

Configuring the TPS potentiometer with RS2

Question:

How do I configure the TPS potentiometer installed on my car/bike using RS2?

Answer:

To configure the TPS potentiometer with RS2:

- run RS2.
- click "Device Configuration" on the software left keyboard and 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 below; if you know precisely the total potentiometer travel you can choose the measure unit among millimeters and degrees; if not the suggested choice is percentage "% 1.".

RaceStudio 2.56.38												x
File Device Configuration Download Da	ata Import SmartyCan	n Data Analysis Dev	ice Info Online Devi	e Calibration Custo	omize Sensor – Languag	je ?						
	🗧 System manager											×
Racing Data Power	Trans	smit	Receive	CAN-Ne	CAN-Net info Set Accusition system time setti Thermocouple							Â
AIM Sportline	Current configuration			,			Thermoresistance PT100 Temperature VDO 40-120 °C					-
The World Leader in Data Acquisition	Installation name	Data logger type	Ecu	Lap Timer	Vehicle name	Availal	Temperature VDO 50-150 °C		Master frequenc	y Expansio	ns frequency Tot. Expansions	
	LOGGER_CONF	MXL PISTA	None - None	Optical	READ	9.32.3	Water temp. (CLIO)		121 (Hz)	0 (Hz)	0	
A <u>n</u> alysis	Select configuration	Channels System config	uration CAN-Expansions	configurator			Water temp. (SUZUKI SUPERSPORT) Pressure VDO 0-2 bar					
	Speed_1					Pressure VDO 0-5 bar Pressure VDO 0-10 bar						
	Wheel circumference	(mm) 1666					AIRBOX pressure sensor - X05SNAB01					
						C C	AIRBOX pressure sensor - X05SNAB00 Distance potentiometer	- h				
	Pulses per wheel rev	volution 1					Zero based potentiometer					
Import SmartyCam							Mid zero potentiometer ***	<u> </u>				
microSD Data	Channel identifier	Enabled/disabled	Channel name		Sampling fr	2quency	Lambda sensor NGK TL7111W1 - NTK TC6110	Meas	ure unit Lo	ow scale	High scale	
	KPIM	Enabled	Engine Crossel 1		10 Hz		Gyro	rpm	1 10	0	20000	
Device Configuration	CH 1	Finabled	Speed_1		10 Hz		External vertical accelerometer	V 1		0	230.0	
bevice conliguration		Enabled	Channel_1 Channel_2		10 Hz		Generic linear 0-5 V	V .1	- 0. - 0.	0	5.0	=
		Finabled	Channel_2		10 Hz		Generic linear 0-500 mV	V .1	0	0	5.0	
Dourises Infe	CHA	Finabled	Channel 4		10 Hz	-	MSI 0-100 psi sensor	V 1	- 0	0	50	
Device III 0	CH 5	Fnabled	Channel 5		10 Hz		MSI 0-150 psi sensor SEAT Brake Precure	V .1	- 0.	0	5.0	
	CH 6	Enabled	Channel 6		10 Hz		SEAT Engine Pressure	V .1	- O	0	5.0	
Del Online	CH 7	Enabled	Channel 7		10 Hz	• [SEAT Water Temperature Water Temp Suzuki GSXR	- V.1	- 0.	0	5.0	
<u>цэ</u>	CH_8	Enabled	Channel_8		10 Hz	<u>+</u> [Distance potentiometer	🚽 mm	1 J 0	0	5.0	
	CALC_GEAR	Disabled	Calculated_Gea		10 Hz	<u>.</u>	Calculated Gear	#	0		9	
Device Calibration	ACC_1	Enabled	LatAcc		10 Hz	•	Lateral accelerometer	g .01	-3	.00	3.00	
· · · · · · · · · · · · · · · · · · ·	LOG_TMP	Enabled	Datalogger_Tem		10 Hz	•	Cold joint	°C	- 0		50	
	BATT	M Enabled	Battery		1 Hz	•	Battery	V.1	5.	0	15.0	
Customize Sensor												
Language												
972.m2												
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Transmit the configuration to the logger pressing "Transmit".

1	2 RaceStudio 25638													
F	File Configurazione dispositivo Scarico dati Importa dati da SmartyCam Analisi Informazioni Dispositivo Online Calibrazione Dispositivo Sensori personalizzati Lingua ?													
		🔄 System manager	system manager											
	Racing Data Power	Trasmissone Letturs 😥 Informazioni rete CAN										Î		
	AIM Sportline	Configurazione selezionat	a ^L S											
	The World Leader in Data Acquisition	Nome installazione	Tipo centralina	Ecu	Lap Timer	Nome veicolo	Tempo disponibile	Tempo con GPS	Frequenza totale	Frequenza master	Frequenza espansioni	Tot. Espansioni		
		LOGGER_CONF	MXL PISTA	None - None	Ottico	READ	9.32.39 (h.m.s)	4.06.35 (h.m.s)	121 (Hz)	121 (Hz)	0 (Hz)	0		
	A <u>n</u> alisi	Scegli configurazione	Canali Configurazione s	istema Configuratore esp	ansioni via CAN									

• Press "Device Calibration" to calibrate the potentiometer

	System manager		_										-
Data Power	Transmit E		Receive	Receive CAN-Net info		SmartyCam Functions setting		Set acquisition					
Sportline	Current configuration												
der in Data Acquisition	Installation name	Data logger type	Ecu	Lap Timer	Vehicle nam	ne An	ailable time	Time with GPS	Total frequency	Master fro	equency	Expansions frequency	Tot. Expansio
	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
A <u>n</u> alysis Iownload Data	Select configuration Speed_1 Wheel circumference	Channels System conf	figuration CAN-Expansion	ns configurator									
port SmartyCam	Channel identifier	Enabled/disabled	Channel name		San	npling frequen	y Sensor type			Measure unit	Low scal	le High	scale
Incroad Data	RPM	Enabled	Engine		10 H	Hz	Engine revol	ution speed		rpm	0	20000)
	SPD_1	Enabled	Speed_1		10 H	-lz	- Speed			km/h .1	. 0.0	250.0	
evice Configuration	CH_1	Enabled	Channel_1		10 H	-lz	Generic linea	nr 0-5 V		V .1	• 0.0	5.0	
	CH_2	Enabled	Channel_2		10 H	-Iz	Generic linea	er 0-5 V	•	V .1	• 0.0	5.0	
	CH_3	Enabled	Channel_3			-Iz	✓ Generic linear 0-5 V		•	• V .1		5.0	
Device Info	CH_4	Enabled	Channel_4		10 H	Ηz	Generic linea	er 0-5 V	•	V .1	• 0.0	5.0	
-	CH_5	Enabled	Channel_5		10 H	Ηz	Generic linea	er 0-5 V		V .1	• 0.0	5.0	
	CH_6	Enabled	Channel_6		10 H	Ηz	I Generic linea	ar 0-5 V		V .1	. 0.0	5.0	
Online	CH_7	Enabled	Channel_7		10 H	Ηz	I Generic linea	ar 0-5 V	-	V .1	- 0.0	5.0	
	CH_8	Enabled	Channel_8		10 H	Ηz	Zero based p	otentiometer	-	1	⊥ 0.0	5.0	
	CALC_GEAR	Disabled	Calculated_Gea		10 H	Чz	I Calculated G	iear		#	0	9	
evice Calibration	ACC_1	Enabled	LatAcc		10 H	Ηz	■ Lateral accel	erometer		g .01	-3.00	3.00	
	LOG_TMP	Enabled	Datalogger_Tem		10 H	lz	- Cold joint			°C	- 0	50	
13	BATT	Enabled	Battery		1 H:	z	- Battery			V .1	5.0	15.0	



Race Studio 2

Calibration panel shows up

• Press "Calibrate" button of "Zero based potentiometer".

RaceStudio 2.55.48														
File Device Configuration Download Data Import Smarty	Cam Data Analysi	s Device Info	Online Devic	e Calibration Cust	omize Sensor L	.anguage ?								
System manag	er													
Racing Data Power	ransmit	Receive		KAN-N	et info	SmartyCam Fur setting	SmartyCam Functions setting		ation system time					
AIM Sportline Current configuration	n													
The World Leader in Data Acquisition Installation name	Data logger type	logger type Ecu Lap Timer			Available time	Time with GPS	Total frequence	cy Master fr	requency Expansio	ns 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				
Analysis Select configuration	Analysis Select configuration Channels System configuration CAN-Expansions configurator Speed 1													
Download Data	bration													
Pul	Pul Configuration name System type													
	LC	GGER_CONF			MX	KL PISTA								
Import SmartyCam micro SD Data	to autocalibrate							asure unit	Low scale	High scale				
RPI						Click here to autoc	alibrate all	P	0	20000				
SPL						sensors in the	e list	/h.1 🗵	0.0	250.0				
Device Configuration CH	Channel name		Sensor typ	e	Status C	lick here to calibrate		L 💵	0.0	5.0				
CH LatAd	c	Lateral	accelerometer		Calibrated	Calibrate		L _	0.0	5.0				
СН								L 🖃	0.0	5.0				
Device Info	СН									5.0				
СН								L 💌	0.0	5.0				
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CH Sensors	to calibrate								0.0 L	5.0				
СН	Channel name		Sensor typ	e	Status C	lick here to calibrate		ר <mark>ו ו</mark> .1	0.0	5.0				
CA Chan	nel_8	Zero ba	ased potentiom	eter (Calibrated	Calibrate			0	9				
Device Calibration						N		01	-3.00	3.00				
								-	10	50				
BA								<u> </u>	5.0	15.0				
Customize <u>S</u> ensor														
		v	Transmit calibr	ation	an Can	cel								
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VIA CAVALCANTI, S CERNUSCO SUL NAVIGLIO, MILAN - ITALY										Þ				



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

- 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 left.
 - o "0" for zero position
 - o "100" for high position
- With the throttle in its zero position press "Get raw value" corresponding to zero position (image here below on the right).
- Press "OK".







Race Studio 2

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

• Transmit the calibration to the logger pressing "Transmit Calibration".

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AND	System ma				×							
Racing Data Power		Transmit	Receive		CAN-1	CAN-Net info		nctions	Set acquisition system time		n time	
AIM Sportline	Current configu	ration										
The World Leader in Data Acquisition	Installation na	ame Data logger type	e Ecu	Lap Timer	Vehicle name	Available time	Time with GPS	Total freque	equency Master frequency		Expansions fre Tot.	Expans
	LOGGER_CO	NF MXL PISTA	None - None	Optical	READ	9.32.39 (h.m.	.s) 4.06.35 (h.m.s)	121 (Hz)	121 (H	z)	0 (Hz) 0	
A <u>n</u> alysis	Select config	uration Channels S	ystem configuration	CAN-Expansions	configurator				_			
	Sensor	calibration										
		(Configuration name			Su	retern type					
	Pul		LOGGER CONF			M	XI PISTA					
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microSD Data	Ch Ser	nsors to autocalibrate							asure un	It Low sca	le High scale	ie
	KPI CDI						Click here to autoc sensors in th	alibrate all e list	n (a. 1	- 00	20000	
Configuration	SPL								rn .I	- 0.0 - 1 0.0	250.0	
Device conliguration		Channel nam	ne	Sensor typ	De	Status C	lick here to calibrate			x 0.0	5.0	
		atAcc	Late	ral accelerometer			Calibrate			- 0.0	5.0	
- During left										- 0.0	5.0	
Tevice Inio										- 0.0 - 0.0	5.0	
										1 0.0	5.0	
	CH Ser	eore to calibrate								- 0.0 - 0.0	5.0	
<u>Online</u>									1	- 0.0 - 0.0	5.0	
		Channel nam	ne –	Sensor typ	pe C	Status	lick here to calibrate			0	9	
	AC	.hannel_8	Zero	based potentiom	leter	Calibrated	Calibrate		01	-3.00	3.00	
	LO								-	- 0	50	
	BA									5.0	15.0	
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