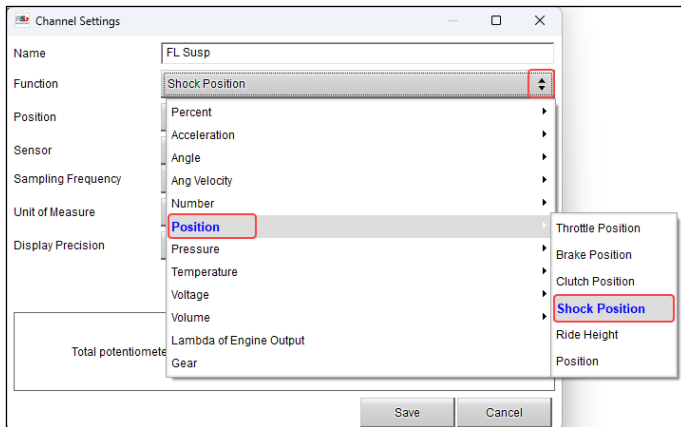




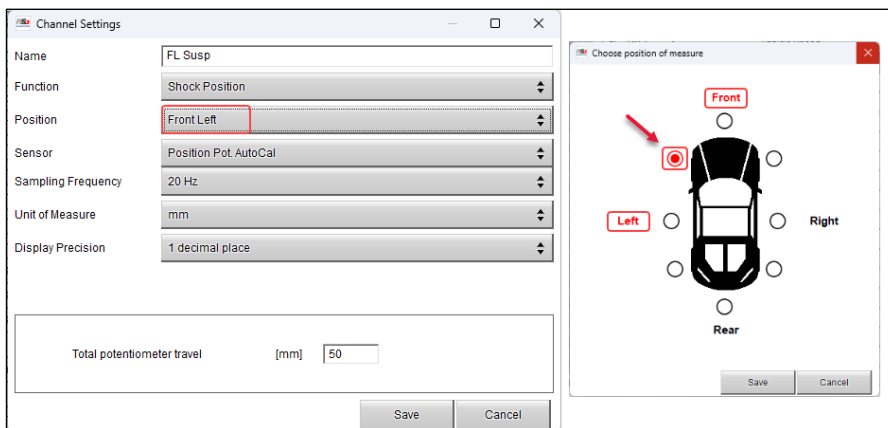
Setting Up and Calibrating a Suspension Position Sensor in Race Studio 3

Select the Analog Channel you have the suspension sensor attached to and name the channel **FL Susp**, **Susp** etc.

Then click on the Function pulldown box. Select **Position** and then **Shock Position**.



Then click on the Position pulldown box. On the vehicle graphic, Select the **Position** (Front Left in this example)





Next click on the Sensor pulldown box. If you have the new and innovative AiM Eclipse potentiometer, select AiM Eclipse, if you have any other standard linear potentiometer, Select **Position Pot. AutoCal**

Channel Settings

Name: FL Susp

Function: Shock Position

Position: Front Left

Sensor: Position Pot. AutoCal

Sampling Frequency: AiM Eclipse

Unit of Measure: Position Pot. AutoCal

Display Precision: 1 decimal place

Total potentiometer travel [mm] 50

Save Cancel

Set the Sampling Frequency. Many suggest **200 Hz** as a minimum for suspension position.

Choose your Unit of Measure, the choices are inches or millimeters, and I selected **mm**.

Set the Display Precision, selected is **1 decimal place**.

Finally, set the Total Potentiometer Travel to the actual full length of travel of your installed potentiometer, this sensor was **50mm**. Then click on the **Save** button.

Transmit the configuration to the logger by clicking on the **Transmit** button.

Channel Settings

Name: FL Susp

Function: Shock Position

Position: Front Left

Sensor: Position Pot. AutoCal

Sampling Frequency: 200 Hz

Unit of Measure: mm

Display Precision: 1 decimal place

Total potentiometer travel [mm] 50

Save Cancel



After getting the Channel settings correct and transmitted to the logger for all the Suspension position sensors and having the vehicle sitting level and at ride height, go to **Live Measures** and click on the  **Auto Calibrate** button and then **Autocalibrate All** and then **Exit**.

The **Autocalibrate All** function automatically calibrates all sensors in your system that do not require a further calibration process. Here we have 4 Suspension sensors, they are autocalibrated and show values of zero at ride height. When the suspension is compressed you will have positive values and when the suspension is in droop you will have negative values.

AiM MXm (USB)				
Live Measures	Data Download	WiFi and Properties	Settings	Tracks
Predictive Reference Lap	Counters	Logo	Firmware	
			Autocalibrate All	Exit
Name	Function	Current Val...	New Value	
FL Susp	LF Shock Position	0.0 mm	Default	
FR Susp	RF Shock Position	-0.0 mm	Default	
RL Susp	LR Shock Position	0.0 mm	Default	
RR Susp	RR Shock Position	0.0 mm	Default	
LongitudinalAcc	Inline Acceleration	0.00 g	Default	
LateralAcc	Lateral Acceleration	0.00 g	Default	
VerticalAcc	Vertical Acceleration	-1.00 g	Default	
RollRate	Roll Rate	-0.0 deg/s	Default	
PitchRate	Pitch Rate	0.0 deg/s	Default	
YawRate	Yaw Rate	0.0 deg/s	Default	

Then as a final check, while in the Live Measures function, push down on your vehicle and watch the Suspension values on the RS3 screen and check to confirm that the values match the amount you are compressing the Suspension. Here the **FR Suspension** is compressed and displays **22.6mm**.

Here I have clicked on the **FR Susp** value in Live Measures, and it is highlighted and displayed along the right edge of the screen, making it easier to view specific channels in the Live Measures function.

AiM MXm (USB)				
Live Measures	Data Download	WiFi and Properties	Settings	Tracks
Predictive Reference Lap	Counters	Logo	Firmware	
1/23 mV Search ANY of				
Master			FL Susp	
LongitudinalAcc	0.00 g	LateralAcc	-0.00 g	0.0 mm
VerticalAcc	-1.00 g	RollRate	-0.1 deg/s	FR Susp
PitchRate	0.5 deg/s	YawRate	0.2 deg/s	22.6 mm
FL Susp	0.0 mm	FR Susp	22.6 mm	RL Susp
RL Susp	0.1 mm	RR Susp	-0.0 mm	0.1 mm
RPM	0 rpm	LoggerTemp	83.6 F	RR Susp
External Voltage	12.2 V	Luminosity	0.06 %	-0.0 mm
Calculated channels				
GPS InlineAcc	0.00 g	GPS LateralAcc	0.00 g	
GPS Yaw Rate	0.0 deg/s	Low Oil Pressure	OFF	
Low Volts	OFF	Low Voltage	S0	
StartRec	0 #	Predictive Time	--	