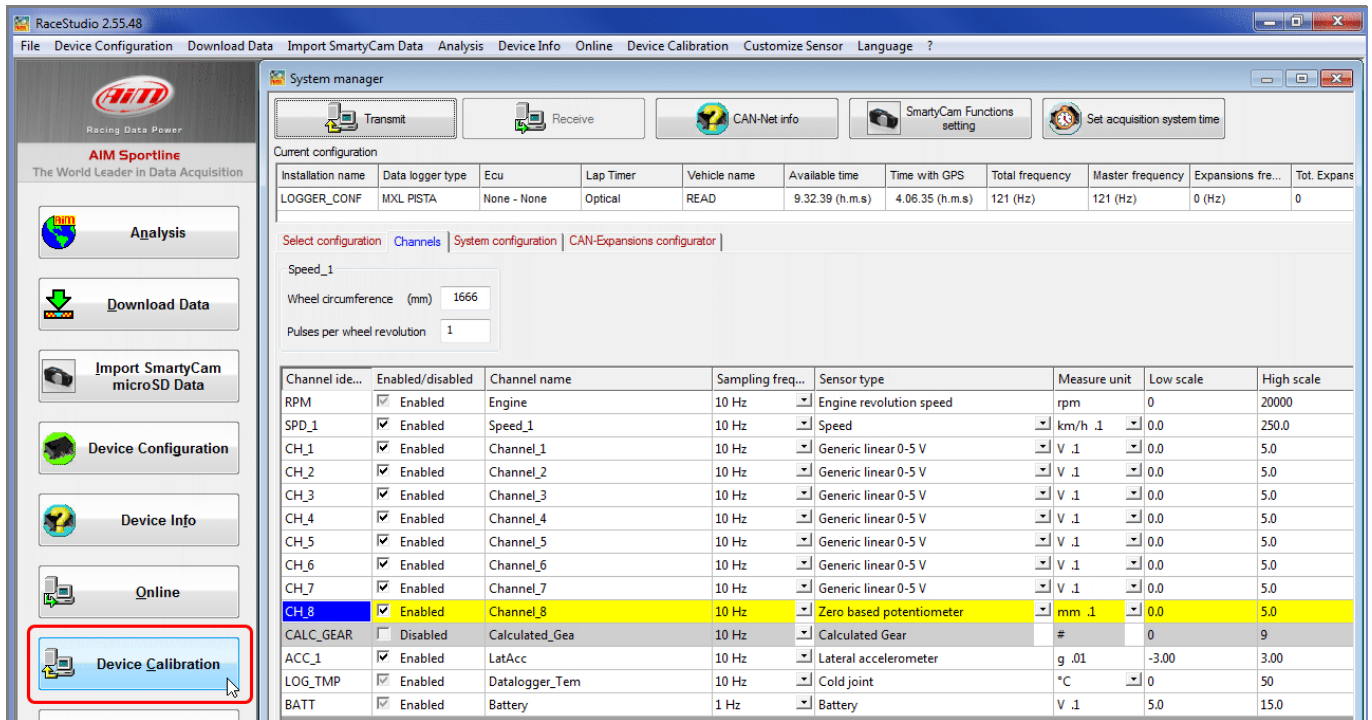
Select configuration Channels System configuration CAN-Expansions configurator

Speed_1
Wheel circumference (mm) 1666
Pulses per wheel revolution 1

Channel ide...	Enabled/disabled	Channel name	Sampling freq...	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 .1	0.0	250.0
CH_1	<input checked="" type="checkbox"/> Enabled	Channel_1	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_2	<input checked="" type="checkbox"/> Enabled	Channel_2	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_3	<input checked="" type="checkbox"/> Enabled	Channel_3	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_4	<input checked="" type="checkbox"/> Enabled	Channel_4	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_5	<input checked="" type="checkbox"/> Enabled	Channel_5	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_6	<input checked="" type="checkbox"/> Enabled	Channel_6	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_7	<input checked="" type="checkbox"/> Enabled	Channel_7	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_8	<input checked="" type="checkbox"/> Enabled	Channel_8	10 Hz	Zero based potentiometer	mm .1	0.0	5.0
CALC_GEAR	<input type="checkbox"/> Disabled	Calculated_Gea	10 Hz	Calculated Gear	#	0	9
ACC_1	<input checked="" type="checkbox"/> Enabled	LatAcc	10 Hz	Lateral accelerometer	g .01	-3.00	3.00
LOG_TMP	<input checked="" type="checkbox"/> Enabled	Datalogger_Tem	10 Hz	Cold joint	°C	0	50
BATT	<input checked="" type="checkbox"/> Enabled	Battery	1 Hz	Battery	V .1	5.0	15.0

To calibrate the potentiometer:

- Press "Device Calibration"



The screenshot shows the RaceStudio 2.55.48 software interface. The left sidebar contains several buttons: Analysis, Download Data, Import SmartyCam microSD Data, Device Configuration, Device Info, Online, and Device Calibration. The Device Calibration button is highlighted with a red rectangle. The main window displays the System manager configuration page, which includes a table of current configuration settings and a list of channels.

Current configuration

Installation name	Data logger type	Ecu	Lap Timer	Vehicle name	Available time	Time with GPS	Total frequency	Master frequency	Expansions fre...	Tot. Expans
LOGGER_CONF	MXL PISTA	None - None	Optical	READ	9:32:39 (h.m.s)	4:06:35 (h.m.s)	121 (Hz)	121 (Hz)	0 (Hz)	0

Select configuration | Channels | System configuration | CAN-Expansions configurator

Speed_1

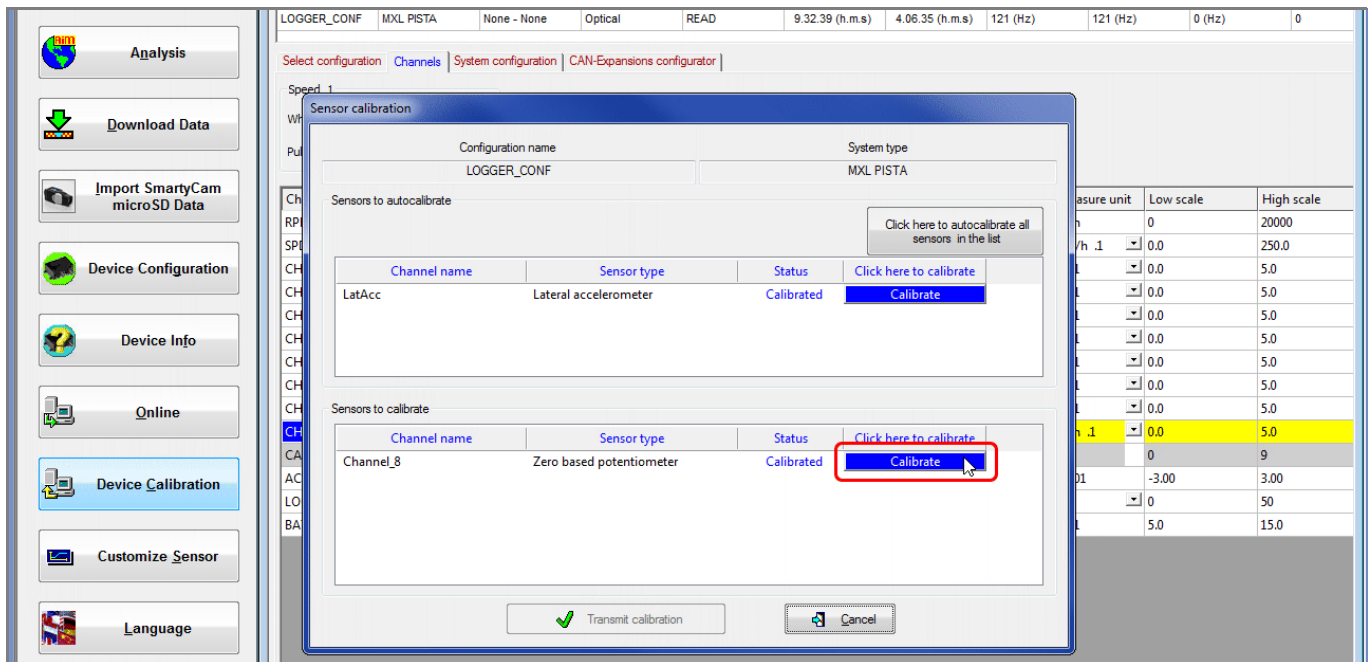
Wheel circumference (mm) 1666

Pulses per wheel revolution 1

Channel id...	Enabled/disabled	Channel name	Sampling freq...	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 .1	0.0	250.0
CH_1	<input checked="" type="checkbox"/> Enabled	Channel_1	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_2	<input checked="" type="checkbox"/> Enabled	Channel_2	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_3	<input checked="" type="checkbox"/> Enabled	Channel_3	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_4	<input checked="" type="checkbox"/> Enabled	Channel_4	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_5	<input checked="" type="checkbox"/> Enabled	Channel_5	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_6	<input checked="" type="checkbox"/> Enabled	Channel_6	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_7	<input checked="" type="checkbox"/> Enabled	Channel_7	10 Hz	Generic linear 0-5 V	V .1	0.0	5.0
CH_8	<input checked="" type="checkbox"/> Enabled	Channel_8	10 Hz	Zero based potentiometer	mm .1	0.0	5.0
CALC_GEAR	<input type="checkbox"/> Disabled	Calculated_Gea	10 Hz	Calculated Gear	#	0	9
ACC_1	<input checked="" type="checkbox"/> Enabled	LatAcc	10 Hz	Lateral accelerometer	g .01	-3.00	3.00
LOG_TMP	<input checked="" type="checkbox"/> Enabled	Datalogger_Tem	10 Hz	Cold joint	°C	0	50
BATT	<input checked="" type="checkbox"/> Enabled	Battery	1 Hz	Battery	V .1	5.0	15.0

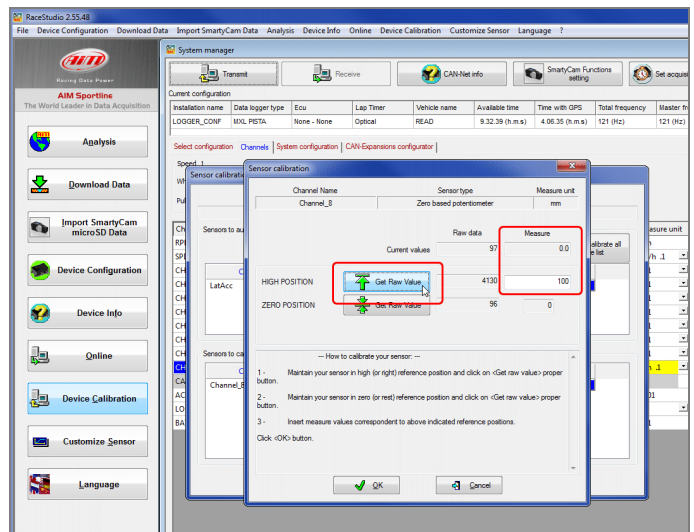
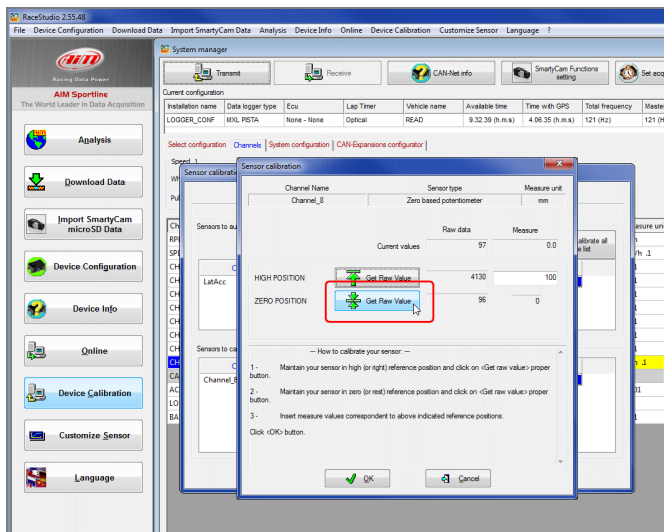
Calibration panel shows up:

- Press "Calibrate" button of "Zero based potentiometer"



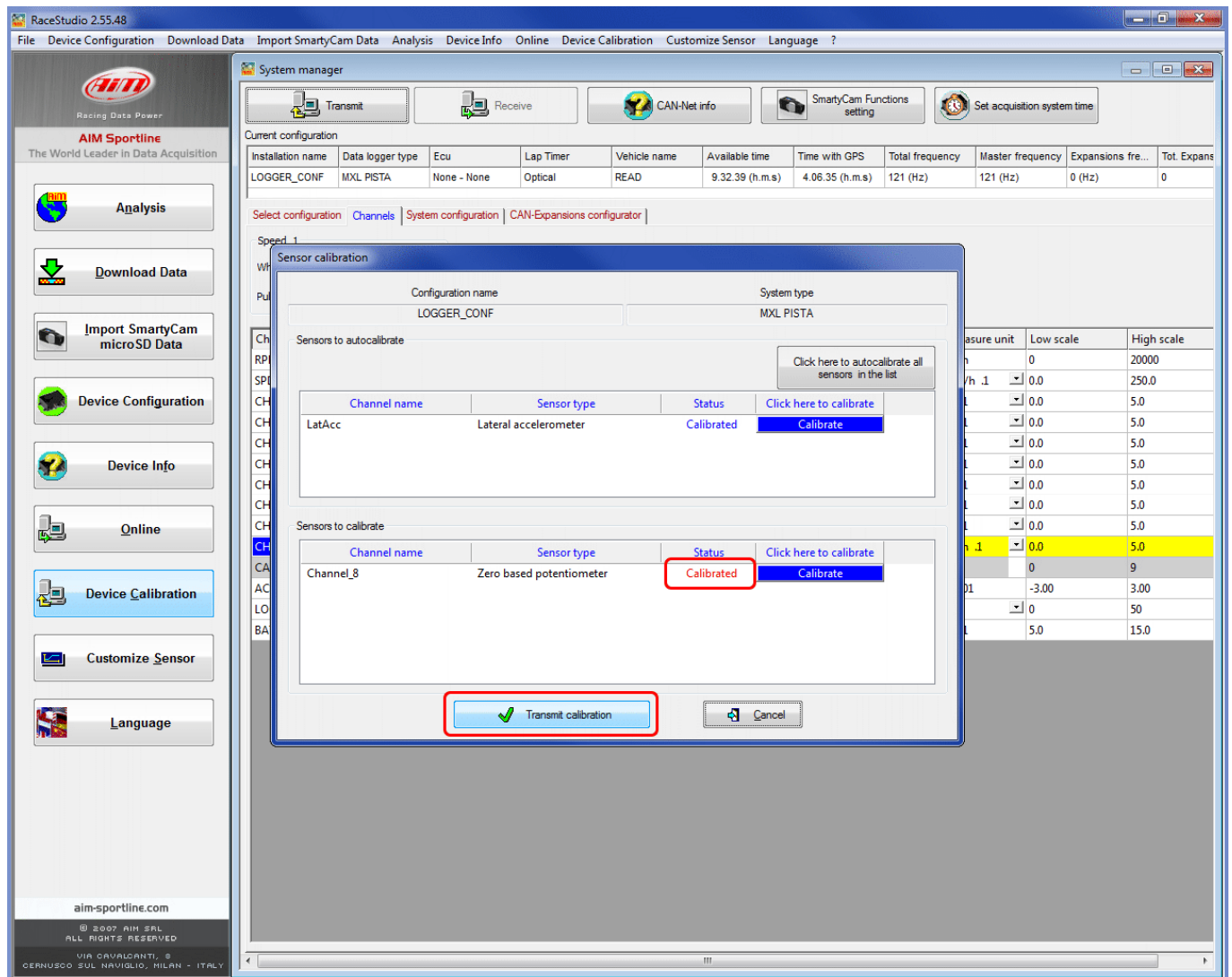
To learn the calibration points the software shows the related panel:

- with the throttle in its zero position press "Get raw value" corresponding to zero position (image here below on the left)
- with the throttle in its high position press "Get raw value" corresponding to high position, fill in the reference value in the related cells highlighted here below on the right
 - "0" for zero position
 - "100" for high position
- press "OK"



When calibration is over potentiometer status will turn to "Calibrated" and become red:

- Transmit the calibration to the logger pressing "Transmit Calibration"



The screenshot shows the RaceStudio 2.55.48 software interface. The main window displays the 'System manager' tab, which includes a table of current configuration parameters and a 'Sensor calibration' dialog box.

Current configuration table:

Installation name	Data logger type	Ecu	Lap Timer	Vehicle name	Available time	Time with GPS	Total frequency	Master frequency	Expansions fre...	Tot. Expans
LOGGER_CONF	MXL PISTA	None - None	Optical	READ	9.32.39 (h.m.s)	4.06.35 (h.m.s)	121 (Hz)	121 (Hz)	0 (Hz)	0

Sensor calibration dialog box:

Configuration name: **LOGGER_CONF** System type: **MXL PISTA**

Sensors to autocalibrate:

Channel name	Sensor type	Status	Click here to calibrate
LatAcc	Lateral accelerometer	Calibrated	Calibrate

Sensors to calibrate:

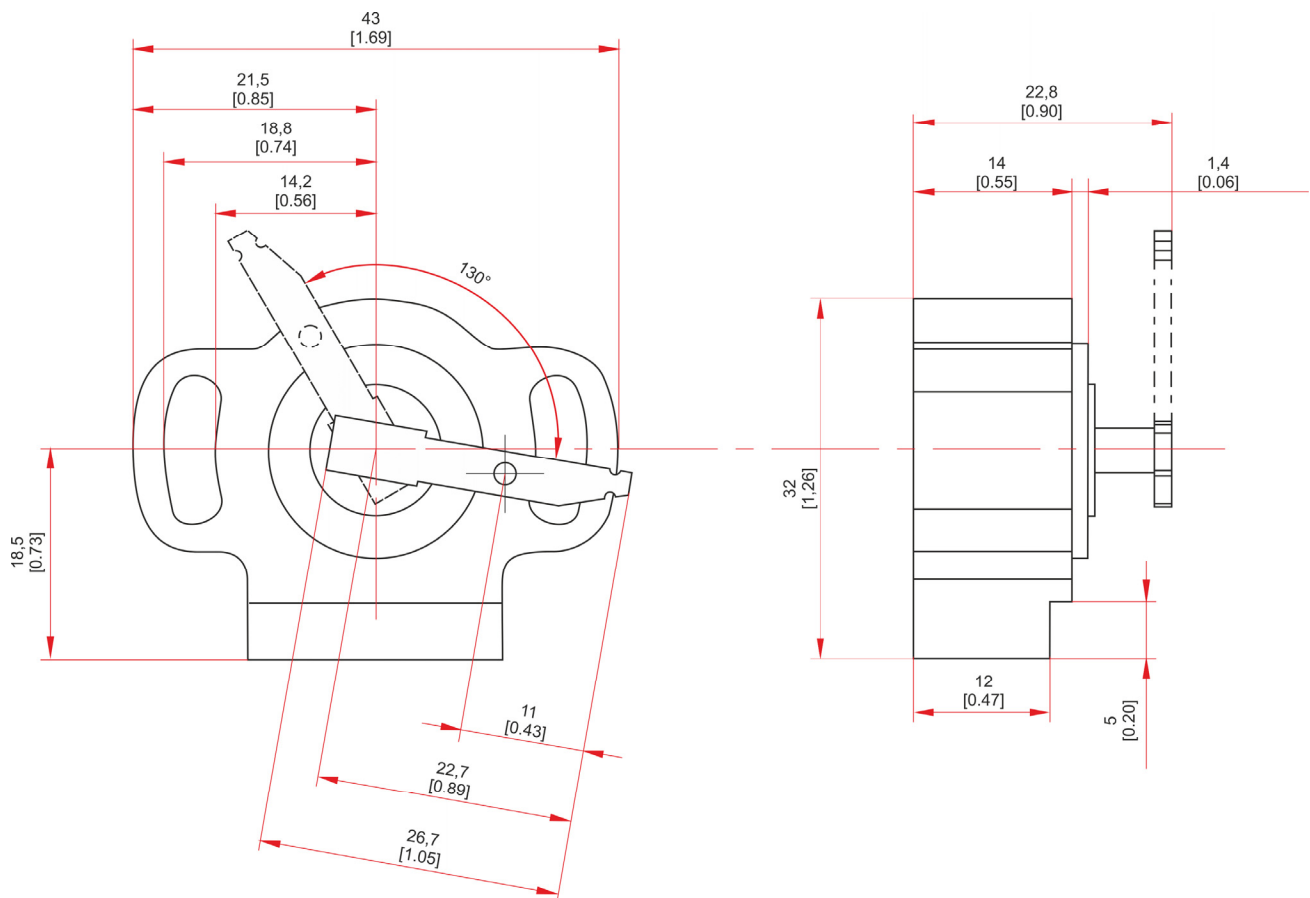
Channel name	Sensor type	Status	Click here to calibrate
Channel_8	Zero based potentiometer	Calibrated	Calibrate

The 'Calibrated' status is highlighted in red in the original image. At the bottom of the dialog box, there is a 'Transmit calibration' button with a green checkmark, which is also highlighted with a red box.

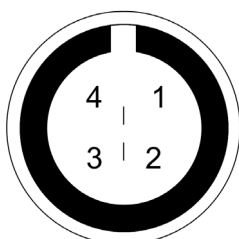
4

Dimensions, pinout and technical characteristics

The drawing here below shows the throttle potentiometer dimensions in mm [inches].



The potentiometer cable ends with a 4 pins Binder 719 male plastic connector. The image here below shows the connector pinout from solder termination view.



Binder connector pin

Function

1	Analog signal 0-5 V
2	GND
3	Not connected
4	Vreference (4.5V)

The potentiometer **electrical characteristics** are:

- nominal resistance: 5k Ω linear
- tolerance $\pm 20\%$
- linearity $\pm 2\%$
- electrical displacement 106°

The potentiometer **mechanical characteristics** are:

- mechanical displacement 130°
- fatigue life 10⁶ complete cycles
- cable length 240 mm

5

Extension cables

The potentiometer comes with a 24 cm cable and standard lengths extension cables are available as optional; it is also possible to ask for specific length extension cables. Extension cables part numbers change according to their length and to the device the sensor is to be connected to.

Please note: extension cables are mandatory for connection with AiM Channel Expansion and EVO4.

Extension cable for connection with:

- Channel Expansion
- EVO4

Part numbers:

- V02PCB05BTXG** – cable length: 500mm
- V02PCB10BTXG** – cable length: 1000mm
- V02PCB15BTXG** – cable length: 1500mm
- V02PCB20BTXG** – cable length: 2000mm
- V02PCB25BTXG** – cable length: 2500mm
- V02PCB30BTXG** – cable length: 3000mm



Extension cable for connection with:

- MXG
- MXS
- MXL2
- EVO5
- MXL Strada
- MXL Pista
- MXL Pro05

Part numbers:

V02PCB05B – cable length: 500mm

V02PCB10B – cable length: 1000mm

V02PCB15B – cable length: 1500mm

V02PCB20B – cable length: 2000mm

V02PCB25B – cable length: 2500mm

V02PCB30B – cable length: 3000mm

