2. Communication Parameters

Baud Rate：9600(Default, Subject to the BMS Specification)

Parity Bit：No

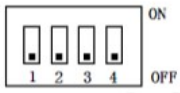
Data Bits：8

Stop Bit：1

Timeout: 200 mS

Interval time of the frame: > 100mS

BMS Module ID



NO.	Module Address	BMS Module ID	ID Arrangement			
			1#	2#	3#	4#
1	0x01	1	ON	OFF	OFF	OFF
2	0x02	2	OFF	ON	OFF	OFF
3	0x03	3	ON	ON	OFF	OFF
4	0x04	4	OFF	OFF	ON	OFF
5	0x05	5	ON	OFF	ON	OFF
6	0x06	6	OFF	ON	ON	OFF
7	0x07	7	ON	ON	ON	OFF
8	0x08	8	OFF	OFF	OFF	ON
9	0x09	9	ON	OFF	OFF	ON
10	0x0A	10	OFF	ON	OFF	ON
11	0x0B	11	ON	ON	OFF	ON
12	0x0C	12	OFF	OFF	ON	ON
13	0x0D	13	ON	OFF	ON	ON
14	0x0E	14	OFF	ON	ON	ON
15	0x0F	15	ON	ON	ON	ON
0	0x00	0	OFF	OFF	OFF	OFF

4. Data information

4.1 Data acquisition

Address	Content	Length	RW/Data type	Unit	Remark
0000	Current	2byte	R/INT16	10mA	Positive: charging Negative: discharging
0001	Voltage of pack	2byte	R/UINT16	10mV	
0002	SOC	2byte	R/UINT8	%	0~100%
0003	SOH	2byte	R/UINT8	%	0~100%
0004	Remain capacity	2byte	R/UINT16	10mAH	
0005	Full capacity	2byte	R/UINT16	10mAH	
0006	Design capacity	2byte	R/UINT16	10mAH	
0007	Battery cycle counts	2byte	R/UINT16	Cyc.	
0008	-	-	-	-	Reserved
0009	Warning flag	2byte	R/UINT16	Hex	See description-1
0010	Protection flag	2byte	R/UINT16	Hex	See description-2
0011	Status/Fault flag	2byte	R/UINT16	Hex	See description-3
0012	Balance status	2byte	R/UINT16	Hex	
0013-0014	-	-	-	-	Reserved
0015-0030	Cell voltage	32byte	R/UINT16	mV	Voltage of 16 cells, 2 byte for each cell
0031-0034	Cell temperature	8 byte	R/INT16	0.1℃	4 cell temperature, 2 byte for each cell
0035	MOSFET temperature	2byte	R/INT16	0.1℃	Or invalid
0036	Environment temperature	2byte	R/INT16	0.1℃	Or invalid

Warning flag

Warning	BIT0	1: battery cell overvoltage alarm 0: not occurring	
	BIT1	1: battery cell low voltage alarm 0: not occurring	
	BIT2	1: battery pack overvoltage alarm 0: not occurring	
	BIT3	1: battery pack low voltage alarm 0: not occurring	
	BIT4	1: charging over current alarm 0: not occurring	
	BIT5	1: discharging over current alarm 0: not occurring	
	BIT6	reserve	
	BIT7	reserve	
	BIT8	1: charging high temperature alarm 0: not occurring	cell temperature
	BIT9	1: discharging high temperature alarm 0: not occurring	cell temperature
	BIT10	1: charging low temperature alarm 0: not occurring	cell temperature
	BIT11	1: discharging low temperature alarm 0: not occurring	cell temperature
	BIT12	1: environment high temperature alarm 0: not occurring	
	BIT13	1: environment low temperature alarm 0: not occurring	
	BIT14	1: MOSFET high temperature alarm 0: not occurring	
	BIT15	1: SOC Low alarm 0: not occurring	

Protection flag

Protection	BIT0	1: battery cell over voltage protection 0: not occurring	
	BIT1	1: battery cell low voltage protection 0: not occurring	
	BIT2	1: battery pack over voltage protection 0: not occurring	
	BIT3	1: battery pack low voltage protection 0: not occurring	
	BIT4	1: charging over current protection 0: not occurring	
	BIT5	1: discharging over current protection 0: not occurring	
	BIT6	1: short circuit protection 0: not occurring	
	BIT7	1: charger overvoltage protection 0: not occurring	
	BIT8	1: charging high temperature protection 0: not occurring	cell temperature
	BIT9	1: discharging high temperature protection 0: not occurring	cell temperature
	BIT10	1: charging low temperature protection 0: not occurring	cell temperature
	BIT11	1: discharging low temperature protection 0: not occurring	cell temperature
	BIT12	1: MOSFET high temperature protection 0: not occurring	
	BIT13	1: environment high temperature protection 0: not occurring	
	BIT14	1: environment low temperature protection 0: not occurring	
	BIT15	reserve	

Status/Fault flag

Fault	BIT0	1: charging MOSFET fault 0: not occurring	
	BIT1	1: discharging MOSFET fault 0: not occurring	
	BIT2	1: temperature sensor fault 0: not occurring	
	BIT3	reserve	
	BIT4	1: battery cell fault 0: not occurring	
	BIT5	1: front end sampling communication fault 0: not occurring	
	BIT6	reserve	
	BIT7	reserve	
Status	BIT8	1: state of charge 0: not occurring	
	BIT9	1: state of discharge 0: not occurring	
	BIT10	1: charging MOSFET is ON 0: charging MOSFET is OFF	
	BIT11	1: discharging MOSFET is ON 0: discharging MOSFET is OFF	
	BIT12	1: charging Limiter is ON 0: charging Limiter is OFF	
	BIT13	reserve	
	BIT14	1: charger inversed 0: not occurring	
	BIT15	1: heater is ON 0: heater is OFF	