USER MANUAL

SVE 16 LITE ❶

05 year warranty

32 Units Parallel

8000 Cycles

contents

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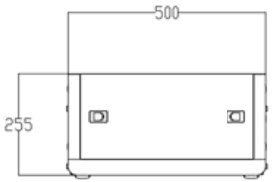
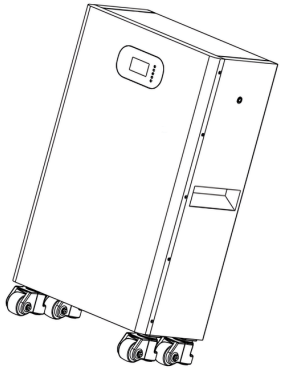
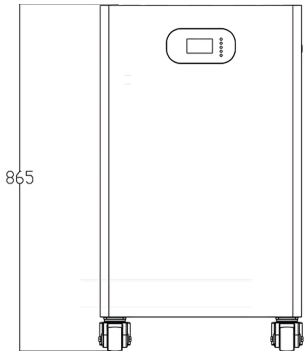
TECHNICAL DATA

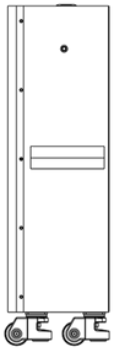
NOTE

Operating current derating according to cell voltage and battery temperature









Module Name	SVE 16 LITE ❶
Cell Type	LFP
Nominal voltage	51.2V
Nominal capacity	314Ah/16.076kWh
Charging protection voltage	56.8V
Discharge protection voltage	46.4V
Recommended charging current	≤100A
Maximum charging current	200A
Recommended discharge current	≤100A
Maximum discharge current	200A
Battery cycle life	8000 (25°C±2°C, 0.5C charge-discharge, DOD 80%)
Communication mode	RS485/RS232/CAN
Charging temperature	5~55°C
Operating temperature	-20~60°C
Battery weight	127.6
Battery size	500*255*865mm (adjustable)
Certification	MSDS, UN38.3
Warranty	5 year, 8000 cycles
IP Level	IP20
Adaptable inverter (can customized)	**485:** PYLON, DEYE, GROWATT, VOLTRONIC, PACE, LTW, MUST, SRNE, BAYKEE, SMK, AFORE, VKING, BITTA, STONE, EPEVER **CAN:** PYLON, DEYE, GROWATT, SOLAX, SOFARGOODWE, INVT, AFOR, SOLIS, LUXPOWER, VICTRON, SOROTEC, SMA, DONNERGY, MUST, IMEON, SVE, SCHNEIDER, GENIXGREEN, INHENERGY, SENERGY, LTW, SUNWAYS, STUDER

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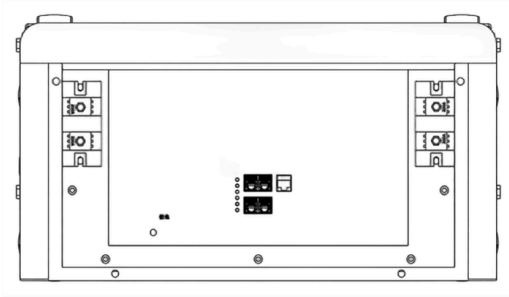
PRODUCT OVERVIEW

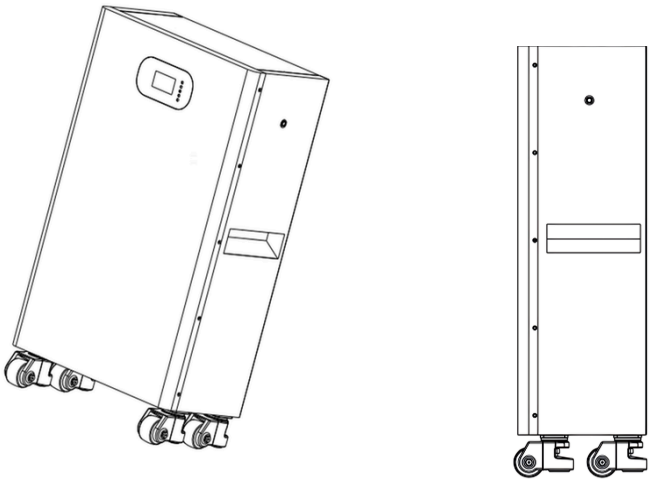
2.1 Brief Introduction



This product is made of 16 grade-A LiFePO4 battery cells in series, it is an advanced environmentally friendly household energy storage syste m, fashionable design with high energy, long life cells, easy to install and expand.

With rich battery management experience and advanced energy storage, SVE 16.6 LITE 1 equipped with advanced intelligent battery man agement system. The system adopts a modular design, integrating functions such as collection, monitoring, management, and communication, achieved high precision single voltage (10mv)/current collection, can simultaneously monitor the environment, temperature changes of battery cells and main heating devices. Extending the lifespan of battery cells and devices, simultaneously equipped with intelligent charging balance, SOC, power estimation, data storage, charging current limiting protection module, LED color light bar display, precharging, RS232 communication, CAN communication, RS485 communication and other functions.

2.2 Interface Introduction



2.2.1 Switch ON/OFF

1. SWITCH ON

When used, connect the load or inverter end wires to the output end of the battery pack first B+/B-. After confirming the wiring is completed, turn on the power switch of the battery pack, the battery pack begins to supply power to the load for use.

2. SWITCH OFF

After use, turn off the load and inverter switches first, then turn off the battery pack switch.

2.2.2 Interface Introduction

System state	Normal / Alarm/ Protection	RUN	ALM	Battery indicator LED				Illustrate
		●	●	●	●	●	●	
Shutdown	Hibernate	off	off	off	off	off	off	All off
Standby	Normal	flash1	off	According to the battery indicator				Standby
	Alarm	flash1	flash3					Module low voltage
Charging	Normal	lighting	off	According to the battery indicator (The highest battery indicator LED flash 2)				The highest battery LED flash (flash2) ALM does not flash when overcharge alarm occurs
	Alarm	lighting	flash3					
	Overcharge protection	lighting	off	lighting	lighting	lighting	lighting	If there is no mains power, the indicator light is in standby mode
	Temperature, overcurrent, and failure protection	off	lighting	off	off	off	off	Stop charging
Discharging	Normal	flash3	off	According to the battery indicator				
	Alarm	flash3	flash3					
	Under voltage protection	off	off	off	off	off	off	Stop discharging
	Temperature, overcurrent, short circuit, reverse connection failure protection	off	lighting	off	off	off	off	Stop charging
Lose efficacy		off	lighting	off	off	off	off	Stop charging and discharging

2.2.3 Explanation Of LED Light Changes

State		Charging				Discharging			
Capacity indicator light		L4●	L3●	L2●	L1●	L4●	L3●	L2●	L1●
Electricity consumption (%)	0～25%	off	off	off	flash2	off	off	off	lighting
	25 ～ 50%	off	off	flash2	lighting	off	off	lighting	lighting
	50 ～ 75%	off	flash2	lighting	lighting	off	lighting	lighting	lighting
	75～ 100%	flash2	lighting	lighting	lighting	lighting	lighting	lighting	lighting
Running lights●		lighting				Flash(Flash 3)			

2.2.4 Power Indicator Light Description

Flashing mode	lighting	off
Flash1	0.5S	3.5S
Flash2	0.5S	0.5S
Flash3	0.5S	1.5S

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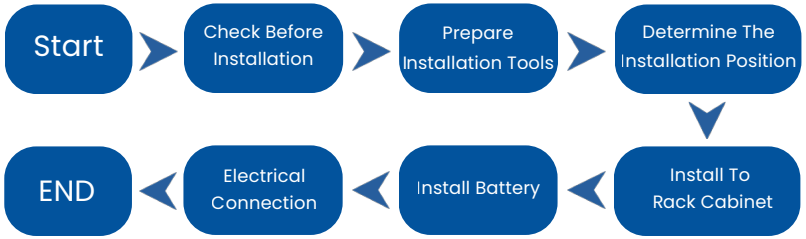
INSTALLATION GUIDE

-Installation flow chart-



3.1 Checking Before Installation

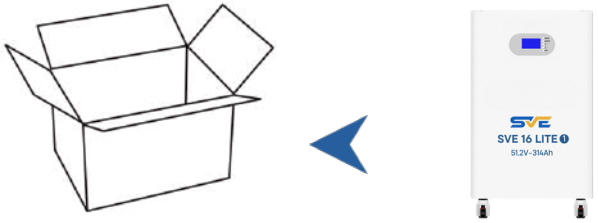
3.1.1 Checking Outer Packing Materials

Packing materials and components may be damaged during transportation. Therefore, check the outer packing materials for damage, such as holes and cracks. If any damage is found, do not unpack the battery and contact the dealer as soon as possible. You are advised to remove the packing materials within 24 hours before installing the battery.

3.1.2 Checking Deliverables

After unpacking the battery, check whether deliverables are intact and complete. If any damage is found or any component is missed, contact the dealer.

The below table shows the components and mechanical parts that should be delivered.



NO	Picture	Quantity	Description
1		1PCS	Battery
2		1PCS	Fixed bracket
3		1PCS	Positive power cord
4		1PCS	Negative power cord
5		8PCS	Expansion screws
6		1PCS	485 Communication cable
7		1PCS	Shipment report
8		1PCS	Manual
9		1PCS	Certificate
10		1PCS	Label

3.2 Tools

Model	Tools		
Installation	 Knife	 Measuring tape	 Socket wrench (10/16mm)
	 Rubber mallet	 Cross Screwdriver	 Percussion drill (12mm)
Protection	 ESD gloves	 Safety goggles	 Anti-dust respirator
	 Safety shoes		

3.3 Installation Requirements

3.3.1 Installation Environment Requirements

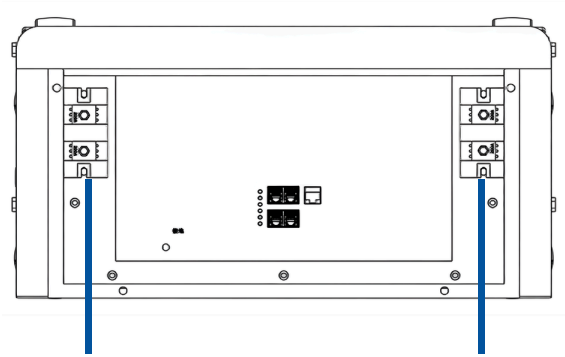
- Install the battery in the indoor environment.
- Place battery in secure location away from children and animals.
- Do not place the battery near any heat sources and avoid sparks.
- Do not expose the battery to moisture or liquids.
- Do not expose the battery to direct sunlight.

3.3.2 Installation Carrier Requirements

- Only mount battery on fire resistant building. Do not install batteries on flammable buildings.
- Battery is quite heavy, make sure the wall/ground can meet the load bearing requirements.

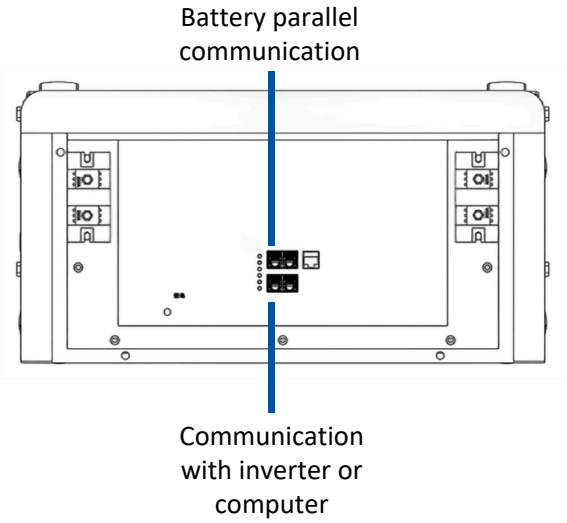
STEP 1

Connect power cable



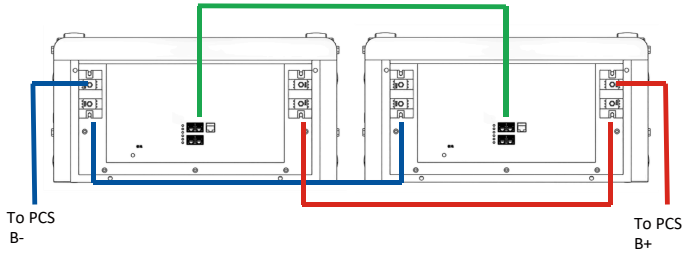
STEP 2

Connect communication cable



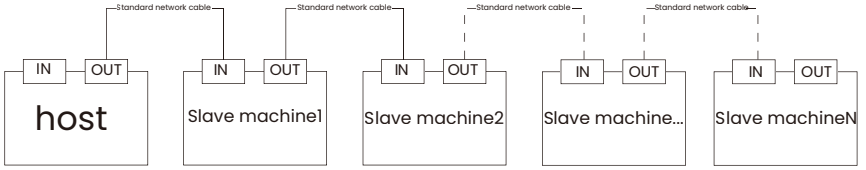
STEP 3

When multiple batteries are connected in parallel, follow the following wiring mode.



STEP 4

Parallel Wiring And Installation



To improve the stability of communication, the software automatically controls the functionality of activating and deactivating the terminal resistors, and the master can automatically calculate the number of terminal resistors that need to be connected based on the number of slaves, as well as control the connection or disconnection of the terminal resistors for specified slaves. After completing the parallel wiring, it is recommended that all devices be powered on simultaneously. If it's not possible to power on the slaves at the same time, the master should be powered on first, followed by turning on all slaves in cascading order (the power-on sequence will affect the continuity of slave address binding, so try to turn on the slaves closest to the master in cascading order first). The default maximum number of slaves is 32.

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MAINTENANCE

4.1 Recharge Requirements During Normal Storage

Battery should be stored in an environment with temperature range between -10℃~+45℃, and maintained regularly according to following table with 0.5C(100A) current till 40% SOC after long storage time.

Recharge Requirements During Normal Storage

Storage Environment Temperature	Relative Humidity of Storage Environment	Storage Time	SOC
Below-10℃	/	prohibit	/
-10~25℃	5%~70%	≤12 months	30%≤SOC≤60%
25~35℃	5%~70%	≤6 months	30 %≤SOC≤60%
35~45℃	5%~70%	≤3 months	30%≤SOC≤60%
Above 45℃	/	prohibit	/

4.2 Recharge Requirements When Over Discharged

Over discharged (90%DOD) battery should be recharged according to following table, otherwise over discharged battery will be damaged.

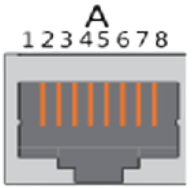
Recharge Requirements During Normal Storage

Storage Environment Temperature	Storage Time	Note
-10~25℃	≤15 days	Battery Pack disconnected from PCS
-25~35℃	≤7 days	
-35~45℃	≤12 hours	Battery Pack connected to PCS

05

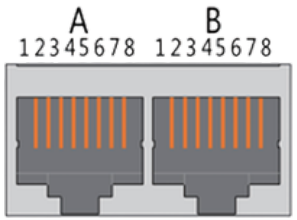
COMMUNICATION INTERFACE DEFINITION

5.1 RS232 Communication Port Definition (Connected To Host Computer)



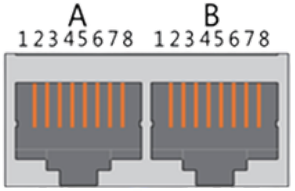
interface	Definitions	
J9 Communication port definition	PIN 1	NC
	PIN 2	GND
	PIN 3	GND
	PIN 4	RXD
	PIN 5	RXD
	PIN 6	TXD
	PIN 7	TXD
	PIN 8	NC

5.2 CAN-2 Communication Port Definition



Interface	Definitions			Definitions		
X2 Communication port definition	Part A CAN-2 parallel OUT interface	PIN 1	CAN2-L	Part B CAN-2 parallel IN interface	PIN 1	CAN2-L
		PIN 2	CAN2-H		PIN 2	CAN2-H
		PIN 3	NC (empty)		PIN 3	NC (empty)
		PIN 4	NC (empty)		PIN 4	NC (empty)
		PIN 5	Automatic addressing of IN-P		PIN 5	Automatic addressing of IN-P
		PIN 6	Automatic addressing of IN-N		PIN 6	Automatic addressing of IN-N
		PIN 7	NC (empty)		PIN 7	NC (empty)
		PIN 8	NC (empty)		PIN 8	NC (empty)

5.3 RS485/CAN-1 Communication Port Definition



interface	Definition			Definition		
X1 Communication port definition	Part A CAN-2 parallel	PIN 1	N (empty)	Part B 485 parallel	PIN 1	RS485-B
		PIN 2	NC (empty)		PIN 2	RS485-A
		PIN 3	CGND		PIN 3	RS485-GND
		PIN 4	CAN1-H		PIN 4	NC (empty)
		PIN 5	CAN1-L		PIN 5	NC (empty)
		PIN 6	CGND		PIN 6	RS485-GND
		PIN 7	NC (empty)		PIN 7	RS485-A
		PIN 8	NC (empty)		PIN 8	RS485-B

5.4 Instructions for correspondence

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RS-232 communication

The RS-232 interface adopts an RJ45 network port. The BMS can communicate with the host computer through this interface, thereby monitoring various information of the battery at the host computer end, including battery voltage, current, temperature, status, SOC (State of Charge), SOH (State of Health), as well as battery production information. The default baud rate is 115200 bps.

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RS485communication

It has 2 RS485 interfaces, both of which are RJ45 network ports, of which RS485-1 is a single port, which is mainly used for data interaction between the battery pack and the inverter, and RS485-2 is a dual port for the data exchange between the cascade and parallel units of the battery pack. At present, the parallel interface can support 32 sets of batteries for parallel operation.

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CAN communication

The CAN communication interface of the BMS has the ability to interact with the data between the battery pack and the inverter, of which the baud rate is considered to be 500K, and the communication interface is the RJ45 network port.

5.5 WIFI QR Code

QDPower

IOS AppStore

Scan QR code to download

QDPower

Android App

Scan QR code to download

WARRANTY REGULATIONS

5.6 Warranty card

Dear clients:

Thank you for purchasing our products! In order to protect your legitimate rights and interests, free you from worries, and at the same time, the company in order to improve the after-sales service to customers, specially formulated this warranty system, please read carefully and provide valuable comments and suggestions.

Warranty Coverage

- The company has a 5 years of replacement warranty, during the warranty, any poor quality of any cells in the product, we replace a new one for customer. If it is communication problem, we can replace BMS for customer.
- Damage caused by disassembly or repair is not covered by the warranty if it is not operated in accordance with the instructions and kept by itself.
- Damage caused by natural disasters such as earthquakes, fires, floods, power grid failures, pollution, and chemical erosion is not covered by the warranty.
- This warranty and valid proof of pucharse must be provided if any complaint.

Note: This warranty card will be kept by the customer after it is filled in, and it will be free of charge each time, you must present this card and the construction contract.

WARRANTY CARD

Our company provides customers with a warranty period of 60 months from the date of manufacture.

Product Name		
Order Number		
Purchase Date		
Customer Name		
Phone Number		
Maintenance Time	Maintenance Record	Repair Technician Signature