Version	Time	Modifier	Description
V1.1.1	2025/4/8	Zhicheng Song	First Edition Point Table

Master control panel dialing code						
Serial numb	1	2	3	4	5	6
Meaning	2^0	2^1	2^2	2^0	2^1	2^2

Ethernet IP and board card dial code correspondence relationship						
Detailed Dialing Code Table	6	5	4	3	2	1
192.168.0.1	0	0	0	0	0	1
192.168.0.2	0	0	0	0	1	0
192.168.0.3	0	0	0	0	1	1
192.168.0.4	0	0	0	1	0	0
192.168.0.5	0	0	0	1	0	1
192.168.0.6	0	0	0	1	1	0
192.168.0.7	0	0	0	1	1	1
192.168.0.8	0	0	1	0	0	0
192.168.0.9	0	0	1	0	0	1
192.168.0.10	0	0	1	0	1	0
192.168.0.11	0	0	1	0	1	1
192.168.0.12	0	0	1	1	0	0
192.168.0.13	0	0	1	1	0	1
192.168.0.14	0	0	1	1	1	0
192.168.0.15	0	0	1	1	1	1
192.168.0.16	0	1	0	0	0	0
192.168.0.17	0	1	0	0	0	1
192.168.0.18	0	1	0	0	1	0
192.168.0.19	0	1	0	0	1	1
192.168.0.20	0	1	0	1	0	0

Serial Number	Type	Variable Name	Variable Definition	Bit	Bit Variable Name	Function Description
0	UINT16	wRegister_0				
1	UINT16	wVersion_L	BMS software version high bit			
2	UINT16	wVersion_M	BMS software version middle bit			
3	UINT16	wVersion_H	BMS software version low bit			
4	UINT16	wLifeSignal	Local life signal			
5	UINT16	wDataThreadSignal	Data line life signal			
6	UINT16	wCanThreadSignal	CAN line life signal			
7	UINT16	wDigitalThreadSignal	Digital line life signal			
8	UINT16	wAnalogThreadSignal	Analog line life signal			
9	UINT16	wEthThreadSignal	Ethernet life signal			
10	UINT16	w485ThreadSignal	485 life signal			
30	UINT16	wSystemStatus	System status word	0	bStart_OK	System startup OK
				1	bStop_OK	System shutdown OK
				2	bCharging	Charging
				3	bDischarging	Discharging
				4	bRserver	Reserved
				5	bRserver	Reserved
				6	bRserver	Reserved
				7	bAbnormal_stop	Abnormal shutdown
				8	bRserver	Reserved
				9	bRserver	Reserved
				10	bRserver	Reserved
				11	bRserver	Reserved
				12	bRserver	Reserved
				13	bStart_ing	Starting
				14	bStop_ing	Stopping
				15	bRserver	Reserved
31	UINT16	wSystemTransFault	System communication fault word	0	bBUMS_commication_fault	BUMS communication failure
				1	bEMS_communication_fault	EMS communication failure
				2		
				3		
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
32	UINT16	wSystemFaultStop_1	System shutdown fault word_1	0	bPump_p_current_H	Positive pump current too high
				1	bPump_p_current_L	Positive pump current too low
				2	bPump_n_current_H	Negative pump current too high
				3	bPump_n_current_L	Negative pump current too low
				4	bTemp_p_H	Positive electrolyte temperature too high
				5	bTemp_p_L	Positive electrolyte temperature too low
				6	bTemp_n_H	Negative electrolyte temperature too high
				7	bTemp_n_L	Negative electrolyte temperature too low
				8	bStack_Vol1_H	Stack voltage too high
				9	bCurrent_all_H	Total current too high
				10	bOCV_H	OCV too high
				11	bOCV_L	OCV too low
				12	bCurrent_Difference	Positive and negative current difference too large
				13	bLeak	Leakage
				14	bE_Stop	Emergency stop
				15		
33	UINT16	wSystemFaultAlarm	System alarm fault word	0	bPump_p_current_H	Positive pump current too large
				1	bPump_p_current_L	Positive pump current too small
				2	bPump_n_current_H	Negative pump current too large
				3	bPump_n_current_L	Negative pump current too small
				4	bTemp_p_H	Positive electrolyte temperature too high
				5	bTemp_p_L	Positive electrolyte temperature too low
				6	bTemp_n_H	Negative electrolyte temperature too high
				7	bTemp_n_L	Negative electrolyte temperature too low
				8	bStack_Vol1_H	Stack voltage too high
				9	bCurrent_all_H	Total current too high
				10	bOCV_H	OCV too high
				11	bOCV_L	OCV too low
				12		
				13		
				14		
				15		
34	UINT16	wSystemFaultStop_2	System shutdown fault word_2	0	bOCV_start	OCV Logic Error
				1	bMain_cct	Main contactor feedback failure
				2	bSeries_cct	Series contactor feedback failure
				3	bNo_used_long_time	Long time without charging and discharging
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
35	UINT16	wSystemOtherFault	Other system faults	0	bHeat_cct	Electric heat tracing feedback fault
				1	bFAN	Fan feedback fault
				2		
				3		
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
50	UINT16	wDI	DI1~16	0	bE_Stop_button	Emergency stop button
				1	bStart_button	Start button
				2	bStop_button	Stop button
				3	bDI4_spare	Spare
				4	bHeat_Cct_FB	Heating contactor feedback
				5	bMain_Cct_FB	Main contactor feedback
				6	bSeries_Cct_FB	Series contactor feedback
				7	bBypass_Cct_FB	Bypass contactor feedback
				8	bDC48-Battery1	DC1 power OK
				9	bDC48-AC220	AC power OK
				10	bDC48-Battery2	DC2 power OK
				11		
				12		
				13		
				14		
				15		
51	UINT16		DI17~22	0		
				1		
				2		
				3		
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
52	UINT16	wLEAK	Leak1_14	0	bPositive_Leak_1	Positive Electrolyte Leakage 1
				1	bNegative_Leak_1	Negative Electrolyte Leakage 1
				2	bPositive_Leak_2	Positive Electrolyte Leakage 2
				3	bNegative_Leak_2	Negative Electrolyte Leakage 2
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		

100	FLOAT	ufAI_1_spare	Analog Quantity 1 Backup			Analog Quantity 1 Monitoring
102	FLOAT	ufAI_2_spare	Analog Quantity 2 Backup			Analog Quantity 2 Monitoring
104	FLOAT	fPositive_Temperature1	Positive Electrolyte Temperature PT100A			PT100A Monitoring
106	FLOAT	fNegative_Temperature2	Negative Electrolyte Temperature PT100B			PT100B Monitoring
108	FLOAT	fPt100C_spare	PT100C Backup			PT100C Monitoring
110	FLOAT	fPt100D_spare	PT100D Backup			PT100D Monitoring
112	FLOAT	fIdc_Positive_FAN	Positive Fan Current			Fan 1 Current Monitoring
114	FLOAT	fIdc_Negative_FAN	Negative Fan Current			Fan 2 Current Monitoring
116	FLOAT	fIdc_Positive_PUMP	Positive Pump Current			Positive Pump Current Monitoring
118	FLOAT	fIdc_Negative_PUMP	Negative Pump Current			Negative Pump Current Monitoring
120	FLOAT	fStack_Vol1	Battery Stack Voltage 1			Reactor Voltage Collection
122	FLOAT	fStack_Vol2	Battery Stack Voltage 2			80V Analog Quantity 2 Collection
124	FLOAT	fOCV	OCV			OCV Collection
126	FLOAT	fRCV	RCV			RCV Collection
128	FLOAT	fStackCurrent	Stack Current			Stack Current Collection
130	FLOAT	fSOC	SOC			SOC
132	FLOAT	fPOWER	Power			Power

Serial Number	Type	Variable Name	Variable Definition	Bit	Bit Variable Name	Function Description
1	UINT16	wLifeSignal	Upper Computer Life Signal			
2	UINT16	wTimeYear	Year			
3	UINT16	wTimeMonth	Month			
4	UINT16	wTimeDate	Day			
5	UINT16	wTimeHour	Hour			
6	UINT16	wTimeMinute	Minute			
7	UINT16	wTimeSecond	Second			
8	UINT16					
9	UINT16					
10	UINT16					
11	UINT16					
20	UINT16	wSysCtrlWord	system control word	0	bReset	Fault alarm reset
				1	bEmergency_stop	Emergency stop
				2	bStart	Start
				3	bStop	Stop
				4	Standby	Standby
				5	Standby	Standby
				6	Standby	Standby
				7	Standby	Standby
				8	Standby	Standby
				9	Standby	Standby
				10	Standby	Standby
				11	Standby	Standby
				12	Standby	Standby
				13	Standby	Standby
				14	Standby	Standby
				15	Standby	Standby
21	UINT16	wDO	DO1-16	0	bSys_Run	System running light
				1	bSys_Fault	System fault light
				2	bHeat_Cct_EN	Electric heating contactor enable
				3	bDO_NO4_spare	DO4 standby
				4	bDO_NO5_spare	DO5 standby
				5	bMain_Cct_EN	Main contactor control
				6	bSeries_Cct_EN	Series contactor control
				7	bBypass_Cct_EN	Bypass contactor control
				8	bPCS_SA_NO	PCS allow charge/discharge
				9	bEstop_SC_NO	Emergency stop interlock output
				10	bPositive_FAN_EN	Positive fan 1 start
				11	bNegative_FAN_EN	Negative fan 1 start
				12	bNegative_PUMP_EN	Negative pump enable
				13	bPositive_PUMP_EN	Positive pump enable
				14	bPowerSw1_EN	Battery power 1 enable
				15	bPowerSw2_EN	Battery power 2 enable
22	UINT16	wDO17_32	DO17-32	0		
				1		
				2		
				3		
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
23	UINT16	wEMSCtrl	EMS command	0		
				1		
				2		
				3		
				4		
				5		
				6		
				7		
				8		
				9		
				10		
				11		
				12		
				13		
				14		
				15		
24	UINT16	wWorkMode	Work Mode			1Manual 2Auto
25	UINT16	wReserve	Standby			
26	UINT16	wReserve	Standby			
27	UINT16	wReserve	Standby			
28	UINT16	wReserve	Standby			
29	UINT16	wIpAddr[0]	IP Address 1			
30	UINT16	wIpAddr[1]	IP Address 2			
31	UINT16	wIpAddr[2]	IP Address 3			
32	UINT16	wIpAddr[3]	IP Address 4			
33	UINT16	wTCPSockPort	Port Number			
34	UINT16	wReserve	Standby			
35	UINT16	wReserve	Standby			
36	UINT16	wReserve	Standby			
37	UINT16	wReserve	Standby			
38	UINT16	wEnvironment	Usage Environment			0 Indoor 1 Outdoor
39	UINT16	wFilterPtLen1	PT100 Filter Coefficient			
40	UINT16	wFilterPtLen2	PT100 Filter Coefficient			
41	UINT16	wFilterPtLenMax	PT100 Filter Coefficient			
42	UINT16	wFilterPtLenPar	PT100 Filter Coefficient			
43	UINT16	wReserve	Standby			
44	UINT16	wReserve	Standby			
45	UINT16	wReserve	Standby			
46	UINT16	wReserve	Standby			
47	UINT16	wReserve	Standby			
48	UINT16	wReserve	Standby			
100	FLOAT	AlertStackVolt_H	Battery voltage alarm high value			
102	FLOAT	AlertStackVolt_L	Battery voltage alarm low value			
104	FLOAT	AlertStackVolt_Delay	Battery voltage alarm delay value			
106	FLOAT	AlertOCVVolt_H	OCV alarm high value			
108	FLOAT	AlertOCVVolt_L	OCV alarm low value			
110	FLOAT	AlertOCVVolt_Delay	OCV alarm delay value			
112	FLOAT	AlertStackCurrent_H	Battery current alarm high value			
114	FLOAT	AlertStackCurrent_L	Battery current alarm low value			
116	FLOAT	AlertStackCurrent_Delay	Battery current alarm delay value			
118	FLOAT	AlertPumpAnodCurrent_H	Positive pump current alarm high value			
120	FLOAT	AlertPumpAnodCurrent_L	Positive pump current alarm low value			
122	FLOAT	AlertPumpCathCurrent_H	Negative pump current alarm high value			
124	FLOAT	AlertPumpCathCurrent_L	Negative pump current alarm low value			
126	FLOAT	wReserve	Standby			
128	FLOAT	wReserve	Standby			
130	FLOAT	OCVSOC_H	SOC maximum value			
132	FLOAT	OCVSOC_L	SOC minimum value			
134	FLOAT	AlertElecTemp_H	Electrolyte temperature alarm high value			
136	FLOAT	AlertElecTemp_L	Electrolyte temperature alarm low value			
138	FLOAT	AlertElecTemp_Delay	Electrolyte temperature alarm delay value			
140	FLOAT	RunVoltDiff	Positive and negative pump operation difference value			
142	FLOAT	wReserve	Standby			
144	FLOAT	wReserve	Standby			
146	FLOAT	StopStackVolt_H	Battery voltage shutdown high value			
148	FLOAT	StopStackVolt_L	Battery voltage shutdown low value			
150	FLOAT	wReserve	Standby			
152	FLOAT	wReserve	Standby			
154	FLOAT	wReserve	Standby			
156	FLOAT	wReserve	Standby			
158	FLOAT	StopStackCurrent_H	Battery current shutdown high value			
160	FLOAT	StopStackCurrent_L	Battery current shutdown low value			
162	FLOAT	StopStackCurrent_Delay	Battery current shutdown delay value			
164	FLOAT	StopPumpAnodCurrent_H	Positive pump current shutdown high value			
166	FLOAT	StopPumpAnodCurrent_L	Positive pump current shutdown low value			
168	FLOAT	StopPumpCathCurrent_H	Negative pump current shutdown high value			
170	FLOAT	StopPumpCathCurrent_L	Negative pump current shutdown low value			
172	FLOAT	wReserve	Standby			
174	FLOAT	StopFunCurrent_H	Fan current shutdown high value			
176	FLOAT	StopFunCurrent_L	Fan current shutdown low value			
178	FLOAT	wReserve	Standby			
180	FLOAT	StopElecTemp_H	Electrolyte temperature shutdown high value			
182	FLOAT	StopElecTemp_L	Electrolyte temperature shutdown low value			
184	FLOAT	wReserve	Standby			
186	FLOAT	wReserve	Standby			
188	FLOAT	StopPumpCurrentDiff	Pump current difference shutdown value			
190	FLOAT	wReserve	Standby			
192	FLOAT	Fan_start_temp	Fan start temperature			
194	FLOAT	Fan_stop_temp	Fan stop temperature			
196	FLOAT	wReserve	Standby			
198	FLOAT	wReserve	Standby			
200	FLOAT	wReserve	Standby			
202	FLOAT	wReserve	Standby			
204	FLOAT	wReserve	Standby			
206	FLOAT	wReserve	Standby			
208	FLOAT	wReserve	Standby			
210	FLOAT	wReserve	Standby			
212	FLOAT	wReserve	Standby			
214	FLOAT	wReserve	Standby			
216	FLOAT	wReserve	Standby			
218	FLOAT	wReserve	Standby			
220	FLOAT	wReserve	Standby			
222	FLOAT	wReserve	Standby			
224	FLOAT	wReserve	Standby			
226	FLOAT	wReserve	Standby			
228	FLOAT	wReserve	Standby			
230	FLOAT	wReserve	Standby			
232	FLOAT	wReserve	Standby			
234	FLOAT	wReserve	Standby			
236	FLOAT	wReserve	Standby			
238	FLOAT	wReserve	Standby			
240	FLOAT	wReserve	Standby			
242	FLOAT	wReserve	Standby			
244	FLOAT	wReserve	Standby			
246	FLOAT	wReserve	Standby			
248	FLOAT	wReserve	Standby			
250	FLOAT	wReserve	Standby			
252	FLOAT	wReserve	Standby			
254	FLOAT	wReserve	Standby			
256	FLOAT	wReserve	Standby			
258	FLOAT	wReserve	Standby			
260	FLOAT	wReserve	Standby			
262	FLOAT	wReserve	Standby			
264	FLOAT	wReserve	Standby			
266	FLOAT	wReserve	Standby			
268	FLOAT	wReserve	Standby			
270	FLOAT	wReserve	Standby			
272	FLOAT	wReserve	Standby			
274	FLOAT	SOC_RATIO_0	SOC Coefficient 1			
276	FLOAT	SOC_RATIO_1	SOC Coefficient 2			
278	FLOAT	SOC_RATIO_2	SOC Coefficient 3			
280	FLOAT	SOC_RATIO_3	SOC Coefficient 4			
282	FLOAT	SOC_RATIO_4	SOC Coefficient 5			
284	FLOAT	SOC_RATIO_5	SOC Coefficient 6			
286	FLOAT	Heat_start_temp	Electric Heating Start Temperature			
288	FLOAT	Heat_stop_temp	Electric Heating Stop Temperature			
290	FLOAT	fPositivePumpCtl	Positive Electrode Pump			Positive pump speed control
292	FLOAT	fNegativePumpCtl	Negative Electrode Pump			Negative pump speed control
294	FLOAT	fPositiveFanCtl	Positive Electrode Fan			Positive fan speed control
296	FLOAT	fNegativeFanCtl	Negative Electrode Fan			Negative fan speed control