

123SmartBMS data out protocol

All data will be send in "Big Endian" format.

All data will be send every second or two times a second depending on the BMS speed

Baud rate: 9600

Parity bit: None

Start bit: 1

Stop bit: 1

Byte	Information	Step	Size	Example
1,2,3	Total Voltage	0,005 Volt/bit	24 bit	0x0105FF = 335,4 Volt
4	Sign byte I1	Ascii: +, -, X	8 bit	0x2B = +, 0x2D = -, 0x58 = X
5,6	Current I1	0,125 Amp/bit	16 bit	0x0100 = 32 Amp
7	Sign byte I2	Ascii: +, -, X	8 bit	0x2B = +, 0x2D = -, 0x58 = X
8,9	I2	0,125 Amp/bit	16 bit	0x0100 = 32 Amp
10	Sign byte I3	Ascii: +, -, X	8 bit	0x2B = +, 0x2D = -, 0x58 = X
11,12	I3	0,125 Amp/bit	16 bit	0x0100 = 32 Amp
13,14	Vmin	0,005 Volt/bit	24 bit	0x0230 = 2,80 Volt
15	Cell Vmin	Cell Nr/bit	8 bit	0x32 = Cell number 50
16,17	Vmax	0,005 Volt/bit	24 bit	0x0230 = 2,80 Volt
18	Cell Vmax	Cell Nr/bit	8 bit	0x32 = Cell number 50
19/20	Tmin	1 Deg / bit + ofset	16 bit	0x0114 = 0 deg Celcius, 0x0128 = 20 deg Celcius
21	Cell Tmin	Cell Nr/bit	8 bit	0x32 = Cell number 50
22,23	Tmax	1 Deg / bit + ofset	16 bit	0x0114 = 0 deg Celcius, 0x0128 = 20 deg Celcius
24	Cell Tmax	Cell Nr/bit	8 bit	0x32 = Cell number 50
25	Cell nr info	Cell Nr/bit	8 bit	0x32 = Cell number 50
26	Nr off cells	Cell Nr/bit	8 bit	0xFF = Cell number 255
27,28	Cell Voltage	0,005 Volt/bit	24 bit	0x0230 = 2,80 Volt
29/30	Cell Temp	1 Deg / bit + ofset	16 bit	0x0114 = 0 deg Celcius, 0x0128 = 20 deg Celcius
31	Status	<i>See info below</i>	8 bit	<i>See info below</i>
32,33,34	TodayEnergy collected	Wh/bit	24 bit	0x000064 = 100 Wh
35,36,37	Energy stored	Wh/bit	24 bit	0x00F221 = 61,985 kWh
38,39,40	Today Energy consumed	Wh/bit	24 bit	0x000064 = 100 Wh
41	SOC %	1%/bit	8 bit	0x32 = 50%
42,43,44	Total collected	kWh/bit	24 bit	0x00640000 = 6.553.600 kWh
45,46,47	Total consumed	kWh/bit	24 bit	0x00640000 = 6.553.600 kWh
48,49	Device time MM:SS	H/bit, M/bit	16 bit	0x1620 = 22:32
50,51	Battery capacity	0,1 kWh/bit	16 bit	0x00A0 = 16,0 Kwh
52,53	V-MIN Setting	0,005 Volt/bit	24 bit	0x15FF = 56,31 Volt
54,55	V-MAX Setting	0,005 Volt/bit	24 bit	0x15FF = 56,31 Volt
56,57	V-Bypass Setting	0,005 Volt/bit	24 bit	0x15FF = 56,31 Volt
58	Checksum	0x34	8 bit	Lowest 8 bits of an addition of all bytes before

Status Byte		
MSB	7	SOC not calibrated
	6	Exceed T-MAX
	5	Exceed T-MIN
	4	Exceed V-MAX
	3	Exceed V-MIN
	2	Communication error
	1	Allow to discharge
LSB	0	Allow to charge

IMPORTANT!!!

Please be aware it's very important to use the checksum.

It can be data is incomplete, interrupted or corrupt, especially when Blue-tooth is active.

because the processor has to handle a lot of tasks and runs on a low frequency to save energy.