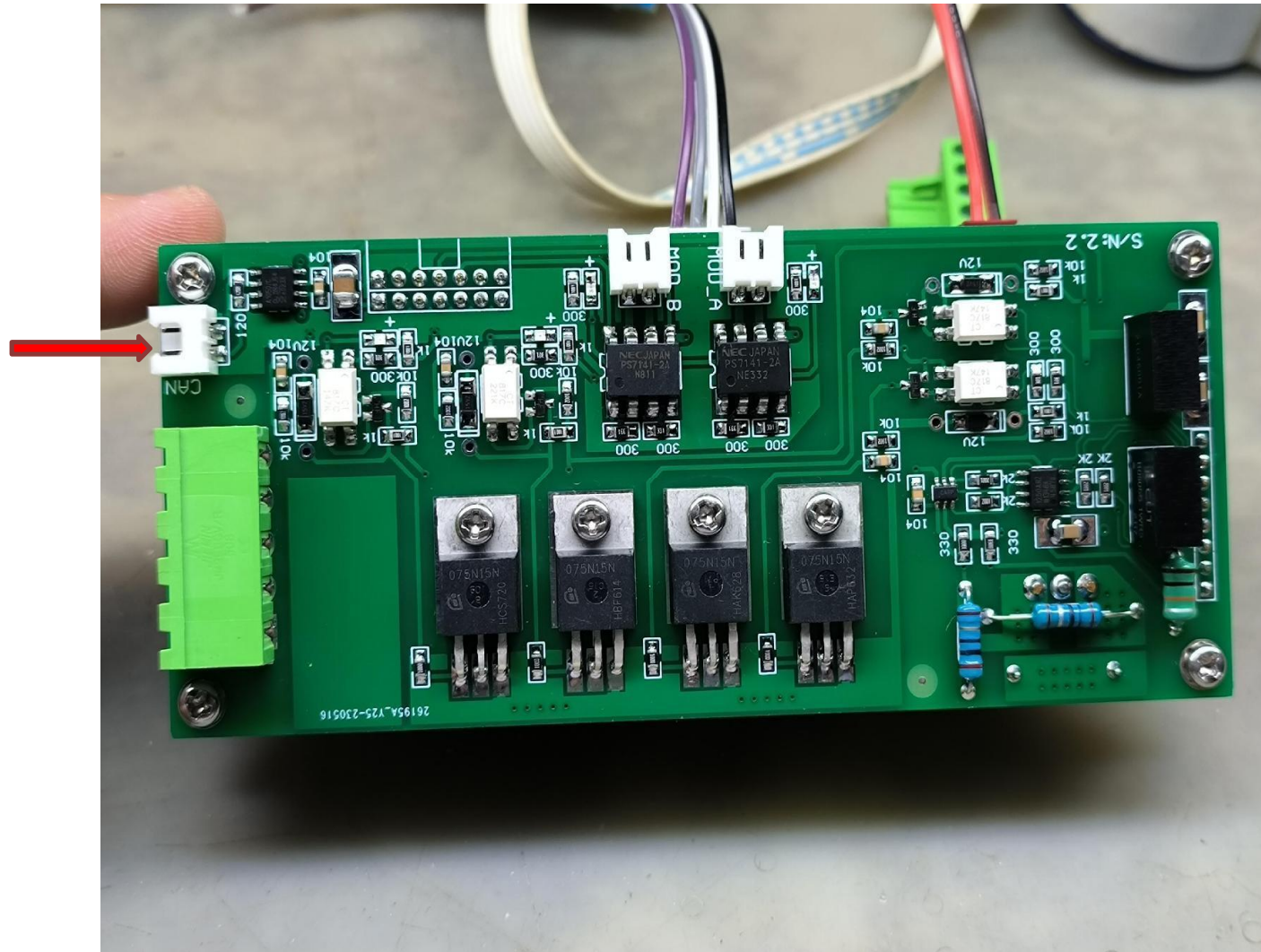


## CAN port communication protocol (V9.8)

CAN receive ID: 0XF4, CAN send ID: 0XF5, BAUD: 250KHZ

Data format: Extended data format, with 8 bytes per array



Data sending group (1)

num	data	data byte	data meaning	notes
1	0x01	byte	Identify header data	
2	0x00	byte	Discharge protection voltage H	
3	0x00	byte	Discharge protection voltage L	
4	0x00	byte	protective current H	
5	0x00	byte	protective current L	
6	0x00	byte	battery pack capacity H	
7	0x00	byte	battery pack capacity L	
8	0x00	byte	not used	

Data sending group (2)

num	data	data byte	data meaning	notes
1	0x02	byte	Identify header data	
2	0x00	byte	Number of battery strings H	
3	0x00	byte	Number of battery strings L	
4	0x00	byte	Charging protection voltage H	
5	0x00	byte	Charging protection voltage L	
6	0x00	byte	Protection temperature H	
7	0x00	byte	Protection temperature L	
8	0x00	byte	not used	

Data sending group (3)

num	data	data byte	data meaning	notes
1	0x03	byte	Identify header data	
2	0x00	byte	total voltage H	
3	0x00	byte	total voltage L	
4	0x00	byte	total current H	
5	0x00	byte	total current L	

6	0x00	byte	total power H	
7	0x00	byte	total power L	
8	0x00	byte	not used	

### Data sending group (4)

num	data	data byte	data meaning	notes
1	0x04	byte	Identify header data	
2	0x00	byte	Battery usage capacity H	
3	0x00	byte	Battery usage capacity L	
4	0x00	byte	Battery capacity percentage H	
5	0x00	byte	Battery capacity percentage L	
6	0x00	byte	Charging capacity H	
7	0x00	byte	Charging capacity L	
8	0x00	byte	not used	

### Data sending group (5)

num	data	data byte	data meaning	notes
1	0x05	byte	Identify header data	
2	0x00	byte	Charging recovery voltage H	
3	0x00	byte	Charging recovery voltage L	
4	0x00	byte	Discharge recovery voltage H	
5	0x00	byte	Discharge recovery voltage L	
6	0x00	byte	remaining capacity H	
7	0x00	byte	remaining capacity L	
8	0x00	byte	not used	

### Data sending group (6)

num	data	data byte	data meaning	notes
1	0x06	byte	Identify header data	
2	0x00	byte	Host temperature H	
3	0x00	byte	Host temperature L	
4	0x00	byte	Status accounting H	
5	0x00	byte	Status accounting L	See Table 1 for details
6	0x00	byte	equalization starting voltage H	
7	0x00	byte	equalization starting voltage L	
8	0x00	byte	not used	

Table 1:

num	byte	data byte	data meaning	notes
1	9	byte	Host Temperature below zero	
2	8	byte	channel status	
3	7	byte	Current polarity	
4	6	byte	Equilibrium markers	
5	5	byte	Overdischarge marking	
6	4	byte	Overcurrent marking	
7	3	byte	Battery string error marking	
8	2	byte	Overcharging marking	
9	1	byte	Over temperature marking	

### Data sending group (7)

num	data	data byte	data meaning	notes
1	0x07	byte	Identify header data	
2	0x00	byte	Voltage of cell 1 H	

3	0x00	byte	Voltage of cell 1 L	
4	0x00	byte	Voltage of cell 2 H	
5	0x00	byte	Voltage of cell 2 L	
6	0x00	byte	Voltage of cell 3 H	
7	0x00	byte	Voltage of cell 3 L	
8	0x00	byte	not used	

Data sending group (8)

num	data	data byte	data meaning	notes
1	0x08	byte	Identify header data	
2	0x00	byte	Voltage of cell 4 H	
3	0x00	byte	Voltage of cell 4 L	
4	0x00	byte	Voltage of cell 5 H	
5	0x00	byte	Voltage of cell 5 L	
6	0x00	byte	Voltage of cell 6 H	
7	0x00	byte	Voltage of cell 6 L	
8	0x00	byte	not used	

Data sending group (9)

num	data	data byte	data meaning	notes
1	0x09	byte	Identify header data	
2	0x00	byte	Voltage of cell 7 H	
3	0x00	byte	Voltage of cell 7 L	
4	0x00	byte	Voltage of cell 8 H	
5	0x00	byte	Voltage of cell 8 L	
6	0x00	byte	Voltage of cell 9 H	
7	0x00	byte	Voltage of cell 9 L	
8	0x00	byte	not used	

Data sending group (10)

num	data	data byte	data meaning	notes
1	0x0A	byte	Identify header data	
2	0x00	byte	Voltage of cell 10 H	
3	0x00	byte	Voltage of cell 10 L	
4	0x00	byte	Voltage of cell 11 H	
5	0x00	byte	Voltage of cell 11 L	
6	0x00	byte	Voltage of cell 12 H	
7	0x00	byte	Voltage of cell 12 L	
8	0x00	byte	not used	

Data sending group (11)

num	data	data byte	data meaning	notes
1	0x0B	byte	Identify header data	
2	0x00	byte	Voltage of cell 13 H	
3	0x00	byte	Voltage of cell 13 L	
4	0x00	byte	Voltage of cell 14 H	
5	0x00	byte	Voltage of cell 14 L	
6	0x00	byte	Voltage of cell 15 H	
7	0x00	byte	Voltage of cell 15 L	
8	0x00	byte	not used	

Data sending group (12)

num	data	data byte	data meaning	notes
1	0x0C	byte	Identify header data	
2	0x00	byte	Voltage of cell 16 H	

3	0x00	byte	Voltage of cell 16 L	
4	0x00	byte	Voltage of cell 17 H	
5	0x00	byte	Voltage of cell 17 L	
6	0x00	byte	Voltage of cell 18 H	
7	0x00	byte	Voltage of cell 18 L	
8	0x00	byte	not used	

Data sending group (13)

num	data	data byte	data meaning	notes
1	0x0D	byte	Identify header data	
2	0x00	byte	Voltage of cell 19 H	
3	0x00	byte	Voltage of cell 19 L	
4	0x00	byte	Voltage of cell 20 H	
5	0x00	byte	Voltage of cell 20 L	
6	0x00	byte	Voltage of cell 21 H	
7	0x00	byte	Voltage of cell 21 L	
8	0x00	byte	not used	

Data sending group (14)

num	data	data byte	data meaning	notes
1	0x0E	byte	Identify header data	
2	0x00	byte	Voltage of cell 22 H	
3	0x00	byte	Voltage of cell 22 L	
4	0x00	byte	Voltage of cell 23 H	
5	0x00	byte	Voltage of cell 23 L	
6	0x00	byte	Voltage of cell 24 H	
7	0x00	byte	Voltage of cell 24 L	
8	0x00	byte	not used	

Data sending group (15)

num	data	data byte	data meaning	notes
1	0x0F	byte	Identify header data	
2	0x00	byte	Voltage of cell 25 H	
3	0x00	byte	Voltage of cell 25 L	
4	0x00	byte	Voltage of cell 26 H	
5	0x00	byte	Voltage of cell 26 L	
6	0x00	byte	Voltage of cell 27 H	
7	0x00	byte	Voltage of cell 27 L	
8	0x00	byte	not used	

Data sending group (16)

num	data	data byte	data meaning	notes
1	0x10	byte	Identify header data	
2	0x00	byte	Voltage of cell 28 H	
3	0x00	byte	Voltage of cell 28 L	
4	0x00	byte	Voltage of cell 29 H	
5	0x00	byte	Voltage of cell 29 L	
6	0x00	byte	Voltage of cell 30 H	
7	0x00	byte	Voltage of cell 30 L	
8	0x00	byte	not used	

Data sending group (17)

num	data	data byte	data meaning	notes
1	0x11	byte	Identify header data	
2	0x00	byte	Voltage of cell 31 H	



3	0x00	byte	Voltage of cell 31 L	
4	0x00	byte	Voltage of cell 32 H	
5	0x00	byte	Voltage of cell 32 L	
6	0x00	byte	Voltage of cell 33 H	
7	0x00	byte	Voltage of cell 33 L	
8	0x00	byte	not used	

Data sending group (18)

num	data	data byte	data meaning	notes
1	0x12	byte	Identify header data	
2	0x00	byte	Voltage of cell 34 H	
3	0x00	byte	Voltage of cell 34 L	
4	0x00	byte	Voltage of cell 35 H	
5	0x00	byte	Voltage of cell 35 L	
6	0x00	byte	Voltage of cell 36 H	
7	0x00	byte	Voltage of cell 36 L	
8	0x00	byte	not used	

Data sending group (19)

num	data	data byte	data meaning	notes
1	0x13	byte	Identify header data	
2	0x00	byte	Voltage of cell 37 H	
3	0x00	byte	Voltage of cell 37 L	
4	0x00	byte	Voltage of cell 38 H	
5	0x00	byte	Voltage of cell 38 L	
6	0x00	byte	Voltage of cell 39 H	
7	0x00	byte	Voltage of cell 39 L	
8	0x00	byte	not used	

Data sending group (20)

num	data	data byte	data meaning	notes
1	0x14	byte	Identify header data	
2	0x00	byte	Voltage of cell 40 H	
3	0x00	byte	Voltage of cell 40 L	
4	0x00	byte	Voltage of cell 41 H	
5	0x00	byte	Voltage of cell 41 L	
6	0x00	byte	Voltage of cell 42 H	
7	0x00	byte	Voltage of cell 42 L	
8	0x00	byte	not used	

Data sending group (21)

num	data	data byte	data meaning	notes
1	0x15	byte	Identify header data	
2	0x00	byte	Voltage of cell 43 H	
3	0x00	byte	Voltage of cell 43 L	
4	0x00	byte	Voltage of cell 44 H	
5	0x00	byte	Voltage of cell 44 L	
6	0x00	byte	Voltage of cell 45 H	
7	0x00	byte	Voltage of cell 45 L	
8	0x00	byte	not used	

Data sending group (22)

num	data	data byte	data meaning	notes
1	0x16	byte	Identify header data	
2	0x00	byte	Voltage of cell 46 H	

3	0x00	byte	Voltage of cell 46 L	
4	0x00	byte	Voltage of cell 47 H	
5	0x00	byte	Voltage of cell 47 L	
6	0x00	byte	Voltage of cell 48 H	
7	0x00	byte	Voltage of cell 48 L	
8	0x00	byte	not used	

### Data sending group (23)

num	data	data byte	data meaning	notes
1	0x17	byte	Identify header data	
2	0x00	byte	Voltage of cell 49 H	
3	0x00	byte	Voltage of cell 49 L	
4	0x00	byte	Voltage of cell 50 H	
5	0x00	byte	Voltage of cell 50 L	
6	0x00	byte	Voltage of cell 51 H	
7	0x00	byte	Voltage of cell 51 L	
8	0x00	byte	not used	

### Data sending group (24)

num	data	data byte	data meaning	notes
1	0x18	byte	Identify header data	
2	0x00	byte	Voltage of cell 52 H	
3	0x00	byte	Voltage of cell 52 L	
4	0x00	byte	Voltage of cell 53 H	
5	0x00	byte	Voltage of cell 53 L	
6	0x00	byte	Voltage of cell 54 H	
7	0x00	byte	Voltage of cell 54 L	
8	0x00	byte	not used	

### Data sending group (25)

num	data	data byte	data meaning	notes
1	0x19	byte	Identify header data	
2	0x00	byte	Voltage of cell 55 H	
3	0x00	byte	Voltage of cell 55 L	
4	0x00	byte	Voltage of cell 56 H	
5	0x00	byte	Voltage of cell 56 L	
6	0x00	byte	Voltage of cell 57 H	
7	0x00	byte	Voltage of cell 57 L	
8	0x00	byte	not used	

### Data sending group (26)

num	data	data byte	data meaning	notes
1	0x1A	byte	Identify header data	
2	0x00	byte	Voltage of cell 58 H	
3	0x00	byte	Voltage of cell 58 L	
4	0x00	byte	Voltage of cell 59 H	
5	0x00	byte	Voltage of cell 59 L	
6	0x00	byte	Voltage of cell 60 H	
7	0x00	byte	Voltage of cell 60 L	
8	0x00	byte	not used	

### Data sending group (27)

num	data	data byte	data meaning	notes
1	0x1B	byte	Identify header data	
2	0x00	byte	Voltage of cell 61 H	

3	0x00	byte	Voltage of cell 61 L	
4	0x00	byte	Voltage of cell 62 H	
5	0x00	byte	Voltage of cell 62 L	
6	0x00	byte	Voltage of cell 63 H	
7	0x00	byte	Voltage of cell 63 L	
8	0x00	byte	not used	

Data sending group (28)

num	data	data byte	data meaning	notes
1	0x1C	byte	Identify header data	
2	0x00	byte	Voltage of cell 64 H	
3	0x00	byte	Voltage of cell 64 L	
4	0x00	byte	Voltage of cell 65 H	
5	0x00	byte	Voltage of cell 65 L	
6	0x00	byte	Voltage of cell 66 H	
7	0x00	byte	Voltage of cell 66 L	
8	0x00	byte	not used	

Data sending group (29)

num	data	data byte	data meaning	notes
1	0x1D	byte	Identify header data	
2	0x00	byte	Voltage of cell 67 H	
3	0x00	byte	Voltage of cell 67 L	
4	0x00	byte	Voltage of cell 68 H	
5	0x00	byte	Voltage of cell 68 L	
6	0x00	byte	Voltage of cell 69 H	
7	0x00	byte	Voltage of cell 69 L	
8	0x00	byte	not used	

Data sending group (30)

num	data	data byte	data meaning	notes
1	0x1E	byte	Identify header data	
2	0x00	byte	Voltage of cell 70 H	
3	0x00	byte	Voltage of cell 70 L	
4	0x00	byte	Voltage of cell 71 H	
5	0x00	byte	Voltage of cell 71 L	
6	0x00	byte	Voltage of cell 72 H	
7	0x00	byte	Voltage of cell 72 L	
8	0x00	byte	not used	

Data sending group (31)

num	data	data byte	data meaning	notes
1	0x1F	byte	Identify header data	
2	0x00	byte	Voltage of cell 73 H	
3	0x00	byte	Voltage of cell 73 L	
4	0x00	byte	Voltage of cell 74 H	
5	0x00	byte	Voltage of cell 74 L	
6	0x00	byte	Voltage of cell 75 H	
7	0x00	byte	Voltage of cell 75 L	
8	0x00	byte	not used	

Data sending group (32)

num	data	data byte	data meaning	notes
1	0x20	byte	Identify header data	
2	0x00	byte	Voltage of cell 76 H	

3	0x00	byte	Voltage of cell 76 L	
4	0x00	byte	Voltage of cell 77 H	
5	0x00	byte	Voltage of cell 77 L	
6	0x00	byte	Voltage of cell 78 H	
7	0x00	byte	Voltage of cell 78 L	
8	0x00	byte	not used	

Data sending group (33)

num	data	data byte	data meaning	notes
1	0x21	byte	Identify header data	
2	0x00	byte	Voltage of cell 79 H	
3	0x00	byte	Voltage of cell 79 L	
4	0x00	byte	Voltage of cell 80 H	
5	0x00	byte	Voltage of cell 80 L	
6	0x00	byte	Voltage of cell 81 H	
7	0x00	byte	Voltage of cell 81 L	
8	0x00	byte	not used	

Data sending group (34)

num	data	data byte	data meaning	notes
1	0x22	byte	Identify header data	
2	0x00	byte	Voltage of cell 82 H	
3	0x00	byte	Voltage of cell 82 L	
4	0x00	byte	Voltage of cell 83 H	
5	0x00	byte	Voltage of cell 83 L	
6	0x00	byte	Voltage of cell 84 H	
7	0x00	byte	Voltage of cell 84 L	
8	0x00	byte	not used	

Data sending group (35)

num	data	data byte	data meaning	notes
1	0x23	byte	Identify header data	
2	0x00	byte	Voltage of cell 85 H	
3	0x00	byte	Voltage of cell 85 L	
4	0x00	byte	Voltage of cell 86 H	
5	0x00	byte	Voltage of cell 86 L	
6	0x00	byte	Voltage of cell 87 H	
7	0x00	byte	Voltage of cell 87 L	
8	0x00	byte	not used	

Data sending group (36)

num	data	data byte	data meaning	notes
1	0x24	byte	Identify header data	
2	0x00	byte	Voltage of cell 88 H	
3	0x00	byte	Voltage of cell 88 L	
4	0x00	byte	Voltage of cell 89 H	
5	0x00	byte	Voltage of cell 89 L	
6	0x00	byte	Voltage of cell 90 H	
7	0x00	byte	Voltage of cell 90 L	
8	0x00	byte	not used	

Data sending group (37)

num	data	data byte	data meaning	notes
1	0x25	byte	Identify header data	
2	0x00	byte	Voltage of cell 91 H	



3	0x00	byte	Voltage of cell 91 L	
4	0x00	byte	Voltage of cell 92 H	
5	0x00	byte	Voltage of cell 92 L	
6	0x00	byte	Voltage of cell 93 H	
7	0x00	byte	Voltage of cell 93 L	
8	0x00	byte	not used	

## Data sending group (38)

num	data	data byte	data meaning	notes
1	0x26	byte	Identify header data	
2	0x00	byte	Voltage of cell 94 H	
3	0x00	byte	Voltage of cell 94 L	
4	0x00	byte	Voltage of cell 95 H	
5	0x00	byte	Voltage of cell 95 L	
6	0x00	byte	Voltage of cell 96 H	
7	0x00	byte	Voltage of cell 96 L	
8	0x00	byte	not used	

## Data sending group (39)

num	data	data byte	data meaning	notes
1	0x27	byte	Identify header data	
2	0x00	byte	Voltage of cell 97 H	
3	0x00	byte	Voltage of cell 97 L	
4	0x00	byte	Voltage of cell 98 H	
5	0x00	byte	Voltage of cell 98 L	
6	0x00	byte	Voltage of cell 99 H	
7	0x00	byte	Voltage of cell 99 L	
8	0x00	byte	not used	

## Data sending group (40)

num	data	data byte	data meaning	notes
1	0x28	byte	Identify header data	
2	0x00	byte	Voltage of cell 100 H	
3	0x00	byte	Voltage of cell 100 L	
4	0x00	byte	Voltage of cell 101 H	
5	0x00	byte	Voltage of cell 101 L	
6	0x00	byte	Voltage of cell 102 H	
7	0x00	byte	Voltage of cell 102 L	
8	0x00	byte	not used	

## Data sending group (41)

num	data	data byte	data meaning	notes
1	0x29	byte	Identify header data	
2	0x00	byte	Voltage of cell 103 H	
3	0x00	byte	Voltage of cell 103 L	
4	0x00	byte	Voltage of cell 104 H	
5	0x00	byte	Voltage of cell 104 L	
6	0x00	byte	Voltage of cell 105 H	
7	0x00	byte	Voltage of cell 105 L	
8	0x00	byte	not used	

## Data sending group (42)

num	data	data byte	data meaning	notes
1	0x2A	byte	Identify header data	
2	0x00	byte	Voltage of cell 106 H	

3	0x00	byte	Voltage of cell 106 L	
4	0x00	byte	Voltage of cell 107 H	
5	0x00	byte	Voltage of cell 107 L	
6	0x00	byte	Voltage of cell 108 H	
7	0x00	byte	Voltage of cell 108 L	
8	0x00	byte	not used	

## Data sending group (43)

num	data	data byte	data meaning	notes
1	0x2B	byte	Identify header data	
2	0x00	byte	Voltage of cell 109 H	
3	0x00	byte	Voltage of cell 109 L	
4	0x00	byte	Voltage of cell 110 H	
5	0x00	byte	Voltage of cell 110 L	
6	0x00	byte	Voltage of cell 111 H	
7	0x00	byte	Voltage of cell 111 L	
8	0x00	byte	not used	

## Data sending group (44)

num	data	data byte	data meaning	notes
1	0x2C	byte	Identify header data	
2	0x00	byte	Voltage of cell 112 H	
3	0x00	byte	Voltage of cell 112 L	
4	0x00	byte	Voltage of cell 113 H	
5	0x00	byte	Voltage of cell 113 L	
6	0x00	byte	Voltage of cell 114 H	
7	0x00	byte	Voltage of cell 114 L	
8	0x00	byte	not used	

## Data sending group (45)

num	data	data byte	data meaning	notes
1	0x2D	byte	Identify header data	
2	0x00	byte	Voltage of cell 115 H	
3	0x00	byte	Voltage of cell 115 L	
4	0x00	byte	Voltage of cell 116 H	
5	0x00	byte	Voltage of cell 116 L	
6	0x00	byte	Voltage of cell 117 H	
7	0x00	byte	Voltage of cell 117 L	
8	0x00	byte	not used	

## Data sending group (46)

num	data	data byte	data meaning	notes
1	0x2E	byte	Identify header data	
2	0x00	byte	Voltage of cell 118 H	
3	0x00	byte	Voltage of cell 118 L	
4	0x00	byte	Voltage of cell 119 H	
5	0x00	byte	Voltage of cell 119 L	
6	0x00	byte	Voltage of cell 120 H	
7	0x00	byte	Voltage of cell 120 L	
8	0x00	byte	not used	

## Data sending group (47)

num	data	data byte	data meaning	notes
1	0x2F	byte	Identify header data	
2	0x00	byte	Voltage of cell 121 H	

3	0x00	byte	Voltage of cell 121 L	
4	0x00	byte	Voltage of cell 122 H	
5	0x00	byte	Voltage of cell 122 L	
6	0x00	byte	Voltage of cell 123 H	
7	0x00	byte	Voltage of cell 123 L	
8	0x00	byte	not used	

## Data sending group (48)

num	data	data byte	data meaning	notes
1	0x30	byte	Identify header data	
2	0x00	byte	Voltage of cell 124 H	
3	0x00	byte	Voltage of cell 124 L	
4	0x00	byte	Voltage of cell 125 H	
5	0x00	byte	Voltage of cell 125 L	
6	0x00	byte	Voltage of cell 126 H	
7	0x00	byte	Voltage of cell 126 L	
8	0x00	byte	not used	

## Data sending group (49)

num	data	data byte	data meaning	notes
1	0x31	byte	Identify header data	
2	0x00	byte	Voltage of cell 127 H	
3	0x00	byte	Voltage of cell 127 L	
4	0x00	byte	Voltage of cell 128 H	
5	0x00	byte	Voltage of cell 128 L	
6	0x00	byte	Voltage of cell 129 H	
7	0x00	byte	Voltage of cell 129 L	
8	0x00	byte	not used	

## Data sending group (50)

num	data	data byte	data meaning	notes
1	0x32	byte	Identify header data	
2	0x00	byte	Voltage of cell 130 H	
3	0x00	byte	Voltage of cell 130 L	
4	0x00	byte	Voltage of cell 131 H	
5	0x00	byte	Voltage of cell 131 L	
6	0x00	byte	Voltage of cell 132 H	
7	0x00	byte	Voltage of cell 132 L	
8	0x00	byte	not used	

## Data sending group (51)

num	data	data byte	data meaning	notes
1	0x33	byte	Identify header data	
2	0x00	byte	Voltage of cell 133 H	
3	0x00	byte	Voltage of cell 133 L	
4	0x00	byte	Voltage of cell 134 H	
5	0x00	byte	Voltage of cell 134 L	
6	0x00	byte	Voltage of cell 135 H	
7	0x00	byte	Voltage of cell 135 L	
8	0x00	byte	not used	

## Data sending group (52)

num	data	data byte	data meaning	notes
1	0x34	byte	Identify header data	
2	0x00	byte	Voltage of cell 136 H	

3	0x00	byte	Voltage of cell 136 L	
4	0x00	byte	Voltage of cell 137 H	
5	0x00	byte	Voltage of cell 137 L	
6	0x00	byte	Voltage of cell 138 H	
7	0x00	byte	Voltage of cell 138 L	
8	0x00	byte	not used	

Data sending group (53)

num	data	data byte	data meaning	notes
1	0x35	byte	Identify header data	
2	0x00	byte	Voltage of cell 139 H	
3	0x00	byte	Voltage of cell 139 L	
4	0x00	byte	Voltage of cell 140 H	
5	0x00	byte	Voltage of cell 140 L	
6	0x00	byte	Voltage of cell 141 H	
7	0x00	byte	Voltage of cell 141 L	
8	0x00	byte	not used	

Data sending group (54)

num	data	data byte	data meaning	notes
1	0x36	byte	Identify header data	
2	0x00	byte	Voltage of cell 142 H	
3	0x00	byte	Voltage of cell 142 L	
4	0x00	byte	Voltage of cell 143 H	
5	0x00	byte	Voltage of cell 143 L	
6	0x00	byte	Voltage of cell 144 H	
7	0x00	byte	Voltage of cell 144 L	
8	0x00	byte	not used	

Data sending group (55)

num	data	data byte	data meaning	notes
1	0x37	byte	Identify header data	
2	0x00	byte	Voltage of cell 145 H	
3	0x00	byte	Voltage of cell 145 L	
4	0x00	byte	Voltage of cell 146 H	
5	0x00	byte	Voltage of cell 146 L	
6	0x00	byte	Voltage of cell 147 H	
7	0x00	byte	Voltage of cell 147 L	
8	0x00	byte	not used	

Data sending group (56)

num	data	data byte	data meaning	notes
1	0x38	byte	Identify header data	
2	0x00	byte	Voltage of cell 148 H	
3	0x00	byte	Voltage of cell 148 L	
4	0x00	byte	Voltage of cell 149 H	
5	0x00	byte	Voltage of cell 149 L	
6	0x00	byte	Voltage of cell 150 H	
7	0x00	byte	Voltage of cell 150 L	
8	0x00	byte	not used	

Data sending group (57)

num	data	data byte	data meaning	notes
1	0x39	byte	Identify header data	
2	0x00	byte	Voltage of cell 151 H	



3	0x00	byte	Voltage of cell 151 L	
4	0x00	byte	Voltage of cell 152 H	
5	0x00	byte	Voltage of cell 152 L	
6	0x00	byte	Voltage of cell 153 H	
7	0x00	byte	Voltage of cell 153 L	
8	0x00	byte	not used	

Data sending group (58)

num	data	data byte	data meaning	notes
1	0x3A	byte	Identify header data	
2	0x00	byte	Voltage of cell 154 H	
3	0x00	byte	Voltage of cell 154 L	
4	0x00	byte	Voltage of cell 155 H	
5	0x00	byte	Voltage of cell 155 L	
6	0x00	byte	Voltage of cell 156 H	
7	0x00	byte	Voltage of cell 156 L	
8	0x00	byte	not used	

Data sending group (59)

num	data	data byte	data meaning	notes
1	0x3B	byte	Identify header data	
2	0x00	byte	Voltage of cell 157 H	
3	0x00	byte	Voltage of cell 157 L	
4	0x00	byte	Voltage of cell 158 H	
5	0x00	byte	Voltage of cell 158 L	
6	0x00	byte	Voltage of cell 159 H	
7	0x00	byte	Voltage of cell 159 L	
8	0x00	byte	not used	

Data sending group (60)

num	data	data byte	data meaning	notes
1	0x3C	byte	Identify header data	
2	0x00	byte	Voltage of cell 160 H	
3	0x00	byte	Voltage of cell 160 L	
4	0x00	byte	Voltage of cell 161 H	
5	0x00	byte	Voltage of cell 161 L	
6	0x00	byte	Voltage of cell 162 H	
7	0x00	byte	Voltage of cell 162 L	
8	0x00	byte	not used	

Data sending group (61)

num	data	data byte	data meaning	notes
1	0x3D	byte	Identify header data	
2	0x00	byte	Voltage of cell 163 H	
3	0x00	byte	Voltage of cell 163 L	
4	0x00	byte	Voltage of cell 164 H	
5	0x00	byte	Voltage of cell 164 L	
6	0x00	byte	Voltage of cell 165 H	
7	0x00	byte	Voltage of cell 165 L	
8	0x00	byte	not used	

Data sending group (62)

num	data	data byte	data meaning	notes
1	0x3E	byte	Identify header data	
2	0x00	byte	Voltage of cell 166 H	

3	0x00	byte	Voltage of cell 166 L	
4	0x00	byte	Voltage of cell 167 H	
5	0x00	byte	Voltage of cell 167 L	
6	0x00	byte	Voltage of cell 168 H	
7	0x00	byte	Voltage of cell 168 L	
8	0x00	byte	not used	

Data sending group (63)

num	data	data byte	data meaning	notes
1	0x3F	byte	Identify header data	
2	0x00	byte	Voltage of cell 169 H	
3	0x00	byte	Voltage of cell 169 L	
4	0x00	byte	Voltage of cell 170 H	
5	0x00	byte	Voltage of cell 170 L	
6	0x00	byte	Voltage of cell 171 H	
7	0x00	byte	Voltage of cell 171 L	
8	0x00	byte	not used	

Data sending group (64)

num	data	data byte	data meaning	notes
1	0x40	byte	Identify header data	
2	0x00	byte	Voltage of cell 172 H	
3	0x00	byte	Voltage of cell 172 L	
4	0x00	byte	Voltage of cell 173 H	
5	0x00	byte	Voltage of cell 173 L	
6	0x00	byte	Voltage of cell 174 H	
7	0x00	byte	Voltage of cell 174 L	
8	0x00	byte	not used	

Data sending group (65)

num	data	data byte	data meaning	notes
1	0x41	byte	Identify header data	
2	0x00	byte	Voltage of cell 175 H	
3	0x00	byte	Voltage of cell 175 L	
4	0x00	byte	Voltage of cell 176 H	
5	0x00	byte	Voltage of cell 176 L	
6	0x00	byte	Voltage of cell 177 H	
7	0x00	byte	Voltage of cell 177 L	
8	0x00	byte	not used	

Data sending group (66)

num	data	data byte	data meaning	notes
1	0x42	byte	Identify header data	
2	0x00	byte	Voltage of cell 178 H	
3	0x00	byte	Voltage of cell 178 L	
4	0x00	byte	Voltage of cell 179 H	
5	0x00	byte	Voltage of cell 179 L	
6	0x00	byte	Voltage of cell 180 H	
7	0x00	byte	Voltage of cell 180 L	
8	0x00	byte	not used	

Data sending group (67)

num	data	data byte	data meaning	notes
1	0x43	byte	Identify header data	
2	0x00	byte	Voltage of cell 181 H	

3	0x00	byte	Voltage of cell 181 L	
4	0x00	byte	Voltage of cell 182 H	
5	0x00	byte	Voltage of cell 182 L	
6	0x00	byte	Voltage of cell 183 H	
7	0x00	byte	Voltage of cell 183 L	
8	0x00	byte	not used	

### Data sending group (68)

num	data	data byte	data meaning	notes
1	0x44	byte	Identify header data	
2	0x00	byte	Voltage of cell 184 H	
3	0x00	byte	Voltage of cell 184 L	
4	0x00	byte	Voltage of cell 185 H	
5	0x00	byte	Voltage of cell 185 L	
6	0x00	byte	Voltage of cell 186 H	
7	0x00	byte	Voltage of cell 186 L	
8	0x00	byte	not used	

### Data sending group (69)

num	data	data byte	data meaning	notes
1	0x45	byte	Identify header data	
2	0x00	byte	Voltage of cell 187 H	
3	0x00	byte	Voltage of cell 187 L	
4	0x00	byte	Voltage of cell 188 H	
5	0x00	byte	Voltage of cell 188 L	
6	0x00	byte	Voltage of cell 189 H	
7	0x00	byte	Voltage of cell 189 L	
8	0x00	byte	not used	

### Data sending group (70)

num	data	data byte	data meaning	notes
1	0x46	byte	Identify header data	
2	0x00	byte	Voltage of cell 190 H	
3	0x00	byte	Voltage of cell 190 L	
4	0x00	byte	Voltage of cell 191 H	
5	0x00	byte	Voltage of cell 191 L	
6	0x00	byte	Voltage of cell 192 H	
7	0x00	byte	Voltage of cell 192 L	
8	0x00	byte	not used	

### Data sending group (71)

num	data	data byte	data meaning	notes
1	0x47	byte	Identify header data	
2	0x00	byte		not used
3	0x00	byte	Temperature polarity of 4 modules	0: above zero, 1: Below zero
4	0x00	byte	Module 1 Temperature H	
5	0x00	byte	Module 1 Temperature L	
6	0x00	byte		not used
7	0x00	byte		not used
8	0x00	byte		not used

### Data sending group (72)

num	data	data byte	data meaning	notes
1	0x48	byte	Identify header data	
2	0x00	byte	Module 2 Temperature H	

3	0x00	byte	Module 2 Temperature L	
4	0x00	byte		not used
5	0x00	byte		not used
6	0x00	byte	Module 3 Temperature H	
7	0x00	byte	Module 3 Temperature L	
8	0x00	byte	not used	

### Data sending group (73)

num	data	data byte	data meaning	notes
1	0x49	byte	Identify header data	
2	0x00	byte		not used
3	0x00	byte		not used
4	0x00	byte	Module 4 Temperature H	
5	0x00	byte	Module 4 Temperature L	
6	0x00	byte		not used
7	0x00	byte		not used
8	0x00	byte	not used	

### Data sending group (74)

num	data	data byte	data meaning	notes
1	0x4A	byte	Identify header data	
2	0x00	byte		not used
3	0x00	byte	Temperature polarity of 4 modules	0: above zero, 1: Below zero
4	0x00	byte	Module 5 Temperature H	
5	0x00	byte	Module 5 Temperature L	
6	0x00	byte		not used
7	0x00	byte		not used
8	0x00	byte	not used	

### Data sending group (75)

num	data	data byte	data meaning	notes
1	0x4B	byte	Identify header data	
2	0x00	byte	Module 6 Temperature H	
3	0x00	byte	Module 6 Temperature L	
4	0x00	byte		not used
5	0x00	byte		not used
6	0x00	byte	Module 7 Temperature H	
7	0x00	byte	Module 7 Temperature L	
8	0x00	byte	not used	

### Data sending group (76)

num	data	data byte	data meaning	notes
1	0x4C	byte	Identify header data	
2	0x00	byte		not used
3	0x00	byte		not used
4	0x00	byte	Module 8 Temperature H	
5	0x00	byte	Module 8 Temperature L	
6	0x00	byte		not used
7	0x00	byte		not used
8	0x00	byte	not used	

### Data sending group (77)

num	data	data byte	data meaning	notes
1	0x4D	byte	Identify header data	
2	0x00	byte		not used



3	0x00	byte	Temperature polarity of 8 modules	0: above zero, 1: Below zero
4	0x00	byte	Module 9 Temperature H	
5	0x00	byte	Module 9 Temperature L	
6	0x00	byte	Module 10 Temperature H	
7	0x00	byte	Module 10 Temperature L	
8	0x00	byte	not used	

### Data sending group (78)

num	data	data byte	data meaning	notes
1	0x4E	byte	Identify header data	
2	0x00	byte	Module 11 Temperature H	
3	0x00	byte	Module 11 Temperature L	
4	0x00	byte	Module 12 Temperature H	
5	0x00	byte	Module 12 Temperature L	
6	0x00	byte	Module 13 Temperature H	
7	0x00	byte	Module 13 Temperature L	
8	0x00	byte	not used	

### Data sending group (79)

num	data	data byte	data meaning	notes
1	0x4F	byte	Identify header data	
2	0x00	byte	Module 14 Temperature H	
3	0x00	byte	Module 14 Temperature L	
4	0x00	byte	Module 15 Temperature H	
5	0x00	byte	Module 15 Temperature L	
6	0x00	byte	Module 16 Temperature H	
7	0x00	byte	Module 16 Temperature L	
8	0x00	byte	not used	

### Data sending group (80)

num	data	data byte	data meaning	notes
1	0x50	byte	Identify header data	
2	0x00	byte	Low voltage power outage protection H	
3	0x00	byte	Low voltage power outage protection L	
4	0x00	byte	Low voltage power outage delayed H	
5	0x00	byte	Low voltage power outage delayed L	
6	0x00	byte	Num of triggering protection cells H	
7	0x00	byte	Num of triggering protection cells L	
8	0x00	byte	not used	

### Data sending group (81)

num	data	data byte	data meaning	notes
1	0x51	byte	Identify header data	
2	0x00	byte	Balanced reference voltage H	
3	0x00	byte	Balanced reference voltage L	
4	0x00	byte	minimum voltage H	
5	0x00	byte	minimum voltage L	
6	0x00	byte	Maximum voltage H	
7	0x00	byte	Maximum voltage L	
8	0x00	byte	Charging and Discharging MOS status	0x01DischargeMOS, 0x10chargeMOS

### Data sending group (82)

num	data	data byte	data meaning	notes
1	0x52	byte	Identify header data	
2	0x00	byte	Accumulated Total Capacity High H	

3	0x00	byte	Accumulated Total Capacity High L	
4	0x00	byte	Accumulated Total Capacity Low H	
5	0x00	byte	Accumulated Total Capacity Low L	
6	0x00	byte	Pre charge delay time H	
7	0x00	byte	Pre charge delay time L	
8	0x00	byte	LCD status	0X01on or 0X02off

Data sending group (83)

num	data	data byte	data meaning	notes
1	0x53	byte	Identify header data	
2	0x00	byte	differential pressure setting value H	
3	0x00	byte	differential pressure setting value L	
4	0x00	byte	Use capacity to automatically reset H	
5	0x00	byte	Use capacity to automatically reset L	
6	0x00	byte	Low temp protection setting value H	
7	0x00	byte	Low temp protection setting value L	
8	0x00	byte	Protecting Historical Logs	See Table 2 for details

Table 2:

num	data	data byte	data meaning	notes
1	0x01	byte	Overcurrent protection	
2	0x02	byte	over discharge protection	
3	0x03	byte	overcharge protection	
4	0x04	byte	Over temperature protection	
5	0x05	byte	Battery string error protection	
6	0x06	byte	Damaged charging relay	
7	0x07	byte	Damaged discharge relay	
8	0x08	byte	Low voltage power outage protection	
9	0x09	byte	Voltage difference protection	
10	0x0A	byte	Low temperature protection	

Data sending group (84)

num	data	data byte	data meaning	notes
1	0x54	byte	Identify header data	
2	0x00	byte	Hall sensor type H	
3	0x00	byte	Hall sensor type L	1, 2, 3. default 2
4	0x00	byte	Fan start setting value H	
5	0x00	byte	Fan start setting value L	
6	0x00	byte	PTC heating start setting value H	
7	0x00	byte	PTC heating start setting value L	
8	0x00	byte	Default Channel State	0X01on or 0X02off

Host data receiving part:

A set of data consists of 3 bytes, with instruction header bytes and data class capacity of double bytes

序	数据排	数据内容	数据含义	备注
1	0x01	0X0000	Over discharge voltage protection value	
2	0x02	0X0000	Over current protection value	
3	0x03	0X0000	Battery capacity	
4	0x04	0X0000	Number of battery strings	
5	0x05	0X0000	Over charge voltage protection value	
6	0x06	0X0000	Over temperature protection value	
7	0x07	0X0000	Control channel opening and closing	0X0001: on, 0X0002: off
8	0x08	0X0000	Auto balance turn on and turn off	0X0002Balance on, 0X0001Balance off
9	0x09	0X0001	Discharge capacity reset, Clear discharge capacity	
10	0x0A	0X0000	Overcharge recovery voltage value	
11	0x0B	0X0000	Discharge protection recovery voltage value	
12	0x0C	0X0000	After power on, the channel default state	0X0001:on, 0X0002: off
13	0x0D	0X0000	Host display switch	0x0002:off, 0x0001:on
14	0x0E	0x0000	Host voltage power off voltage value	
15	0x0F	0x0000	Host voltage power-off delay value	
16	0x10	0x0000	Communication connected flag	0X0002:connected, 0X0001: Not connected, the host will only send data after connecting
17	0x11	0x0000	During charging, the balance start voltage	
18	0x12	0x0001	Clear total discharge capacity	
19	0x13	0X0001	Clear historical logs	
20	0x14	0X0000	Manually setting the actual usage capacity	AH
21	0x15	0X0000	Use capacity to automatically reset	0X0001:on, 0X0002: off
22	0x16	0X0000	Pre charge delay time	
23	0x17	0X0000	differential pressure setting value	0-5V
24	0x18	0X0000	Low temp protection setting value	-100-0℃
25	0x19	0X0000	Hall sensor type	1, 2, 3. 默认2
26	0x1A	0X0000	Fan start setting value	0-100℃
27	0x1B	0X0000	PTC heating start setting value	0-100℃
28	0x1C	0X0000	CAN OK	0X0002:connected, 0X0001: Not connected, the host will only send data after connecting