



PowerTRONIC V4 Maps

Document Version	1	Release Date	10th February 2023
------------------	---	--------------	--------------------

Application information	Generic
Vehicle	Not Applicable
Model	Not Applicable
Year of manufacture	Not Applicable
PowerTRONIC application	All PowerTRONIC ECU

Note:

- Read through all instructions before installation and use
- Ensure the bike is switched off and the key is out of the ignition before proceeding with the installation
- Some parts of the bike may be hot and will cause burns. Proceed with caution or wait for the bike to cool down.
- Once the installation is complete, make sure to secure the wiring loom away from the movable parts or components which tend to heat up during the normal operation of the vehicle.
- PowerTRONIC is intended for motorsport use on a closed course, please check with your local laws before using this product. Race Dynamics / PowerTRONIC is not liable for consequences that may arise out of using the product.

Support:

North & South America India, Bangladesh, Bhutan, Nepal & Sri Lanka	: +1 267 214 9292 (Call) +91 9606 044 178 (WhatsApp) a : +91 9916 229 292 (Call & WhatsApp)
Rest of the world	: +91 9606 044 177 (Call & WhatsApp)
Email	: support@powertronicecu.com
Website	: www.powertronicECU.com





Contents

	Торіс	Page
1	Мар	3-4
2	Switching between Map1 and Map 2	5-6
3	Reading a map file from the ECU	7-8
4	Editing a map file on the ECU	9-10
5	Opening the Map file from a folder of your PC/Laptop	11-12
6	Saving a map file to the file folder in your Laptop/PC	13
7	Downloading a map file from the website	14-16
8	Burning a map file to the ECU	17
9	Control settings and Live data	18- 22





1. Maps

A map file is the program containing values that determine the ignition, fuel injection and other vehicle-related settings (Quick shifter, Control Settings, etc) intended for engine operation. A map file contains 2 maps and other necessary settings.

Important Note: The PowerTRONIC ECU has to be connected to the R-Tune to edit/open/save a map file.

A PowerTRONIC map file has 3 parts:

- 1. Pre-tuned Map 1 (Fuel 1 and Spark 1)
- 2. Pre-tuned Map 2 (Fuel 2 and Spark 2)
- 3. Other settings (Quick shifter, Control Settings, Configuration etc)

A schematic representation of a map file is given below.

MAP FILE







The **PowerTRONIC ECU can store a map file that contains two maps**. When you load a map file, **you are loading both Map 1 and Map 2 simultaneously**.

Refer to the R-Tune user interface below. There are 11 tabs present and each tab directs to each parameter of the map file.

Powerbonic R. Tune v4 -	1,2.95								_						_	_							- 0 ×
= Powe		30	ארחכ		Devic	e confi	gured :	success	fully									onnec	ted	a ann an Ann		сомэ	
(Device	connect	ed.																٥
Map-1: Fuel	AP2	Fuel	% adjus	st (Rpn	n v Lon	et%)													Liv	re Value:	0.0	Live data	
Map-1 : Spark		500	1000	1500	2000	2500	3000	3500	4050	4500	3008	5500	6800	6500	7005	7501	8008	8500	9000	9500	10000	Engine RPM	0
Map-2 : Fuel	100	1	X	4	*	3	1.	4	3	3		3	1	5	-1	2	. 4	0	-1	-1	-	Load % ber	
Map-2 : Spark	JAP 2			4			1	1	-	3	1	1	1		1	1		6	-1	- 37	-1	Tps Volt (v)	0.509
Quickshifter Settings	80		1			3	E	3	3			3	-	3	1	-			-10	-1	t	Load 2	
Control Settings	YA			3	2		1	1	3	3	1		x	1	1	1			-1	-47	-t	No. Company	Map.1
Factory Settings		1	1	2	2	1.1		1	1			1.1	1	1		0.	.0	0	-1	+1	-1	Map Number	wap-1
Index Maps	Ot	her	Settin	igs	Ŧ	ę	0	a	0	0	0	9	0	a	1	0	4	8	0	.0	0	QS Logical Status	Inactive
Diais	-	10	0	0	0		0	a	0	9		d	0	ũ		0.	a	8	0		0	Lood Input Channel	Load from TPS
Realtime Graphs	-	12	a	0	Q.		a	α	U				0.	σ	1	0	a	8	0		c	Load Calibration Status	Inactive: click button to
Device Information	80	0	٥	0	a	0	2	a	0	0	0	a	0	0	1	0	a	0	0	.0	0	Rev Limit Status	Inactive
	33	0	٥	0	σ	0	9	a	Ū	0	0	a	đ	8	3	0	a	8	D	0	0	Charling Status	No Suns
	12011	ľ	a	0	0	<u></u>	0	0	0	- 6 ×	0	- 0	đ	a		0	d	0	0	10	0	CRD Sync Status	are sync
	- 04	ľ	Q	0	4	0	9	0	0	- R.)		0	- #2 - 20	0			0	5	0		0	Revextend Status	inactive
	A COL	Ĉ	i d	0	a a	0	0	. a.	0	0		0	0	0		0	0	-	0		0		
		Ľ		0.			-				*								0		0		
Sn	ark inout	Stati	15						Fuel	Duty						Ini	ector li	nout St	atus				
Spk-1 Status			Ine	ctive		(nj-1 D	ity Cyc	e()		1				(n)-1-5	tatus:				1	nactive			
Spk-2 Status			Insi	ctive										Inj-2 \$					9	nactive			
Spk-3 Status			The	rtive										Inj-8-5						nactive			
Spk-4 Status			Ina	ctive		inj-4 Di	ity Cycl							10)-4 S	tatus				3	nactive			
					-											Se	lect *Rec	ord" to st	tart recor	iding or T	Flay" to o	spen recorded file 🕨 🎫 📴	JRN Update Firmware

The order of the tabs is as follows

Map 1: Fuel Tab	Map 1	Fuel table of Map 1
Map 1: Spark Tab		Ignition table of Map 1
Map 2 :Fuel Tab	Map 2	Fuel table of Map 2
Map 2: Spark Tab		Ignition table of Map 2
Quickshifter settings Tab		Quick Shifter Settings
Control Settings Tab		TPS Calibration, Rev Extn.
Factory Settings Tab		Factory settings
Index Maps Tab	Other settings	Index Settings
Dials Tab		Dials
Realtime Graphs Tab		Graphs
Device Information Tab		Firmware and other details



PowerTRONIC

2. Switching between maps

PowerTRONIC is shipped with two pre-tuned maps. (Map 1- Race mode, Map 2- Race+ mode). Map 1 or Race mode offers performance gains starting from lower to mid-range RPMs, whereas Map 2 or Race+ mode is a more aggressive map offering performance gains starting from lower to top-range RPMs.

You can switch between the 2 onboard maps **by connecting (Map 2) (-) or disconnecting (Map 1)(=) the map switch connector on the PowerTRONIC wiring harness (Fig A)** or by using the **Handlebar Map Switch (Fig B)** sold separately.

Disconnected - Map1 (-) Connected - Map 2 (=)









The chosen map will be active and the other map in the ECU will be inactive.





Active Map

When you read a map file in R-Tune software, all the data in the maps will be present in the tabs, which contain parameters. The active map section in R-Tune will tell you at which map (**Fuel and ignition parameters**) the ECU is working, whether it is Map 1 or Map 2. It may be either **Map 1** or **Map 2**. The other settings are common for both **Map 1** and **Map 2**

A) The map currently running in the ECU is Map 1 (-).

	077			7/1		Devic	<mark>e confi</mark>	gured	success	fully										igured to	Iccessfully			сомз	- USB 🤟
(Brite			_/			Device	connect	ng denk ed.																C	۲
Map-1 : Fuel	•		96	adjus	t (Rpn	n v Loa	d%)													Liv	e Value:	0.0		Live data	
Map-1 : Spark	P M/	AP J		1000	1500	2000	2500	3010	3500	4000	4500	5000	3500	6050	6300	7000	7500	8000	8500	9000	9500	10000	Engine RPM		
Map-2 : Fuel	105			1	4	1.4.1	153.0	3	3	3	3	. 1	3	3	3	2		- 59	0	- 0	(14)	- 1	Load % bar		
Map-2 : Spark	93			1	4	4	3	8	3	3	3	3	3	3	3	3	2	-1	0	- 31	-1	-1	Tes Volt (v)		0.514
Quickshifter Settings	86			1	4	4	3	3	3	3	3	3	3	3	3	3	2	1	σ	-1	-1	-1			
Control Settings	Ab	H.		1	4	4	3	3	3	3	3	3	3	3	3	3	2	1	0	-1	-1		1		
Factory Settings		H		-		3		18					3	3	- A.	1		Activ	e M	AP 1	*	10	Map Number		Map-1
Index Maps	-	H.	-	1	-	2	1	3	3	1			1	1	1	3	+ . '	1.24							meenve
Dials	53	0		0	0	0	0		0	0	0	0	0	0	0	0	0	0	ő	a.	0	0	Load Input Chann		Load from TPS

B) The map currently running in the ECU is Map 2 (=).

	otte	-			Devic	e confi	gured	success	fully								1 2	evice con	igured st	iccessfur)		_	COM3 -	USB =
Open navigation menu		10			Wait. c Device	connect	ing devic ted.	e															С	۲
Map-1 : Fuel	Map-2 : 1	Fuel	% adju	st (Rpn	n v Loa	id%)													Liv	e Value	0.0		Live data	
Map-1 : Spark		505	1000	1500	2000	2508	3000	3500	4000	4500	5000	\$560	6000	6520	7050	7500	8000	8500	5000	9500	10000	Engine RPM		0
Map-2 : Fuel	MAC		1	1	3	2	2	2	2	2	2	2	2	2	2	τ.	0	-1	-2	-2	-2			
Map-2 : Spark	MAP	1	10	3	3	2	2	2	2	2	2	2	2	2	2	1	0	-1	-2	-2	-2			0.517
Quickshifter Settings	80		1	3	3	2	-	2		2	2	-	2	2	-	1	0	-1	4	-2	2	Lond M.		10
Control Settings	73		1	3	3	2	2	2	2	2	2	2	1	1	2	-					- 2	1		Man 2
Factory Settings	66		10	2	2		1	10	1	- 35	3.	1		1		- 1	Activ	e M	AP 2	2 🗧	-d.	Map Number	_	Map-2
Index Maps	60	•	10	1.5	1	c	0	d	0	6	٥	0	d	0	0	0	0	d	0	0	0	-		
Dials	53	0	0	a.	o	o	0	٥	0	đ	٥	٥	٥	0	0	0	à	đ	0	٥	o		el	Load from TPS

Also, when you save a map file from the ECU or Load a map file to the ECU, it saves/loads both Map 1 and Map 2 regardless of which map is active.

You can also observe the **Red LED** on the **PowerTRONIC ECU** to verify which map is currently selected. **One Blink = Map 1(-), Two Blinks = Map 2 (=)**





3. Reading the Map from the ECU

To read the map from PowerTRONIC ECU, use the R-Tune software. (Refer to the R-tune Installation and connecting to the ECU manual)

- 1. Download and Install Powertronic R-Tune V4 software. (Refer R-Tune installation manual)
- **2.** With the PowerTRONIC connected to your bike, use the USB cable and connect it to a windows based PC through R-Tune Software.
- 3. Select the appropriate com port number. Refer to the Figure below



(To check your com port number, go to **Device Manager**, **Select Ports (COM & LPT)**, and note the number on the **Silicon labs CP210x USB to UART Bridge**. Refer to figure)







4. Click on Refresh and Connect (Select the Appropriate COM Portin drop-down menu).

Pasertreti I-lus	ure4 - 12.50 -																		COM13 -	US8	-
=(Po	wer	TH	אחכ	Ξ/														c		5	3
Auell Table	Fuel11	able																			
ipierik 1 Table		1000	1000	IDE	-	5000	8800	TOBO	8838	8080	10080	11000	11008	12394	14840	11800	19904		18.000	1800.	A COLO
uel 2 table	- 1		5.2	1.	1.20		1.0		18	10	0	10		- Cui-	2	- 61		*		2	
			80	1		*		×.		8		1		9	e	19	8	Refre	sh	Con	nect
		9	6				18		ंट			- E			0				100		100
			6.)					÷.			ंड	- C			0	- 39		. 0	*S		(R):
	1	1	0					- T		- 1°	0	- F	*		0	- 14	- Y	- 0	- 67	- 4	- 1
			¥.		0	1			0		Û					- 1		0	- e		
	4	1	٩.	4	۰.	1			۰	1	۰				e	1.1	1	.*	5		8
	-	12	1	12	1		1.0	. e.	12	÷.	10	5		1.1				. *	- 53		1.55
		28	- 61	- 38		× .		- 15 -	18	10	<u>.</u>				<u>8</u>	18	. 5	: 0	- e;;		(35)
		1	0.0	3	0	т.		- E	0	- IC	0	- E				- 31	10	0			- K.
			6	16	141	× .		×.	- 26	×.	0	÷.			×.	- 14 - I			- 8	14	240
		14	62	- 14 - I	(a)	1	100	÷.		÷.	- 6	1	- E	- Cg (1	¥.	- 14	- V		÷2	- G	390 C
			6	- 14 - I	0	1		i.	0	iš.	ú	1	6	2	e	1	Ť.	0	÷.	4	
					•									2	e		1				
								1.				1		2					-		
		1	•			T		1		1		10									
		1	6 C		1.41	T.	16	T.		1	10	10				10	TE .		20		1000
				14	1.4	×.		-				-	14			04			20		1000
		100			1125		100				1.0	-		1000		10				8	1000
		12					1000		100		22	10		22.5		1.0					100
		12	- 50	1	0	- A-		- <u>S</u>	1.5	1	.u	1		2		1	- 5	0	-		*

5. Once connected the Map will be auto-read.

Reality of B. Tarmer	1-12.00																							- 0 X
= Pov	vei	77	30		7 •	evice cont et. configu	ligured o	accesetul	ly.								- 3	onnectio		()				
	-				De	nice corner	sed.															Ģ	ŧ.	0
Map-1: Fuel	May	t : Foot	S adjust (Span v Lo	ad%)		100							120.00						Line !	Asher: 0.8	and a state of the	Live data	
Map-1:Spark				1208	1008	2004	2469	2840	1500	3608	4904	4508	5068	5549	(800	6504	TROP	7508	8.004	8244	2000	English OPW		
Map-2: Fuel			1	-1	-1				*								*	1		3.	2	Loid % hor		
Map-2 : Spark	30		1	1	4		£	Ŧ		1	4			- 16		+		4	14	1	1	Tpacewin (e)		
Guickshifter Settings							1	÷.		4		1				T			+	1		Load 26		
Control Settings																						Nap Number		Map-1
Pactory Sattings	- 22			1.1	100	122.01	- 21	10	122							1.1	24		1960	10	1	Ch Legical Status		inective
Index Mago		1.4	80		1.0	(14)	•	×.		13	- E.			- 18	100	10 C	18	1.8	4	- 3.S		Loss Mary Changel	1	Loga from TES
trues	14		4-	1	14	1000			14		+	+	14	1.14	1000	100	14	14	14.1	1	10	AND CONTRACTOR OF		
Real of a second second																						Loid Calibration Mater		leadine dice Ballon 10 start
	N.		A.:				1	*		- 4												Res Lindi Status		interior
	4	. 4	1	1	4	4	4	5	4	.4	4		1			- E	4	3	- 3		σ	Old Sync Status		No Sync
			1	τ.	2	3	1		1		ŧ.	1				+:		14	+			Desilation Status		hective
			4.1			-1	1.		-1	. 1	+	+				1								
						No.		10	1.0															
									2		•			<u>.</u>		9.5				•				
		1	£.				- E.	.0.	: 0	. 6	£.		1	. 9	0	9.1		- 4						
	-		1	1	. 1		1	.0.		2	1	1		5.8	0		- 12-			āC.				
	-	4					1		14		÷.	1	1							÷.				
	-							0.	0	6		1			0									
		ark imm	of Strature						- 25	Lovel Darts				- 12		-	ininctor	in mark Star			11			
tal-Citizeni				(inter	ίά.	4.0	1 Daty 6	ide						No.	Status		- All Contractions			hattive		1		
site z stanuj				(take)	1+ #	10								142.00	TRANS-					herrive				
fab. 2.5tenes				1940	tex	-								100.00						Inactive	3			
siji estati					ive.	-								10.0	STANK				-	inactive				
					_	-													-	Theory is	che necce	tion of "Rea" to appropriate file	- n	The second second
																								and a state of the





4. Editing a Map on the ECU

Warning: improper or faulty map value can result in poor performance of the bike and can even cause damage to the engine.

You can edit the maps either by changing the values of the map on the R-Tune interface or by directly downloading a map from our website. A brief description of editing the map is given below. (Refer to the detailed manual of R-tune before editing the maps)

a) Fuel mapping.

Click on the Fuel tab. (Refer to the figure below). The table is used to control fuel delivery through map 1 where you can increase or decrease the quantity of fuel delivered to the engine. The fuel tables denote RPM vs Load and span between min load at the bottom to the maximum load at the top, also minimum RPM on the left and maximum RPM on the right.

The value '0' represents no changes to the fuel injection which is basically the factory settings. Fuel injection is always measured in terms of percentage. The positive value here indicates going richer than stock ECU. In contrast, a negative value indicates going leaner than stock ECU.

		-			Devic	e confi	gured	success	fully								1		and the second	i an	-	(C)	
	=(1)	-	<i>« </i>		Device	connect	ng den: Ied.	*															۲
Map-1 : Fuel	Map-1	Fuel	% adju	st (Rpn	n v Loa	d%)													Uh	e Value	: 0.0	Live c	iata
Map-1 : Spark		-	1666	1560	2000	2599	3000	3599	- 4101	4560	5666	5560	6000	6500	7000	7500	- 4444	6556	-	9520	10000	Engine RPM	
Map-2 : Fuel	- 101	1	- 1	4	4	2	3	2	8	3	4	1	4	3	8	4	1	a	1.1	14	1.00	Load % bar	
Map-2 : Spark		1	16	- 41	- 4	3	3	5	5	3	5	- 3	1	- 2	5	3	- T.	0	া	ंभ	147	Tps Volt (v)	0.511
Quickshifter Settings		1	- 15		1.4	- 4	- 4	2	4:	*	*	- 4	-	4	1	40		. a			100	(mark)	0
Control Settings				-	1		-		-	-	-	4		1		1	1	0	22	1.4	- 12		Mar 1
Factory Settings	44	+		4	1	1		+	1	+					10		0	a	-1	4	14	Map Number	Map-1
Index Maps		÷:			. 1	0	1	0	0	a	ō	a					0	0	0	Ca.		QS Logical Status	Inactive
Dials	- 11	٥	0	a.		0	10	0	0	.0	0	a	•		1	6	0	d	.0	0	a.	Load Input Channel	Load from TP5
Realtime Graphs	46	a:	0	- a	28	0	1	0	0	.a.	0	٥	1		1		0	. 0	0	3.0		Load Calibration Status	inactive: click button to
Device Information		ą	9	4		0	1	0	0	đ	0	đ	1	8	÷.		0	¢	2	ą	4	Rev Limit Status	Institue
	-	a	0	4	. 1	0	1	0	0	đ	0	a	1	4	8,	6	0	å	0	à	a	Che Creek Chatree	No Date
	36	a	0	.0	10	0	1	0	0	a.	0	a	1	6	1	- #C	0	9	<u>_0</u>	5.0	1	Chip sync status	No spec
		a.	2		08	0	1	0	0	0	0	0			1		0		.0	2.0	<u></u>	Revextend Status	Inscrive
		4	a		1			0	0		0	a					0		0	a	-		
					1		1.191			a										1			
5	oark Input	Statu	5				-		Fuel	Duty					-	Ini	ector I	nout St	atus				
Spik-1 Status		1	Ina	ctive		inj-1 Di	aty Cyc	ië .		-				lig-1.8	tatus			1	1	nactive	-		
Spk-2 Status			Ina	ctive.										Inj-2-5						nective			
Spic-1 Status			Ina	ctive										IN2-1-5				Ī	1	nattive			
Spk-4 Status			Ine	ctive.										Ing-4.5				Ī		nective			
	_		_	_	_		_	_	_	_	_	_		-	_	_	_	_	_	_			





b) Ignition Mapping

Click on the ignition tab. (refer to the figure below). The table contains the values to control ignition timing. The value '0' represents no changes to the ignition timing/spark which is basically the factory settings. Ignition timing/spark is always measured in terms of degrees. The positive value here indicates advancing the ignition timing than stock ECU. In contrast, a negative value indicates retarding the ignition timing than stock ECU.

Powertronic R-Tune v4	1,2,90																						- 8 ×
=		-			Devic	e conf	gured	ucces	fully									-	Total a		-	Сом	
Powe			, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_	Weit_	configur connec	ing devic ted.																۲
Map-1 : Fuel	Map-1	Spar	k Timir	g adju	st (Rpr	m v Lo	od%)												Liv	e Value	0.0	Live da	te
Map-1 : Spark		-	1936	1600	2860	2544	3000	3588	4000	4510	1400	5580	6334	6500	2000	1500	\$500	8588	6000	9522	38666	Engline RPM	
Map-2 : Fuel	109	1	0	7		7		7	3		2	2	2	2	2	2	2	2	2	2	2	Load % ber	
Map-2 : Spark	23	1	0	1	+	1		1	1	*	T.	1	2	2	2	2	2	2	2	2	2	Tps Volt (v)	0.521
Quickshifter Settings		ľ.	0	-		140	4		1.4				1.4		+2			1.2	-	+:		Load N	0
Control Settings	13	f,	0	1	0	0	ŏ	0	1	0			1	1	2	2	2	2	t	2	1		Mag
Factory Settings	55	1	.0	1	4	.0	.0.	.0	1	۹.	.a.:	0	.0	1	+			1.1		e		Map Number	Map-1
Index Maps	-		.0	1	0	0	0	.0	1	0	α.	0	0	1	0		a	0	0	0	1	Q5 Logical Status	inactive
Dials	-	2	٥	2	a.	.0	0	0	2	a	à	0	0	2	0	2	đ	0	à	0	2		Load from TPS
Realtime Graphs	- 44	2	0		6	0	0	0	1	6	0	0	0	1	0	2	d	0	0	0	1	Load Calibration Status	Inactive: click button to start
Device Information	48	2	0		d.S.	0	0	<u></u>		d)	0	0	0	. 1	0		a	0	ಿ	0		Rev Limit Status	Inactive
	22	1	0	5	<u>e</u> .;	0	a	0	1	<u>a</u>	ð.	- Ø	0	. 1	0		e	0	9	<u>0</u>		Che Sine Status	Min Sume
	28	1	0		9	0	0	0		9		0	0		9	1	a	0	0	9	1		No sync
		E			2					2	4						4		4		-	Revextend status	Inactive
		ľ.	0				0	0					0		0		0	0	0	0	-		
			0		0					0.					0						1		
Sp	ark Input	State	15				-		Fuel	Duty		-			-	Ini	ector l	nput St	atus		-		
Spk-1 Status			ina	ctive		linj-t D	uty Cyc	e		1				inj-t s	STATUF.		-		1	nactive	s ()		
Spk-2 Status			ina	ctive		(m)-2 (D	utý cycl							(nj-2-1	Status:				Ĩ	nactive	<u>.</u>		
Spk-3 Status			ina	tine		Inj-1 D	uty Cycl							Inj-S (Status			1	1	nactive	3		
Spil-4 Status			lina	ttive		In)-4 D	utý Cycl							inj-4 t	Distant				i	nactive	8Í		
					_											54	elect "Rec	ord" to s	lart recor	ding or 1	Play" 10 0	pen recorded file 🕨 💿	BURN Update Firmware





5. Opening the Map file from a folder of your PC/Laptop

- 1. Connect the ECU to the R-Tune software
- 2. Click on Hamburger Menu Icon in the Top Left Corner
- 3. Open the Calibration File
- 4. Select the Downloaded or Saved PowerTRONIC V4 Map files saved in .cdat format.
- 5. Click open to read the Map and view the values
 - 1. Connecting ECU to R-Tune Software,

(Refer to Page 07 on Reading the Map from the ECU)

<complex-block><complex-block>

2. Click on Hamburger Menu Icon in the Top Left Corner

11





3. Open the Calibration File

Proceedings Pulling of a 1,340	_																				- 0 ×
Open Calibration file	R	Map is successfully loaded, Insuming live data												annea	togweire tecl	arran fun			OMB - USB ·		
Save Calibration file	8	P1 6																			
		adjust (Rpm v Load%) Live Value: 0.0																			
Download Application Logs	± 📗	200	1965	2100	2480	2010	1210	1010	4100	43.08	5008	3508	6050	8580	7050	1586	8001	4508	3036	Engliss RPM	
		4			.2															COURSENS BAR:	
Settings	•	4																		DEFININ	
																				The Add (A)	
About	•	3			1															Lond No.	
	- 1	4																		Map Number	Map-1
	- 1	4			4	1														OS Longest Status	inartive
	- 1	4			4			1	1											The second second second second	
		8	fi i	a																Load Input Channel	Load from TPS
	- 1	4	9	4	- D	4	. 9	.2	4	1	4	4	2							Lind Collineation Status	
		10	0	Q.	18			1	0	14		31		1.	0	х.		.8.	8.1	Res Limit Status	(namive -
	- 1	a.,	a.	(¢)				<u>, 10</u>	() 4 .2		8	(8)	(8)	1	1	. Ø.,	(4)		<u>.</u>	Care Links (Patro)	NASARI
		4	.¢.		0				4					6	1		. 9)		¥.	Service Services	
		4	0	0	<u>्र</u>	0.			¢.	- 4		10	x	F.	-1				E.	REVEXTORIA Status.	
		4	a	0		0.	0	2	d -:	1	4:	2.2	- 2-	E	3	*	-0	14	#.: 		
		a l	d.	. e.					e.				×			*			1		
	-		4		-			-							-	-		-			
								Duty								nput St	atus				
	-	÷																			
																		Kachive			
		e.																nactive			
																				open recorded file 🕨 D	BURN Update Firmware

4 and 5. Select the Downloaded or Saved PowerTRONIC V4 Map files saved in .cdat format. Click open to read the Map and view the values

Open					
$\leftarrow \ \ \rightarrow \ \ \checkmark \ \ \land$	Desktop > Maps for V4 > P	Tv4 - Maps > KTM > KTM ADV 390 (202	20-2022)		
Organize New fo	lder				
A Home	Name	Date modified	Туре	Size	
	KTM ADV 390 (2020-202	22) With QS.cdat 17-01-2023 14:38	CDAT File	17 KB	
E Desktop	* CTM ADV 390 (2020-202	22) Without QS.c 17-01-2023 14:39	CDAT File	17 KB	
	*				
Documents	*				
Pictures	*				
Music	*				





6. Saving the map to the file folder of your PC/Laptop

- 1. Connect the ECU to the R-Tune software
- 2. Click on Hamburger Menu Icon in the Top Left Corner

Stranger B-Tur	ne v4 - 1.2.90						_	_					_		_			_				10 0000	- 0 ×
=																		onnec	fictived st to de	accessfully	ě.	COM	
		~			Live da	ta pause	d.																٢
Map-1: Fuel	Map-1:	Sparl	Timin	g adju	st (Rpn	n v Loa	d%)												tiv	re Value	0.0	Live da	ta
Map-1: Spark	Drop-dow	vn N	lenu	1200	1500	2060	2460	2810	3290	1690	4060	4500	5000	5500	6000	6500	7000	7506	8000	8504	9006	Engine RPM	
Map-2 : Fuel	to access	opt	ions	0	. 1	1	2	2	2	1	2	12	2	2	2	3	3	1	3	3	3	Load % bar	
Map-2 : Spark	88	0	0	0	1		2	2	1	2	1	12	2.	2	1	1	1	1	3	- 3	1	Tps Volt (v)	0.511
Quickshifter Setti	ngs	C	0	0	- 10 					-	-		-		-	-	-	1	-			Louts	0
Control Settings		0	0	0		E	2	1	1	2	10	1		2	1	1	1	i	i		1		Man
Factory Settings	-	0	0	0	8	E.	2	2	2	2	1	2	2	2	1	8	1	1		1	3	Map Number	iviap-1
Index Maps	40	0	đ	0		1	2	2	2	+	2	2	2	2	+	+		3	5	3	3	QS Logical Status	Inactive
Dials	55	9	g	q	a	a	1		1	4	1					2	1	2	2	3	2	Load Input Channel	Load from TPS
Realtime Graphs	44	0	a	0	a	¢.	0	0	0	0	d	٥	α.	a	٥			7				Load Calibration Status	Inactive: click button to
Device Informatio	on !	0	0	0	0	0	0	0	0	0	٥	0	0	0		1		4	0	0	0	Rev Limit Status	Inactive
	.13	0	0	0	0	0	0	0	0	0	0	0	, C	0	.8	- e	18		0	0	0	The State States	No Supe
	24	0	0	0	.0	0	.0	9	9		0	0	0.	0			- 18	8	0	9	0		No sync
	10	1°	¢ .	.0	0	d .	0	e ;		- 19 	a	0	0	0	*	•		*	0	9	0	Revextend Status	inactive
		0	v.			a.	.0		0	0	a		0. C	0					0	0	0		
			0	.0		0		0			0	0	0	0					0		0		
	Spark Input	Statu	s			-		-	Fuel	Duty		-			_	Ini	ector In	nput St	atus		-		
Spk-1 Status			Inac	tive		Inj-t Du	ty Cyc	ie.						Inj-1 S	tatus				1	nactive			
Spk-2 Status		Inactive Inj-2												Inj-2 s	tatue			I	1	nactive			
Spk-3 Status	Inj-3 Duty Cycle Inj-3 Status									l		nactive											
Spk-4 Status			Inac	tive										101-4 5					(nactive			
		_	_	_	- 1		_		_	_	_	_		_	_		1. 11.000						
																	lect "Rec	ord" to st	tart recor	ding or "	Play" to c	open recorded file 🕨 🛨	BURN Update Firmware

3. Click on the Save Calibration File and then choose the location you want to save, add the file name in the File name tab, and click on Save

Open Calibration file		Map	ls succe	ssfully	loaded	d.										il.				
		Herium Lines da	ting live i	data.																
Save Calibration file	•	est (Rps	m v Loa	ed 16)															Live	
Download Application Logs	1200	1600	3000	2466	3808	. 3300	3436	+100	4500	2008	\$500	6600	- 8100	TEOS	2508		80.04	#860	Logue RPM	
																			Load Silver	
Settings	•																		The Volt IVI	
About																			Real Property in the second se	
																			ALC DE L	
										11									Map Number	Map-1
																			GE Logrant Status	macour
			1																Cond (Oper Children)	Load from TPS
		. e		100		÷.	×.			- 10									Space Californition Status	tractive, click mattern t
	6	6				÷.	1			1				14					New Lineit Status	Inactive
		. 4.	1. A.								1.2		8.		13				Charlenne Status	No. Sent.
																			The second second second	Tableting.
																			The second s	
		4		R		6		10	4	3	4		0	4			1			
		100	-		1				10		1	-	-	1	1			-		
						Fuel	Duty				-		Inj	estor 1	nput St	atus				
																	mastive			





7. Downloading a map from the website

1. Go to <u>www.powertronicecu.com</u>



2. Click on Downloads







3. Scroll down and click on the Download for PowerTRONIC V4.



4. Click on Maps (PowerTRONIC V4 bike-specific maps)

LOGIN/REGISTER	WISHLIST EUR	l€ ⊻							
Powe	rTROF		Searc	h by Title, Branc	i, Category	SEA		CE dynamics	7
¥ SHOP ∽	O DEALERS	2 CONTACT US	P DOWNLOADS	NEWS	ACCOUNT		🗮 0 items		
	12						é		
	R-Tupe Win	dows	P	Tune And	roid	P-'		AC .	
Tuning and	setup app for the	PowerTRONIC V4 for	Setup and	calibration ap	p for Android	Setup and calib	ration app for iPho	ones, iPads and	
	windows PC and	tablets	smo	artphones and	tablets		Mac Books		
	Download	d		Download			Coming Soon		
				S					
		19912121							
In	nstallation M	lanuals	Fir	mware Up	date		Maps		
Installation	n guide/manuals	for PowerTRONIC V4	Inst	all the latest fir	mware	PowerTRC	NIC V4 bike speci	fic maps	
	-			-				that w	vith us 👏 🛛 💭
	Downloa	d		Download			Download		-
				-					

5. Select the Make and model of your bike from the list.

LOGIN/REGISTER	WISHLIST INR.	र <i>भ</i> ू				ي. مەربىغ			
Powe	rTAON		Sear	ch by Title. Bran	d, Category	SEA		CEdynamics	
¥ SHOP ~	O DEALERS	J CONTACT US	COWNLOADS	B NEWS	ACCOUNT		₹0 items	SUPPORT -	
PowerTR	ONIC V4 N	1aps							
+ KTM Map	95								
🕨 Bajaj Ma	ps								
 Hero Ma 	ps								
 Husqvar 	na Maps								
Royal En	field Maps								
 Yamaha 	Maps								
								Chat with	1 US 👏 🖵
				81	lome 🔒		IRACE	anarics	







6. Click on the Download option under the make



7. Select the model and download the appropriate map.



• PowerTRONIC Exhaust Map (Without Quickshifter)





8. Burning a map to ECU

To load a new map file:

- 1. Connect the PowerTRONIC ECU to your Windows PC using the USB cable.
- 2. Open the R-Tune software.
- 3. Select the appropriate *COM port* number.
- 4. Click on **Connect**.
- 5. Connecting ECU to R-Tune Software, (Refer to Page 07 on Reading the Map from the ECU)



6. Once the Changes are done on the Map Click on Burn.

		37	וריור		Resu	ming	live dat	1.										Connec	f quies s te d	accessful)	Y		сом	3 - USB 🔷
Grenzwortenstens					Live d	ata pau	ised.																	۲
Map-1 : Fuel	Map-1	: Spar	k Timi	ng adju	st (Rp	m v Lo	oad%)												Li-	ve Value	: 0.0		Live da	ta
Map-1 : Spark		- 00	1000	2000	3000	400	5000	6000	7000	8000	8500	9000	9500	10000	10500	11000	11500	12000	12500	13000	13500	Engine RPM		
Map-2 : Fuel	100	0	0	0	3	5	3	\$	4	3	5	3	3	3.	4	3	3	\$	8	3	3	Load % bar		
Map-2 : Spark	93	0	0	0	3	2	3	3	3	3	3	2	3	2	3	3	3	3	3	-1	-1	Tps Volt (v)		0.518
Quickshifter Settings	85	0	0	0	3	1	3	3	3	3	3		3	1	1	3	3	3	3	3	3	Total Inc.		
Control Settings	23	0	0	0	-		-													-	1	Load X		
Factory Settings		-	0					1	1	1	1	1			1	1		10			1	Map Number		Map-1
Index Maps	60	0	0	0	3	3	3	3	3	3	5	5	3	3	3	3	3	3	3	3	3	QS Logical Sta		Inactive
Dials	53	0	0	0	3	3	3	3	3	3	3		3	3	3	3	3	5	3	1	1	Load Input Ch		Load from TPS
Realtime Graphs	46	0	0	.0.	2	2	1	3	3	3	3	3	3	3	3	3	3	3		3	3	Load Calibrat		Inactive: click button to
Device Information	40	0	0	0	1	1	2	z	2	2	2	1	2	2	2	2	2	2	2	2	2	Rev Limit Stat		Inactive
-	23	0	0	0	0	0	1	1	1	4	5	1	3	5	£.	4	1	1	1	1	4	Ckp Sync Stat		No Sync
	26	2	0	0	0	•	0	0	¢	0	0	0	0	0	0	0	0	•	0	0	0			
	20	0	0			0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	Revextend Sta		inactive
		2	0	0	0	0		0			0	0		0	0	3			0	0	0			
								0			0	0			0	0		0						
Sp	ark Input	State	15					÷	Fuel	Duty						Ini	ector I	nput !						
Spk-1 Status			Ini	ictive		lnj-1	Duty Cy	le						Inj-1 5	Status					-		_		
Spk-2 Status			Ini	ictive		inj-2 i	Duty Cy							1nj-2 5							11	IDM		
Spk-3 Status			In	ective		Inj-3								inj-3 1								KIN		
Spk-4 Status Inactive						Inj-4								Inj-4 Status										
		_														Se	rlect "Re	cord ⁻ to s	tart reco	rding or '	'Play" to	open recorded file	> D	Update Firmware



PowerTRONIC

Control settings

A) Load setting

Load Input channel	Shows the Load input Channel to the ECU
Load channel Select	The PowerTRONIC can derive load from either (a) Throttle Position Sensor or (b) Injection Pulse Width. On vehicles that have a Throttle Position Sensor available, use the Load input channel Throttle Position , and the bikes without TPS connectors select the Injection Pulse Width option.
Load Calibration	Is the option to do the TPS calibration procedure. For Throttle Position Sensor
	Calibration , refer the individual PowerTRONIC V4 Throttle Position Sensor
	Calibration Manual
Load Calibration Ststus	Shows the status of each steps in the TPS calibraion
Load % bar	Shows the Load input percentage as a progressive bar (the bar varies from minimum to maximum correspodnng to th 0 and 100%
Load %	Shows the Load percentage in Values (Value veries from 0-100%)
TPS Volt (v)	Shows the realtime TPS voltage
Load TP Raw min	Shows the TPS voltage corresponding to the idling or 0 position of the throttle after the Load calibration by TPS
Load TP Raw max	Shows the TPS voltage corresponding to the maximum or wide open throttle position of the throttle after the Load calibration by TPS
Inj Pw Raw	Shows the realtime injector Pulse width
Load Inj Pw Raw Min	Shows the Injectoer Pulse width value corresponding to the idling or 0 position of the throttle after the Load calibration by Injector Pulse width
Load Inj Pw Raw Max	Shows the Injectoer Pulse width value corresponding to the maximum or wide open throttle position of the throttle after the Load calibration by Injector Pulse width
RevExtend Status	Shows the Rev Extsension realtime status





Rev Limit RPM	Set the Rev limit of the vehicle. (Please note that, for some models, the rev extension is disabled by default) * Do not edit the value unless mentioned by the manufacturer
Rev Limit Type.	Select the type of rev cut at the limiting RPM. * Do not edit the value unless mentioned by the manufacturer.
Rev Limit Status	Shows the real-time status of the Rev limit
CKP sync Ststaus	Shows if the input from the Crankshaft position sensor is in sync with the set CKP family
Rev Extend type	Enables/ or Disbales of the rev extension feature * Do not edit the value unless mentioned by the manufacturer.
RevExtend Status	Shows the Rev Extension real-time status
Load % on	* Do not edit the value unless mentioned by the manufacturer.
Load % off	* Do not edit the value unless mentioned by the manufacturer.
RPM on	* Do not edit the value unless mentioned by the manufacturer.
RPM off	* Do not edit the value unless mentioned by the manufacturer.
CKP Family	Set the type of the CKP family based on the input from the CKP sensor.
Tooth Gap Min %	* Do not edit the value unless mentioned by the manufacturer.
Tooth Gap max %	* Do not edit the value unless mentioned by the manufacturer.

B) Rev Extend and Limiter Settings.





C) Fuel and Spark

Spk Noise Filter	Set the noise filter for Spark signal
Inj Noise filter	Set the noise filter for Injector signal
RPM Channel Select	Controls from which channel, the RPM data is derived
SPK Signal Ratio Threshold (0 to disable)	* Do not edit the value unless mentioned by the manufacturer.
Spark Signal ratio	Shows the real-time Spark signal ratio

D) Live Data

Engine RPM	Shows the Live RPM
Load % bar	Shows the Load input percentage as a progressive bar (the bar varies from minimum to maximum corresponding to the 0 and 100%
TPS Volt (V)	Shows the realtime TPS voltage
Load %	Shows the Load percentage in Values (Value varies from 0-100%)
Map Number	Shows the map currently running in the ECU
QS Logical Status	It shows whether the QS sensor is active or In-active
Load Input Status	Shows the Load input Channel to the ECU
Load Calibration Status	Shows the status of each step in the TPS calibration
Rev Limit Status	Shows the real-time status of the Rev limit
CKP Sync Status	Shows if the input from the Crankshaft position sensor is in sync with the set CKP family
RevExtend Status	Shows the Rev Extension real-time status

Quickshifter settings

For Quick shifter enabling and calibration, refer to the individual PowerTRONIC V4 Quick shifter Installation and Calibration Manual

---/End of Document/---