



Low Voltage Household Energy Storage Battery



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Cyclone Lithium power

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Preface

Overview

This document introduces energy storage batteries, including product introduction, application scenarios, system maintenance, and related technical data. Please read this manual carefully, understand the safety information, and familiarize yourself with the functions and characteristics of the energy storage product before installing and using it.

Intended Audience

This document is mainly applicable to the following personnel:

- Sales personnel
- System Engineer
- Installation and After-Sales Service Personnel

Battery Symbol Description

	Caution
	Read manual before use
	Do not throw spent batteries into trash bins
	Recycle through certified facilities
	CE Certified
	High voltage danger

01/Safety Precautions

1.1 Declaration

- When installing, operating, and maintaining equipment, it is necessary to first read this manual and follow the markings on the equipment and all safety precautions in the manual. When opening the packaging of a new product for the first time, please check the product and accessories first. If the product is damaged or missing parts, please contact your local distributor.
- The "Caution" and "Prohibited" items in the manual do not represent all safety precautions that should be followed, but are only supplementary to safety precautions. We do not assume any responsibility for violating general safety operation requirements or violating design, production, and use equipment safety standards.
- The equipment should be used in an environment that meets the design specifications, otherwise it may cause equipment failure, resulting in abnormal equipment functions or component damage, personal safety accidents, property losses, etc., which are not within the scope of equipment quality assurance.

- When installing, operating, and maintaining equipment, local laws, regulations, and standards should be followed. All safety precautions described in the manual are only supplementary to local laws, regulations, and norms. The company shall not be liable for any of the following situations or their consequences;
- Equipment damage caused by extreme weather or force majeure events such as earthquakes, floods, volcanic eruptions, mudslides, lightning strikes, fires, wars, armed conflicts, typhoons, hurricanes, tornadoes, etc;
- Do not operate outside the specified conditions in this manual;
- The installation and usage environment does not comply with relevant international, national, or regional standards;
- Unauthorized disassembly, modification, or software code alteration is strictly prohibited;
- Not following the operating instructions and safety warnings in the product and documentation;
- Damage caused by you or your authorized third-party transportation;
- Damage caused by non-compliant storage conditions;
- Exceeding the product's service life.

1.2 Precautions

- The battery module should be installed in a cool (between 0 °C and 45 °C), dry, ventilated, and safe environment.
- Please use a dry cloth to wipe the battery and inverter when cleaning.
- If the battery needs to be stored for a long time, it is recommended to charge and discharge the battery every 3 months.
- All maintenance work needs to be completed by professionals.
- The maximum charging and discharging power of the inverter shall not exceed the max charging and discharging power supported by the battery module.
- When installing and disassembling equipment, please turn off all power before performing any related operations.
- Please keep the battery away from heat and water sources during use and storage.
- After the installation of the battery and inverter is completed, please take relevant measures to prevent children from approaching.
- Please carefully read the user manual before use.
- Please dispose of scrapped batteries in accordance with local regulations.
- It is recommended to store the battery in an environment with a temperature range of -20 °C ~+45 °C and charge it regularly according to the following table. The charging temperature should not exceed 0.5C (C is the measured discharge rate of the battery relative to its maximum capacity). After long-term storage, its SOC needs to reach around 50%.

Storage environment/temperature	Relative humidity	Storage time	SOC
Below -20°C	/	Not allowed	/
-20°C ~+35 °C	5%~70%	Six months	20%<SOC<60%
-20°C ~+45 °C	5%~70%	Three month	20%<SOC<60%

Above +45 °C	/	Not allowed	/
Attention: Prolonged under-voltage can damage the battery system Charge the over-discharge system within seven days when the temperature exceeds 25 °C. When the temperature is below 25 °C, charge the over-discharge system within fifteen days. Regularly check whether the battery and its supporting terminals, connecting cables, and indicator lights are correct.			

1.3 Prohibitions

- Unauthorized disassembly and modification of batteries are prohibited.
- Any violent behavior that damages the battery, such as throwing, hitting, or pounding, is prohibited.
- It is prohibited to use batteries of different models and manufacturers in parallel.
- Do not place the battery in a high temperature environment above 60 °C.
- It is prohibited to short-circuit battery P+P - with metal conductive materials.
- It is prohibited to install batteries in non specified orientations.
- It is prohibited to connect battery modules in series.
- Smoking or using flames near batteries is prohibited.
- Installation or disassembly work is prohibited when the equipment is live.
- During the installation, maintenance, disassembly and other operations, it is prohibited for the operator to wear metal watches, bracelets, necklaces, rings, rings and other metal accessories on their body.

1.4 Handling Measures for Battery Leakage

- Ensure adequate ventilation, and use spark-proof tools and explosion-proof equipment.
- Quickly evacuate personnel to a safe area, stay away from the leak area and be in the upwind direction.
- Use personal protective equipment. Avoid inhaling steam, smoke, gas, and dust.
- Take measures to prevent further leakage or overflow while ensuring safety.
- When a leak occurs, avoid contact with the leaked liquid or gas; Electrolyte is corrosive and contact may cause skin irritation and chemical burns; If in contact with battery electrolyte, the following measures need to be taken.

1. Inhalation: Evacuate the contaminated area to a safe location, immediately move to fresh air, and maintain unobstructed breathing; If breathing is difficult, give oxygen; If the patient ingests or inhales this substance, mouth to mouth resuscitation is not allowed; If breathing stops.

Immediately perform cardiopulmonary resuscitation; And immediately seek medical assistance.

2. Skin contact: Immediately remove contaminated clothing, wash the skin contact area with plenty of water and soap, and seek medical assistance immediately.

3. Eye contact: Immediately rinse the eyes with clean water and seek medical assistance immediately.

1.5 Fire Handling Procedures

- If a fire occurs, the system should be powered off while ensuring safety.
- If a small fire occurs and the flames do not spread to the high-voltage battery section, carbon

dioxide or ABC dry powder fire extinguishers can be used to extinguish the fire.

- When thoroughly inspecting the fire, do not come into contact with any high-voltage components and always use insulated tools for inspection.
- When extinguishing a fire, one should wear a breathing mask (compliant with MSHA/NIOSH requirements or equivalent) and wear full body protective clothing.
- Prevent fire water from contaminating surface and groundwater systems.

02/Product Introduction

2.1 Product Brief Introduction

2.1.1 Lithium iron phosphate battery system is a standard battery system unit, and customers can choose a certain number of batteries according to their needs, and form a larger capacity battery pack through parallel connection. Up to 16 units can be connected in parallel to meet the long-term power supply needs of users.

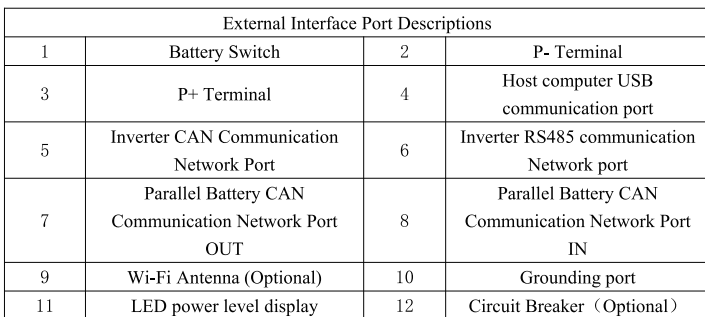
2.1.2 This product is particularly suitable for access network equipment, remote exchange offices, mobile communication devices, household energy storage devices, and hybrid inverter equipment.

2.2 Product Attributes

The positive electrode material of energy storage lithium-ion products is lithium iron phosphate, and BMS can effectively manage the battery with better performance. The characteristics of the system are as follows:

- Compliant with European ROHS and SGS certification, using non-toxic, pollution-free and environmentally friendly batteries.
- Cathode material: lithium iron phosphate (LiFePO_4), which is safer and has a longer service life.
- A battery management system (BMS) with better performance, equipped with overcharge, over-discharge, over-current, over temperature, under temperature, and short circuit protection functions.
- BMS is equipped with CAN/485 communication interface, which can communicate with computers/inverters, read various parameters of the battery pack, and monitor the status of the battery pack in real time.
- Self management of charging and discharging, no need for on duty personnel to guard.
- Single core balancing function.
- Flexible configuration allows for parallel use of multiple batteries for longer standby time.
- The system noise is relatively low.
- No memory effect, allowing the battery to be lightly charged and discharged.
- The working environment has a wide temperature range of -10°C to 55°C , with good cycle span and discharge performance.
- High energy density, small size, and lighter weight

2.3 Functional Block Diagram



2.5 Product Parameter Description

Battery Model	CYCLONE F16
Cell Series-parallel Method	16S1P
Battery Rated Voltage	51.2V

Battery Rated Capacity	314Ah
Battery Rated Energy	16KWh
Suggested Working Voltage Range	44.8V~56.8V
Suggested Charging Voltage	56.8V
Rated Charging And Discharging Current	100A
Maximum Charging Current	200A
Maximum Discharge Current	200A
Charging Temperature Range	0°C~55°C
Discharge Temperature Range	-20°C~55°C
Dimension(mm)	830*490*250mm (Excluding mounting lugs/casters)
Weight (kg)	Net weigh≈122kg
Supported communication method	USB/RS485/CAN
Recommended depth of discharge	80%
Maximum number of parallel machines	16

2. 6 LED indicator light description

2.6.1 Basic definitions:

This document defines the functions of the light strip. The default number of LED beads is 20, and the number of LED beads for other quantities is displayed proportionally. Each LED light represents SOC=100/20=5%. The correspondence table between the number of lights and SOC is as follows:

No.of Lit Light	Min SOC (Excl.)	Max SOC (Incl.)
1	0	5
2	5	10
3	10	15
4	15	20
5	20	25
6	25	30
7	30	35
8	35	40
9	40	45
10	45	50
11	50	55
12	55	60

13	60	65
14	65	70
15	70	75
16	75	80
17	80	85
18	85	90
19	90	95
20	95	100

Note: The number of illuminated LEDs for other quantities is mapped proportionally. Each LED represents a SOC value of **100/N %**.

e.g.:

When the SOC is 10%: 1 LED lights up for a 10-LED configuration; 2 LEDs light up for 20 LEDs; 3 LEDs light up for 30 LEDs; and so on.

When the SOC is 50%: 5 LEDs light up for a 10-LED configuration; 10 LEDs light up for 20 LEDs; 15 LEDs light up for 30 LEDs; and so on.

In the absence of any alarms, protection triggers, or faults, the color of the LEDs corresponds to the SOC level.

Min SOC (Excl.)	Max SOC (Incl.)	RGB Light Color
0	10	Red
10	20	Yellow
20	100	Green

2.6.2 Alarm

All LEDs illuminate yellow with slow flashing.

Fault / Protection

All LEDs illuminate red with slow flashing

2.6.3 Normal Standby

The number of illuminated LEDs corresponds to the State of Charge (SOC).

2.6.4 Normal Charging (LED Slow Flashing)

Based on the actual power level, LEDs illuminate sequentially from the 1st LED to the Nth LED (where N corresponds to the SOC). This creates a "chasing" (Knight Rider) effect, which runs in a loop.

If the calculated value of N is 1, the system sets N to 2, ensuring that a minimum of 2 LEDs participate in the chasing effect.

When SOC = 10%, LEDs 1 → 2 illuminate sequentially in red, and the cycle repeats.

When SOC = 20%, LEDs 1 → 2 illuminate sequentially in yellow, and the cycle repeats.

When SOC = 50%, LEDs 1 → 5 illuminate sequentially in green, and the cycle repeats.

2.6.5 Normal Discharging

Based on the actual power level, LEDs illuminate sequentially from the Nth LED down to the 1st LED.

This creates a "chasing" (Knight Rider) effect, which runs in a loop.

If the calculated value of N is 1, the system sets N to 2, ensuring that a minimum of 2 LEDs participate in the chasing effect.

Example:

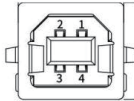
When SOC = 10%, LEDs 2 → 1 illuminate sequentially in red, and the cycle repeats.

When SOC = 20%, LEDs 2 → 1 illuminate sequentially in yellow, and the cycle repeats.

When SOC = 50%, LEDs 5 → 1 illuminate sequentially in blue, and the cycle repeats.

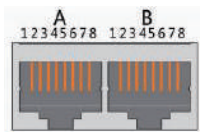
2.7 BMS Communication Network Port Definition

USB Interface Definition: (Host Computer / PC Side)



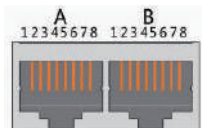
Interface	Definition Description	
X7 Communication Port Definition	PIN 1	VBUS
	PIN 2	D-
	PIN 3	D+
	PIN 4	GND

RS485-1/CAN Interface Definition: (Inverter End)



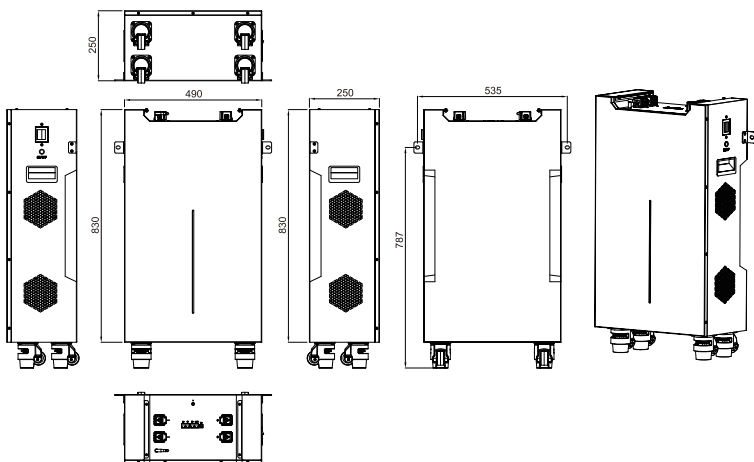
Interface	Definition		Definition			
X1 Communication Port Definition	Part B: CAN Interface	PIN1	NC(No connection)	Part A: RS485 Interface	PIN1	RS485-1B
		PIN2	CGND		PIN2	RS485-1A
		PIN3	NC(No connection)		PIN3	RS485-GND
		PIN4	CAN-H		PIN4	NC(No connection)
		PIN5	CAN-L		PIN5	NC(No connection)
		PIN6	NC(No connection)		PIN6	RS485-GND
		PIN7	NC(No connection)		PIN7	RS485-1A
		PIN8	NC(No connection)		PIN8	RS485-1B

CAN Communication Interface Definition: (Battery Parallel Connection End)

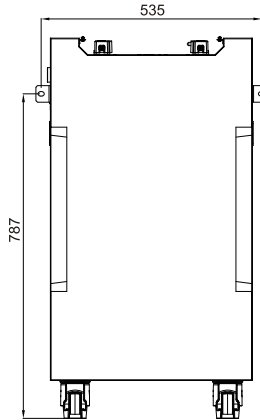


Interface	Definition		Definition			
X2 Communication Port Definition	Part B: CAN-2 Interface	PIN1	CAN-2L	Part A: CAN-2 Interface	PIN1	CAN-2L
		PIN2	CAN-2H		PIN2	CAN-2H
		PIN3	NC(No connection)		PIN3	NC(No connection)
		PIN4	NC(No connection)		PIN4	NC(No connection)
		PIN5	Auto-Addressing OUT-P		PIN5	Auto-Addressing IN-P
		PIN6	Auto-AddressingO UT-N		PIN6	Auto-Addressing IN-N
		PIN7	NC(No connection)		PIN7	NC(No connection)
		PIN8	NC(No connection)		PIN8	NC(No connection)

2.8 Production Dimension



2.9 Mounting Hole Position Dimensions



Delivered items are as follows

Expansion screw: Expansion screw 235 color zinc M10*80mm, quantity 2 PCS

Screw: 304 stainless steel / M8*16mm hexagonal with cross head, three-in-one set, quantity 4 PCS

Power cable: 2#AWG, L=1.5M, red, one SC35-8 connector on each end, quantity: 1

Power cable: 2#AWG, L=1.5M, black, one SC35-8 connector on each end, quantity: 1

Network cable: Regular network cable *2M, quantity: 1

03/Product Installation

3.1 Pre-Installation Inspection

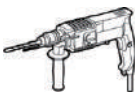
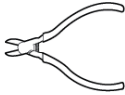
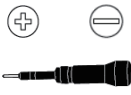
Before signing and installing the product, please carefully check the following:

- Check the outer packaging for any damage, such as holes, deformations, cracks, or other signs that may cause damage to the equipment inside the packaging box. If there is any damage, do not open the packaging and contact your distributor.
- Check if the battery model is correct. If there is any discrepancy, do not open the packaging and contact your distributor.
- Please verify the types and quantities of delivered items, and check for any physical damage. If any damage is found, please contact your distributor immediately.

3.2 Installation Tool Preparation



The illustration tool is for reference only, please refer to the actual product.

Tools and illustration			
			
Hammer Drill (with Drill Bit Set)	Insulated Torque Socket Wrench	Diagonal Cutting Pliers	Insulated Torque Screwdriver (Phillips/Slotted)
			
Multi-meter	Steel Tape Measure	Spirit Level	Cable Tie
		/	/
Manual forklift	Electric forklift	/	/
Personal protective equipment			
			
Insulating gloves	Protective gloves	Goggles	Dust mask
			/
Insulating shoes	Reflective Vest	Safety hat	/

3.3 Installation Requirement

3.3.1 Installation environment requirements

- Batteries should not be installed in environments with high temperature, humidity, or susceptibility to corrosion.
- Please avoid installing water pipes, cables, etc. inside the wall to prevent danger during drilling.
- The installation location should avoid areas that children can come into contact with, and avoid installing in easily accessible areas.

- The installation of batteries should avoid direct sunlight, rain, snow, and other installation environments. It is recommended to install them in a sheltered location.
- The battery protection level meets the requirements for indoor installation, and the installation environment temperature and humidity should be within a suitable range.
- Please ensure that the device indicator lights and all labels are easy to view, and that the wiring terminals are easy to operate.
- Stay away from strong magnetic fields and avoid electromagnetic interference.

3.3.2 Requirements for installation carrier

- The installation carrier must not be made of flammable materials and must possess fireproof properties.
- Please ensure that the installation carrier is sturdy and reliable, capable of bearing the weight of the battery.

3.3.3 Requirements for installation and handling angles

- Recommended battery installation angles: vertical (with the legs facing down) and horizontal (with the indicator light facing up).
- Do not invert, tilt, or recline the battery beyond the specified angle.
- Requirements and prohibitions for product packaging, handling, and



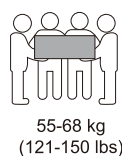
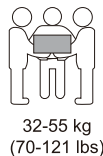
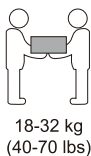
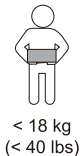
placement

- Battery handling requirements

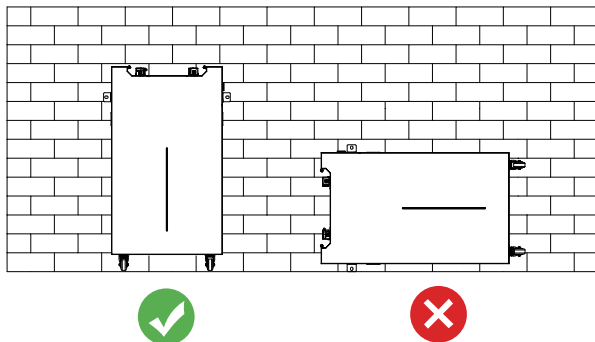
A、During transportation and handling, the battery module and its components should be protected from damage;

B、During transportation, consider the weight of the battery module system and carefully lift the battery modules and components;

C、Do not collide, pull, drag, or step on the battery module, and do not allow unrelated objects to come into contact with any part of the battery module;



- The installation angle of the battery is as follows



3.4 Product terminal wiring

Please connect the wires according to the terminal accessories, with the red wire indicating the positive pole and the black wire indicating the negative pole. (The size and length of the connecting wires are described in the material distribution list)

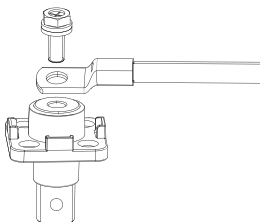
Step 1: Lock the terminal wires into the corresponding positive and negative terminal lock holes according to the positive and negative pole positions, and tighten the screws with an open-end wrench or a ring wrench, as shown in Figure 1 below;

Note: The positive and negative poles cannot be connected reversely.

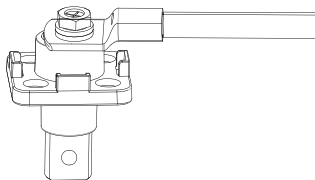
Step 2: Tighten the positive and negative terminal screws clockwise, ensuring there are no signs of looseness. Shake the locked terminal wire by hand, and if there is no shaking at the screw fixing position, it indicates that the terminal wire is securely connected. Refer to Figure 2 below for illustration

Note: Pay attention to the direction and method of locking the terminal wire. Do not connect the terminal wire with the connector upside down, as shown in Figure 3.

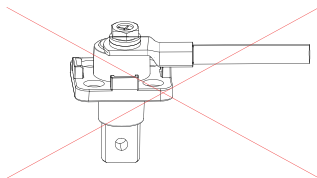
Note: Bolt M6, torque value $9\text{N} \cdot \text{m}$; Bolt M8, torque value $23\text{N} \cdot \text{m}$.



(Figure1)



(Figure2)



(Figure3)

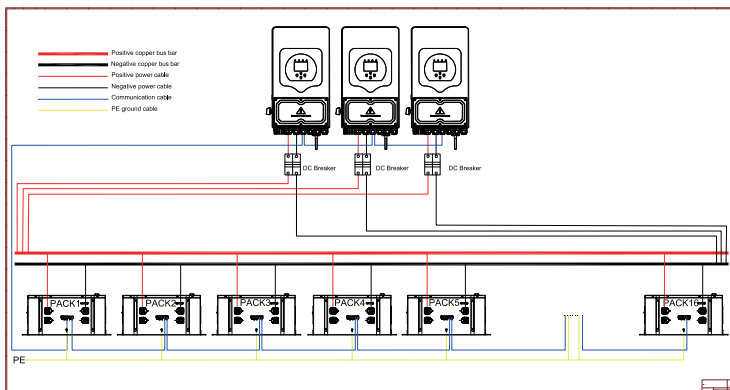
04/Battery Parallel Connection

4.1 Battery Parallel Connection

4.1.1 The parallel connection method of multiple batteries is relatively special. The P+/P- wiring must adopt the circulating current wiring method, and the communication shall be realized through CAN parallel communication (as shown in the following figure).

4.1.2 When multiple parallel batteries communicate with the inverter, only the PACK1 battery is responsible for communicating with the inverter. Therefore, the inverter's communication network port must be connected to the corresponding network port of the PACK1 battery; otherwise, communication with the inverter cannot be achieved.

4.1.3 PACK1 battery serves as the main control unit, while the other batteries achieve parallel operation communication via CAN to ensure data synchronization and stable system operation; during wiring, parallel routing of strong and weak current circuits should be avoided to prevent signal interference. After completing the connections, it is necessary to check whether each interface is securely connected. Only after confirmation of no errors can the power supply be turned on: switch on the lithium battery switch and the circuit breaker switch in sequence to start the system.



Note: It is recommended that the busbar be matched according to the maximum power of the inverter module.

4.2 Power Cable Specifications

The specifications and lengths of the P+P- parallel power cable wires need to be consistent, and the power cable model needs to be matched according to the maximum power of the inverter.

5KW Inverter	10KW Inverter	15KW Inverter
4AWG	2AWG	2AWG

4.3 Interface Communication Instructions

4.3.1 USB Communication

The USB interface adopts a TYPE B port. The BMS can communicate with the host computer through this interface, so that various battery information can be monitored on the host computer side, including battery voltage, current, temperature, status, SOC, SOH and battery production information, etc. The default baud rate is 115200bps.

4.3.2 RS485 Communication

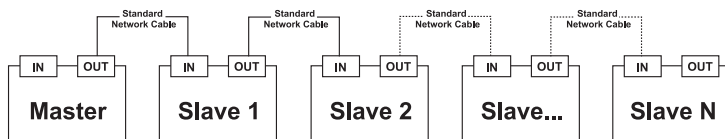
All RS485 interfaces of the BMS are RJ45 network ports. Among them, the single-port RS485 is mainly used for data exchange between the battery pack and the inverter. (Note: If there is a dual-port RS485, it is for parallel communication between battery packs.)

4.3.3 CAN Communication

The CAN communication interface of the BMS has the capability of data exchange between the battery pack and the inverter. The default baud rate is 500K, and the communication interface is an RJ45 network port. (Note: If there are dual ports IN/OUT, they are for CAN parallel communication between battery packs.)

4.3.4 Parallel Connection Wiring Installation

When connecting in parallel, it should be noted that only battery packs of the same type and number of series can be connected in parallel. Otherwise, if battery packs with different numbers of series are connected in parallel, the voltage difference between the battery packs will cause mutual discharge between the battery packs, making them unable to function normally. This product uses CAN for parallel connection and communication, as shown in the following figure:



Schematic diagram of parallel wiring

After the parallel connection wiring is completed, it is recommended to power on all devices together. If they cannot be powered on at the same time, the host should be turned on first, and then all slaves should be turned on in cascade order (the power-on order will affect the continuity of slave address binding, so try to power on the slaves close to the host first in cascade order). The default maximum number of parallel units is 16.

05/Battery-to-Inverter Connection

5.1 Battery Module-to-Inverter Connection

5.1.1 Connect the battery module P+/P - to the inverter BAT+/BAT -, and reverse connection is strictly prohibited.

5.1.2 Connect the battery and inverter communication network port with the correct communication network cable.

5.1.3 First turn on the battery switch until all batteries are successfully turned on, then turn on the inverter switch.

5.2 Inverter Settings

5.2.1 Complete the battery type, operating mode, and other settings according to the inverter user manual.

If the inverter displays correct battery information and there are no alarms regarding BMS communication failures, it indicates that the battery module has successfully communicated with the inverter.

5.2.2 Other settings can be set according to the inverter manual and actual needs.

5.3 Protocol Selection Between Battery Module and Inverter

5.3.1 Method 1: Default Inverter for Battery Module at Factory.

Step 1: Select the cable used by the default inverter according to the label on the communication cable. Connect the RJ45 port (CAN/RS485) on the battery end to the RJ45 (CAN/RS485) port on the inverter end with a cable.

Step 2: Turn on the battery module and inverter, and wait for normal operation. The battery is pre-configured at the factory to communicate with the RS485 ports of Voltronics, MecerKodak, Phocos, and Axpert inverters, and the CAN ports of DEYE, Sunsynk, SMK (Hybrid), Luxpower, Sofar, and TBB inverters. The battery will automatically select the default inverter communication.

Step 3: After the battery successfully communicates with the inverter, the battery status will be displayed on the inverter: voltage, current, SOC, temperature, etc.

5.3.2 Method 2: Battery Module (Protocol Selection) - When communicating with inverters of other brands, such as: Growatt, Megarevo, INVT, Victron, SOLAX, MUST, SMA, etc.

Step 1: Turn on the battery, ensure the BMS is powered on normally (not in sleep mode), insert the provided USB-B communication cable into the battery's communication port, and connect the USB-A end to the computer;

Step 2: Extract the BMS monitoring software package to the current computer (with .NET Framework 2.0 or above). This software does not require separate installation; simply double-click the main program icon (BMS.exe file) to run and use it when the environment is satisfactory. Enter password: green1234 (the space is green, indicating the correct password).

Step 3: Click on "Parameter Information" at the top of the system page, then click the "Read" button to view the battery parameters. Select the inverter protocol "Protocol Type", and click the "Write" button to set the protocol. Once the system displays successful operation, the protocol selection is complete (please refer to the image below).



Step 4: Select the cable for the inverter based on the label on the communication cable. Plug the RJ45 connector (CAN/RS485) on the battery end and the RJ45 connector on the inverter end into the corresponding interfaces on both sides. Restart the battery and the inverter. The battery will automatically communicate with the inverter according to the selected protocol.

5.3.3 Method 3: Select a WIFI module for the battery module and choose the inverter protocol for the APP. For specific operations, refer to the APP operation instructions

06/Communication Protocol Comparison Table

Low Voltage-RS485							
NO.	Inverter Name	Inverter Logo	Protocol	Abbreviation	Mode	Version	Inverter Communication Definition
1	GENIXGREEN		GENIXGREEN	"GENI"	RS485	1.0	
2	PYLONTECH		PYLON	"PYLN"	RS485	1.0	
3	EVADA				RS485		PIN 1-RS485_B PIN 2-RS485_A
4	XINDUN		PYLON/GROWATT /VOLTRONIC		RS485		PIN 1-RS485_B PIN 2-RS485_A
5	TECHFINE				RS485		PIN 1-RS485_B PIN 2-RS485_A
6	SUMRY				RS485		PIN 1-RS485_B PIN 2-RS485_A
7	SUNGERY				RS485		PIN 1-RS485_B PIN 2-RS485_A
8	VEICHI		VOLTRONIC	"VLTC"	RS485	1.0	PIN 1-RS485_B PIN 2-RS485_A
9	VOLTRONIC POWER		VOLTRONIC	"VLTC"	RS485	1.0	PIN 1-RS485_B PIN 2-RS485_A
10	GROWATT		GROWATT	"GRWT"	RS485	2.1	PIN 1-RS485_B PIN 2-RS485_A
11	SACOLAR		GROWATT	"GRWT"	RS485		PIN 1-RS485_B PIN 2-RS485_A
12	SRNE		SRNE	"SRNE"	RS485	1.0	PIN 1-RS485_B PIN 2-RS485_A
13	AFORE		AFORE	"AFOR"	RS485	1.0	
14	SOLAX POWER		SOLAX	"SOLX"	RS485	1.2	
15	VKINGNER		VKING	"VKIN"	RS485	1.0	
16	PACEEX		PACE	"PACE"	RS485	1.3	

17	MUST		MUST	"MUST"	RS485	1.1	PIN 1-RS485_B PIN 2-RS485_A
18	BAYKEE		BAYKEE	"BYKE"	RS485	1.0	
19	SMK SOLAR		SMK	"SMK"	RS485		PIN 1-RS485_B PIN 2-RS485_A
20	BIWATT		BITTA	"BITA"	RS485	1.1	
21	STONE		STONE	"STON"	RS485	2.1	
22	EPEVER		EVEPER	"EVPR"	RS485	1.5	
23	KSTAR		KSTAR	"KSTR"	RS485	5.0	
24	SUNFLY TECH		SUNFLY	"SNFL"	RS485	1.2	

Low Voltage-CAN

NO.	Inverter Name	Inverter Logo	Protocol	Abbreviation	Mode	Version	Inverter Communication Definition
1	GENIXGREEN		GENIXGREEN	"GENI"	CAN	1.0, 3.0	
2	PYLONTECH		PYLON	"PYLN"	CAN	1.2, 2.0	
3	LIVOLTEK		PYLON	"PYLN"	CAN		PIN 1-CAN_H PIN 2-CAN_L
4	MEGAREVO		PYLON	"PYLN"	CAN		PIN 4-CAN_H PIN 5-CAN_L
5	SOLARCARRY		PYLON	"PYLN"	CAN		PIN 4-CAN_H PIN 5-CAN_L
6	CVTE		PYLON	"PYLN"	CAN		PIN 5-CAN_H PIN 6-CAN_L
7	HOYMILES		PYLON	"PYLN"	CAN		PIN 4-CAN_H PIN 5-CAN_L
8	CHISAGE ESS		PYLON	"PYLN"	CAN		PIN 4-CAN_H PIN 5-CAN_L
9	SOSEN		PYLON	"PYLN"	CAN		PIN 4-CAN_H PIN 5-CAN_L

10	VICTRON ENERGY		VICTRON	"VICT"	CAN	1.0	PIN 7--CAN_H PIN 8--CAN_L
11	GROWATT		GROWATT	"GRWT"	CAN	1.5	PIN 4--CAN_H PIN 5--CAN_L
12	SLENERGY		PYLON	"PYLN"	CAN		PIN 6--CAN_H PIN 3--CAN_L
13	AFORE		AFORE	"AFOR"	CAN	2.1	PIN 4--CAN_H PIN 5--CAN_L
14	AP SYSTEMS		ALTENERGY	"AEPS"	CAN	1.3	PIN 4--CAN_H PIN 5--CAN_L
15	SUNOHOO		PYLON	"PYLN"	CAN	2.1	PIN 4--CAN_H PIN 5--CAN_L
16	GOSPOWER		PYLON	"PYLN"	CAN	2.1	PIN 4--CAN_H PIN 5--CAN_L
17	AOHAI		PYLON	"PYLN"	CAN	2.1	PIN 4--CAN_H PIN 5--CAN_L
18	SOLAX POWER		SOLAX	"SOLX"	CAN	1.2	PIN 4--CAN_H PIN 5--CAN_L
19	VKINGNER		VKING	"VKIN"	CAN	1.0	PIN 4--CAN_H PIN 5--CAN_L
20	MUST		MUST	"MUST"	CAN	1.0	PIN 5--CAN_H PIN 6--CAN_L
21	GOODWE		GOODWE	"GDWE"	CAN	1.5	PIN 4--CAN_H PIN 5--CAN_L
22	SOFAR		SOFAR	"SOFA"	CAN	1.0	PIN 4--CAN_H PIN 5--CAN_L
23	LUXPOWER		LUXPOWER	"LXPR"	CAN	1.0	PIN 3--CAN_L PIN 4--CAN_H PIN 5--CAN_L
24	KSTAR		KSTAR	"KSTR"	CAN	1.18	PIN 4--CAN_H PIN 5--CAN_L
25	SOROTEC		SOROTEC	"SRTC"	CAN	1.0	PIN 3--CAN_H PIN 5--CAN_L
26	SMA		SMA	"SMA"	CAN	1.0	PIN 4--CAN_H PIN 5--CAN_L
27	SOLIS		GINLONG	"GNLG"	CAN	1.0	PIN 4--CAN_H PIN 5--CAN_L
28	DONNERGY		DONNERGY	"DONN"	CAN	1.0	
29	IMEON ENERGY		IMEON	"IMON"	CAN	1.0	PIN 14--CAN_H PIN 12--CAN_L

30	SCHNEIDER		SCHNEIDER	"SHDR"	CAN	2.0	PIN 4--CAN_H PIN 5--CAN_L
31	INVT		INVT	"INVT"	CAN	1.2	PIN 4--CAN_H PIN 5--CAN_L
32	INHENERGY		INHENERGY	"INHE"	CAN	1.0	PIN 4--CAN_H PIN 5--CAN_L
33	SENERGY		SENERGY	"SENR"	CAN	1.2	PIN 8--CAN_H PIN 7--CAN_L
34	SUNWAYS		SUNWAYS	"SNWY"	CAN	2.0	
35	STUDER		STUDER	"STDR"	CAN	1.0	
36	DEYE		DEYE	"DEYE"	CAN	1.0, 3.0	PIN 4--CAN_H PIN 5--CAN_L
37	SUNGROW		SUNGROW	"SNGR"	CAN	1.0	PIN 4--CAN_H PIN 5--CAN_L
38	SAJ ELECTRIC		PYLON	"PYLN"	CAN	2.1	PIN 4--CAN_H PIN 5--CAN_L