USER MANUAL

SVE 16 LITE②

05
year warranty

63
Units Parallel

8000
Cycles

2026

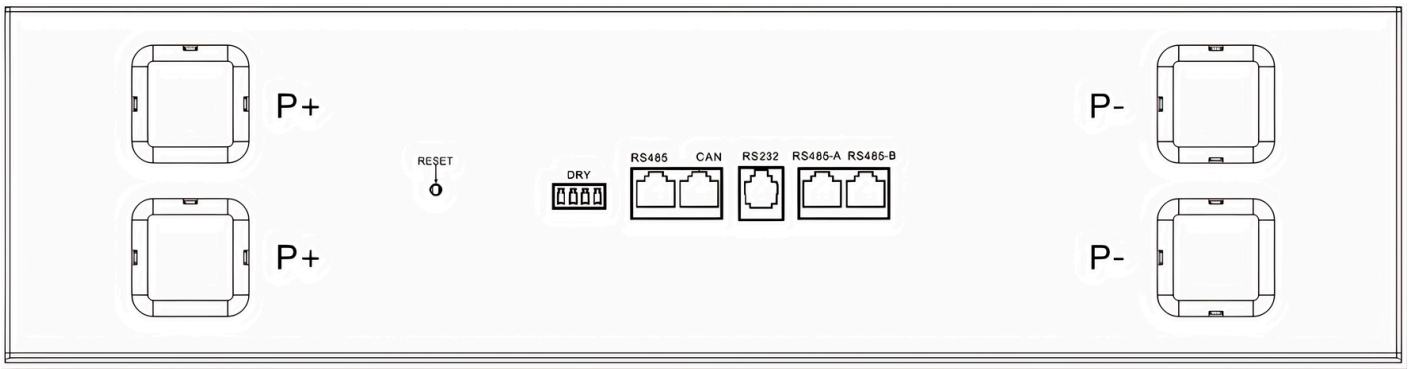
Table of contents

1. PRODUCT OVERVIEW

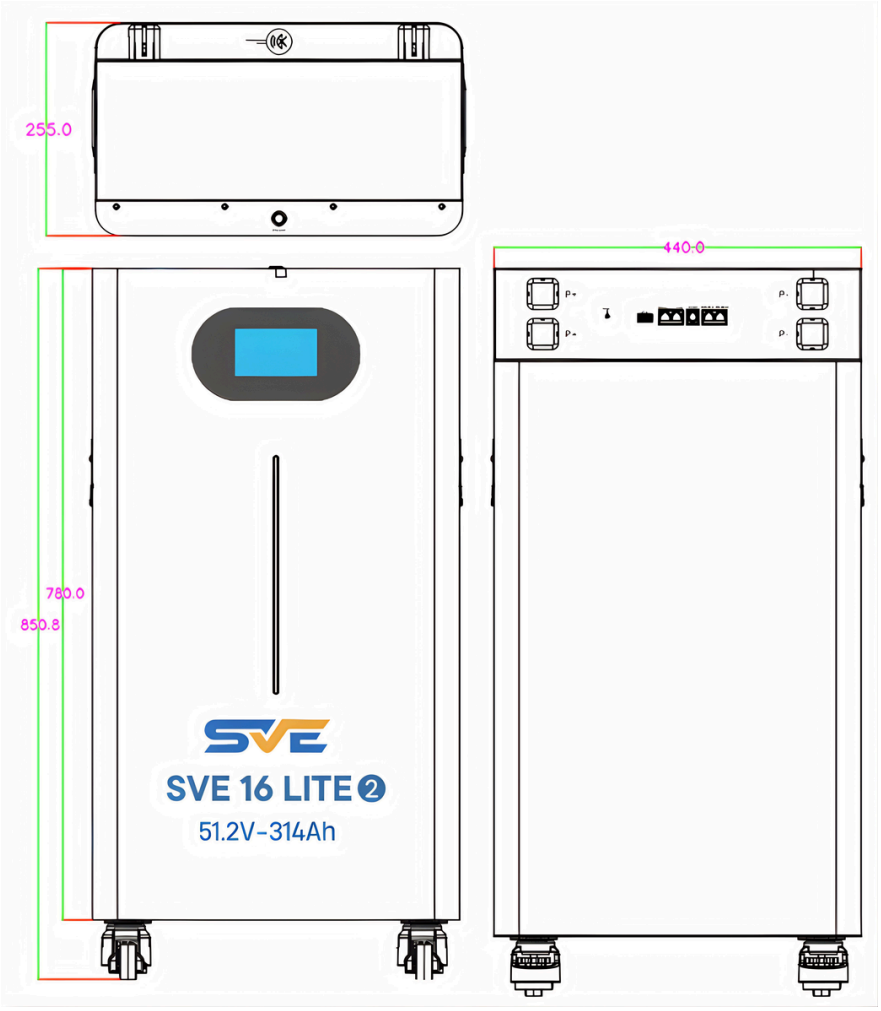
This product is a household energy storage system that meets various electricity needs in daily household life. Through reasonable charging and discharging strategies, it reduces electricity costs while ensuring the stability and reliability of electricity use.

1.1 Appearance

1.1.1 Output and communication terminals



1.1.2 Installation dimensions



2. Display and port functions

2.1 Dial code, Buttons, TFT touch screen, LED indicator and communication port

2.1.1 Automatic parallel encoding

2.1.1.1. Turn off the battery first and then connect the positive and negative parallel wires of the battery → Connect the battery pack communication parallel wires (the first RS485-A port is connected to the second RS485-B port, and so on, the last one is the host) → After connecting the wires, start the machines one by one starting from the last host.

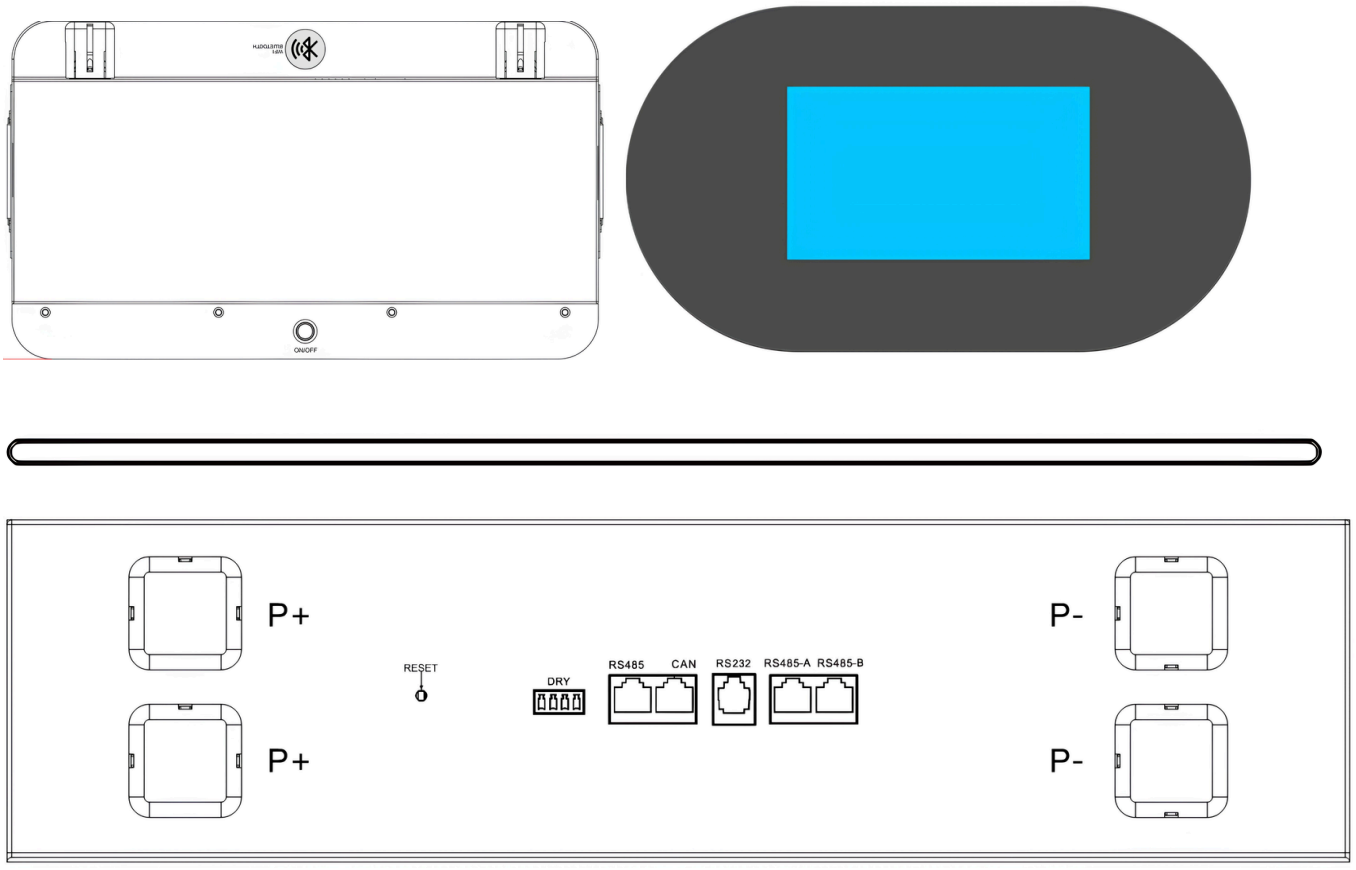
2.1.1.2. After the communication parallel line is connected, the system host will automatically encode after it is turned on (it does not matter what the order of starting the master and slave units is, the host will automatically encode after it is turned on).

If it fails, all the indicators of the corresponding single unit will flash together. A maximum of 63 units can be connected in parallel.

2.1.2 Button Functions

2.1.2.1 Turning on output

The ON/OFF button in Function Diagram 1 turns on the battery output. If multiple units are connected in parallel, connect the communication parallel cables and then press the button to turn on the battery output.



Functional diagram 1

2.1.2.2 Turning off output

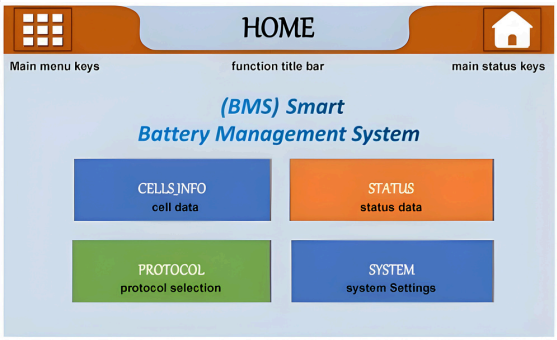
In the power-on state, press all the parallel ON/OFF buttons to pop out, turn off the display and battery output, and disconnect the P- output.

2.1.3 TFT touch screen

When powered on, the TFT touch screen in Function Figure 1 can display various status information such as battery SOC, temperature, voltage, current, etc.

2.1.3.1 Icon Description：

	Click the main menu icon to enter the HOME interface of the main menu
	The Main status icon. Click to enter the Main State interface
	System Settings/Language selection



2.1.3.2 Permission Description

2.1.3.2.1 There are three levels of permissions

① **No permission:** Can browse the welcome interface and main status interface; restricted from browsing other battery cell details and fault alarm details;

② **Operator permissions:** can browse all interfaces and select language options, but cannot set or modify protocols;

③ **Administrator privileges:** can browse all interfaces, select language options, and set and modify protocols;

④ **Protocol authority security:** To re-enter the protocol setting interface, you need to re-enter the administrator password. When you exit the protocol interface, the password you have entered will be cleared.

Password: Administrator password: 82993060; Operator password: 87654321

2.1.4 LED indicators and communication ports

2.1.4.1 LED indicators

In the power-on state, the LED indicators of function diagram 1, RUN is the green normal operation indicator, ALM is the red alarm indicator, and the 10 SOC green indicators indicate the battery power.

Function: System self-check upon startup

Perform a self-check of all the LED lights (red, blue, green) in a cascading light sequence. When the system is powered on, all the LED lights will perform a self-check and display the results as follows:

Light strip distribution

Run-Led	Alarm-Led	Led-10	Led-09	Led-08	Led-07	Led-06	Led-05	Led-04	Led-03	Led-02	Led-01
RUN Light	Alarm Light	Battery level indicator									
		100%	90%	80%	70%	60%	50%	40%	30%	20%	10%

Status indicator display panel

Status	Led1	Led2	Led3	Led4	Led5	Led6	Led7	Led8	Led9	Led10	ALM	RUN
Power-on self-test	The LED light up sequentially, then turn off completely and switch to the next color, proceeding from left to right.											
Fault status	SOC is displayed normally										Constantly on	Light off
Protection status	SOC is displayed normally										Flashing 1S	
											Overvoltage causes failure to light up	Constantly on
	All lights are off in under voltage protection mode										Light off	Light off
Alarm status	SOC is displayed normally										Flashing 1S	
											Overvoltage causes failure to light up	
Charging status	Display SOC, from maximum SOC indicator to full charge SOC indicator (flowing through the indicator)										-	Flashing 1S
Discharge status	The SOC indicator light flashes once every 2 seconds, showing the maximum SOC										-	Flashing 1S
Idle status	Display SOC										-	Constantly on
Power-off status	From left to right, they flash one after another, and finally all go out											

Charging status

SOC	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	ALM	RUN
0 < S ≤ 10%	Blue	Running										Blue Flashing①
10% < S ≤ 20%	Blue	Blue	Running									Blue Flashing①
20% < S ≤ 30%	Blue	Blue	Blue	Running								Blue Flashing①
30% < S ≤ 40%	Blue	Blue	Blue	Blue	Running							Blue Flashing①
40% < S ≤ 50%	Blue	Blue	Blue	Blue	Blue	Running						Blue Flashing①
50% < S ≤ 60%	Blue	Blue	Blue	Blue	Blue	Blue	Running					Blue Flashing①
60% < S ≤ 70%	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Running				Blue Flashing①
70% < S ≤ 80%	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Running			Blue Flashing①
80% < S ≤ 90%	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Running		Blue Flashing①
90% < S ≤ 100%	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Running	Blue Flashing①

Discharging status

SOC	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	ALM	RUN
0 < S ≤ 10%	Green Flashing②	--	--	--	--	--	--	--	--	--	--	Green Flashing①
10% < S ≤ 20%	Green	Green Flashing②	--	--	--	--	--	--	--	--	--	Green Flashing①
20% < S ≤ 30%	Green	Green	Green Flashing②	--	--	--	--	--	--	--	--	Green Flashing①
30% < S ≤ 40%	Green	Green	Green	Green Flashing②	--	--	--	--	--	--	--	Green Flashing①
40% < S ≤ 50%	Green	Green	Green	Green	Green Flashing②	--	--	--	--	--	--	Green Flashing①
50% < S ≤ 60%	Green	Green	Green	Green	Green	Green Flashing②	--	--	--	--	--	Green Flashing①
60% < S ≤ 70%	Green	Green	Green	Green	Green	Green	Green Flashing②	--	--	--	--	Green Flashing①
70% < S ≤ 80%	Green	Green	Green	Green	Green	Green	Green	Green Flashing②	--	--	--	Green Flashing①
80% < S ≤ 90%	Green	Green	Green	Green	Green	Green	Green	Green	Green Flashing②	--	--	Green Flashing①
90% < S ≤ 100%	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green Flashing②	--	Green Flashing①

Note: Flash ① (Flash frequency: 1 time/second); Flash ② (Flash frequency: 0.5 times/second)

No charging, no discharging, stationary state

SOC	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	ALM	RUN
0 < S ≤ 10%	Green	--	--	--	--	--	--	--	--	--	--	Green
10% < S ≤ 20%	Green	Green	--	--	--	--	--	--	--	--	--	Green
20% < S ≤ 30%	Green	Green	Green	--	--	--	--	--	--	--	--	Green
30% < S ≤ 40%	Green	Green	Green	Green	--	--	--	--	--	--	--	Green
40% < S ≤ 50%	Green	Green	Green	Green	Green	--	--	--	--	--	--	Green
50% < S ≤ 60%	Green	Green	Green	Green	Green	Green	--	--	--	--	--	Green
60% < S ≤ 70%	Green	Green	Green	Green	Green	Green	Green	--	--	--	--	Green
70% < S ≤ 80%	Green	Green	Green	Green	Green	Green	Green	Green	--	--	--	Green
80% < S ≤ 90%	Green	Green	Green	Green	Green	Green	Green	Green	Green	--	--	Green
90% < S ≤ 100%	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	--	Green

2.1.4.2 Communication Ports:

1. The 2 RJ45 interfaces RS485 and CAN are arranged in parallel on the left side of functional diagram 1

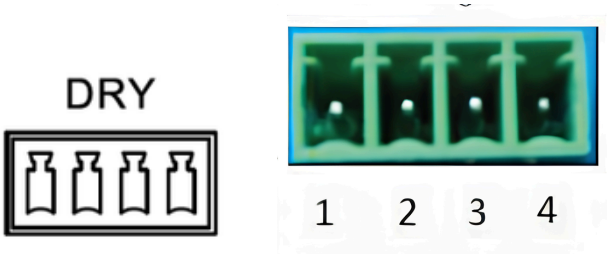
These two are the communication interfaces between the battery and the photovoltaic inverter. When the battery is the host, it can aggregate the data of the slaves and communicate with the inverter. The baud rate of RS485 communication is 9600 bps by default, and the frequency of CAN communication is 500K by default.

2. The 2 RJ45 interfaces RS485-A and RS485-B are arranged in parallel on the right side of functional diagram 1, these two are the parallel RS485 communication interfaces for the battery. The default baud rate is 9600 bps. If you need to communicate with the monitoring device via RS485, the monitoring device acts as the host and polls data based on the address. The address setting range is 2 to 15.

3.The middle part of Function Diagram 1 is the RJ11 interface, which is the RS232 communication terminal of the battery BMS. BMS can communicate with the PC via upper software through the RS232 interface, so that the PC can monitor various information of the battery, including battery voltage, current, temperature, status, etc. The default baud rate is 9600 bps.

2.1.5 Dry Contact Port

In Function Diagram 1, DRY is a dry contact port . The BMS can send information such as temperature protection signals to monitoring and load devices through dry contacts, thereby controlling the output of load devices or performing related functions of monitoring devices.



2.1.6 Battery output terminal

In functional diagram 1, P+ and P- are the positive and negative outputs of the battery PACK, which are used as high-power output and high-power charging input.

The positive and negative terminals support 200A continuous current: M8 screw / 200A / red is positive / black is negative.

2.2 Communication port definition

2.2.1 RS485/CAN and inverter (PCS) interface

2.2.2 RS485 Battery Pack Parallel Communication Interface (RS485A/RS485B)

2.2.3 RS232 battery pack and PC communication interface

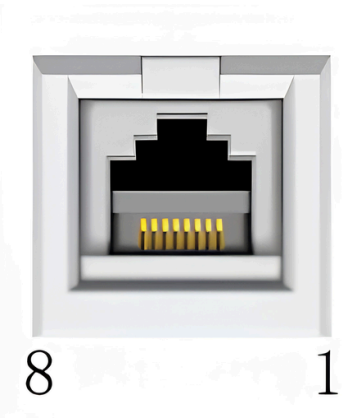
CAN--Using 8P8C vertical RJ45 socket		RJ485--Using 8P8C vertical RJ45 socket	
RJ45 PIN	**Definition**	**RJ45 PIN**	**Definition**
1、3、6、7、8	NC	9、16	RS485-B1
4	CAN-H	10、15	RS485-A1
5	CAN-L	11、14	GND
2	GND	12、13	NC

CAN & RS485 interfaces

RJ485--Using 8P8C vertical RJ45 socket		RJ485--Using 8P8C vertical RJ45 socket	
RJ45 PIN	**Definition**	**RJ45 PIN**	**Definition**
1、8	RS485-B	9、16	RS485-B
2、7	RS485-A	10、15	RS485-A
3、6	GND	11、14	GND
4、5	NC	12、13	NC

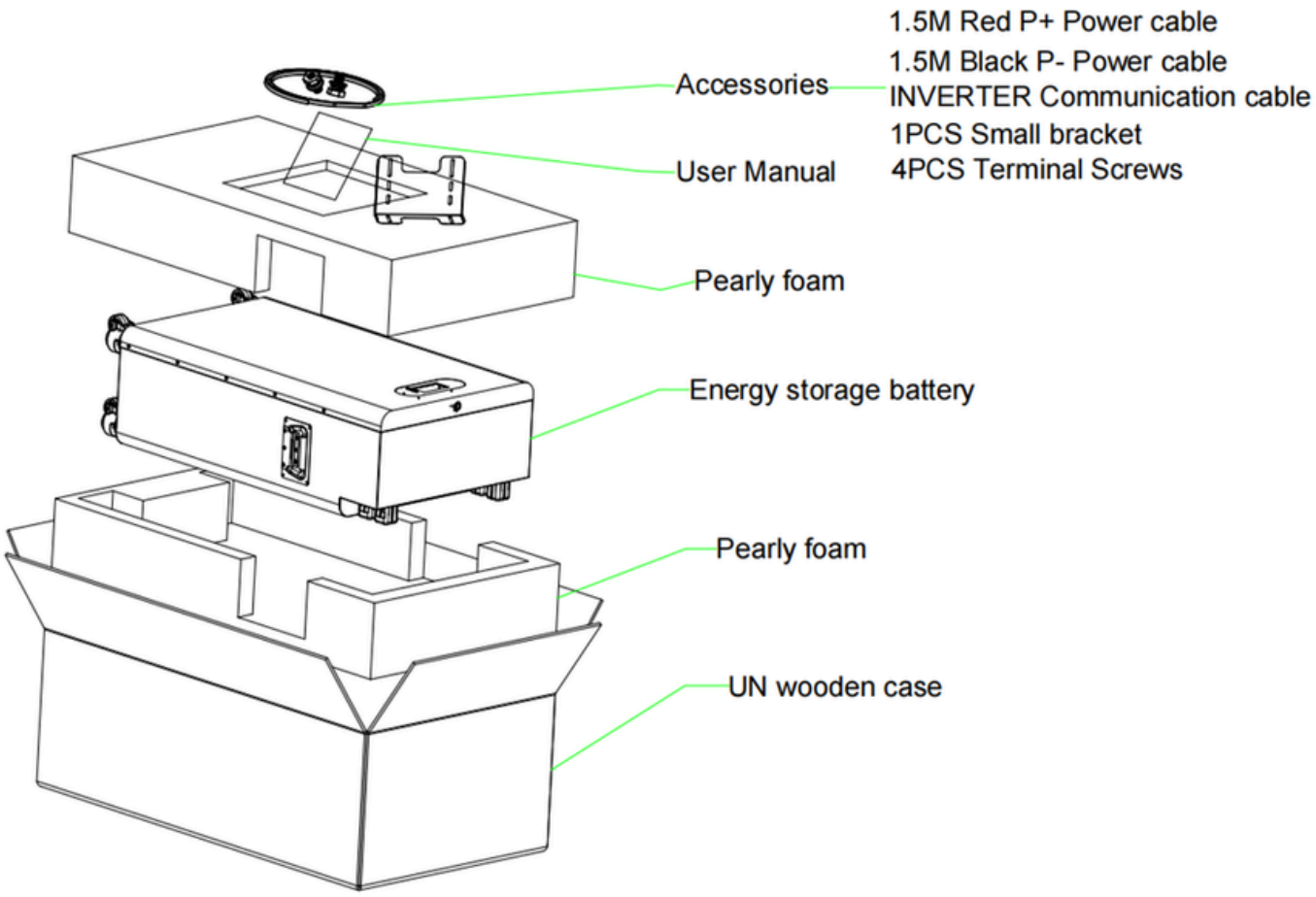
Parallel communication port

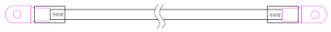
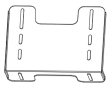
RS232--Using 6P6C vertical RJ11 socket	
RJ11 PIN	**Definition**
1、2、6	NC
3	TX (on-board)
4	RX (on-board)
5	GND



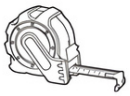
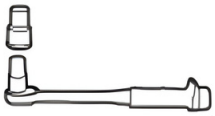
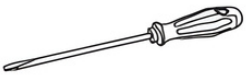
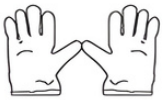
3. Installation Guide

3.1 Check the product and install the accessories



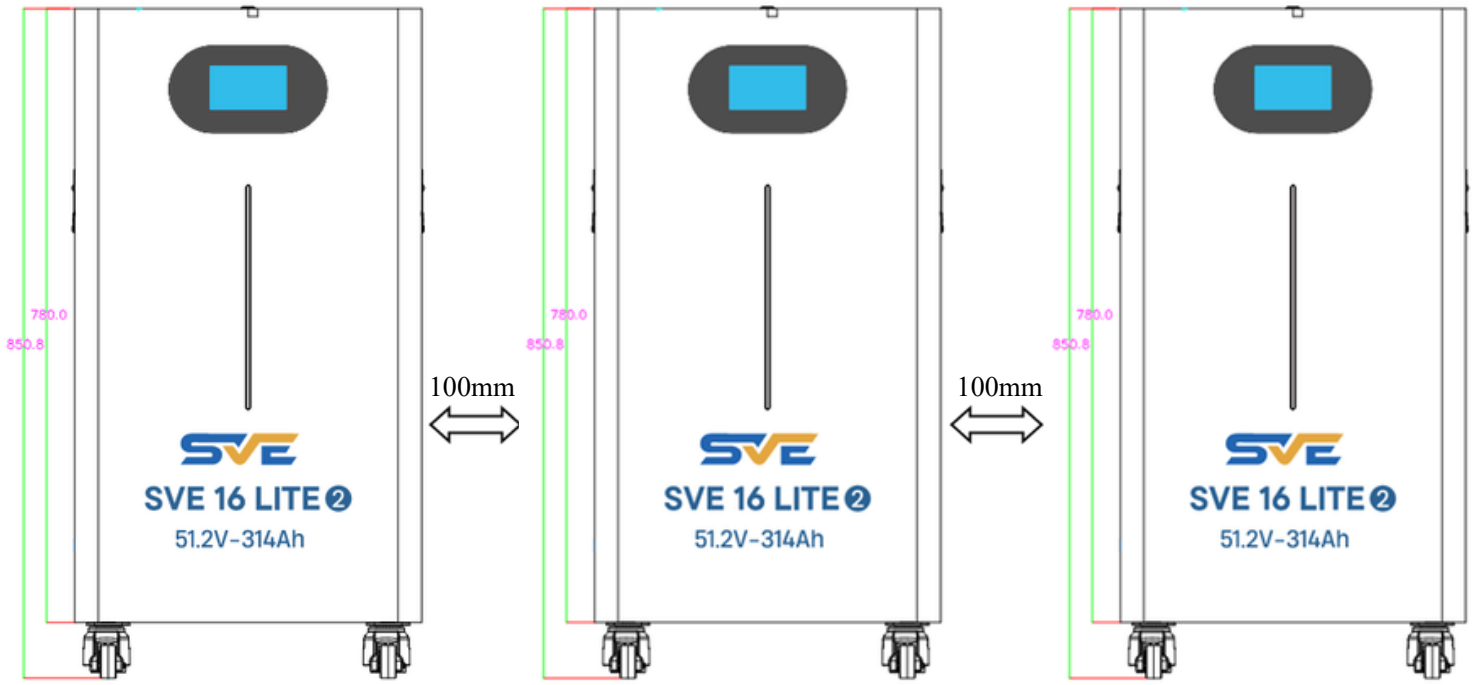
No	PICS	QTY	Describe
1		1	Battery pack
2		1	Communication cable
3		1	Red P+ Power cable
4		1	Black P- Power cable
5		4	Terminal Screw
6		1	User manual
7		1	Small Bracket

3.2 Installation tools and protective equipment

Installation Tools	 Tape measure	 socket spanner	 cross screwdriver
Protective equipment	 Electrostatic protectiongloves	 Goggles	 Safety shoes

3.3 Installation Instructions

Minimum installation distance requirement: (Against the wall)



3.4 Installation Steps

3.4.1 Step 1

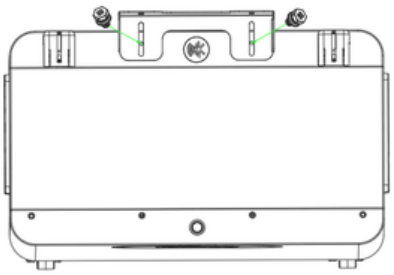
First move the energy storage battery to an open and suitable place, where it will not be exposed to the sun, rain, moisture, etc. Then turn off the ON/OFF button, disconnect the battery output and then install.

3.4.2 Step 2

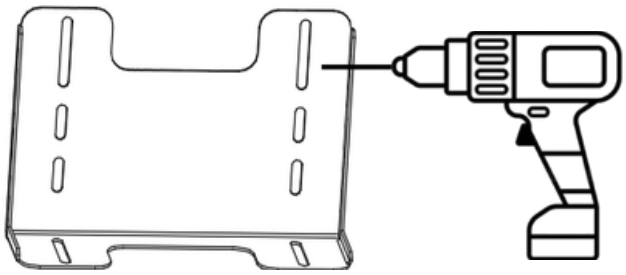
① Secure the bracket to the battery with screws according to the diagram in Figure 1.

② Drill screw holes in the wall surface according to the diagram in Figure 2.

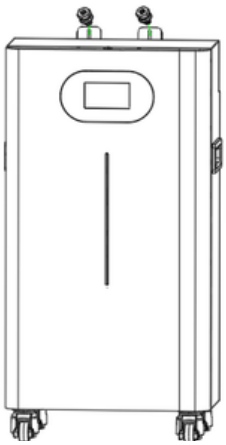
③ move the battery to the wall, then drill positioning holes with tools, and secure the bracket to the wall with screws according to the diagram in Figure 3.



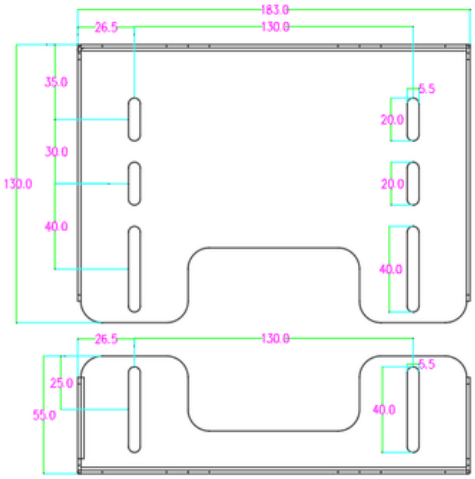
(Figure 1)



(Figure 2)



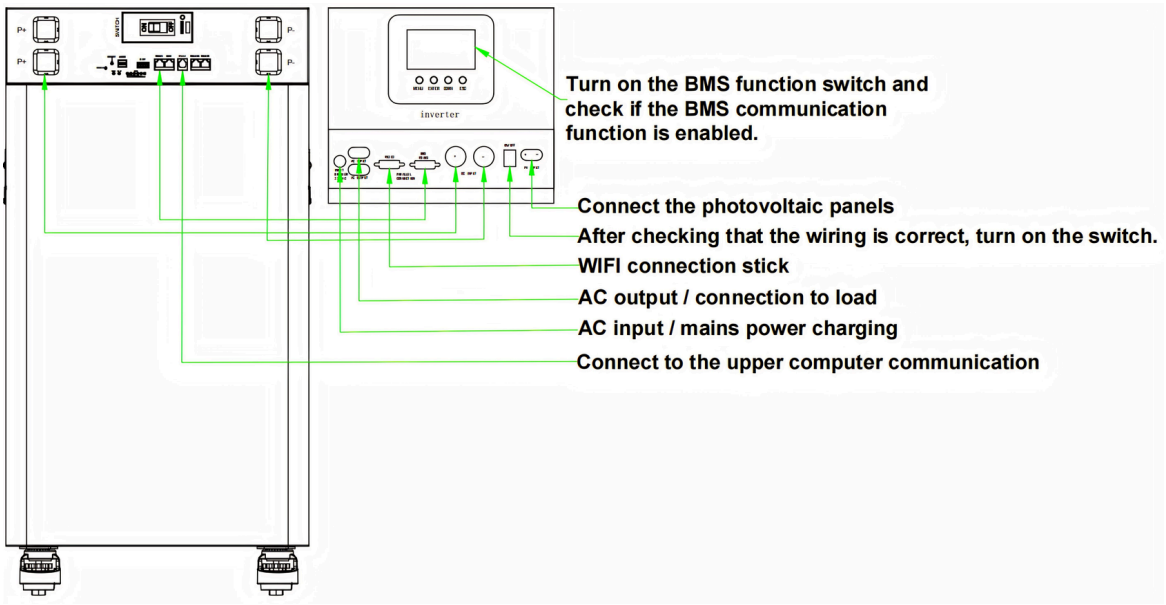
(Figure 3)



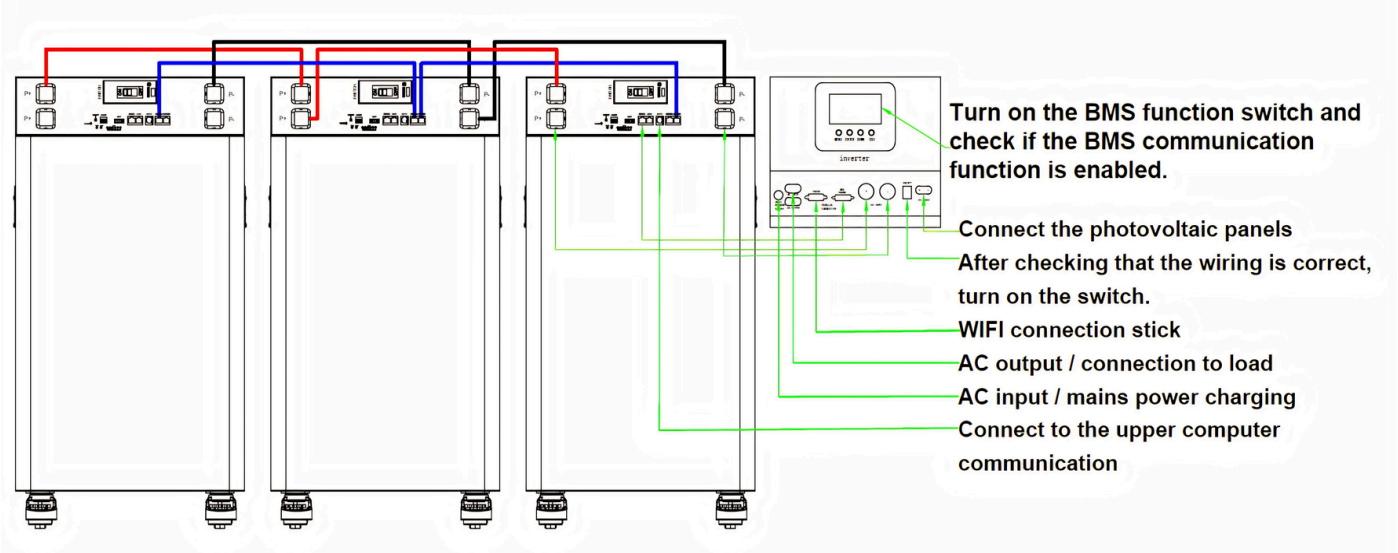
(Bracket size)

3.4.3 Step 3

For a single battery, connect P+ is connected to the negative pole of the inverter, the P+ is connected to the positive pole of the inverter, and the RS485/CAN is connected to the inverter communication, as shown in the following installation diagram:



3.4.4 Multiple units parallel installation, as shown below:



4. Inverter Protocol Catalog List

SVE	**SVE** CAN V1.1-2022.05.10
RS485	012-**LuxPower** RS485 Inverter V0.3-2020.07.06(Luxpower)
	001-**PYLON** RS485 LV V3.5-2019.12.23--9600
	002-**Growatt** RS485 V2.02-2019.07.24
	003-**Voltronic** RS485 Inverter V1.5-2022.01.18
	000-**PACE**_RS485_Modbus_UN
	036-**SRNE** WOW RS485 Modbus V1.3-2017.06.27
	015-**Schneider** V2.0
CAN	012-**LuxPower** CAN V1.0-2020.02.11
	002-**Growatt** CAN LV V1.05-2019.08.28
	010-**Victron** CAN 2021.01.07
	015-**Schneider** CAN V2.0
	001-**PYLON** CAN Inverter EMS
	013-**Sorotec** CAN Inverter V1.0
	017-**SMA** CAN V2.0
	007-**GoodWe** CAN Inverter LV V1.7-2020.02.28
	035-**STUDER** CAN V1.02-2018.06.14
	030-**MUST** CAN PV1800F
	014-**SOLIS** GINLONG CAN LV V1.0-2019.12.28
	028-**Senergy** CAN V1.1-2022.05.10
	033-**TBB** CAN V1.05-2021.04.20
	031-**MEGAREVO** CAN Inverter LV V1.1

5. Technical Specifications

Basic Projects	Parameter
Battery Type	LFP
Nominal voltage	51.2V
Nominal capacity	314 Ah
Nominal energy	16.0768 KWh
Charging voltage	57.6V ±0.025V
Charging Current	Standard (0.5C) 157A, maximum 200A
Discharge voltage range	43.2V ~ 57.6V
Discharge current	Standard (0.5C) 157A, maximum 200A
Cycle Life	8000 cycles
Communication Mode	CAN/RS485/RS232
Operating temperature	Charging 0~45°C, discharging -20~55°C
Storage temperature and temperature	65%RH (non-condensing), -10~45°C
Product size	840*430*230MM
Net weight	125 kg
IP protection rating	IP30

6. Battery Maintenance

6.1 Supplementary power requirements during storage

The battery should be stored in a temperature range of -20~+45°C and charged regularly at 0.2C (20A) according to the following table. After long-term storage, the battery should be recharged to 50% capacity.

Storage temperature	Storage relative humidity RH	Storage time	SOC power
Below -10 °C		Not allowed	
-10~0°C	5%~65%	≤ 1 month	30% ≤SOC≤60%
0~25 °C	5%~65%	≤ 12 months	30% ≤SOC≤60%
20~35 °C	5%~65%	≤ 6 months	30% ≤SOC≤60%
35~45°C	5%~65%	≤ 1 month	30% ≤SOC≤60%
Above 45 °C		Not allowed	

6.2 Over discharge supplementary power requirements

Please charge the over-discharged (90% DOD) battery according to the following table, otherwise the over-discharged battery will be damaged.

Storage temperature	Storage time	Precautions
-10~ 25°C	≤ 15 days	Battery disconnect inverter
25 ~45°C	≤ 7 days	
-10 ~45°C	≤ 12 hours	Battery connect with

6.3 Disposal of batteries should comply with local regulations

6.4 Notes

6.4.1 Warranty

The Manufacturer will be responsible for replacing the battery pack against defects or poor workmanship for 5 years from the date of shipping. Any other problems caused by malfunction of the equipment or misuse of the battery is not covered under this warranty.

6.4.2 For Safety

a. Do not disassemble packs.

b. Do not use pack when something abnormal found such as smells, deformation, discoloration, and so on.

c. Do not re-use LiFePO4 cells or other parts after removing from the packs.

d. When the electrolyte leakage occurs, do not touch the liquid.

e. Once watered, packs may have potential malfunctions. Do not use those packs.

f. Do not have packs in the hot-temperature (60°C or more).

g. Do not put packs into fire.

h. Do not crush/nail pack.

i. Do not apply solder directly to packs.