

107	Discharge Over-Current Protection Count [UINT_16] / Resolution 1 count														R							
108	Charge Over-Current Protection Count [UINT_16] / Resolution 1 count														R							
109	Over-Heat Protection Count [UINT_16] / Resolution 1 count														R							
110	Reserved														R							
111	Charging Count [UINT_16] / Resolution 1 count														R							
112	Full Charge Count [UINT_16] / Resolution 1 count														R							
113	Min. Pack Temperature [INT_8] / Resolution 1 °C							Max. Pack Temperature [INT_8] / Resolution 1 °C							R							
114	Last BMS Reset Event [UINT_8] / 0x00-Unknown, 0x01-Low power reset, 0x02-Window watchdog reset, 0x03-Independent watchdog reset, 0x04-Software reset, 0x05-POR/PDR reset, 0x06-PIN reset, 0x07-Options bytes loading reset							Last Wakeup From BMS Sleep Mode Event [UINT_8] / 0x00-Charger connected, 0x01-Ignition, 0x02-Discharging detected, 0x03-UART communication detected							R							
115	Reserved														R							
116	Statistics Last Cleared On Tstamp [UINT_32] / Resolution 1s														R							
117	Reserved														R							
118-199	Reserved														R							

3.3. Tiny BMS Events data

Reg. Nr.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Action							
200	Event_0 Timestamp [UINT_24 LSB] / Resolution 1 s															R								
201	Event_0 Timestamp [UINT_24 MSB] / Resolution 1 s							Event_0 Message ID* [UINT_8]								R								
202	Event_1 Timestamp [UINT_24 LSB] / Resolution 1 s															R								
203	Event_1 Timestamp [UINT_24 MSB] / Resolution 1 s							Event_1 Message ID* [UINT_8]								R								
204	Event_2 Timestamp [UINT_24 LSB] / Resolution 1 s															R								
205	Event_2 Timestamp [UINT_24 MSB] / Resolution 1 s							Event_2 Message ID* [UINT_8]								R								
206	Event_3 Timestamp [UINT_24 LSB] / Resolution 1 s															R								
207	Event_3 Timestamp [UINT_24 MSB] / Resolution 1 s							Event_3 Message ID* [UINT_8]								R								
...								
...								
296	Event_48 Timestamp [UINT_24 LSB] / Resolution 1 s															R								
297	Event_48 Timestamp [UINT_24 MSB] / Resolution 1 s							Event_48 Message ID* [UINT_8]								R								
298	Reserved															R								
299	Reserved															R								

* - Events messages ID list is attached in the Chapter 4.

3.4. Tiny BMS settings

Reg. Nr.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Action
300	Fully Charged Voltage [UINT_16] [1200 to 4500] / Resolution 1 mV															R/W	
301	Fully Discharged Voltage [UINT_16] [1000 to 3500] / Resolution 1 mV															R/W	
302	Reserved															R/W	
303	Early Balancing Threshold [UINT_16] [1000 to 4500] / Resolution 1 mV															R/W	
304	Charge Finished Current [UINT_16] [100 to 5000]* / Resolution 1 mA															R/W	
305	Peak Discharge Current Cutoff [UINT_16] / Resolution 1 A															R/W	
306	Battery Capacity [UINT_16] [10 to 65500] / Resolution 0.01 Ah															R/W	
307	Number Of Series Cells [UINT_16] [4 to 16] / Resolution 1 cell count															R/W	
308	Allowed Disbalance [UINT_16] [15 to 100] / Resolution 1 mV															R/W	
309	Reserved															R/W	
310	Charger Startup Delay [UINT_16] [5 to 60] / Resolution 1 sec.															R/W	
311	Charger Disable Delay [UINT_16] [0 to 60] / Resolution 1 sec.															R/W	
312	Pulses Per Unit [UINT_32] [1 to 100000] / Resolution 1 pulse per unit															R/W	
313	Distance Unit Name [UINT_16] / 0x01-Meter, 0x02-Kilometer, 0x03-Feet, 0x04-Mile, 0x05-Yard															R/W	
315	Over-Voltage Cutoff [UINT_16] [1200 to 4500] / Resolution 1 mV															R/W	
316	Under-Voltage Cutoff [UINT_16] [800 to 3500] / Resolution 1 mV															R/W	
317	Discharge Over-Current Cutoff [UINT_16] [1 to 750]* / Resolution 1 A															R/W	
318	Charge Over-Current Cutoff [UINT_16] [1 to 750]* / Resolution 1 A															R/W	
319	Over-Heat Cutoff [INT_16] [+20 to +90] / Resolution 1 °C															R/W	
320	Low Temperature Charger Cutoff [INT_16] [-40 to +10] / Resolution 1 °C															R/W	
321	Charge Restart Level [UINT_16] [60-95] / Resolution 1 %															R/W	
322	Battery Maximum Cycles Count [UINT_16] [10-65000]															R/W	
323	State Of Health [UINT_16] [0 to 50000] / Resolution 0.002 % / [0xFFFF - when data internally accepted]															R/W	
324	Reserved															R/W	
325	Reserved															R/W	

326	Reserved				R/W
327	Reserved				R/W
328	State Of Charge [UINT_16] [0 to 50000] / Resolution 0.002 %				R/W
329	Invert External Current Sensor Direction [1st bit] (0-1)	Disable Load/Charger Switch Diagnostics [2nd bit] (0-1)	Enable Charger Restart Level [3rd bit] (0-1)	Reserved(13 Bits)	R/W
330	Charger Type [8 bits LSB] / 0x00-Variable (Reserved), 0x01-CC/CV, 0x02-CAN (Reserved) Discharge Over-Current Cutoff Timeout[8 bits LSB] [0-30]/Resolution 1 s				R/W
331	Load Switch Type [8 bits LSB] / 0x00-FET, 0x01-AIDO1, 0x02-AIDO2, 0x03-DIDO1, 0x04-DIDO2, 0x05-AIHO1 Active Low, 0x06-AIHO1 Active High, 0x07-AIHO2 Active Low, 0x08-AIHO2 Active High				R/W
332	Automatic Recovery [8 bits LSB] [1 to 30] / Resolution 1 s				R/W
333	Charger Switch Type [8 bits LSB] / 0x01-Charge FET, 0x02-AIDO1, 0x03-AIDO2, 0x04-DIDO1, 0x05-DIDO2, 0x06-AIHO1 Active Low, 0x07-AIHO1 Active High, 0x08-AIHO2 Active Low, 0x09-AIHO2 Active High				R/W
334	Ignition [8 bits LSB] / 0x00-Disabled, 0x01-AID01, 0x02-AIDO2, 0x03-DIDO1, 0x04-DIDO2, 0x05-AIHO1, 0x06-AIHO2				R/W
335	Charger Detection [8 bits LSB] / 0x01-Internal, 0x02-AIDO1, 0x03-AIDO2, 0x04-DIDO1, 0x05-DIDO2, 0x06-AIHO1, 0x07-AIHO2				R/W
336	Speed Sensor Input [8 bits LSB] / 0x00-Disabled, 0x01-DIDO1, 0x02-DIDO2				R/W
337	Precharge Pin [8 bits LSB] / 0x00-Disabled, 0x02-Discharge FET, 0x03-AIDO1, 0x04-AIDO2, 0x05-DIDO1, 0x06-DIDO2, 0x07-AIHO1 Active low, 0x08-AIHO1 Active high, 0x09-AIHO2 Active low, 0x10-AIHO2 Active high				R/W
338	Precharge Duration [8 bits LSB] / 0x00-0.1 sec., 0x01-0.2 sec., 0x02-0.5 sec., 0x03-1 sec., 0x04-2 sec., 0x05-3 sec., 0x06-4 sec., 0x07-5 sec.				R/W
339	Temperature Sensor Type [8 bits LSB] / 0x00-Dual 10K NTC, 0x01-Multipoint Active Sensor				R/W
340	BMS Operation Mode [8 bits LSB] / 0x00-Dual Port Operation, 0x01-Single Port Operation				R/W
341	Single Port Switch Type [8 bits LSB] / 0x00-FET, 0x01-AIDO1, 0x02-AIDO2, 0x03-DIDO1, 0x04-DIDO2, 0x05-AIHO1 Active Low, 0x06-AIHO1 Active High, 0x07-AIHO2 Active Low, 0x08-AIHO2 Active High				R/W
342	Broadcast Time [8 bits LSB] / 0x00-Disabled, 0x01-0.1 sec., 0x02-0.2 sec., 0x03-0.5 sec., 0x04-1 sec., 0x05-2 sec., 0x06-5 sec., 0x07-10 sec.				R/W
343	Protocol [8 bits LSB] / 0x00-CA V3, 0x01-ASCII, 0x02-SOC BAR				R/W
344-399	Reserved				R/W

* Tiny BMS device internally changes these settings min. and max. values according to current sensor used.

3.5. Tiny BMS version data

Reg. Nr.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Action							
500	Hardware Version [8 bits LSB]							Hardware Changes Version [8 bits MSB]							R									
501	Public Release Firmware Version [8 bits LSB]							BPT (1 bit)*BCS (2 bits)**	Reserved							R								
502	Internal Firmware Version [UINT_16]															R								
503	Bootloader Version [8 bits LSB]							Profile Version [8 bits MSB]							R									
504	Product Serial Number [96 bits]															R								
505																								
506																								
507																								
508																								
509																								
510-599	Reserved															R								

* BPT – BMS Power Type / 0x00-Low Power, 0x01-High Power

** BCS – BMS Current Sensor Used / 0x00-Internal Resistor, 0x01-Internal HALL, 0x02-External