

AiM Infotech

AiM Eclipse  
Car/bike linear  
potentiometer  
Race Studio 3 configuration

Release 1.00

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# 1

## Introduction

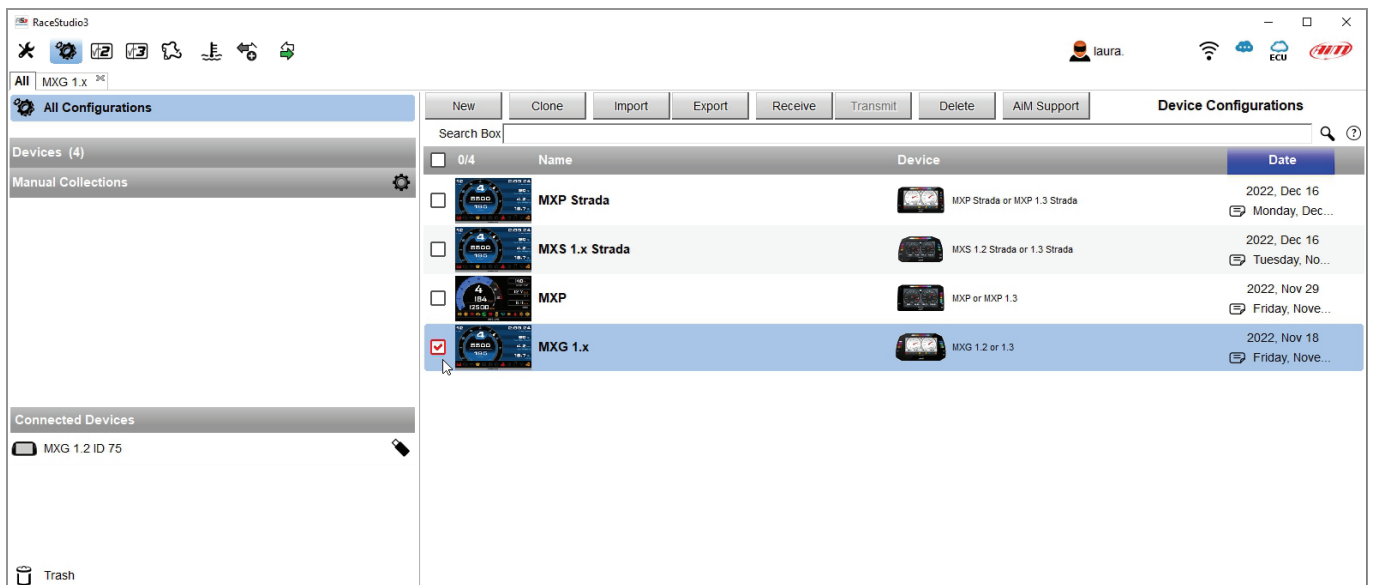
AiM Eclipse car/bike linear potentiometer is supported by AiM Race Studio 3 configuration software only – the previous Race Studio 2 software does not support it – and can measure the dampers compression or extension as well as the steering rotation measured through the rack displacement. In this datasheet you will:

- load it in the logger configuration using **Race Studio 3**
- use it to measure **dampers** compression or extension

# 2

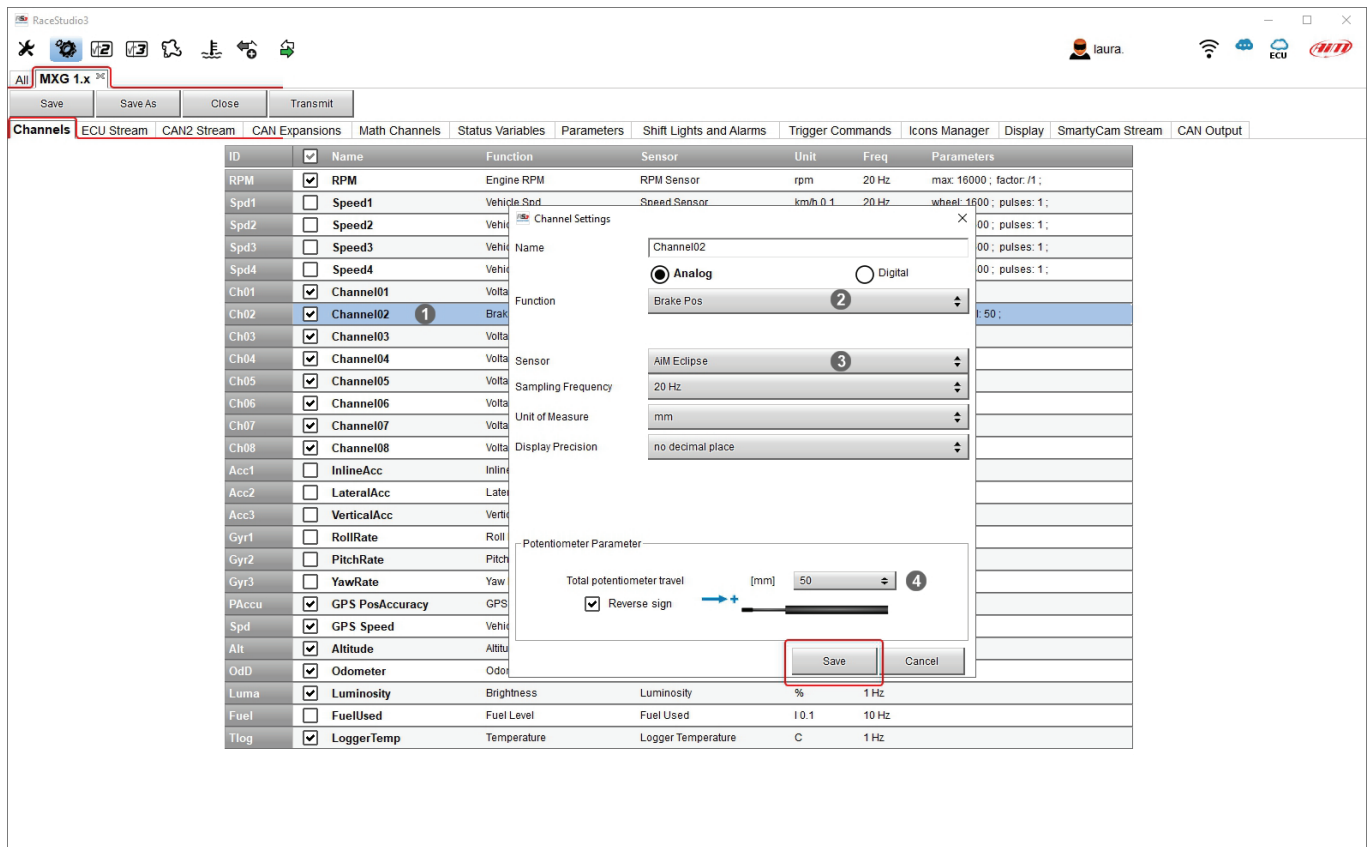
## Setup with Race Studio 3

To load the potentiometer in the logger configuration, with the logger switched on and connected to the PC, run the software and select the configuration you are going to load it on double clicking on it.



The software enters "Channels" tab of the selected configuration (in the example MXG 1.x).

- Select the channel where to set the potentiometer on – in the example Channel 2 (1) and fill in the panel that is prompted; Name: you can name the channel (in the example named "Channel02").
  - Function: select "Position" and then choose one among these options:
    - Throttle Pos
    - Brake Pos – as in the example (2)
    - Clutch Pos
    - Shock Pos
    - Position
  - Sensor: select "AiM Eclipse" in the drop down menu (3); this implies that the potentiometer will need to be calibrated as shown in the following pages
  - Fill in the other fields
  - Choose the potentiometer you are using – 50 in the example (4):
  - enable "Reverse sign" checkbox if needed
- Click "Save"





When the software comes back to "Channels" tab the potentiometer has been set on the selected channel as shown here below: transmit the configuration to the logger pressing "Transmit" on the top keyboard.

The screenshot shows the RaceStudio3 software interface. At the top, there is a toolbar with various icons and a user profile for 'laura'. Below the toolbar is a menu bar with options: Save, Save As, Close, and Transmit. The 'Transmit' button is highlighted with a red box. Below the menu bar is a tabbed interface with the following tabs: Channels, ECU Stream, CAN2 Stream, CAN Expansions, Math Channels, Status Variables, Parameters, Shift Lights and Alarms, Trigger Commands, Icons Manager, Display, SmartyCam Stream, and CAN Output. The 'Channels' tab is active, displaying a table of sensor configurations. The table has columns for ID, Name, Function, Sensor, Unit, Freq, and Parameters. The 'Channel02' row is highlighted in blue, and its 'Name' and 'Parameters' cells are also highlighted with a red box. The 'Transmit' button in the toolbar is also highlighted with a red box.

ID	Name	Function	Sensor	Unit	Freq	Parameters
RPM	<input type="checkbox"/> RPM	Engine RPM	RPM Sensor	rpm	20 Hz	max: 16000; factor: /1;
Spd1	<input type="checkbox"/> Speed1	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600; pulses: 1;
Spd2	<input type="checkbox"/> Speed2	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600; pulses: 1;
Spd3	<input type="checkbox"/> Speed3	Vehicle Spd	Speed Sensor	km/h 0.1	20 Hz	wheel: 1600; pulses: 1;
Spd4	<input 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	Brake Pos	AIM Eclipse	mm	20 Hz	max travel: 50;
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	Voltage	Generic 0-5 V	mV	20 Hz	
Ch06	<input checked="" type="checkbox"/> Channel06	Voltage	Generic 0-5 V	mV	20 Hz	
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	
Acc1	<input type="checkbox"/> InlineAcc	Inline Accel	Internal Accelerometer	g 0.01	50 Hz	
Acc2	<input type="checkbox"/> LateralAcc	Lateral Accel	Internal Accelerometer	g 0.01	50 Hz	
Acc3	<input type="checkbox"/> VerticalAcc	Vertical Accel	Internal Accelerometer	g 0.01	50 Hz	
Gyr1	<input checked="" type="checkbox"/> RollRate	Roll Rate	Internal Gyro	deg/s 0.1	50 Hz	
Gyr2	<input checked="" type="checkbox"/> PitchRate	Pitch Rate	Internal Gyro	deg/s 0.1	50 Hz	
Gyr3	<input checked="" type="checkbox"/> YawRate	Yaw Rate	Internal Gyro	deg/s 0.1	50 Hz	
PAccu	<input checked="" type="checkbox"/> GPS PosAccuracy	GPS Accuracy	GPS	m 0.01	10 Hz	
Spd	<input checked="" type="checkbox"/> GPS Speed	Vehicle Spd	GPS	km/h 0.1	10 Hz	
Alt	<input checked="" type="checkbox"/> Altitude	Altitude	GPS	m	10 Hz	
OdD	<input checked="" type="checkbox"/> Odometer	Odometer Total	Odometer	km 0.1	1 Hz	
Luma	<input checked="" type="checkbox"/> Luminosity	Brightness	Luminosity	%	1 Hz	
Fuel	<input type="checkbox"/> FuelUsed	Fuel Level	Fuel Used	l 0.1	10 Hz	
Tlog	<input checked="" type="checkbox"/> LoggerTemp	Temperature	Logger Temperature	C	1 Hz	

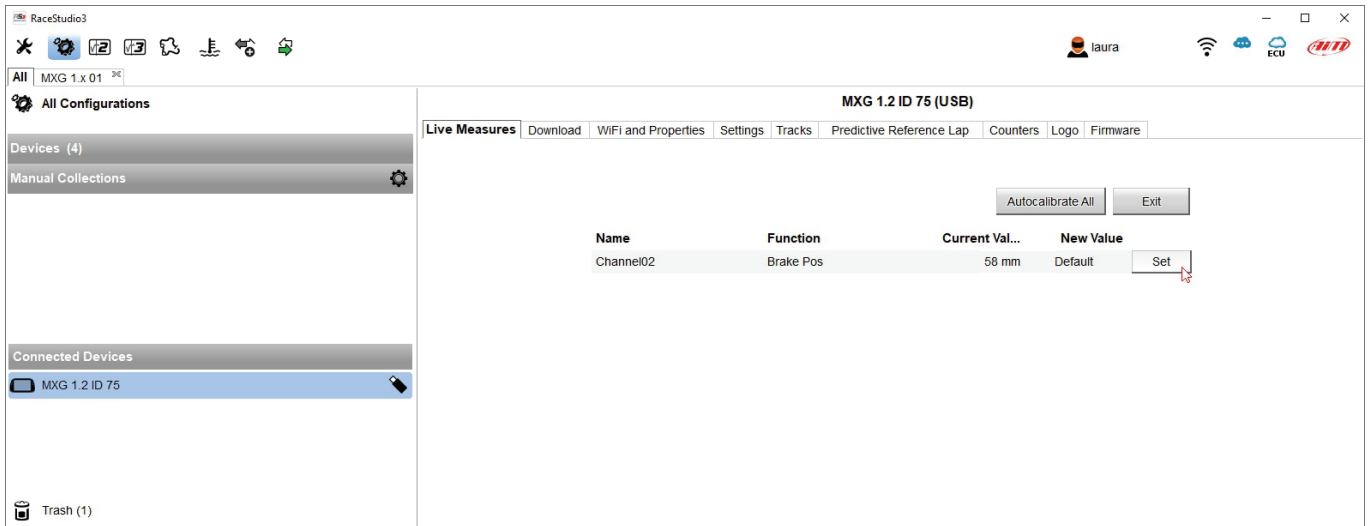
To calibrate the potentiometer:

- enter "All" tab
- select the logger – in the example MXG 1.2 ID 75
- in "Live Measures" tab, keeping the potentiometer in its zero position, select the channel where the potentiometer has been set – in the example Channel 2
- press "Auto calibrate" icon on the keyboard top left of the tab

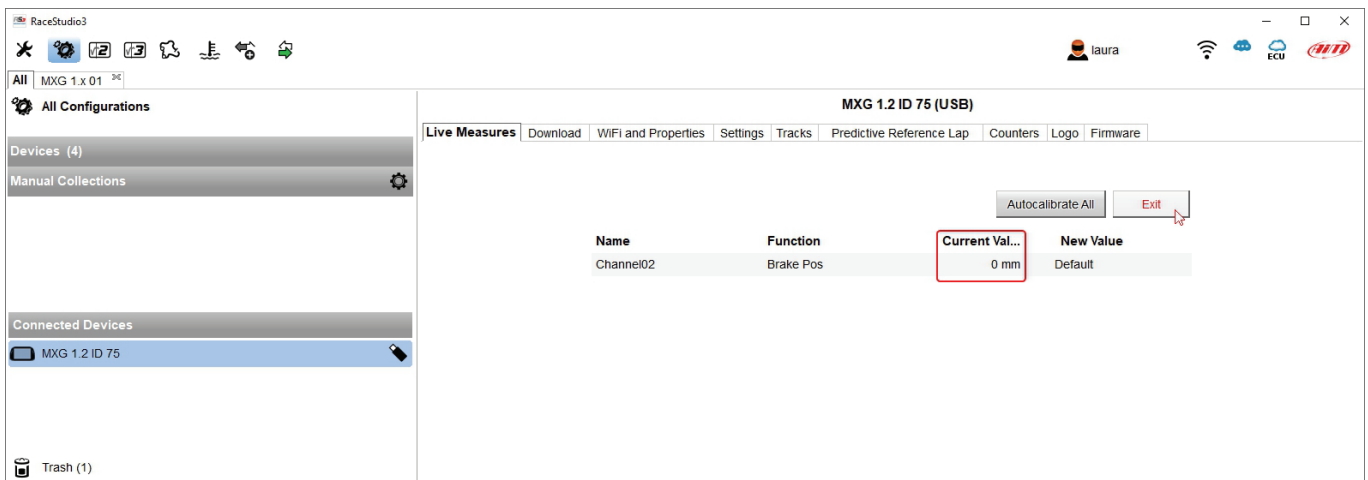
The screenshot shows the RaceStudio3 interface with the 'Live Measures' tab selected for the device 'MXG 1.2 ID 75 (USB)'. The 'All' tab is highlighted in the top left, and the 'Auto calibrate' icon is circled in red. A yellow box highlights 'Channel02' with a value of '58 mm'. The main data table is as follows:

Master			
Channel02	58 mm	Channel03	-110 mV
Channel07	-113 mV	Channel04	-114 mV
Channel08	-111 mV	Channel05	-115 mV
External Voltage	13.3 V	Channel06	-113 mV
Luminosity	1 %		
Calculated channels			
Predictive Time	--	Best Run Diff	--
GPS channels			
emptyGPS	No GPS	GPS - Longitude	0.000000 E deg
GPS - Altitude	0.00 m	GPS - Pos Acc...	0.00 m
GPS - Latitude	90.000000 N deg	GPS - Sat Num...	0
GPS - Spd Acc...	0.0 m/s	GPS - Speed	0.0 km/h
Lap channels			
Lap - Lap Num...	0	Lap - Split Nu...	0
Lap - Run Num...	0	Lap - Split Time	0:00.000
Lap Time	0:00.000		

Keeping the potentiometer in its "zero" position press "Set".



The software saves this as the potentiometer "Zero" position. Press "Exit".



The sensor is now loaded on the logger configuration and correctly calibrated.