XGW Tech

SODIUM ION Battery Pack 48V/100AH



Specification

NaCR3214O-MP10

	No.	Item	General Parameter		Remark
Cell	1	Rated Capacity	Typical	10Ah	Standard discharge（0.5C) after Standard charge
			Minimum	9.8Ah	
	2	Nominal Voltage	3.0V		Mean Operation Voltage
	3	Internal Impedance	≤10mΩ		Internal resistance measured at AC 1KHZ after 50% charge The measure must uses the new batteries that within one week after shipment and cycles less than 5 times
	4	Dimension	Diameter）： Φ33.2±0.2mm （Height）： 140±0.5mm		Initial Dimension
	5	Weight	265±5g		
	6	Charge voltage（V）	3.95V		
	7	Standard Charge Current	0.5C(5A)Constant current charging to3.65V		25℃ ±2℃
	8	Rapid Charge Current	1C(10A)Constant current charging to3.65V		25℃ ±2℃
	9	Discharge cut-off voltage	Min 2.0V T＞ 0℃)		-35℃～65℃
	10	Standard Discharge Current	0.5C(5A)		25℃ ±2℃

	11	Max. Discharge Current	Continuous current of 3C (30A) constant current discharge	25℃ ±2℃
	12	Cycle life	25℃ Cycle 0.5C/0.5C	4000 cycles,70% SOH

2.2、Battery pack

	No.	Item	General Parameter		Remark
Package	1	Combination method	16S10P		
	2	Rated Capacity	Typical	100Ah	Standard discharge after Standard charge（package)
			Minimum	98Ah	
	3	Factory Voltage	40-48V		Mean Operation Voltage
	4	Voltage at end of Discharge	32-36.8V		Discharge Cut-off Voltage
	5	Charging Voltage	58.4V		
	6	Internal Impedance	≤25mΩ		Internal resistance measured at AC 1KHZ after 50% charge The measure must uses the new batteries that within one week after shipment and cycles less than 5 times
	7	Standard charge	Continuous current: 50A Continuous voltage: 62.4V Cut-off current: 0.05C		Charge time : Approx 2.5h
	8	Overcurrent charging protection current	110A		1.0S
	9	Standard discharge	Current: 50A Cut-off Voltage: 32V		--30℃～65℃
	10	Overcurrent charging protection current	110A		1.0S
	11	Maximum Continuous Charge Current	100A		25℃

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Product Specification（2026）

	12	Maximum Continuous Discharge Current	100A	25℃
	13	Cycle life	25℃ Cycle 0.5C/0.5C	4000 cycles,80% SOH
	14	Charging over temperature protection	60℃	
	15	The charging temperature recover	50℃	
	16	Discharge over temperature protection	65℃	
	17	The discharge temperature recovers	55℃	
	18	Operation Temperature Range	Charge:0℃～45℃ Discharge（ : -20℃～60℃	60±25%R.H. Bare Cell
	19	Storage Temperature Range	Less than 12 months : 0~35℃ less than 3 months: -10~45℃ Less than 7 day : -20~45℃	60±25%R.H. at the shipment state （
	20	Battery box size	661*440*176mm±2mm	
	21	System weight	60KG±1.2KG	

3.Battery configuration

NO	Item	Criteria	Remarks
3.1	Semi-manufactured cell	NaCR32140-10Ah	HiNa
3.2	PCM	BMS /CHOAA00060-1-V1.81/16 serial-100A	XLH
3.3	Connector	Barrier terminal block	

4.Battery Testing Equipment and Conditions

4.1Appearance

There shall be no such defect as scratch, bur and other mechanical scratch, and the connector should be no rust dirt. The structure and dimensions see attached drawing of the battery.

4.2Measurement Apparatus

(1) Dimension Measuring Instrument

The dimension measurement shall be implemented by instruments with equal or more precision scale of 0.01mm.

(2)Voltmeter

Standard class specified in the national standard or more sensitive class having inner impedance not less than 10 KΩ/V.

(3) Ammeter

Standard class specified in the national standard or more sensitive class. Total external resistance including ammeter and wire is less than 0.01Ω.

(4) Impedance Meter

Impedance shall be measured by a sinusoidal alternating current method(AC 1kHz LCR meter).

4.3 standard Test Condition

Test should be conducted with new batteries within one month after shipment from our factory and the cells shall not be cycled more than five times before the test. Unless otherwise defined, test and measurement shall be done under temperature of 23±2℃ and relative humidity of less 75%.,air 86Kpa~106Kpa.

4.4Rest Period

Unless otherwise defined, 30min rest period after charge,30min rest period after discharge.

5. Storage and Others

5.1 Long Time Storage

If stored for a long time(don't used,exceed three months), the cell should be stored in drying and cooling place. The cell's storage voltage should be 48～52V and the cell is to be stored in a condition that the temperature of 23±2℃ and the humidity 0f 45%- 75%. Long-term use of unused batteries to recharge every 3 months。Ensure that the battery voltage is within the above range。

6.Battery Management System

6.1BMS Specification

1）：The BMS is designed for 16 series Sodium ion battery.

2）：The BMS have all functions which are :

overcharge detection function

over discharge detection function

over current detection function

short detection function

Temperature detection function

balance function

communicate function

Alarm function

Total capacity function

Storage history function

Dry contact

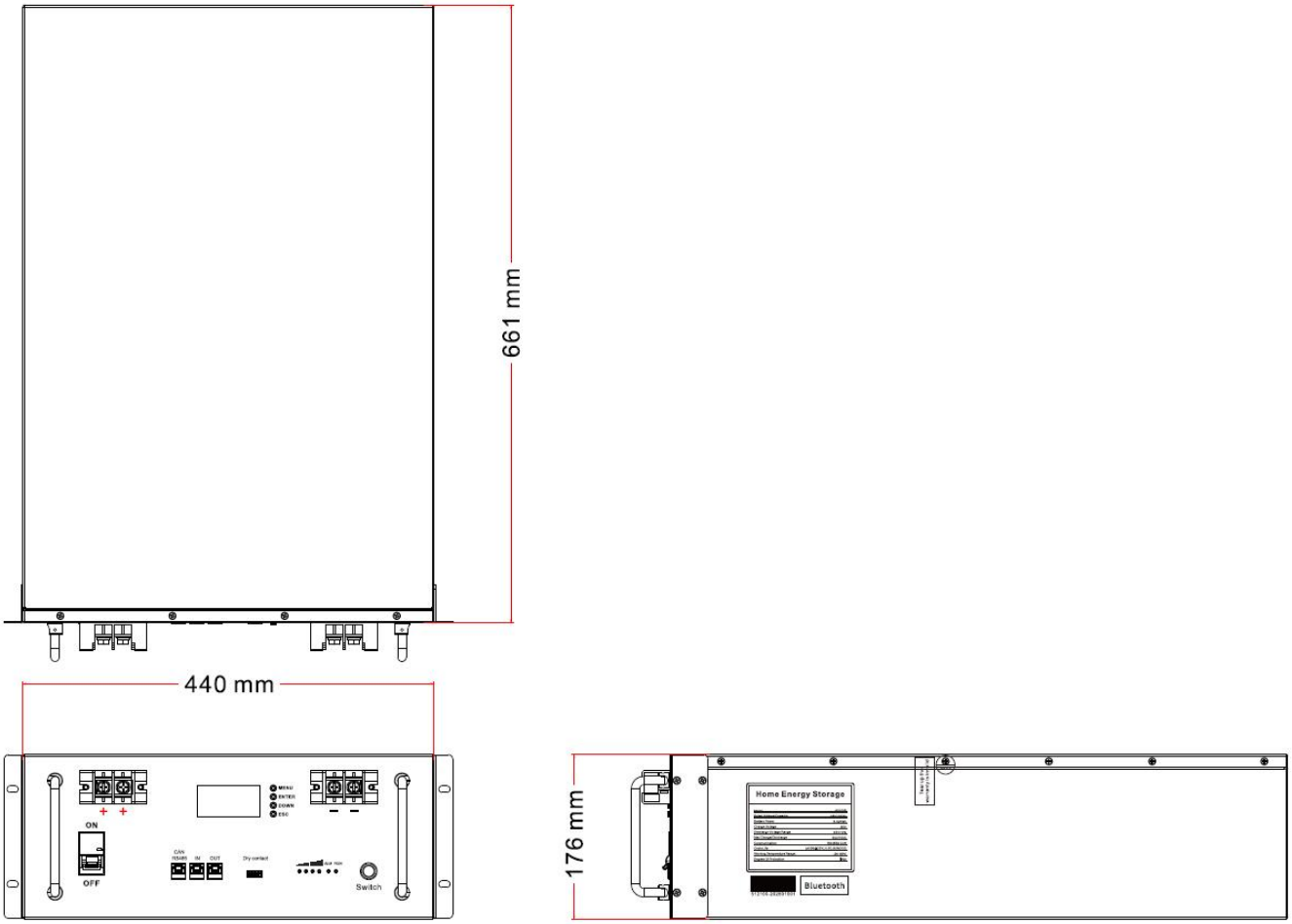
6.2BMS Protect parameter

（Typical value specifications

Items	Details	Standard
Cell overcharge protection	Overcharge detection voltage	3.9±0.025V
	Overcharge detection delay time	Typical:1.0s
	Overcharge release voltage	3.8±0.02V
Over-discharge protection	Over-discharge detection voltage	2.2±0.02V
	Over-discharge detection delay time	Typical:1.0s
	Over-discharge release voltage	2.5±0.02V or charge release
Over-current protection	discharge Over-current protection current1	110A
	discharge Over-current detection delay time 1	1.0S
	discharge Over-current protection current2	150A
	discharge Over-current detection delay time2	80mS
Short protection	Short protection current	I>800A,100uS
	Protection condition	Load short
	Detection delay time	≤300us
	Protection release condition	Charging release
		After the load is removed, there is a delay of 10 seconds
Temperature(T) protection	Charge high T protection	65±3℃
	Charge high T recover	55±5℃
	Discharge high T protection	65±5℃
	Discharge high T recover	55±5℃
	Charge low T protection	-20±5℃
	Charge low T recover	-10±5℃
	Discharge low T protection	-20±5℃
	Discharge low T recover	-15±5℃
Communication	It has RS485 and CAN standard communication interface, it can real-time monitoring the capacity of battery bank, the voltage, current, environment temperature, and charging/discharging current.	
Alarm	It has over-temperature, over charge, under-voltage, over-current, short circuit alarm Function.	
System configuration	☑Weak current switch ☑LCD screen ☑Bluetooth ☑Air switch	

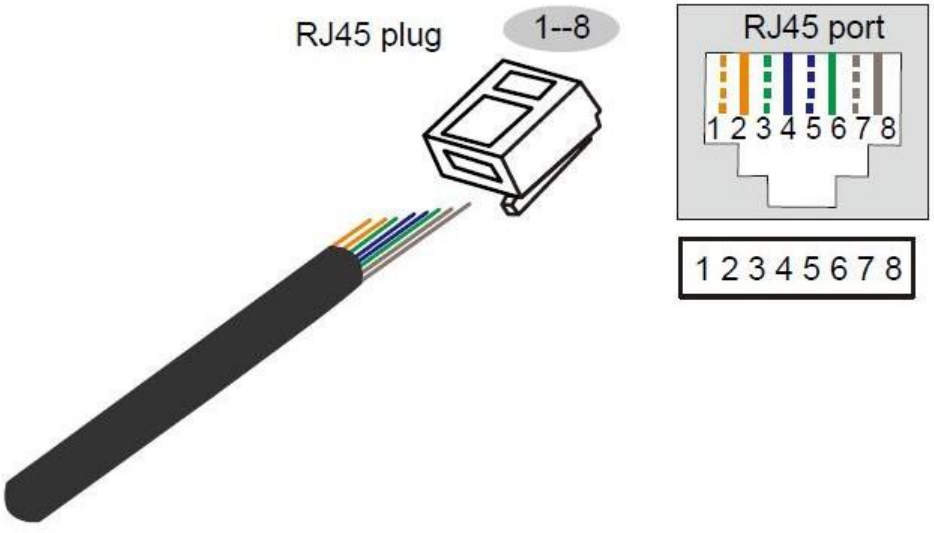
7、Assembly Drawing

7.1 Finished Battery Picture



No. 项目	Description 描述	Silk-screen 丝印	Remark 备注
1	Slave battery positive 模组正极	“+”	
2	Slave battery negative 模组负极	“ -”	
3	Communication port 通讯口	RS485/CAN	
4	Parallel port 并机口	IN/OUT	
5	Dry Contact 干接点	Dry Contact	
6	SOC 电量显示		
7	Alarm lamp 报警灯	ALM	
8	RUN 运行	RUN	
9	Weak current switch 弱电开关	ON/OFF	
10	Screen button 显示屏按键	Menu/Enter/Down/Esc	

- **Communication port Definition**



RJ45 Port

CAN/RS485 Communication port CAN/RS485

Pin	Function description	Describe	Remark
1	CAN2-H/inside	CAN-H	

2	CAN2-L/inside	CAN-L	
3	EXIT_12V-	The external dry contact assists in activating the negative terminal of the power interface	
4	CAN1-H	PCS CAN-H	External device communication
5	N1-L	PCS CAN-L	External device communication
6	EXIT_12V+	The external dry contact assists in activating the positive electrode of the power interface	
7	RS485_B	PCS RS485 B	
8	RS485_A	PCS RS485 A	

“IN” Parallel port “IN”

Pin	Function description	Describe	Remark
1	CAN2_H	CAN2-H/inside	CAN
2	CAN2_L	CAN2-L/inside	
3	GND_ISO	ISO_GND	
4	GND_ISO	ISO_GND	
5	Master	Master pack select	
6	GND_ISO	ISO_GND	
7	Encode_out	Program address function ,output	
8	SW_wake out	Synchronization power on	

“OUT” Parallel port “OUT”

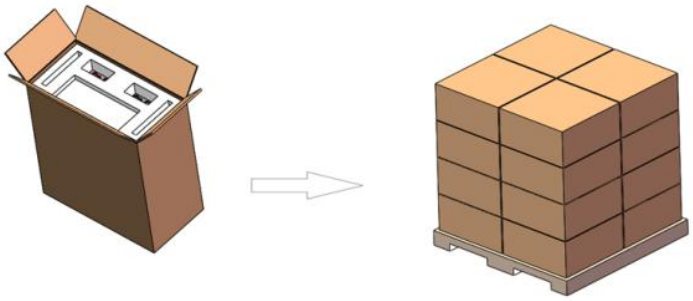
Pin	Function description	Describe	Remark
1	CAN2_H	CAN2-H/inside	
2	CAN2_L	CAN2-L/inside	

3	GND_ISO	ISO_GND	CAN
4	Slave IN	Slave Pack select	
5	ISO_GND	SO_GND	
6	GND_ISO	ISO_GND	
7	Encode_IN	Program address function ,input	
8	SW_wake out	Synchronization power on	

8、Packaging of Battery Pack

Package

Picture for reference only 图片仅供参考



☆Mode of transport

☑ UN Carton+Export pallet UN

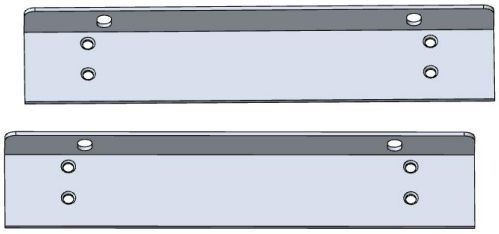
☐ UN Wooden box+EPE UN

☆List of accessories

1、(Connection Line 1-2/1 PCS) 1500mm



2、Hanging ear fitting（2PCS）



4、RJ45 Network cable

