SR-EOT Series

All-in-one Solar Storage System

User Manual

V1.2

SR-EOT03S

SR-EOT05S

1. Instructions

Thank you very much for choosing the EOT series household energy storage system developed and produced by our company. Please read and understand all contents of the Manual carefully before installing and using the product. If you have any suggestions during the use, please do not hesitate to give us feedback.

1.1 Range of Application

The installation and user manual of SR-EOT series is applicable to the installation and use of the following products:

No.	Model	Specifications	
Inverter and battery all in one			
1	SR-EOT03S-220 / -110	3.5kW+5.12kWh	
2	SR-EOT05S-220 / -110	5.0kW+5.12kWh	Can be parallelized into a 10kW system
Extra battery			
3	SR-EOV05B	5.12kWh	

The product should be used in compliance with local standards, laws and regulations, because any non-compliance with the use may lead to personal injuries and property loss.

The drawings provided in this Manual are used to explain the concepts related to the product, including product information,electrical connection, system debugging, safety information, common problems and maintenance, etc.

The internal parameters of this product have been adjusted before delivery. No internal parameters can be changed without permission. Any unauthorized changes to the settings will invalidate the warranty, and the Company will not be liable for any loss resulting therefrom.

This Manual and other related documents are an integral part of the product and should be kept properly for onsite installation personnel and related technical personnel to consult.

1.2 Meaning of Abbreviations

AC	Alternating Current
DC	Direct Current
PV	Photovoltaic
BMS	Battery Management System
PCS	Power Conversion System
RJ45	Registered Jack 45
SOC	State Of Charge
C	Charge C-rate

RS485	RS485 Communication Interface
CAN	Controller Area Network

1.3 Symbol Stipulations

There may be following symbols herein, and their meanings are as follows.

Symbols	Description
	Indicate a hazard with a high level of risk which, if not avoided, will result in death or serious injuries.
	Indicate a hazard with a medium level of risk which, if not avoided, could result in death or serious injuries.
	Indicate a hazard with a low level of risk which, if not avoided, could result in minor or moderate injuries.
	Warning information about device or environment safety. If not avoided, equipment damage, data loss, performance degradation or other unanticipated results may be resulted in. The "NOTICE" does not involve any personal injuries.

2 Safety Precautions

2.1 Safety Symbols

This product contains the following symbols, please pay attention to identifying.

Symbols	Description
	Observe enclosed documentation
	Danger. Risk of electric shock!
	Danger of high voltages. Danger to life due to high voltages in the Energy storage system
	Hot surface
	CE certification
	Do not touch the product in 5mins after shutdown
	Comply with RoHS standard

	The Energy storage system should not be disposed together with the household waste.

2.2 General Safety

2.2.1 Important Notice

Before installing, operating and maintaining the device, please read this Manual first and follow the symbols on the device and all the safety precautions in this Manual.

The matters indicated with "DANGER", "CAUTION", "ATTENTION" and "NOTICE" in this Manual do not represent all the safety matters to be observed, but are only the supplements to all the safety precautions. The Company will not be liable for any violation of general safety operating requirements, or any violation of safety standards for the design, production and use of the device. The device must be used in an environment that meets the requirements of the design specifications. Otherwise, the device may fail, and the abnormal device function or component damage, personal safety accident, and property loss arising from this are not covered within the quality assurance scope of the device. When installing, operating, and maintaining the device, the local laws, regulations, and codes shall be followed. The safety precautions in this Manual are only supplements to local laws, regulations, and codes. The Company shall not be liable for any of the following circumstances.

- The device is not run under the conditions of operating described in this Manual.
- The installation and operating environment is beyond the requirements of relevant international or national standards.
- The product is disassembled or changed, or the software code is modified without authorization.
- The operation instructions and safety warnings related with the product and in the documents are not followed.
- Damage of the device is caused by abnormal natural environment (force majeure, such as earthquake, fire, and storm).
- Transportation damage is caused during customer's own transportation.
- The storage condition does not meet the requirements of the product related documents and causes damage.

2.2.2 General Requirements

	Operating when the power is on is strictly prohibited during installation.
	It is strictly prohibited to install, use, and operate any outdoor equipment or cables (including but not limited to transporting equipment, operating equipment and cables, plugging and removing signal ports connected to the outdoor, working at altitude, and outdoor installation) in severe weather, such as thunder, rain, snow, and gale level 6.

	In case of any fire, evacuate the building or equipment area and press the fire alarm bell or dial the fire call. Under any circumstances, re-entry into a burning building is strictly prohibited.
	Under no circumstances should the structure and installation sequence of the device be changed without the manufacturer's permission.
	The battery terminal components shall not be affected during transportation. And, the battery terminal bolts shall not be lifted or transported.
	It is strictly prohibited to alter, damage or block the marks and nameplates on the device.
	The composition and working principle of the entire photovoltaic power generation system, as well as the relevant standards of the country/region where the project is located shall be known fully.
	After the device is installed, the empty packing materials, such as cartons, foam, plastics, and cable ties, shall be removed from the device area.

2.2.3 Personnel Safety

- When operating the device, appropriate personal protective equipment shall be worn. If any fault that may lead to personal injury or damage of the device is found, immediately terminate the operation, report to the responsible person, and take effective protective measures.
- Before using any tools, learn the correct method of using the tool to avoid injuries and damage of the device.
- In order to ensure personal safety and normal use, reliable grounding should be carried out before use.
- Do not open or damage the battery. The electrolyte released is harmful to skin and eyes, so avoid touch it.
- Do not place irrelevant items on the top of the device or insert them into any part of the device.
- Do not place flammable items around the device.
- Never place the battery in the fire to avoid explosion and prevent the personal safety from being endangered.
- Do not short-circuit the battery terminals, because short-circuiting of the battery may cause combustion.
- The battery may pose a risk of causing electric shocks and large short-circuit currents. When using the battery, the following precautions should be paid attention to:

  a) The metal objects, such as watch and rings, shall be removed.

b) Tools with insulated handles should be used.

c) Rubber gloves and shoes should be worn.

d) The charging power supply shall be disconnected before connecting or disconnecting terminals of the battery.

e) Check whether the battery is accidentally grounded. If the battery is accidentally grounded, remove the power supply from the ground.

- Do not clean the internal and external electrical components of the cabinet with water or detergent.
- Do not stand, lean or sit on the device.
- Do not damage any modules of the device.

2.3 Personnel Requirements

- The personnel in charge of installation and maintenance must be strictly trained to understand all safety precautions and master proper operation methods.
- Only qualified professionals or trained personnel are allowed to install, operate and maintain the device.
- The personnel who operate the device, including the operators, trained personnel and professionals, must have special operation qualifications required by the local country, such as high voltage operation, working high above the ground, and special equipment operation qualification.
- The replacement of device or components (including software) must be carried out by professionals or authorized personnel.

2.4 Electrical Safety

2.4.1 General Requirements

Before carrying out electrical connections, ensure that the device is not damaged, or an electric shock or fire may occur.

Never install or remove any power cables when the power is on. The electric arcs or sparks may be generated at the moment when the power cable contacts with the conductor, which may cause fire or personal injuries.

- All the electrical connections must meet the electrical standards of the country/region where the project is located.
- The cables prepared by users themselves shall comply with local laws and regulations.
- Special insulating tools should be used in high-voltage operations.
- Before connecting the power cord, ensure that the label identification on the power cord is correct.
- Operations on the device are allowed only five minutes after the device is completely powered off.

- The insulation layer of the cable may be aged or damaged when the cable is used in a high temperature environment. Therefore, the distance between the cable and the heat source must be at least 30mm.
- Cables of the same type should be bundled together. Whereas, the cables of different types should be routed at least 30mm apart, and shall not be wrapped together or crossed.

2.4.2 Grounding Requirements

- When installing the device to be grounded, the protective grounding wire must be installed first; when removing the device, the protective grounding wire must be removed at last.
- It is forbidden to destroy the grounding conductor.
- It is forbidden to operate the device without a grounding conductor installed.
- The device shall be permanently connected to the protective grounding wire. Before operating the device, electrical connection of the device shall be checked to ensure that the device is reliably grounded.

2.4 Installation Environment Requirements

- This product is for indoor use only, and is strictly prohibited to be used in outdoor environment.
- Do not install or use this product in an environment where the temperature is lower than -10℃ or higher than 45℃.
- It should be installed in a dry and well-ventilated environment to ensure good heat dissipation performance.
- The product can be installed at a maximum altitude of 2,000m.
- The installation position should be away from the fire source.
- The product should be installed and used away from children and animals.
- The installation position should be far away from water sources, such as faucets, sewer pipes, and sprinklers, to avoid entering of water.
- The device should be placed on a firm and flat supporting surface.
- Do not place any inflammable or explosive items around the device.
- When the device is running, do not block the ventilation vent or heat dissipation system to prevent fire caused by high temperature.

The operation and service life of the energy storage is related to the operating temperature. The energy storage should be installed at a temperature equal to or better than the ambient temperature.

3 Product Introduction

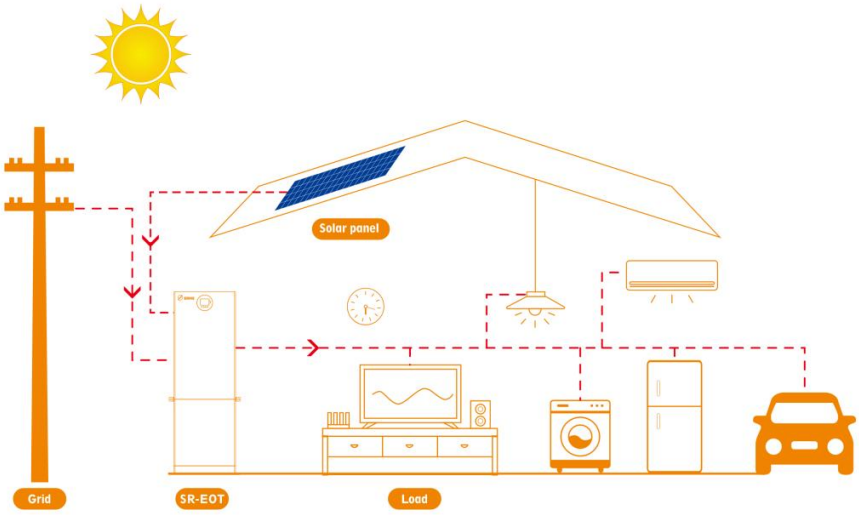
3.1 Brief Introduction to Product

SR-EOT is a new generation of household energy storage system with two output specifications of 220V and 110V, which can meet the diversified needs of global users. This product is a professional indoor mobile power, compact size, universal wheel design can be easily moved, charging and discharging extremely quiet.

The lithium iron phosphate batteries with high performance and long service life are used in the energy storage module. Meanwhile, the modular structure design is adopted. Each energy storage module is internally integrated with the intelligent BMS system。

The brand new topological circuit design is adopted in the power module, which can realize the energy exchange between photovoltaic, mains, battery and loads, and has the function of photovoltaic and mains charging. The photovoltaic charging module adopts the latest optimized MPPT tracking technology, which can quickly track the maximum power point of the photovoltaic array in any environment, and obtain the maximum energy of the solar panel in real time. In addition, MPPT has a wide voltage range. The advanced control algorithm is adopted in the mains charging module to realize the fully-digital double closed-loop control of voltage and current, so the control precision is high and the volume is small. The AC voltage input range is wide, and the input/output protection functions are complete, which can realize the stable and reliable charging and protection of batteries. The inverter module is based on the full-digital intelligent design, adopts the advanced SPWM technology, outputs pure sine wave, converts direct current into alternating current, and is applicable for household appliances, power tools and other AC loads.

The typical topological diagram for application of the system is as follows:

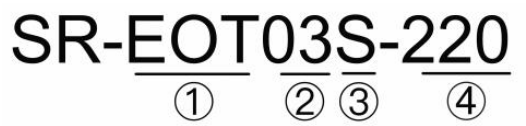


3.2 System Specifications

Product model	All-in-one						Extra Battery
	Rated Output Power	Rated Output Voltage (Vac)	Frequency	Charge Current	Max. PV Power	Battery	Energy
SR-EOT03S-220	3500W	230Vac	50Hz/60Hz	0 ~ 100A	3200W	5.12kWh	5.12~15.36kWh
SR-EOT05S-220	5000W	230Vac	50Hz/60Hz	0 ~ 100A	5500W	5.12kWh	5.12~15.36kWh
SR-EOT03S-110	3500W	120Vac	50Hz/60Hz	0 ~ 100A	3200W	5.12kWh	5.12~15.36kWh
SR-EOT05S-110	5000W	120Vac	50Hz/60Hz	0 ~ 100A	5500W	5.12kWh	5.12~15.36kWh

3.3 Model Coding

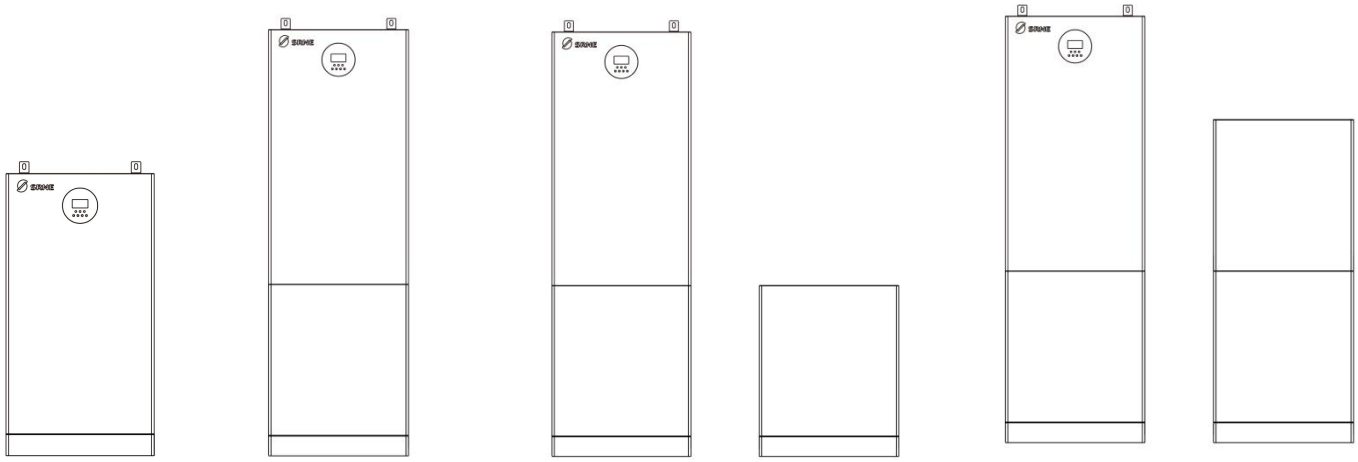
The model coding of the energy storage battery is as follows:



Identifier	Meaning	Value
①	Product type	EOH: horizontally-mounted EOV: vertically-mounted EOS: wall-mounted EOC: Stack,Rack EOT: All In One storage system
②	Inverter power level	01: The inverter power is 1.5kW 02: The inverter power is 2.5kW 03: The inverter power is 3.5kW 05: The inverter power is 5.0kW
③	Product category	B: Energy storage battery C: Power conversion module S: Energy storage system
④	Output voltage	110:Output voltage is 110~120 220:Output voltage is 220~230

3.4 Description of Energy Storage Capacity

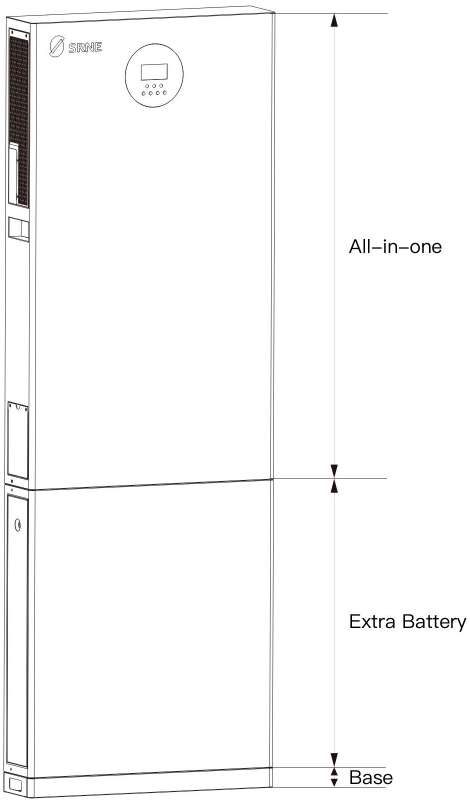
SR-EOT series energy storage system supports the capacity expansion with up to four energy storage modules, All-in-one you can choose 3.5kW or 5kW.

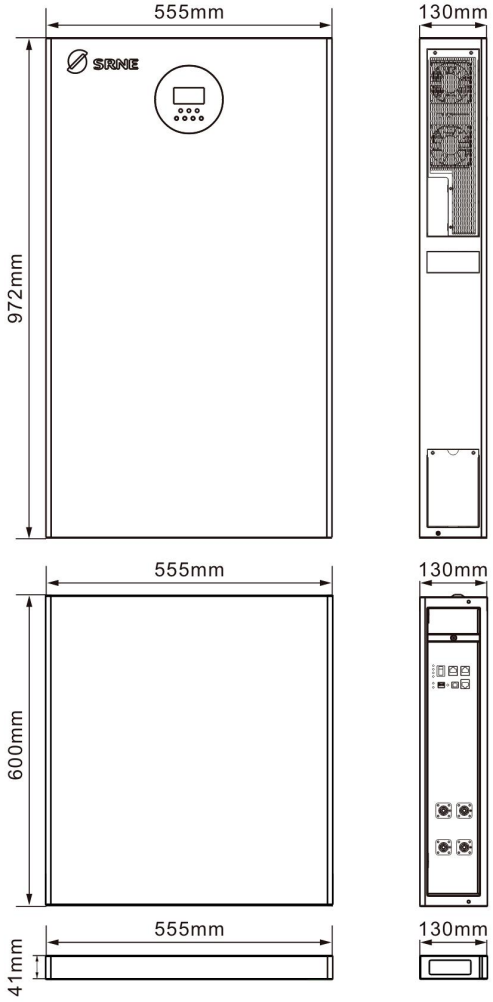


5kWh 10kWh 15kWh 20kWh

3.5 Appearance Description

3.5.1 Dimentions





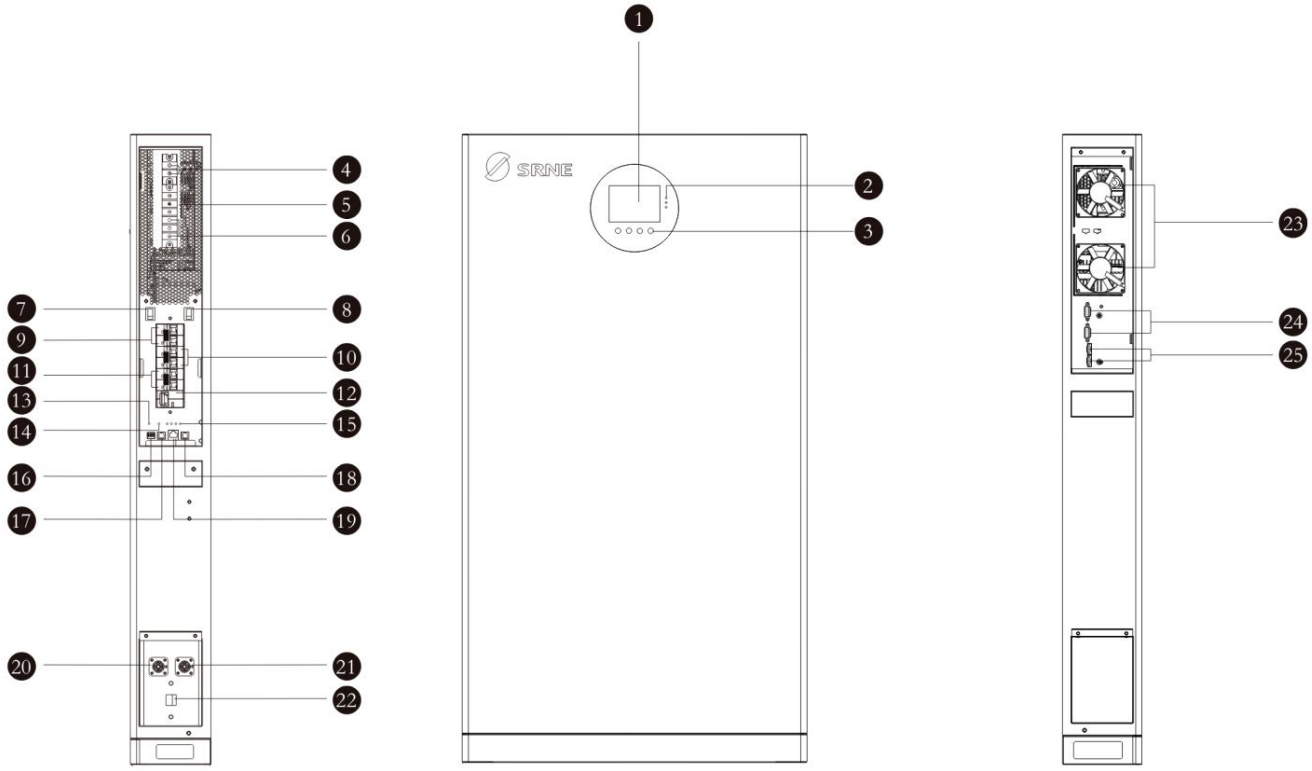
All-in-one dimensions (L*W*H) :555*130*972mm

Battery dimensions (L*W*H) :555*130*600mm

Base dimensions (L*W*H) :555*130*41mm

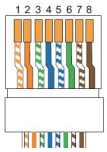
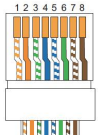
3.5.2 ALL-in-one Module

The power of the inverter is 3kW and 5kW.

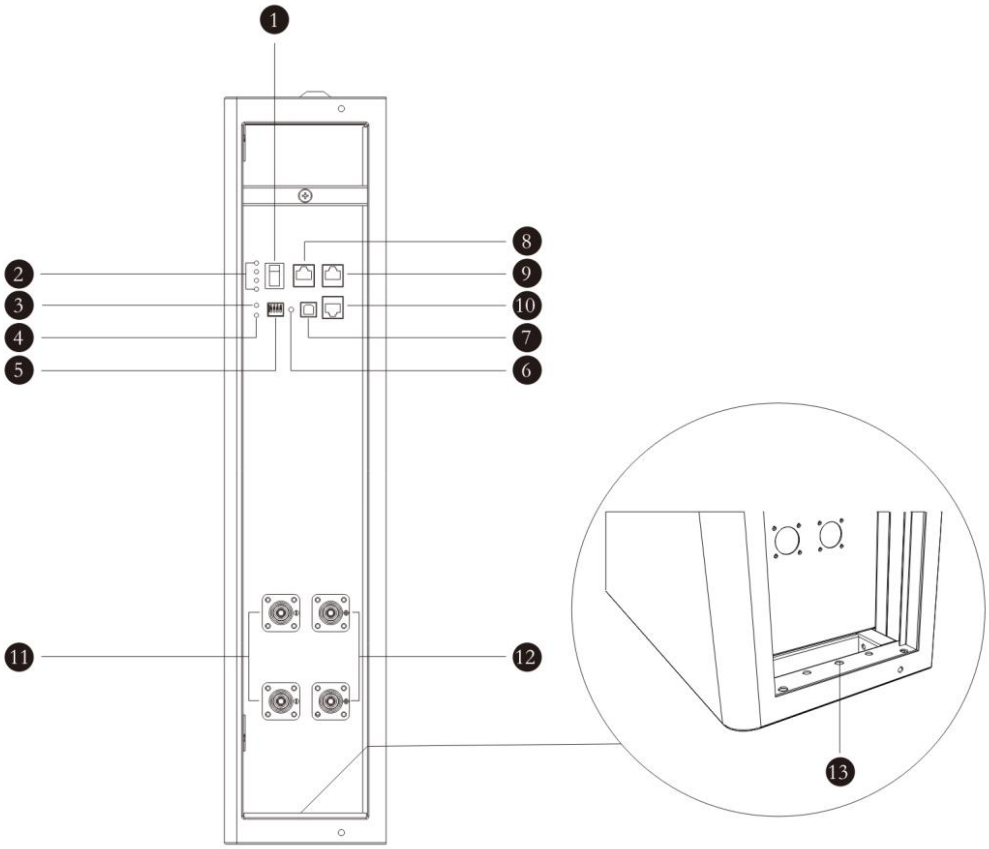


1: LCD screen	2: LED Indicator	3: Touch keys	4: PV input port
5: AC output port	6: AC input port	7: AC ON/OFF	8: DC ON/OFF
9: PV input switch	10: AC output switch	11: AC input switch	12: Battery switch
13: LED (BMS RUN)	14: LED (BMS ALM)	15: LED (BMS SOC)	16: Address
17: USB BMS communication port (Connect PC)	18: USB Inverter communication port (Connect PC)	19: WiFi communication port	20:Battery Negative
21:Battery Positive	22: RS485 (Connect extra battery)	23:Cooling fan	24:Parallel communication (SR-EOT05S Only)
25:Current sharing detection (SR-EOT05S Only)			

Communication interface definition

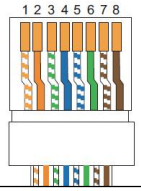
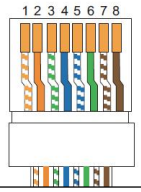
Number	Communication	Function	Interface Type	Picture	instruction
22	RS485-Battery	Connect Battery	RJ45		7-RS485-A 8-RS485-B
19	WIFI	Connect WIFI	RJ45		1-5V 2-GND 7-RS485-A 8-RS485-B

3.5.3 Extra Energy Storage Battery Module (SR-EOV05B)



1: Battery turn On/Off	2: LED (BMS SOC)	3: LED (BMS RUN)	4: LED (BMS ALM)
5: Address	6: Reset	7: USB (Connect PC)	8: RS485/CAN (Connect inverter)
9: RS485 (Connect other battery)	10: RS485 (Connect other battery)	11: Battery Negative	12: Battery Positive
13: Grounding screw			

Communication interface definition

Number	Communication	Function	Interface Type	Picture	instruction
8	RS485/CAN	Connect Connect inverter (SR-EOV05C)	RJ45		1-RS485-B 2-RS485-A 4-CAN-H 5-CAN-L
9 10	RS485-2	Connect other battery Or All in one (SR-EOT03/05)	RJ45		1-RS485-B 2-RS485-A 7-RS485-A 8-RS485-B

4 Application Scenarios

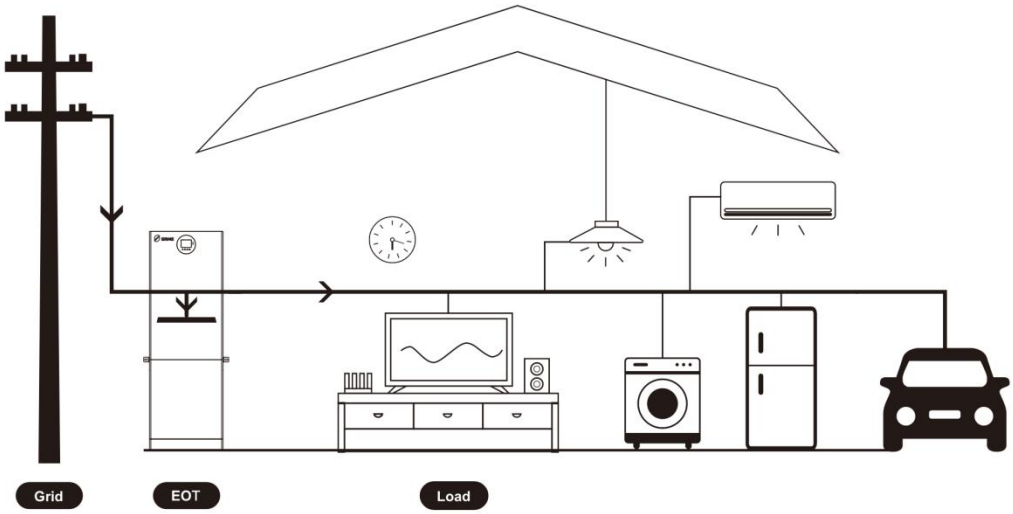
The lithium iron phosphate batteries with high performance and long service life are used in the energy storage module. Meanwhile, the modular structure design is adopted. Each energy storage module is internally integrated with the intelligent BMS system, which can be easily expanded and can be combined into 20kWh battery pack at most.

The battery storage can be combined with SRNE brand inverter to form an off-grid photovoltaic system, which can solve the problem of electricity consumption in areas without electricity.

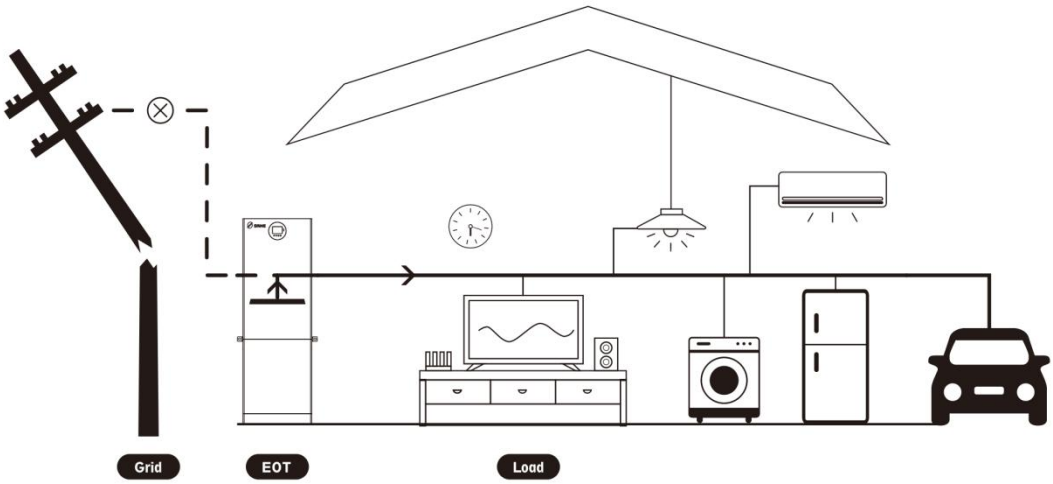
4.1 Application Scenarios

4.1.1 Application Scenarios with Only Mains Power but No Photovoltaic

When the mains is normal, it charges the battery and supplies power to the loads.

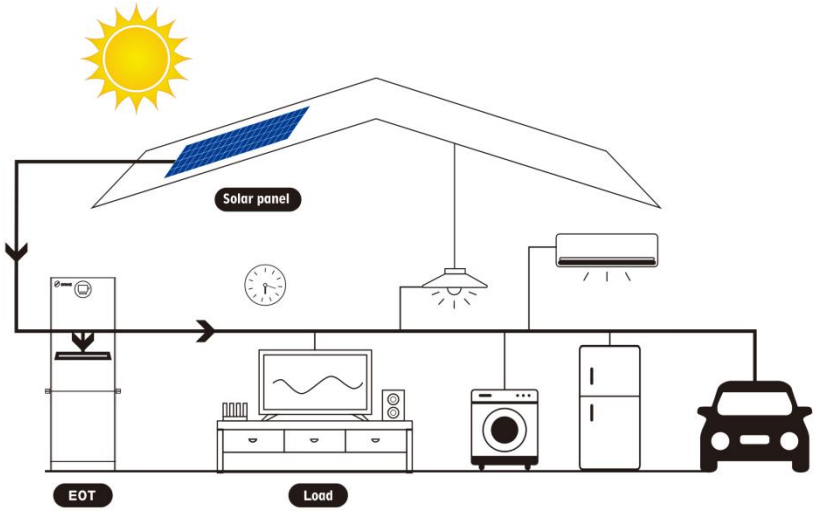


When the mains is disconnected or stops working, the battery supplies power to the load through the power module.

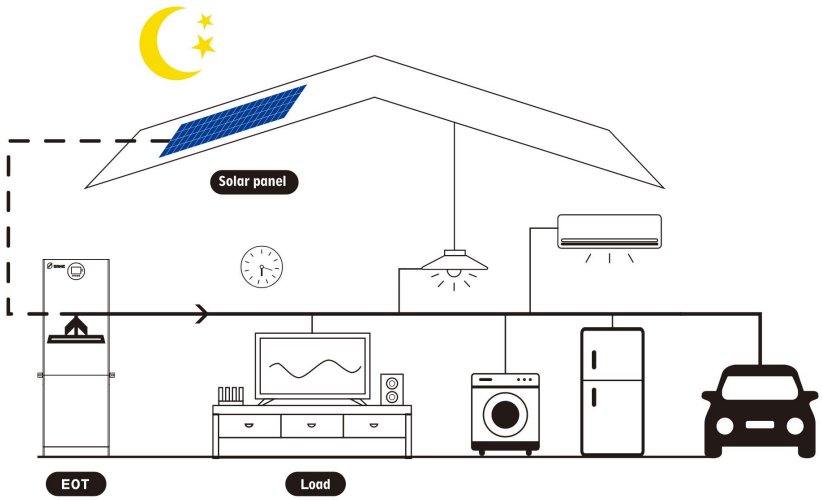


4.1.2 Application Scenarios with Only Photovoltaic but No Mains Power

During the day, the photovoltaic directly supplies power to the loads while charging the battery.

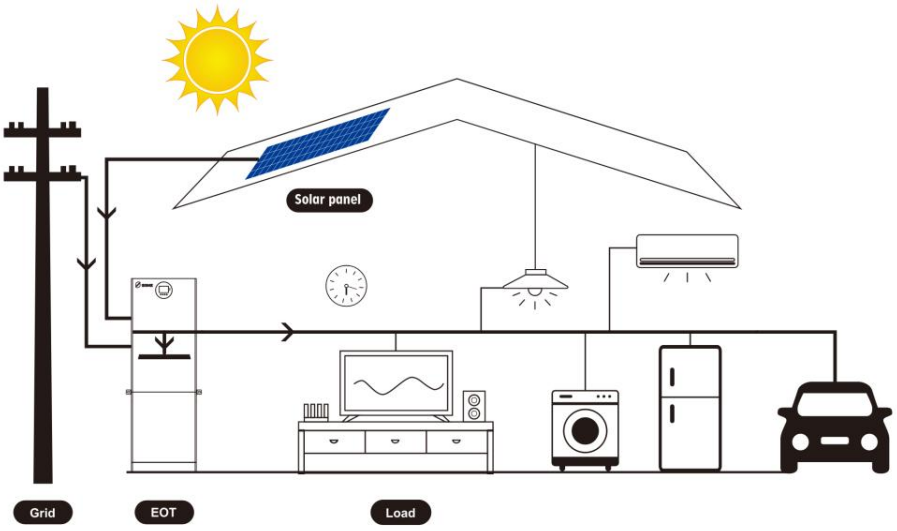


At night, the battery supplies power to the loads through the power module.

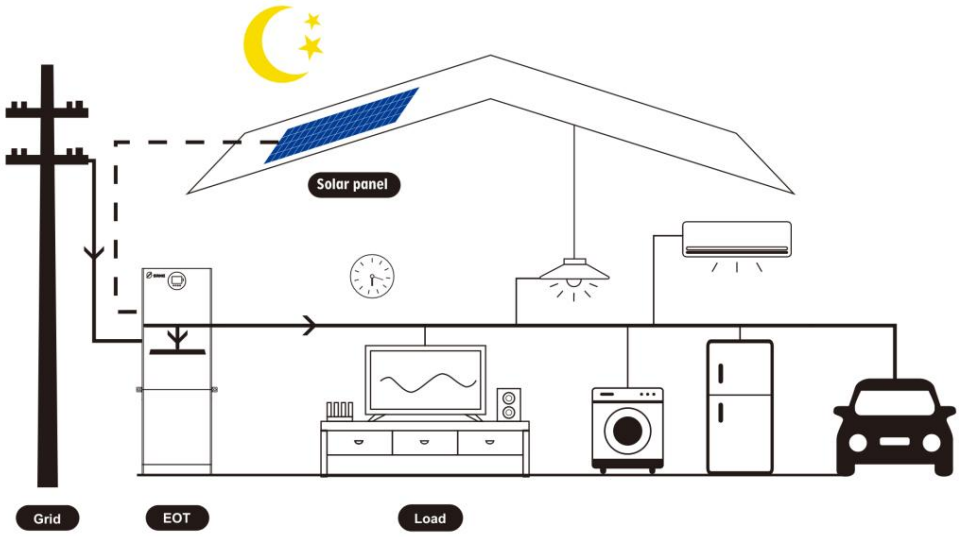


4.1.3 Complete Application Scenarios

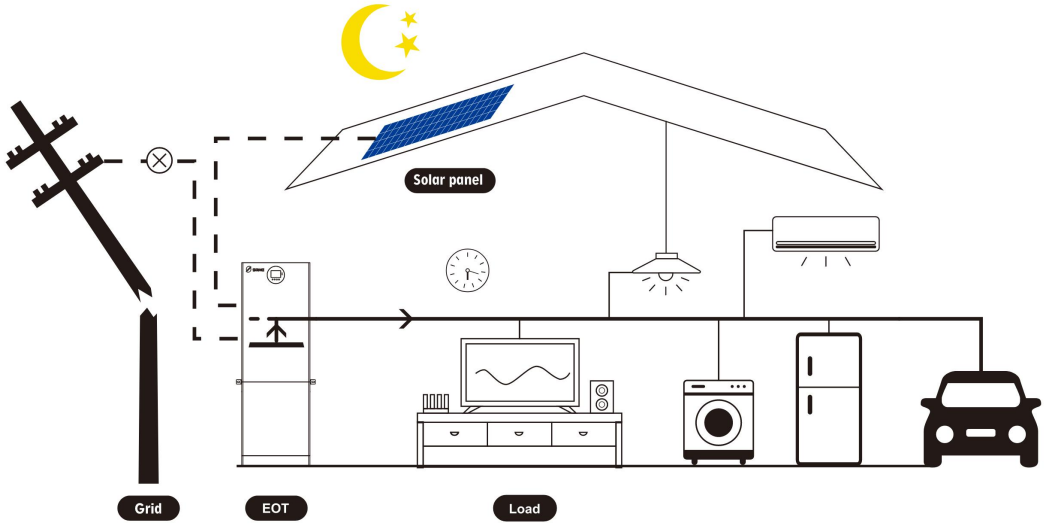
During the day, the mains and photovoltaic simultaneously charge the battery and supply power to the loads.



At night, the mains supplies power to the loads, and continues to charge the battery, if the battery is not fully charged.



If the mains is disconnected, the battery supplies power to the loads.



4.2 Load Working Mode

Load working mode	Inverter setting	Description
PV priority mode	PV 1ST (EOT05S) SOL (EOT05S)	switching to the Mains when the PV fails or the battery is lower than the set value of parameter
Mains priority mode (Default)	AC 1ST (EOT05S) UTI (EOT05S)	Mains priority mode, switching to inverter only when the mains fails.When the battery is full, the load power is supplied by the hybrid of PV and the utility.
Battery priority mode	BT 1ST (EOT05S) SBU (EOT05S)	switching to the mains only when the battery is under voltage or lower than the set value of parameter

5 System Installation

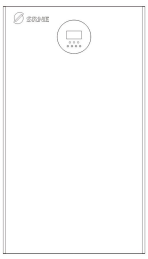
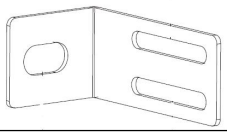
5.1 Inspections before Installation

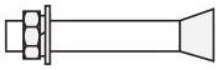
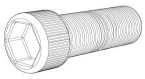
Inspection of outer package

Before opening outer package of the energy storage, check if there is any visible damage on the outer package, such as holes, cracks or other signs of possible internal damage, and check the type of energy storage. If there is any abnormality on the package or model of the energy storage is inconsistent, do not open it and contact us as soon as possible.

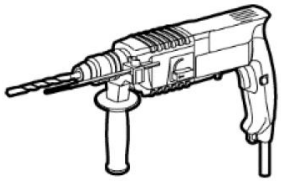
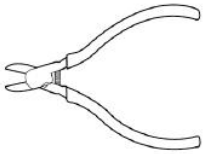
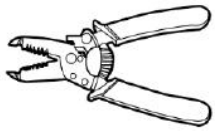
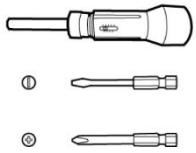
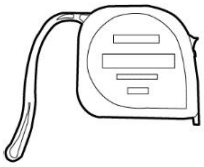
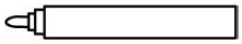
Inspection of deliverables

After opening outer package of the energy storage, check if the deliverable is complete and whether there is any visible external damage. If any items are missing or damaged, please contact us.

NO.	Picture	Item	Quantity	Specification	Source
1		All-in-one	1	3.5kW/5.0kWh or 5.0kW/5.0kWh	All-in-one Package
2		Base	1	555*130*41mm	All-in-one Package
3		Mounting Frame	2	80*44mm	All-in-one Package

4		Mounting Frame Screw	6	M8*60 expansion bolt	All-in-one Package
5		Mounting Frame	2	50*128*40mm	All-in-one Package
6		Screw	4	M5*12	All-in-one Package
7		Screw	4	M6*10	All-in-one Package
8		Fixing screw	2	M6*35	All-in-one Package
N:Number of batteries					

5.2 Preparation of Tools and Meters

Types	Tools and meters		
Installation tool			
			
			
Personal protective equipment			
			

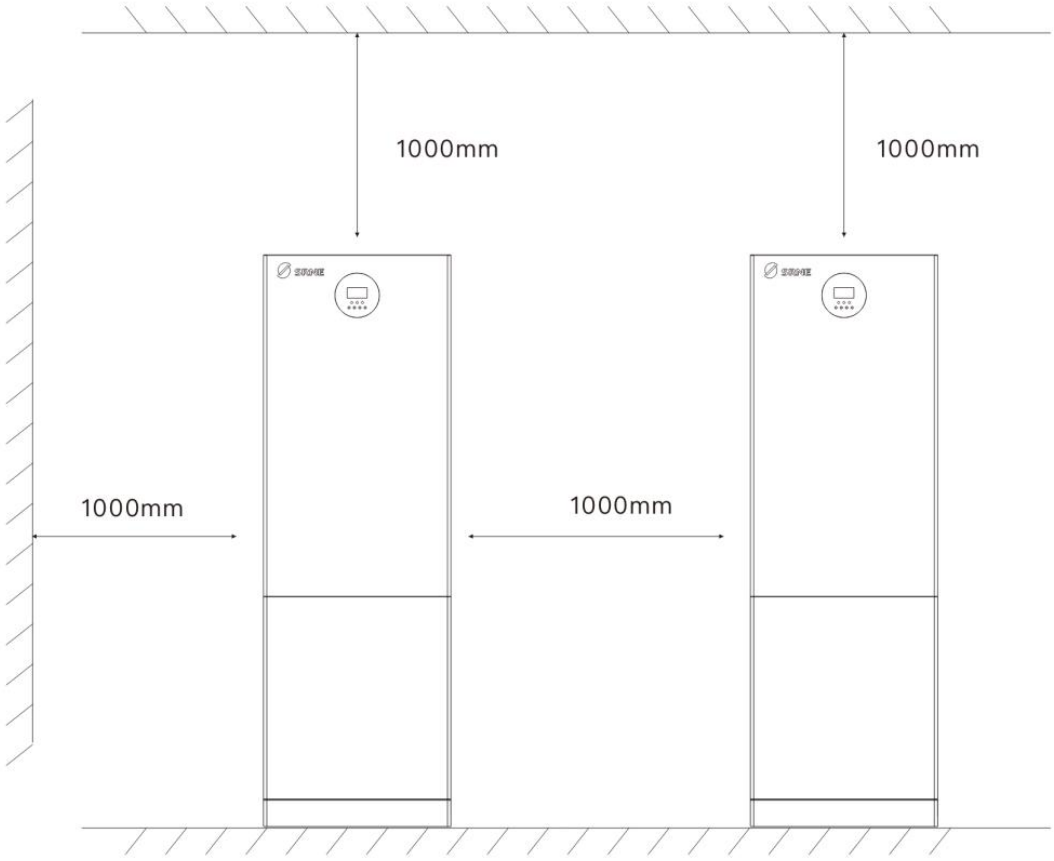
5.3 Selection of Installation Location

5.3.1 Basic Requirements

- When the energy storage is running, the temperature of the case and the radiator will be high. Therefore, do not install them in a place that is easy to touch.
- Do not install in areas where flammable and explosive materials are stored.
- If the energy storage is installed in areas with salt damage, it will be corroded and may cause fire. Therefore, do not install it outdoors in areas with salt damage. The areas with salt damage are defined as the areas which are not 500m away from shore or will be affected by sea breezes. The areas affected by the sea breezes vary depending on meteorological conditions (e.g. typhoons, monsoons) or topographical conditions (dams, hills).
- Do not install in the place where children can touch.
- The energy storage cannot be installed forwardly, horizontally, inversely, backwardly or sideways.
- When drilling holes on walls or ground, the goggles and protective gloves shall be worn.
- During drilling, the device should be shielded to prevent debris from falling into the device. After drilling, the debris shall be cleaned up in time.
- When handling any heavy objects, you should be prepared to bear loads to avoid being crushed or sprained.
- When handling the device by hand, wear protective gloves to avoid injury.

5.3.2 Installation Space Requirements

When installing the energy storage, certain space shall be left around it to ensure sufficient space for installation and heat dissipation.

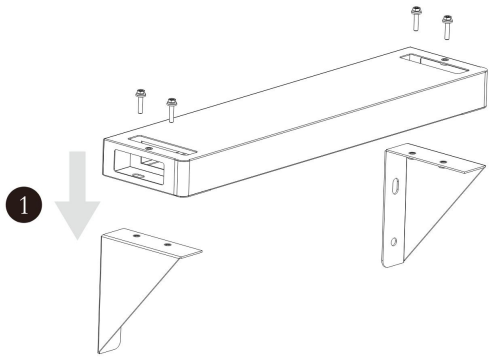


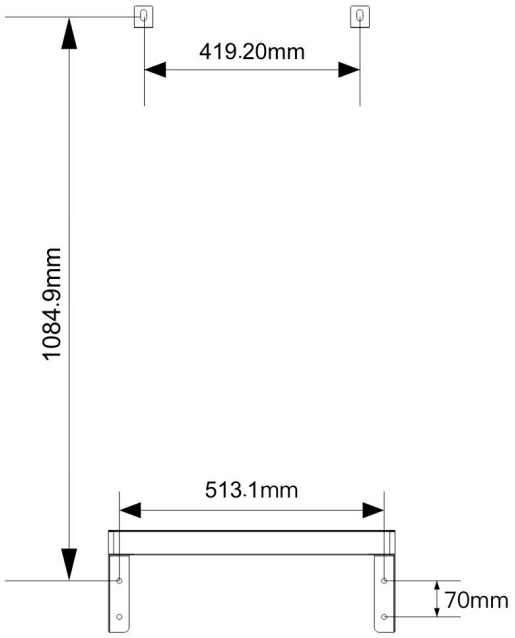
5.4 Device Installation

5.4.1 Wall mount

5.4.1.1 Installation Location Selection

Determine the installation position, Fix the base and bracket with screws (M6*10), and place them in the appropriate position and mark the place where the holes need to be punched.



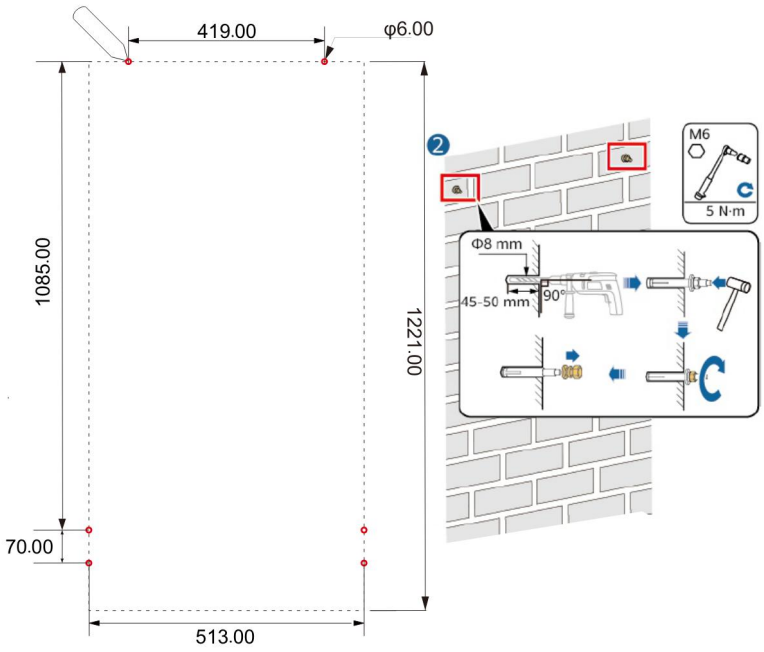


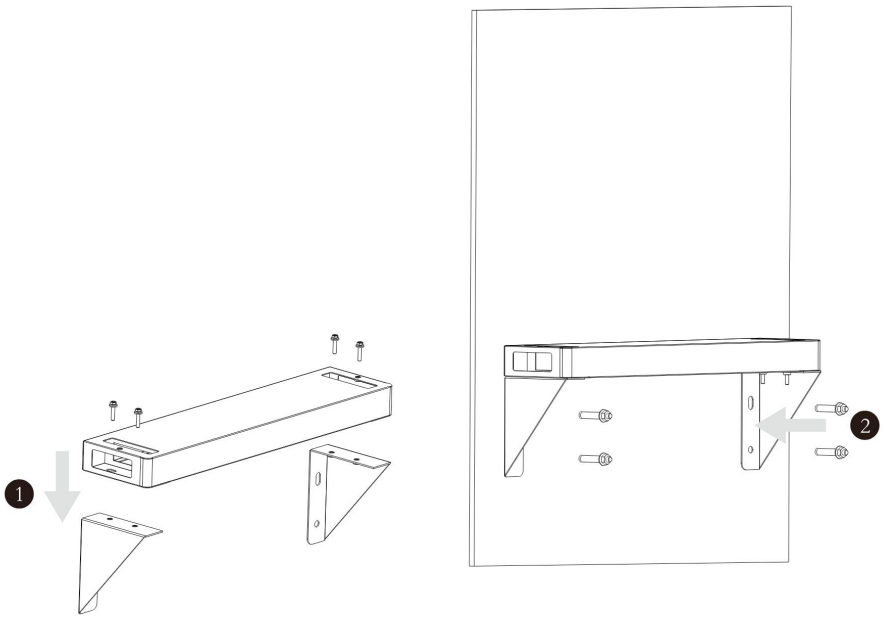
In order to avoid electrical shock or other injury, inspect existing electronic or plumbing installations before drilling holes.

Choose suitable firm wall with thickness greater than 80mm.

5.4.1.2 Install All-in-one

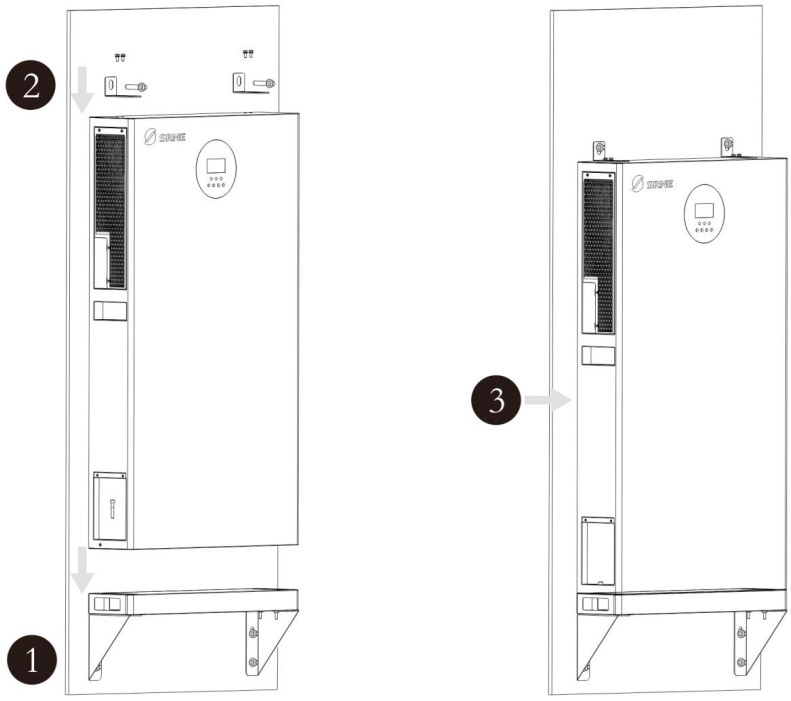
Drill 6 holes according to the hole position, it is φ6 with depth of 45~50mm.Hammer the M8 screws to the above holes, and screw the nut. Fix the bracket to the wall with screws(M8*60 expansion bolt)





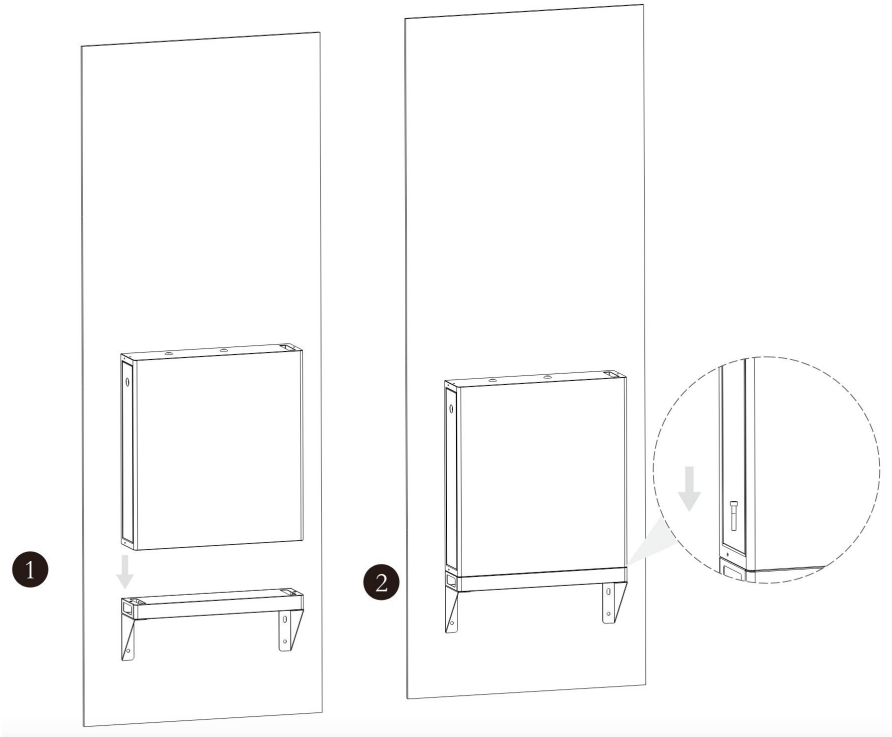
The all-in-one unit is very heavy and requires more than one person to install.

Place the all-in-one on the support frame and lock the upper section to the sides using screws.

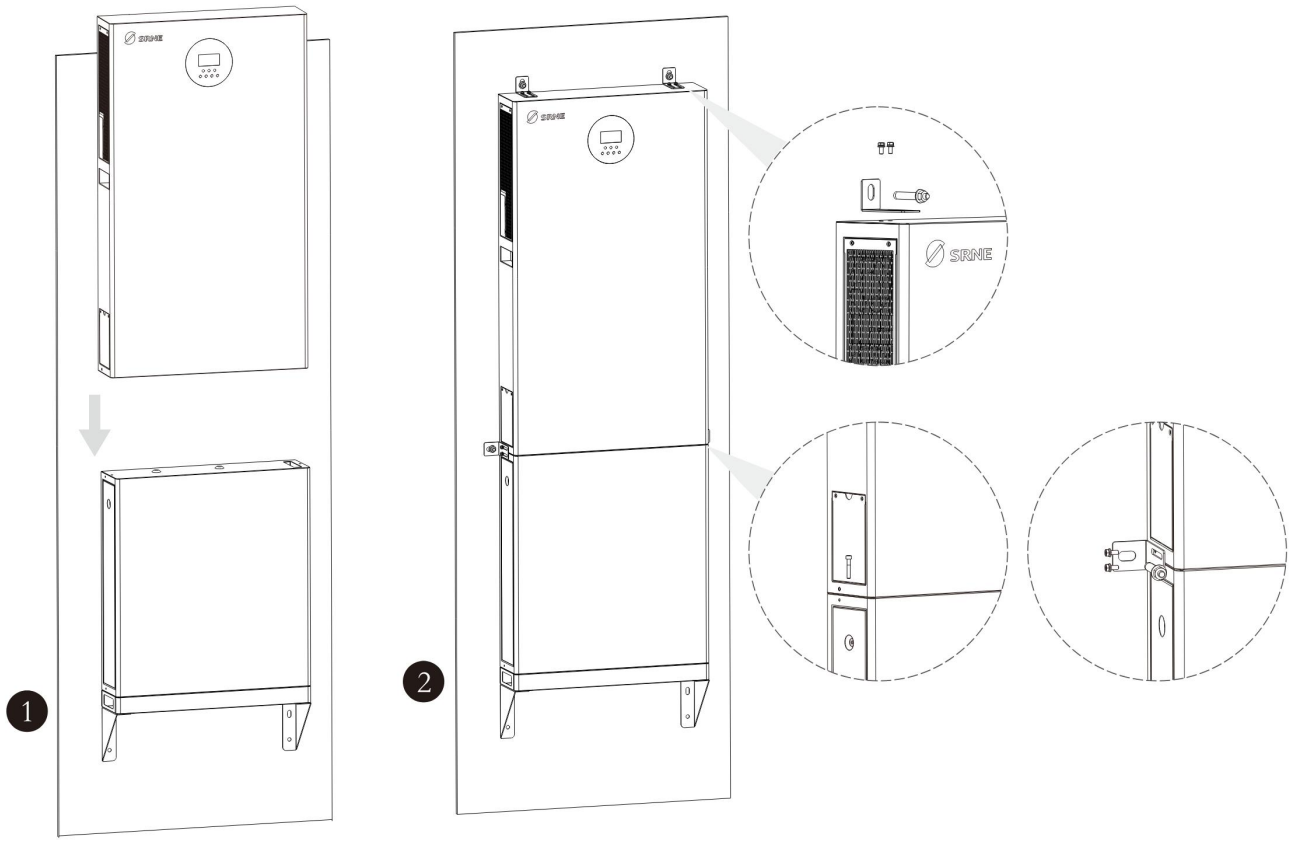


5.4.1.3 Install Extra Battery Pack and All-in-one

If you need to add a battery module, place the battery module on the support frame and lock the sides together with screws.



Place the all-in-one unit on the battery module and screw it into the screw holes of the battery module and install the fixing fittings.

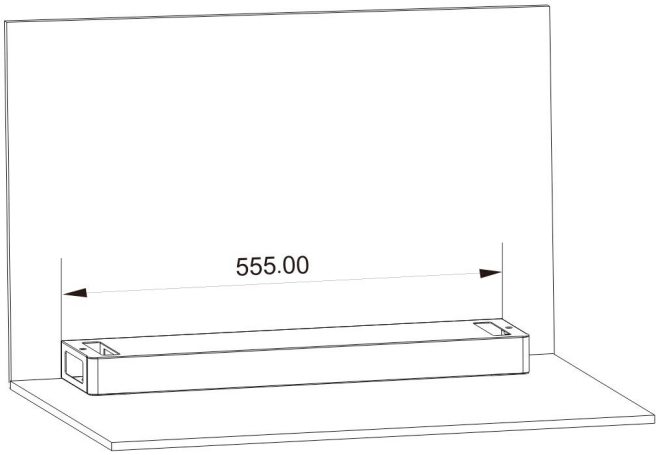


5.4.2 Floor mounting

5.4.2.1 Installation Location Selection

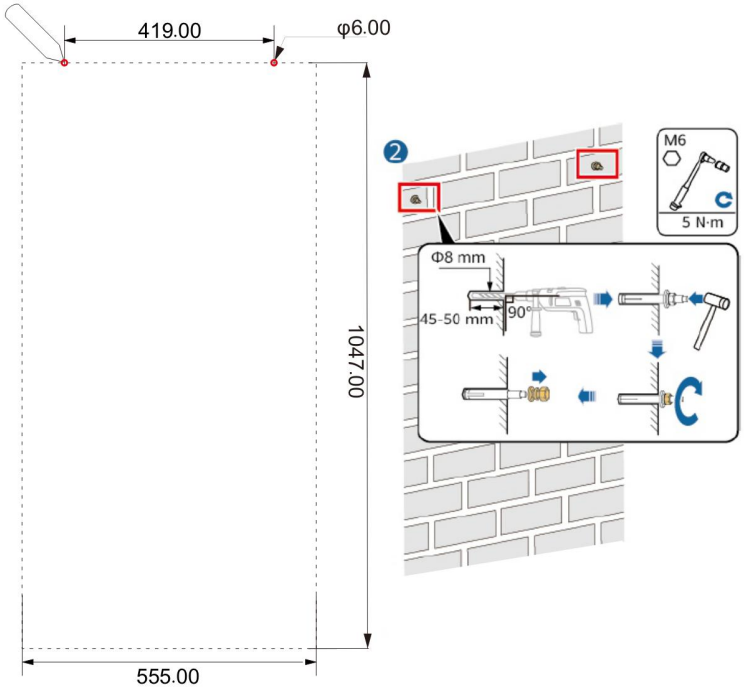
Determine the installation location, please choose a flat ground and a solid wall as the installation location.

Determine the installation position of the base, the fixed size is 555mm.



5.4.2.2 Install All-in-one

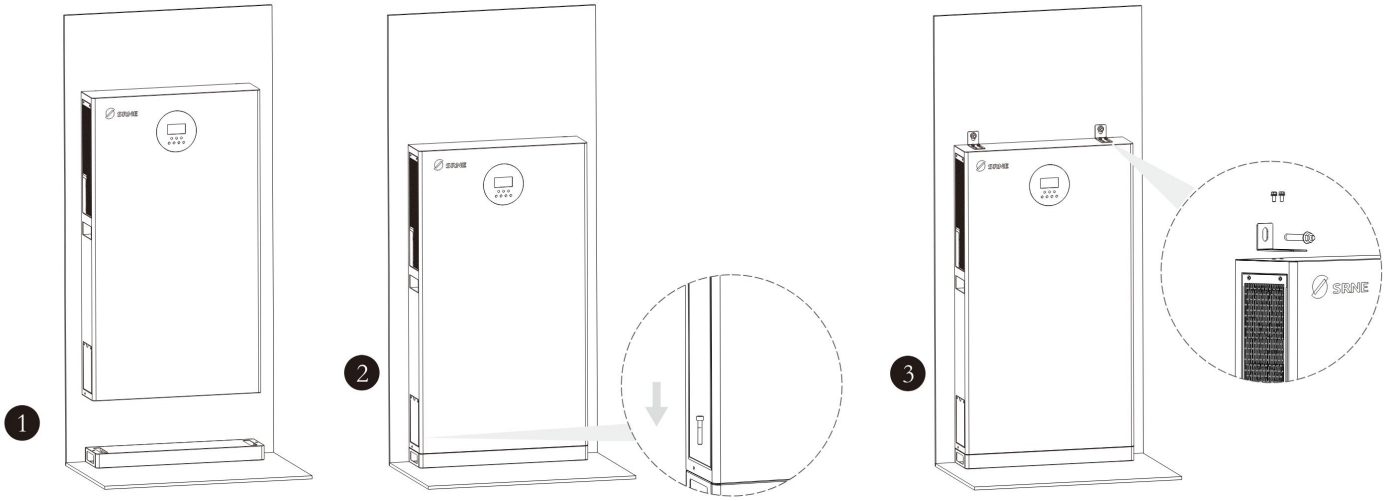
According to the hole position, drill 2 holes on the wall, φ6, depth 45~50mm. Tap the M8 screw into the above hole and screw on the nut.



In order to avoid electrical shock or other injury, inspect existing electronic or plumbing installations before drilling holes.

Choose suitable firm wall with thickness greater than 80mm.

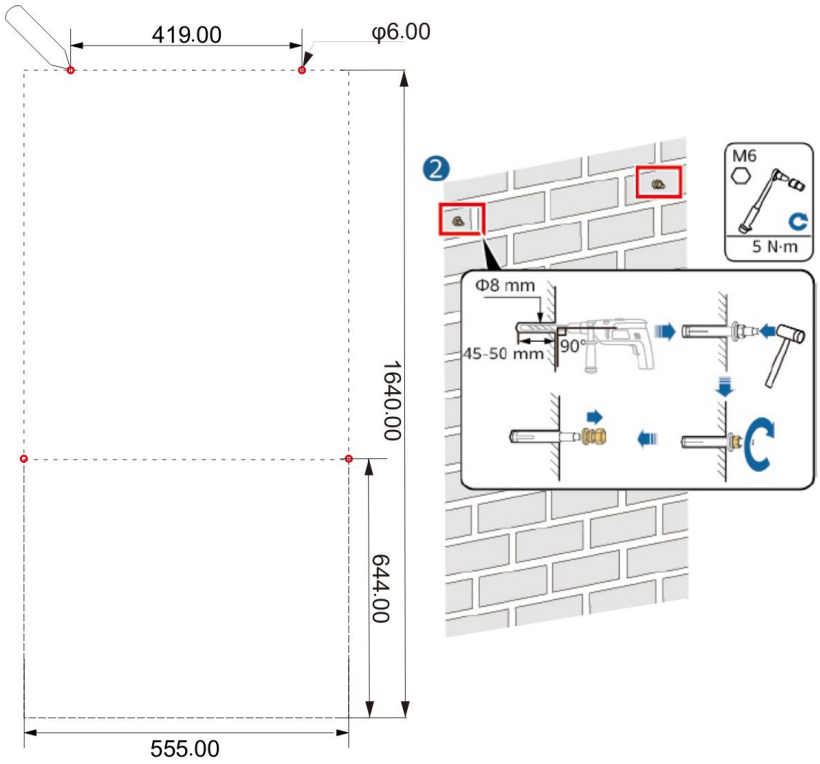
Place the all-in-one on the base and tighten the fixing screws on both sides and Installation of fixing bracket.



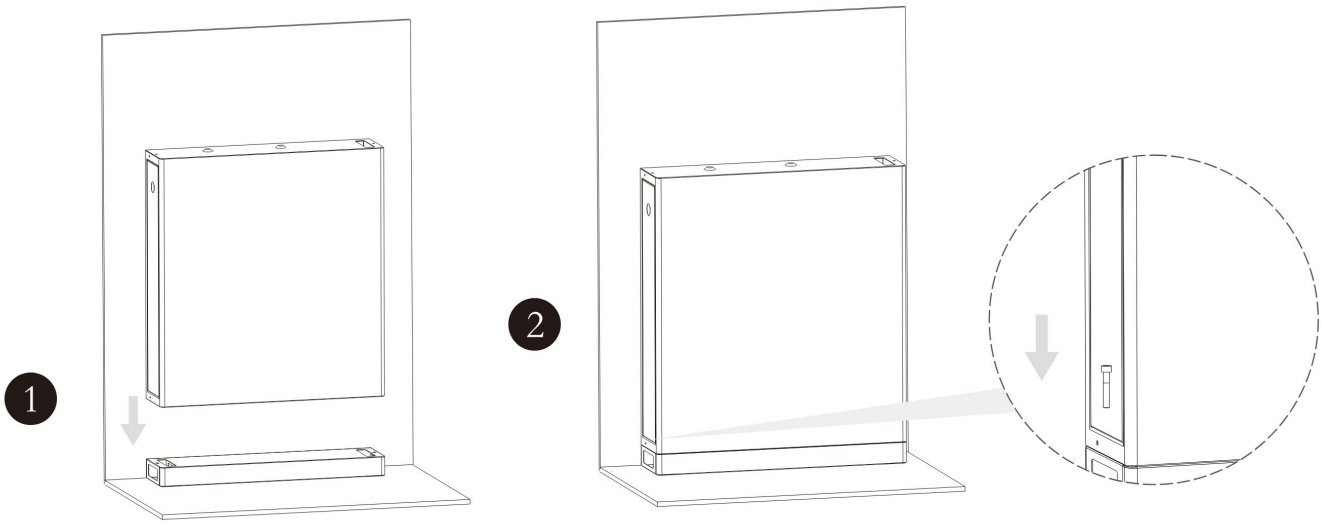
5.4.2.3 Install Extra Battery Pack and All-in-one

If you need to add a battery module, place the battery module on the base.

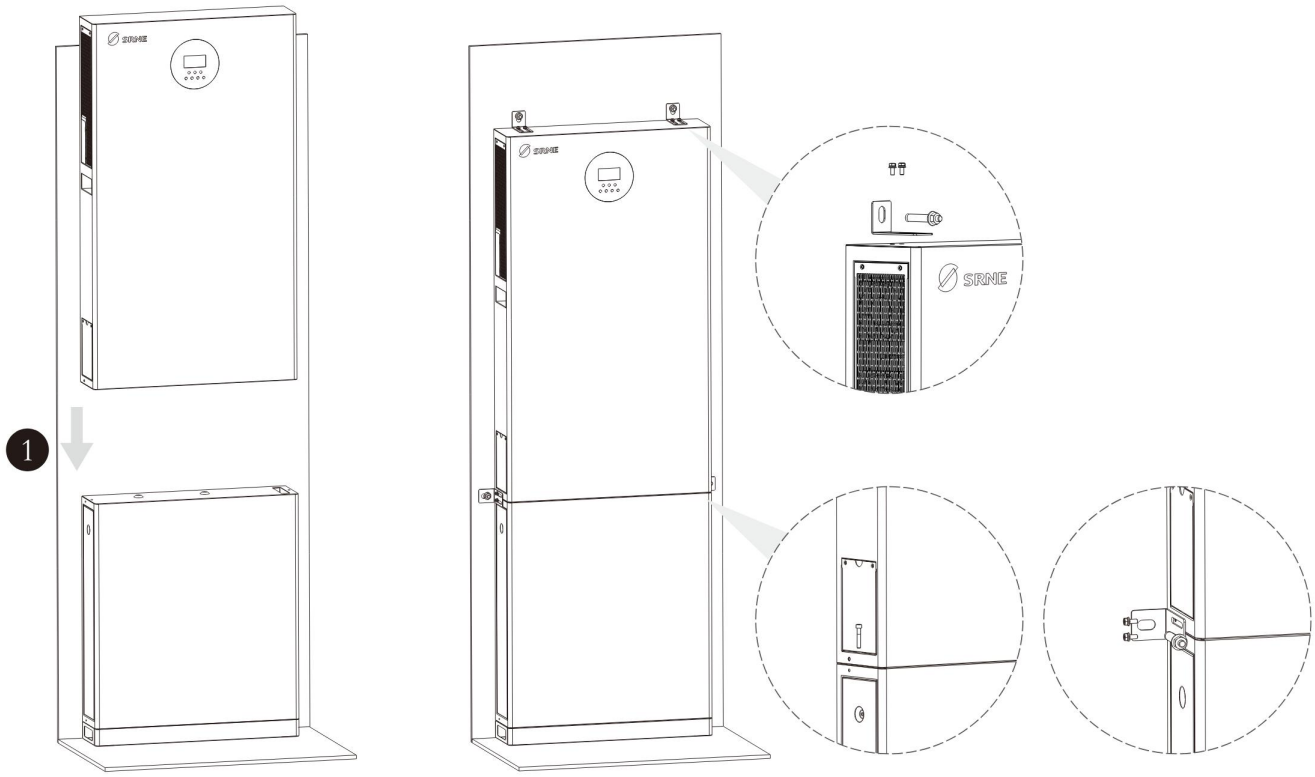
According to the hole position, ground 2 holes on the wall, φ6, depth 45~50mm. Tap the M8 screw into the above hole and screw on the nut.



Place the battery on the base, and then tighten the fixing screws on both sides.



Place the all-in-one on the battery module and install the wall mounting brackets.



6 Electrical Connection

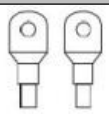
DANGER!

Before electrical connection, please ensure that the switches of the energy storage are in the "OFF" state. Otherwise, the high voltage of the device may cause electric shock.

CAUTION

The operations related to electrical connections must be carried out by professional electrical technicians. When carrying out electrical connections, the operator must wear personal protective articles.

6.1 Preparation of Cables

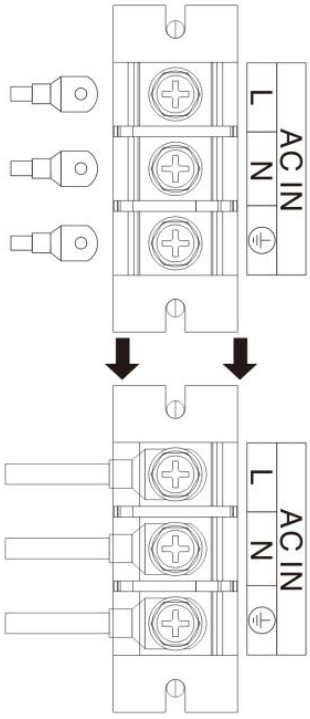
No.	Cables	Description	Recommended specifications	Source
1	Wiring ring	Connect wires and terminals		All-in-one Package
2	Parallel communication line	Communication cable when multiple inverters are connected in parallel		All-in-one Package (Optional)
3	Current sharing detection line	Current sharing line when multiple inverters are connected in parallel		All-in-one Package(Optional)

4	Photovoltaic input line	Cable between the photovoltaic panel and power module	Cable diameter 6mm^2/10AWG	Prepare by the user itself
5	AC input line	Cable between AC input and power module	Cable diameter 10mm^2/7AWG	Prepare by the user itself
6	AC output line	Cable between AC output and power module	Cable diameter 10mm^2/7AWG	Prepare by the user itself
1	Power Cable	Power cable between the extra battery and all-in-one,10kwh capacity battery use,560mm		Battery Package (Optional)
2	Signal line	Signal cable between the extra battery and all-in-one,700mm		Battery Package (Optional)
7	Expand Capacity Power Cable	Power cable between the storage battery,15kWh and 20kWh capacity battery use,1.5m		(Optional)
8	Expand Capacity Signal line	Power cable between the storage battery,15kWh and 20kWh capacity battery use,2.0m		(Optional)

6.2 External Electrical Connection of Energy Storage

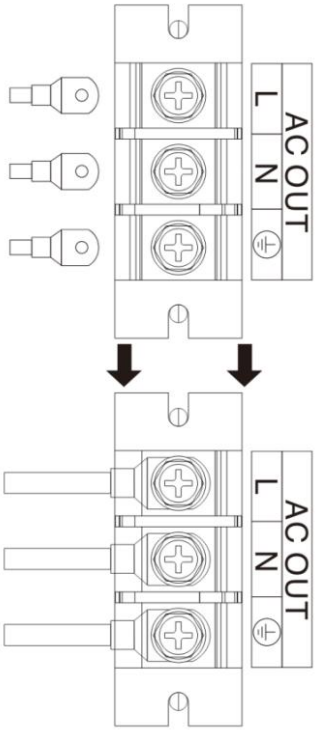
6.2.1 Connecting AC Input

According to the cable sequence and terminal position shown in the figure below, correctly connect the AC input line. Please pay attention to L and N and avoid short-circuit when wiring.



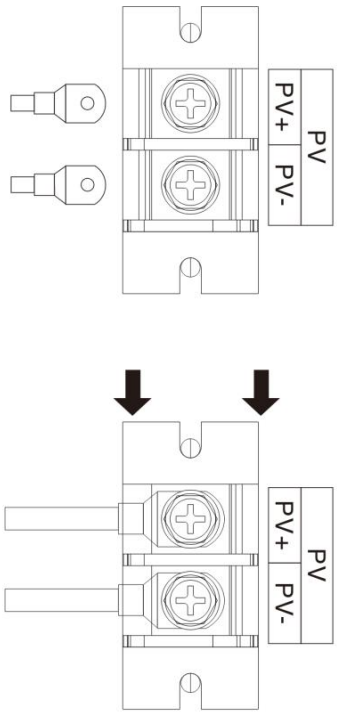
6.2.2 Connecting AC Output

According to the cable sequence and terminal position shown in the figure below, correctly connect the AC output cable. When wiring, please pay attention to L and N and avoid short-circuit.



6.2.3 Connecting Photovoltaic Input

According to the cable sequence and terminal position shown in the figure below, correctly connect the PV input cable. When wiring, please pay attention to the positive and negative poles and avoid short-circuit.



6.2.4 Wiring specifications

Models	Recommended PV wiring diameter	Recommended AC input wiring diameter	Recommended AC output wiring diameter
SR-EOT03S	6mm^2/10AWG	10mm^2/7AWG	10mm^2/7AWG
SR-EOT05S	6mm^2/10AWG	10mm^2/7AWG	10mm^2/7AWG

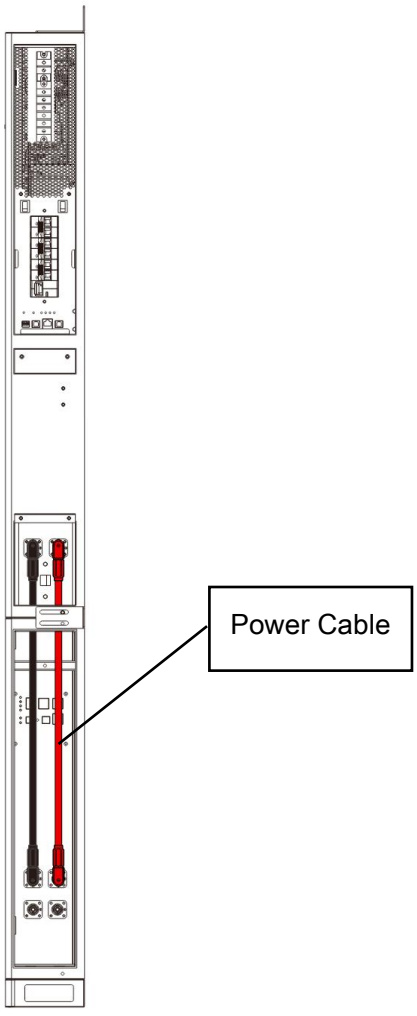
6.3 Electrical Connection of Extra Battery Modules

6.3.1 System Connecting Power Cord

Before connecting the energy storage battery module, ensure that the energy storage battery is not working and the indicator lights on the battery are OFF. The power cord delivered with the product together should be used to connect the positive and negative terminals of other batteries or power modules. It shall be noticed that the red cable should be connected to the red terminal (positive battery terminal) and the black cable to the black terminal (negative battery terminal).

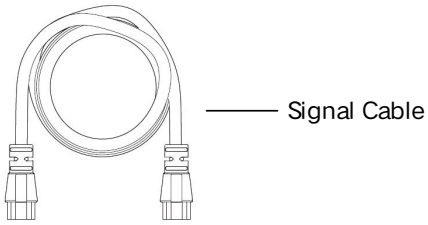
10kWh Wiring diagram:

Battery wire connection



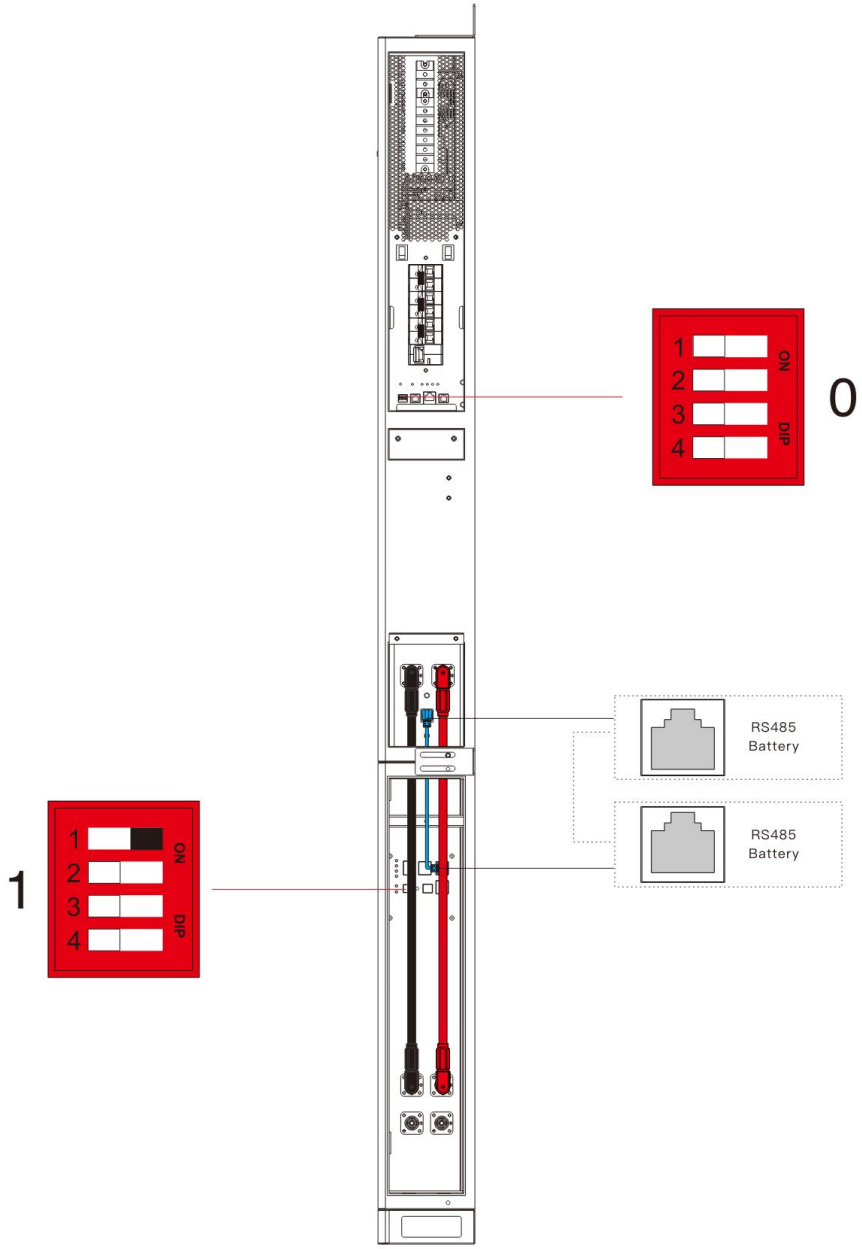
6.3.2 System Connecting Signal Line

The signal line delivered with the product together shall be used to connect RS485-Battery interface for each battery module.



10kWh Wiring diagram:

Signal line connection and address setting



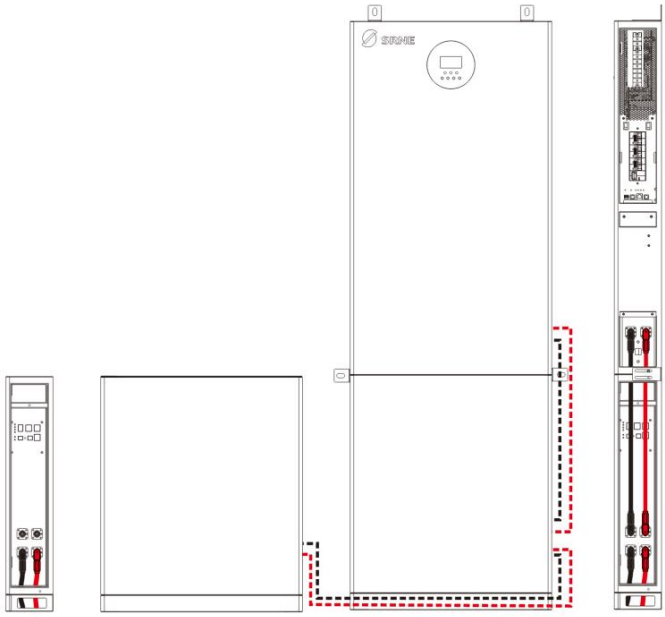
6.3.3 15kWh or 20kWh System Connecting

If you need 15kWh or 20kWh batteries, you can choose to connect multiple batteries through parallel power cable and Signal Line,At the same time, it is necessary to set the correct battery address.

Expand capacity power cable of battery modules are optional products. If necessary, please contact your local dealer.

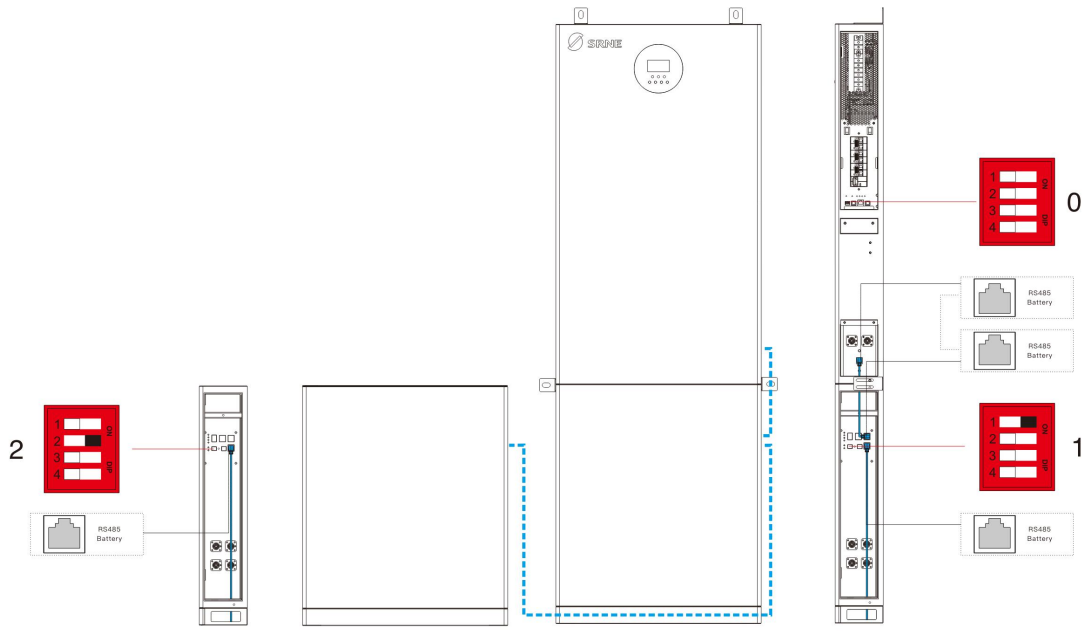
15kWh Wiring diagram:

Battery wire connection



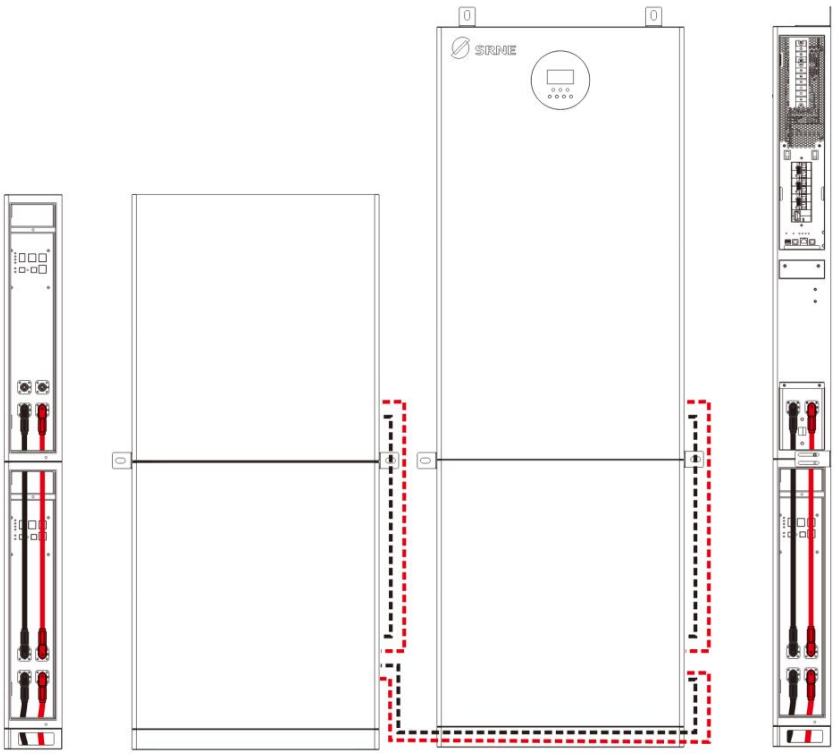
15kWh Wiring diagram:

Signal line connection and address setting



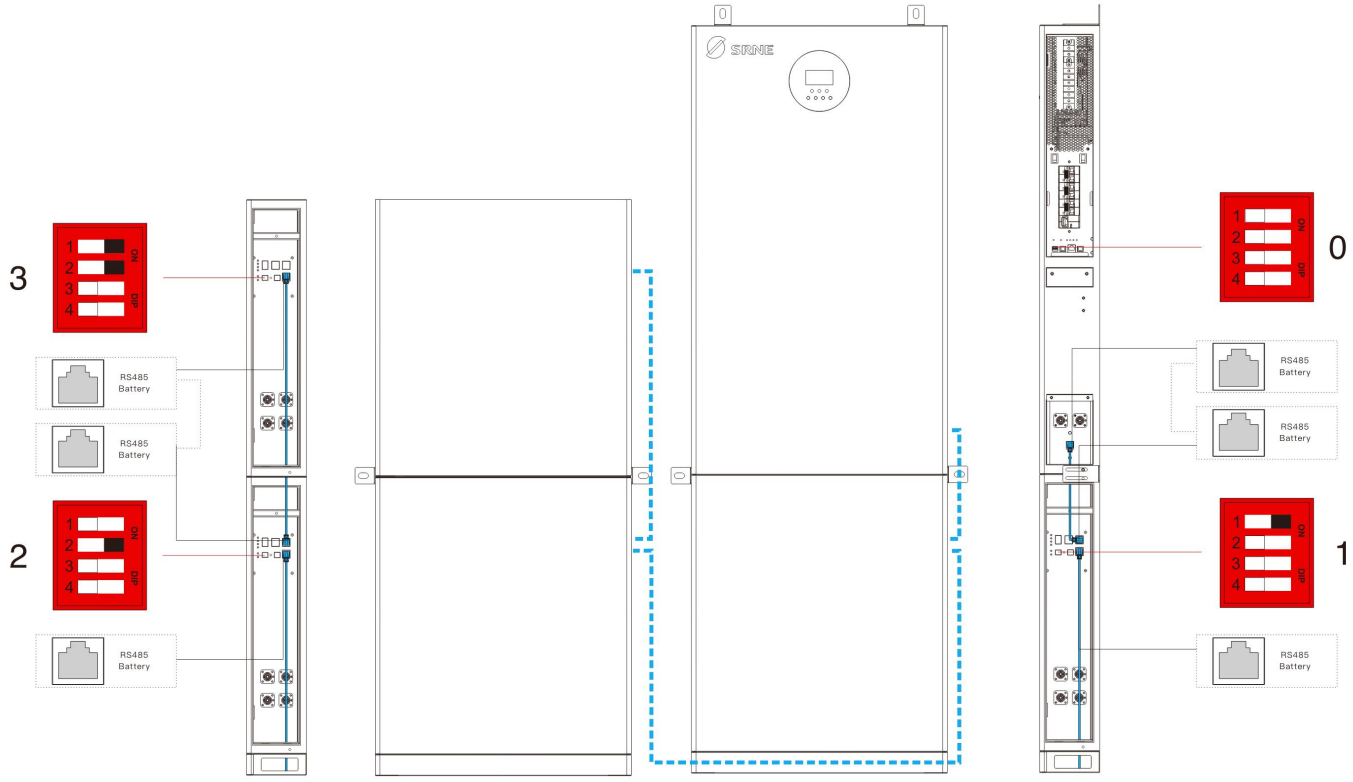
20kWh Wiring diagram:

Battery wire connection



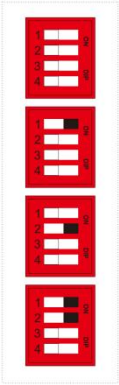
20kWh Wiring diagram:

Signal line connection and address setting



6.3.4 Energy Storage Battery Module Address Setting

If multiple energy storage battery modules are used in parallel, the address of the energy storage battery module needs to be set. The address is set to 1~3, and the address of each module cannot be repeated.



NOTICE

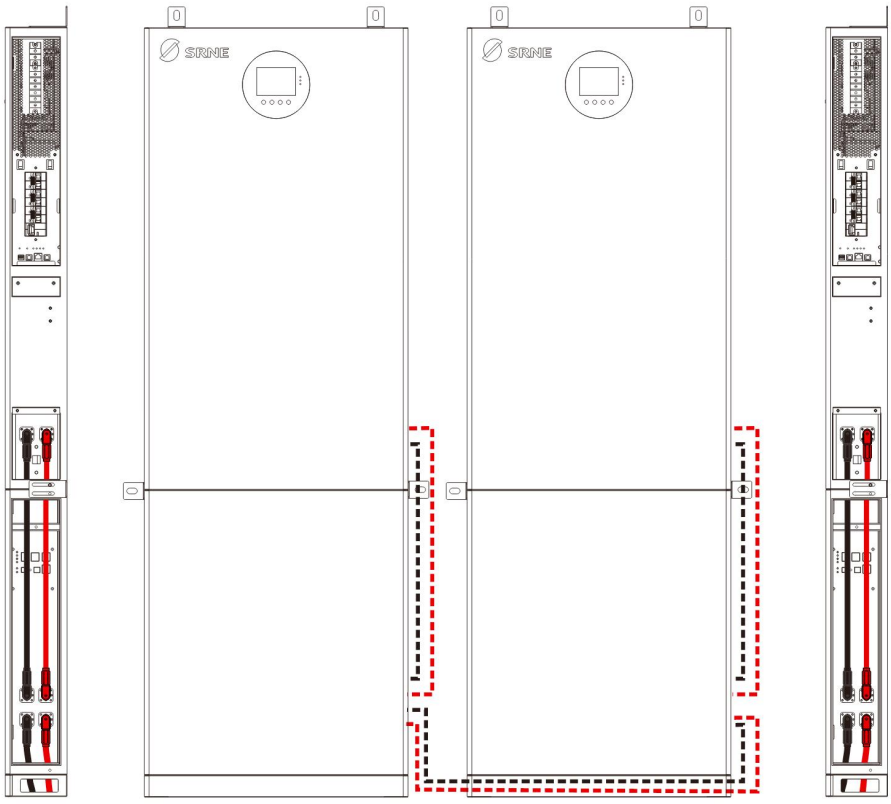
The address of the battery connected to the inverter must be set as 0.

6.4 Electrical Connection of Two Systems In Parallel (SR-EOT05S Only)

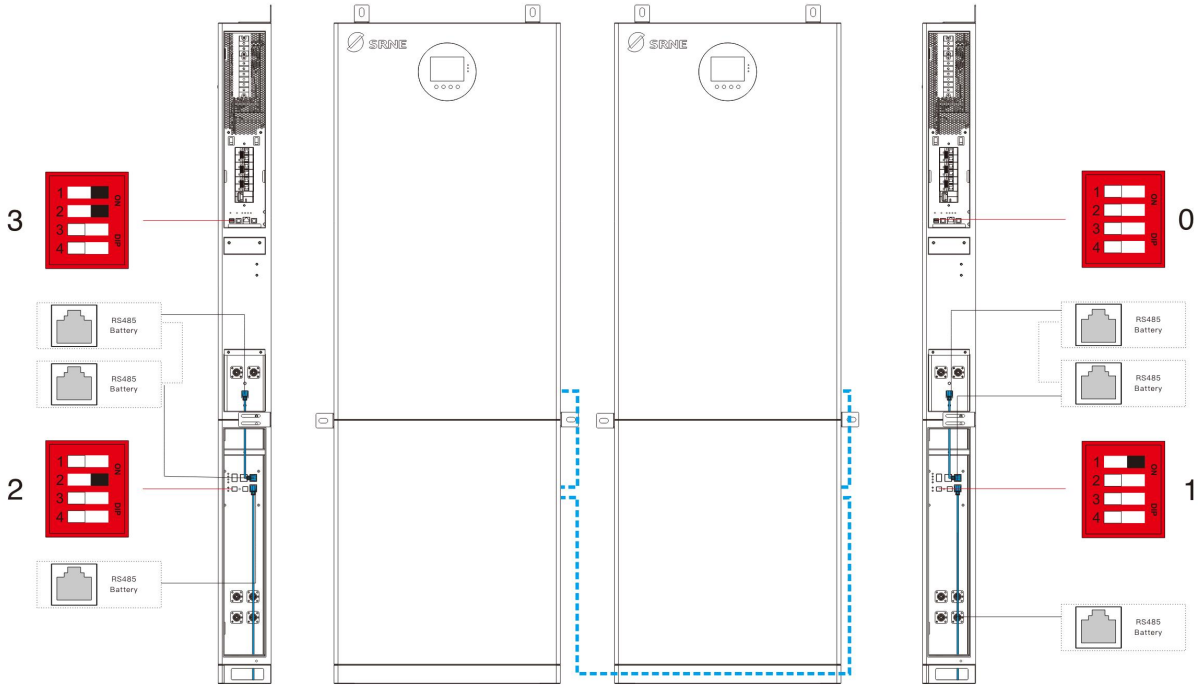
6.4.1 Connecting Power Cord And Signal Line

You can choose to connect 2 sets of battery systems through a parallel power cable.

Parallel connection cable of battery modules are optional products. If necessary, please contact your local dealer.



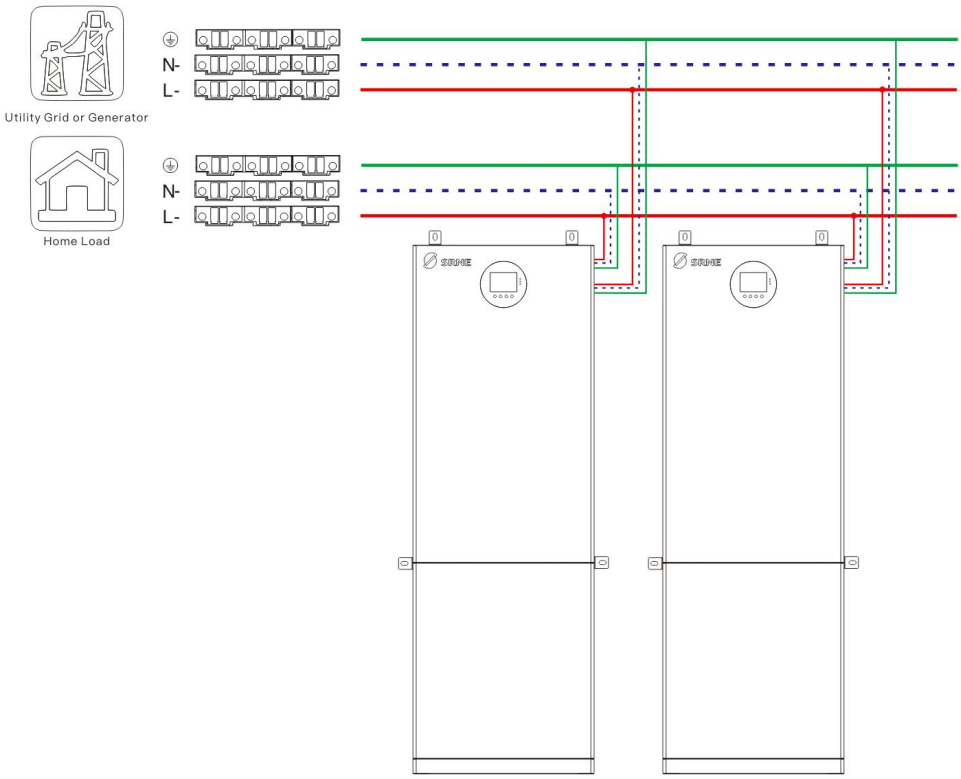
The connection and address settings of the battery signal line are shown in the following figure.



6.4.2 AC OUT Wiring& AC IN Wiring

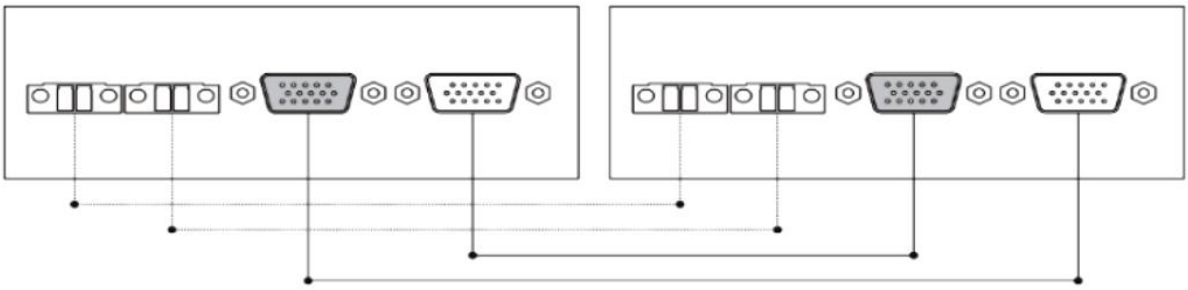
When connected, L must be connected to L, N to N wire, PE to PE, and ensure on.

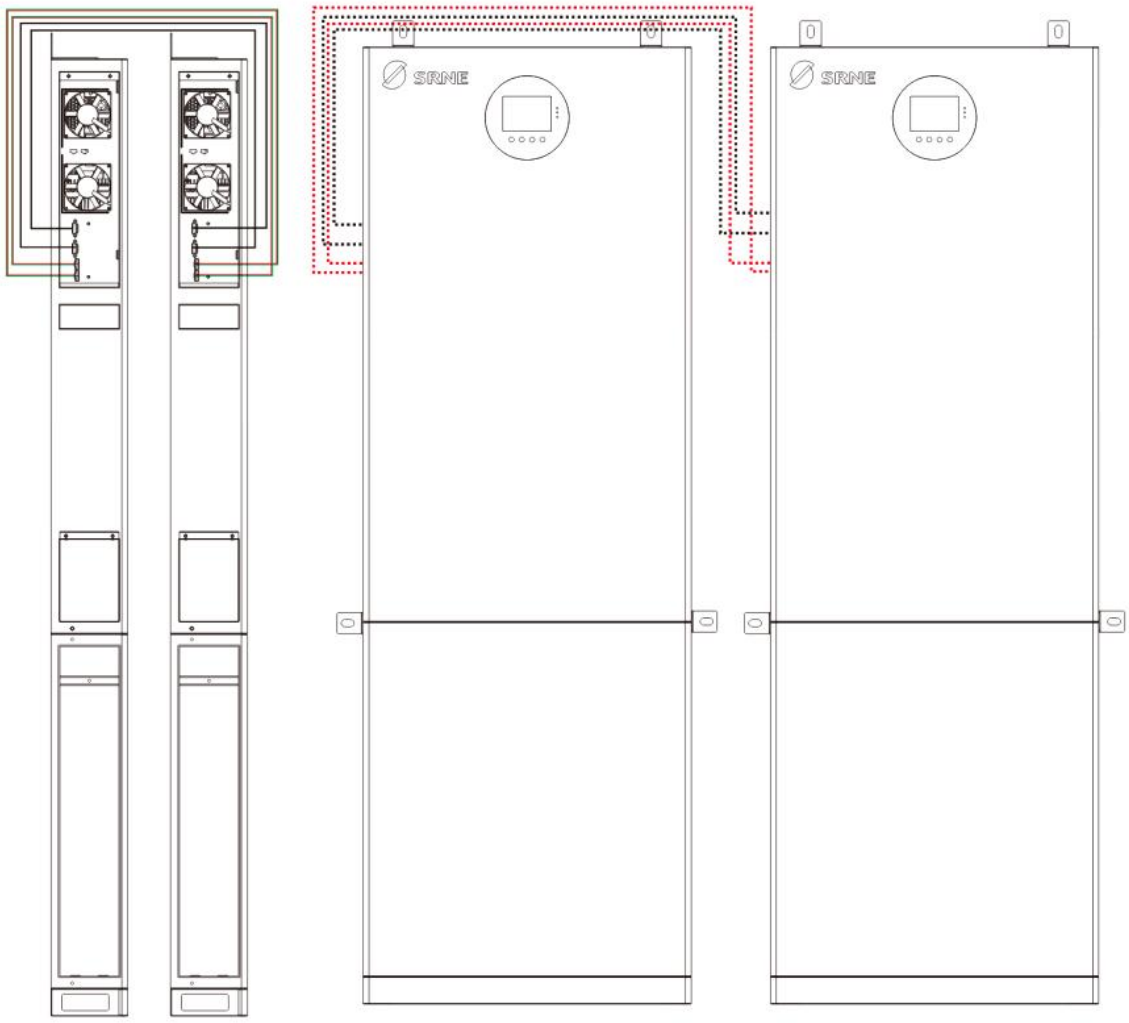
The connection should be correct and the length and diameter of the connection should be the same before the electric startup, so as to avoid the abnormal work of the output of the parallel system caused by the wrong.



6.4.3 Parallel Communication Line Connection

Communication cable and current sharing cable are optional products. If necessary, please contact your local distributor.





6.4.4 Setting the All-in-One Parallel Mode

The 31st setting needs to be set to PAL(SR-EOT05S only).

7 System Debugging

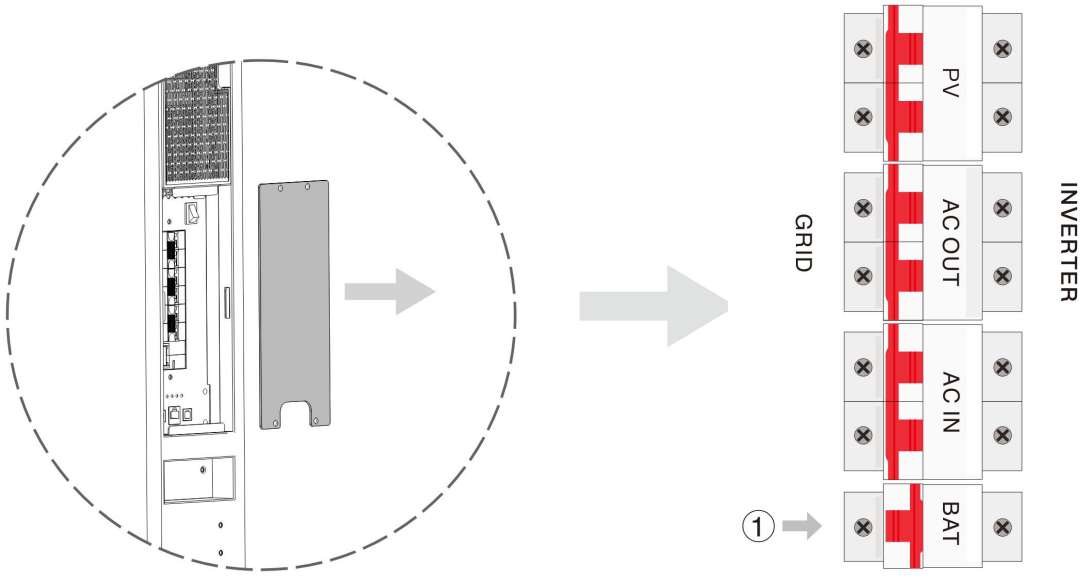
7.1 Inspections Before Power-On

No.	Inspection items	Acceptance criteria	Validation
1	The energy storage is installed in place	The installation is correct, secure and reliable.	□Yes □No
2	The installation environment meets requirements	The installation space is reasonable and the environment is clean and tidy without any construction	□Yes □No
3	The power cord is correctly connected	The positive and negative terminals are connected correctly without any missing.	□Yes □No
4	The signal line is correctly connected	The signal line is connected reliably, and there is no wrong position	□Yes □No
5	The grounding is reliable	The grounding wire is correctly and reliably connected.	□Yes □No
6	The switch of the energy storage battery module is off	All switches connected to the energy storage are in the "OFF" state.	□Yes □No
7	All breaker of the battery module are off	All breaker of the battery module are in the "OFF" state.	□Yes □No

7.2 Power-On of System

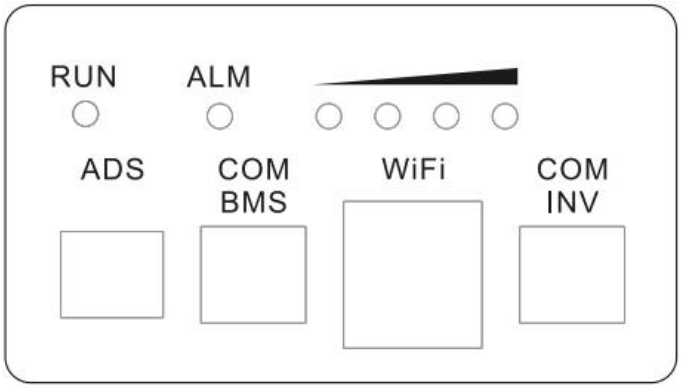
7.2.1 Power On Sequence

First,open the cover and turn on the battery input circuit breaker switch.



Secondly,turn on the DC switch, If there are multiple extra battery modules, please turn on the power switch one by one according to the address sequence.

After the power switch is turned on, the LED indicator will light up or flash. The meaning of the LED indicator is as follows.



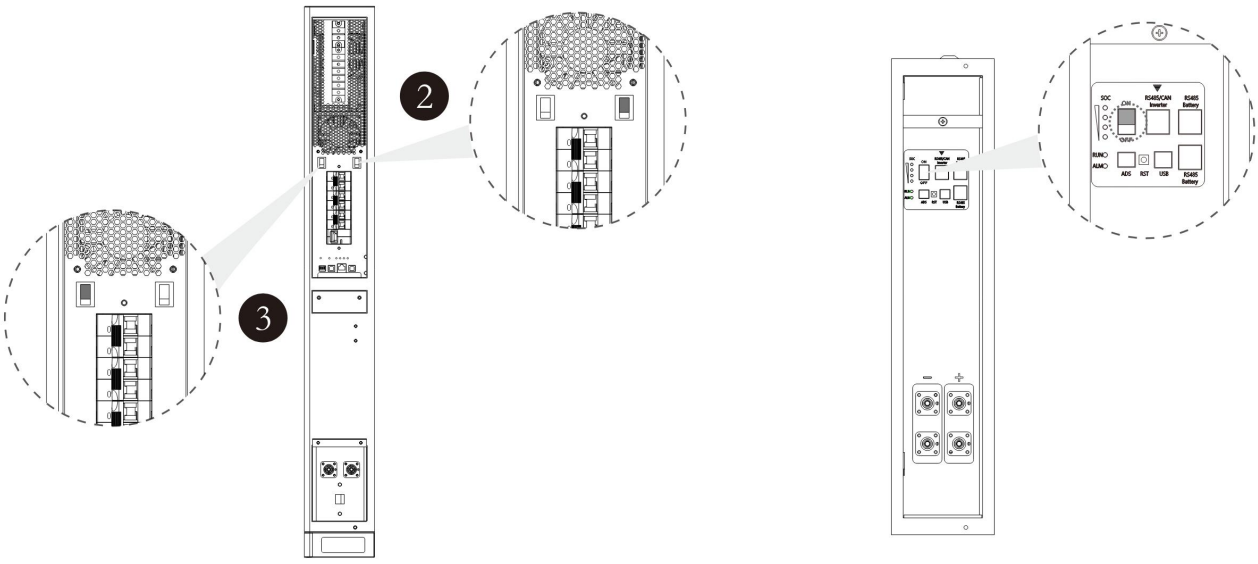
System Status	Events	RUN	ALM
POWER OFF	Power Off	OFF	OFF
Steady	Normal	Blinking1	OFF
	Alarm	Blinking1	Blinking3
Charging	Normal	ON	OFF
	Alarm	ON	Blinking3
	Over Charge Protection	ON	OFF
	High temperature, Over Current	OFF	ON
Discharging	Normal	Blinking3	OFF
	Alarm	Blinking3	Blinking3
	Over Discharge Protection	OFF	OFF
	Over Current，Short Current	OFF	ON

LED blinking description

Blinking	LED ON	LED OFF
Blinking1	0.25S	3.75S
Blinking2	0.5S	0.5S
Blinking3	0.5S	1.5S

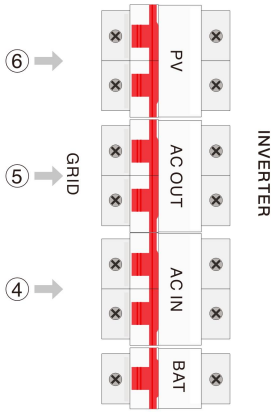
Capacity Indicator

Capacity indicator LED	SOC
	0 ~ 25%
	25 ~ 50%
	50 ~ 75%
	75 ~ 100%
 : LED ON :LED OFF	



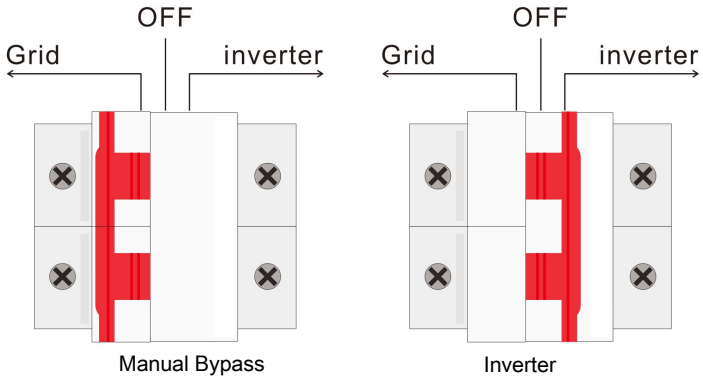
Then,turn on the AC switch.If the AC/INV indicator blinks, it indicates that the inverter works properly.

Last,then turn on the PV, AC output and AC input breaker switch.



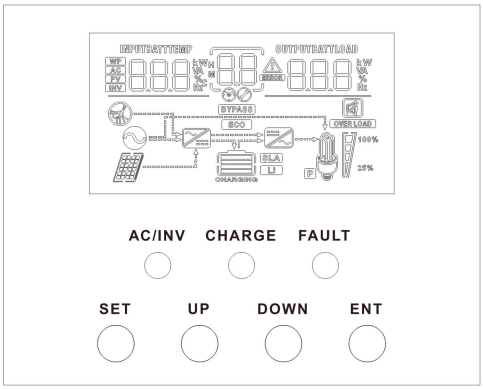
7.2.2 Switching On The Bidirectional Toggle Switch

If you choose to use inverter to supply power to the load, you need to flip the switch to the “INVERTER”side. When the gird power is cut off, the inverter can automatically switch to battery power supply. When there is gird power, the inverter automatically switches to bypass load.When there is gird power, if you want to carry a higher power load, you need to manually switch the bidirectional switch to the “GRID”.

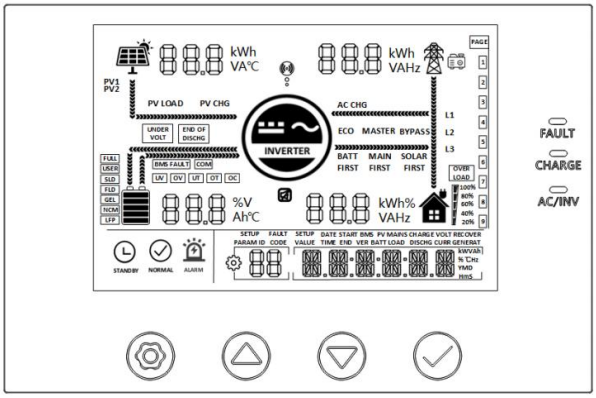


7.3 All-in-one LED And Button Function Description

After the power module works normally, the indicator lights are described as follows:



SR-EOT03S



SR-EOT05S

Indicators introduction

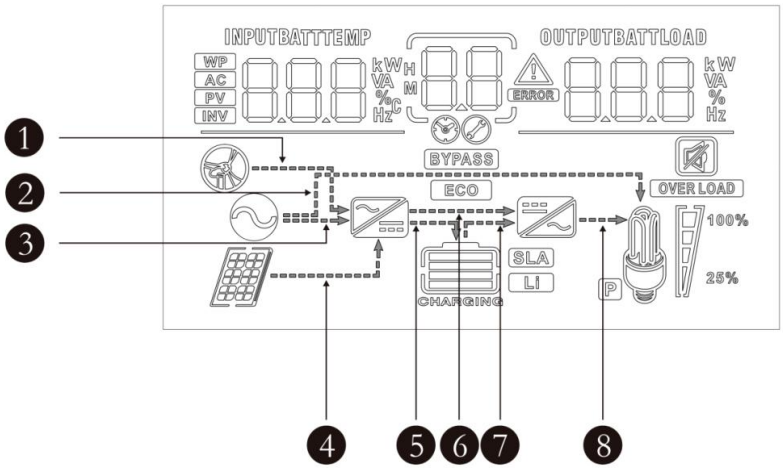
Indicator lights	Color	State	Description
AC/INV	Yellow	Always ON	Mains output
		Blinking	Inverter output
CHARGE	Green	Blinking	The battery is being charged
		Always ON	Charging is completed
FAULT	Red	Always ON	Fault state

Operation buttons introduction

Function buttons	Description
SET	Enter/Exit Settings menu
UP	Previous choice
DOWN	Next choice
ENT	Confirm/Enter Options under the settings menu

7.3.1 Real-time Data Viewing Method(SR-EOT03S)

7.3.1.1 Page Introduction

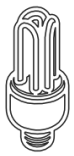
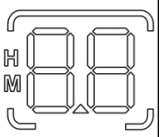


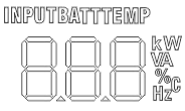
Serial number meaning

① The arrow is not displayed	⑤ Indicates the charging circuit charging the battery terminal
② Indicates the grid supplying power to the load	⑥ The arrow is not displayed
③ Indicates grid supplying power to the charging circuit	⑦ Indicates the battery terminal supplying power to the inverter circuit
④ Indicates PV module supplying power to the charging circuit	⑧ Indicates the inverter circuit supplying power to the load

Icon Meaning

Icons	Functions	Icons	Functions
	Indicates that the AC input terminal has been connected to the grid		Indicates that the inverter circuit is working
	Indicates that the AC input mode in APL mode (wide voltage range)	BYPASS	Indicates that the machine is in the Mains Bypass mode
	Indicates that the PV input terminal has been connected to the solar panel	OVER LOAD	Indicates that the AC output is in an overload state
CHARGING	indicates that the remaining battery is 0%~24%	100% 25%	indicates that the load percentage is 0%~24%
CHARGING	indicates that the remaining battery is 25%~49%	100% 25%	indicates that the load percentage is 25%~49%

	indicates that the remaining battery is 50%~74%		indicates that the load percentage is 50%~74%
	indicates that the remaining battery is 75%~100%		indicates that the load percentage is ≥75%
	Indicates that the battery type of the machine is a lithium battery		Indicates that the buzzer is not enabled
	Indicates that the current battery type of the machine is a lead-acid battery		Indicates that the machine has an alarm
	Indicates that the battery is in charging state		Indicates that the machine is in a fault condition
	Indicates that the AC/PV charging circuit is working		Indicates that the machine is in setup mode
	Indicates that the AC output terminal has an AC voltage output		The parameters displayed in the middle of the screen: 1. In the non-setup mode, the alarm or fault code is displayed. 2. In the setup mode, the currently set parameter item code is displayed.

Parameters display on the left side of the screen: input parameters	
	Indicates AC input
	Indicates PV input
	Indicates inverter circuit
	This icon is not displayed
	Display battery voltage, battery charge total current, mains charge power, AC input voltage, AC input frequency, PV input voltage, internal heat sink temperature, software version
Parameters display on the right side of the screen: Output parameters	
	Indicates output voltage, output current, output active power, output apparent power, battery discharge current, software version; in setup mode, displays the set parameters under the currently set parameter item code

Real-time data viewing method

On the LCD main screen, press the "UP" and "DOWN" buttons to scroll through the real-time data of the machine.

N0.	Parameters on the left side of the screen	Parameters in the middle of the screen	Parameters on the right side of the screen
1	INPUT BATT V (Battery input voltage)	Fault code	OUTPUT LOAD V (Output load voltage)
2	BMS Battery Voltage		BMS Battery SOC
3	PV TEMP ℃ (PV charger heatsink temperature)		PV OUTPUT KW (PV output power)
4	PV INPUT V (PV input voltage)		PV OUTPUT A (PV output current)
5	INPUT BATT A (Input battery current)		OUTPUT BATT A (Battery output current)
6	INPUT BATT KW (Battery input power)		OUTPUT BATT KW (Battery output power)
7	AC INPUT Hz (AC input frequency)		AC OUTPUT LOAD Hz (AC output frequency)
8	AC INPUT V (AC input voltage)		AC OUTPUT LOAD A (AC output load current)
9	INPUT V (For maintain)		OUTPUT LOAD KVA (Load apparent power)
10	INV TEMP ℃ (AC charge or battery discharge heatsink temperature)		INV OUTPUT LOAD KW (Load active power)
11	APP software version		Bootloader software version
12	Model Battery Voltage Rating		Model Output Power Rating
13	Model PV Voltage Rating		Model PV Current Rating

7.3.1.2 Setup parameters description

Buttons operation instructions: Press the "SET" button to enter the setup menu and exit the setup menu. After entering the setup menu, the parameter number [00] will flash. At this point, press the "UP"and "DOWN" buttons to select the code of parameter item to be set. Then, press the "ENT" button to enter the parameter editing mode, and the value of the parameter is flashing. Adjust the value of the parameter with the "UP" and "DOWN" buttons. Finally, press the "ENT" button to complete the parameter editing and return to the parameter selection state.

No.	Name	Setting options (Default)	Description
00	Exit setting menu	ESC	Exit the setup menu.
01	Work priority mode	SOL	PV priority mode, switching to mains when PV is ineffective or the battery is below the value set in parameter [04].
		UTI	Utility priority mode, switching to inverter only when utility power is not available.
		SBU	Inverter priority mode, switching to mains only when the battery is undervoltage or below the value set in parameter [04].
02	Output frequency	**50.0**	Bypass Adaptive, when there is mains power, it automatically adapts to the frequency when it is first connected to the mains. When there is no mains power, you can set the output frequency through this menu. 230V machine default 50HZ.
		60.0	
03	AC input voltage range	APL	230V machine wide range mains input voltage range: 90~280V.
		UPS	230V machine narrow range mains input voltage range: 170~280V.
04	Battery to mains	**48V**	Parameter [01] = SOL/SBU, the battery voltage is lower than this setting value, the output is switched from inverter to mains, the setting range is 40V~52V. It can not be set higher than the value of [14] setting item.
05	Mains to battery	**55.2V**	Parameter [01] = SOL/SBU, the battery voltage is higher than this setting value, the output is switched from mains to inverter, the setting range is 48V~60V. It cannot be set lower than the value of [04] and [35] setting items.

No.	Name	Setting options (Default)	Description
06	Charging mode	CSO	PV priority, mains charging only when PV is not effective.
		CUB	Utility priority, PV charging only activated when utility power is outaged.
		SNU	Hybrid charging with PV and utility, prioritizing PV charging, and when PV energy is insufficient, utility charging supplements. When the PV energy is sufficient, the utility stops charging. Note: Only when the utility bypass supply power to the load can the PV and utility be charged at the same time, when the inverter is working, only the PV charging can be started.
		OSO	PV charging only, no mains charging.
07	Max. charging current	100A	S series: 230V machine setting range 0~120A;
08	Battery type	USE	User-defined. All battery parameters can be set.
		SLd	Sealed lead-acid battery, constant voltage charging voltage is 57.6V, float charging voltage is 55.2V.
		FLd	Flooded lead-acid battery, constant voltage charging voltage is 58.4V, float charging voltage is 55.2V.
		GEL	Gel lead-acid battery, constant voltage charging voltage is 56.8V, float charging voltage is 55.2V.
		LFP16	LF14/LF15/LF16 lithium iron phosphate batteries, corresponding to lithium iron phosphate batteries 14-series, 15-series and 16-series. The default constant voltage charging voltage of 14-series is 49.2V. The default constant voltage charging voltage of 15-series is 53.2V. The default constant voltage charging voltage of 16-series is 56.8V. They are all adjustable.
		N13/N14	Ternary lithium battery
09	Boost charging voltage	56.8V	Boost charging voltage setting, setting range 48V~58.4V, step of 0.4V, valid when battery type is user-defined and lithium battery.

No.	Name	Setting options (Default)	Description
10	Boost charging maximum time	120	Boost charging maximum time setting, refers to the constant voltage charging when the voltage reaches the parameter [09] setting voltage maximum charging time, set the range of 5min~900min, step of 5 minutes, valid when battery type is user-defined and lithium battery.
11	Float charging voltage	56.8V	Float charging voltage, setting range: 48V~58.4V, step of 0.4V, valid when battery type is user-defined.
12	Over-discharge voltage	46.8V	Over-discharge voltage, the battery voltage is lower than this judgement point, delay the time set by parameter [13], and then shut down the inverter output. Setting range 40V~48V, step of 0.4 V. Valid when battery type is user-defined and lithium battery.
13	Over-discharge delay time	5S	Over-discharge delay time, when the battery voltage is lower than the parameter [12], the inverter output will shut down after delaying the time set in this parameter. The setting range is 5S~50S, step of 5S. Valid when battery type is user-defined and lithium battery.
14	Battery under-voltage alarm point	48.4V	Battery under-voltage alarm point, when the battery voltage is lower than the judgment point, report under-voltage alarm, the output does not shut down. The setting range is 40V~52V, step of 0.4V. Valid when battery type is user-defined and lithium battery.
15	Battery discharging limit voltage	46.4V	Battery discharging limit voltage, battery voltage is lower than this judgment point, the output will shut down immediately. Setting range 40V~52V, step of 0.4V. Valid when battery type is user-defined and lithium battery.
16	Equalization charging	DIS	Disable equalization charging.
		ENA	Enable equalization charging, only for open lead-acid batteries and sealed lead-acid batteries
17	Equalize charging voltage	58.0V	Equalized charging voltage, setting range 48V~58.4V, step 0.4V. Valid when battery type is flooded lead-acid battery and sealed lead-acid battery.
18	Equalize charging time	120	Equalized charging time, setting range 5min~900min, step of 5 minutes. Valid when battery type is flooded lead-acid battery and sealed lead-acid battery.

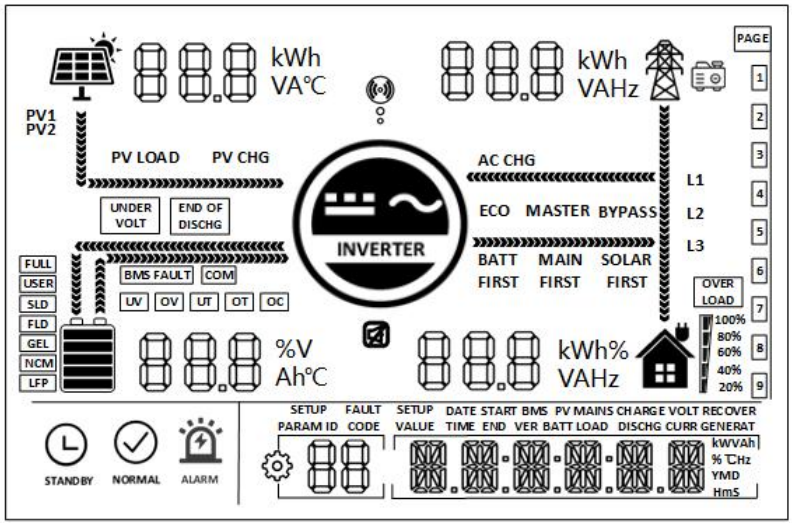
No.	Name	Setting options (Default)	Description
19	Equalize charging delay	120	Equalized charging delay, setting range 5min~900min, step of 5 minutes. Valid when battery type is flooded lead-acid battery and sealed lead-acid battery.
20	Equalize charging derating time	30	Equalized charging derating time, 0~30days in 1 day steps, valid when battery type is flooded lead-acid battery and sealed lead-acid battery.
21	Equalize charging enable	DIS	Stop equalisation charging immediately.
		[21] ENA	Start equalisation charging immediately.
22	Energy-saving Mode	DIS	Disable energy-saving mode.
		[22] ENA	After enabling the energy-saving mode, if the load is empty or lower than 50W, the inverter output will shut down the output after delaying for a period of time. When the load is higher than 50W, the inverter will start automatically.
23	Automatic overload restart	[23] DIS	Disable automatic overload restart. If an overload occurs shutting down the output, the machine will no longer power up.
		ENA	Enable automatic overload restart. If overload occurs to shut down the output, the machine delays for 3 minutes and then restarts the output. After accumulating 5 times, it will not restart the machine again.
24	Automatic over-temperature restart	[24] DIS	Disable automatic restart in case of over-temperature, if over-temperature occurs to shut down the output the machine will no longer switch on the output.
		ENA	Enable automatic over-temperature restart, if over-temperature occurs to shut down the output, it will restart to switch on the output when the temperature drops down.
25	Buzzer alarm	DIS	Disable alarm.
		[25] ENA	Enable alarm.
26	Mode change alert	[26] DIS	Disable alarm when the state of the main input source changes.
		ENA	Enable alarm when the state of the main input source changes.
27	Inverter	[27] DIS	Disable automatic switching to mains when the inverter is overloaded.

No.	Name	Setting options (Default)	Description
	overload to bypass	ENA	Enable automatic switching to mains when inverter is overloaded.
28	Max. AC charging current	60A	Max. charging current setting for AC charging: 0~80A.
30	Machine address settings	1	Setting range: 1-254.
32	RS485 communication	[32] SLA	RS485 port for PC and remote monitoring.
		CAN	CAN port for BMS communication function.
33	BMS communication protocols	UZE	CAN protocol for CAN communication.
35	Battery under-voltage recovery point	52V	When the battery is under-voltage, the battery voltage needs to be greater than this setting to restore the battery inverter AC output.
36	Max. PV charging current	60A	Max. PV charging current setting range：0~60A.
37	Recharge recovery point after battery is full	52.8V	When the battery is fully charged, the inverter stops charging and resumes charging when the battery voltage falls below this voltage value.
38	AC output voltage setting (standby mode only)	230Vac	**S series models：** 200/208/220/230/240Vac can be set, default 230Vac. AC output power = rated power * (setting voltage value/230)
39	Charge current limiting method (when BMS is enabled)	SET	Max. battery charging current not greater than the value of setting 【07】
		BMS	Max. battery charging current not greater than the limit value of BMS
		INV	Max. battery charging current not greater than the logic judgements value of the inverter.
57	Stop charging current	2A	Charging stops when the default charging current is less than this setting
58	Discharge alarm SOC	15%	SOC alarm when capacity is less than this set value (valid when BMS communication is normal)

No.	Name	Setting options (Default)	Description
	setting		
59	Cut-off discharge SOC Settings	5%	Stops discharging when the capacity is less than this setting (valid when BMS communication is normal)
60	Cut-off charge SOC Settings	100%	Stops charging when capacity is greater than or equal to this setting (valid when BMS communication is normal)
61	Switch to mains SOC Settings	10%	Switch to mains when capacity is less than this setting (valid when BMS communication is normal)
62	Switch to inverter output SOC Settings	95%	Switches to inverter output mode when capacity is greater than or equal to this setting (valid when BMS communication is normal)

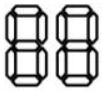
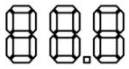
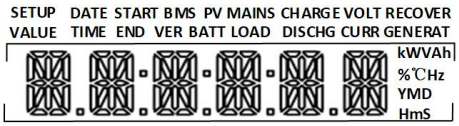
7.3.2 Real-time Data Viewing Method(SR-EOT05S)

7.3.2.1 Page Introduction



Icon	function	Icon	function
	Indicates mains power		Indicates the inverter is working
	Indicates generator		Indicates home appliances
	Indicates solar power	OVER LOAD	Indicates AC output is overload

	Battery remaining capacity is below 5% Battery remaining capacity is 5%~19% Battery remaining capacity is 20%~39% Battery remaining capacity is 40%~59% Battery remaining capacity is 60%~79% Battery remaining capacity is 80%~100%		Load percentage is below 5% Load percentage is 5%~19% Load percentage is 20%~39% Load percentage is 40%~59% Load percentage is 60%~79% Load percentage is 80%~100%
	Indicates that the machine is communicating with the Surveillance Equipment		Indicates that the buzzer is not enabled
FULL	Indicates that the battery is fully charged	USER	Indicates that the current battery type of the machine is user-defined
SLD	Indicates that the current battery type of the machine is sealed lead-acid battery	FLD	Indicates that the current battery type of the machine is flooded lead-acid battery
GEL	Indicates that the current battery type of the machine is gel battery	NCM	Indicates that the current battery type of the machine is NCM battery
LFP	Indicates that the current battery type of the machine is LFP battery	PAGE	Display the page number prompt of the main interface
1 2 3 4 5 6 7 8 9			Indicates the data page of the main display interface
	Indicates that the machine is currently idle		Indicates that the machine is currently in normal operation
	Indicates that the machine is currently in an alarm or fault state		Indicates that the machine is currently in the parameter setting state
PV LOAD	Indicates that the PV is in a direct load state	PV CHG	Indicates that the PV is in a state of charge
AC CHG	Indicates that the AC is in a state of charge	BYPASS	Indicate that the Mains Power is in the bypass state
ECO	Indicates that the system is enabled in the ECO mode	BATT FIRST	Indicates that the output mode is Battery First

MAIN FIRST	Indicates that the output mode is Mains Power first	SOLAR FIRST	The indicated output mode is Solar First.
UNDER VOLT	Indicates battery under voltage	END OF DISCHG	Indicates battery overvoltage
COM	Indicates internal communication failure	UV	Indicates system under voltage
OV	Indicates system over voltage	UT	Indicates system low temperature
OT	Indicates system over temperature	OC	Indicates system over current
BMS FAULT	Indicates BMS communication failure	❯❯❯❯❯❯❯❯❯❯	Indicates the direction of energy flow
	When the system is in alarm or fault state, the main interface displays fault code; display setting options when setting		Display parameters of PV, battery, mains power and load
		Main Interface: display real-time time, date, total PV power generation, total load power consumption, RS485 address, version number Setting Interface: display setting contents	

On the LCD main screen, press the “UP” and “DOWN” buttons to scroll through the real-time data of the machine.

Page	PV side parameters	Battery side parameters	Mains side parameters	Load side parameters	Comprehensive parameters
1	PV Voltage	Battery Voltage	AC Voltage	Load Voltage	Current Time
2	PV Current	Battery Current	AC Current	Load Current	Current Date
3	PV Power	BMS Batt SOC	AC Power	Load Power	PV Total kWh
4	PV Today kWh	BMS Batt Voltage	Reserved	Load Today kWh	Load Total kWh
5	PV Temperature	INV Temperature	AC Frequency	Load Frequency	RS485 Address
6	Maintenance Parm	Battery Rated Voltage	Reserved	Load kVA	Soft Version
7	PV Rated Voltage	Battery Rated Current	Reserved	Load Rated Power	Parallel Mode

7.3.2.2 Setup Parameters Description

Key Operation Instructions: Enter the setting menu and exit the set ting menu, please press“SET”, After entering the setting menu, the parameter number [00] will flash. At this time, you can press the“UP”and “DOWN” key to select the parameter code to be set. Then press”ENT”to enter the parameter editing state, at this time, the value of the parameter flashes, adjust the value of the parameter through the“UP”and “DOWN”, and finally press ”ENT”to complete the editing of the parameter and return to the parameter selection state.

Parameter Number	Parameter Name	Setting options (Default)	Description
00	Exit	ESC	Menu of Exit Settings
01	Supply Priority Mode	AC1ST	Mains Power First Mode, switch to the Inverter only when the Mains Power has failed
		BT1ST	Inverter First Mode: switch to Mains Power only when the battery is under-voltage or lower than Parameter [04] Set Value.
		PV1ST	Solar First Mode: switch to Mains Power when PV has failed or battery is lower than Parameter [04] Set Value.
02	Output Frequency	50.0	Bypass self-adaptation; when the mains is connected, it automatically adapts to the mains frequency; when the mains is disconnected, the output frequency can be set through this menu. The default output frequency of the 230V machine is 50HZ, and the 120V machine is 60HZ.
		60.0	
03	AC Input Voltage	UPS	The input mains voltage range of 230V machine is 170~280V Mains input voltage range of 120V machine: 90~140V
		APL	The input mains voltage range of 230V machine is 90~280V Mains input voltage range of 120V machine: 90~140V
04	Battery to Mains	48.0V	When the Parameter [01] = BT1ST/PV1ST, the battery voltage is lower than the set value, and the output is switched from inverter to Mains Power, and the set range is 40V~52V.
05	Mains to Battery	55.2V	When the Parameter [01] = BT1ST/PV1ST, the battery voltage is higher than the set value, and the output is switched from mains to inverter, and the set range is 48V~60V.
06	Charging mode	Hybrid	Hybrid charging by PV and under utility grid give priority to PV, and use utility grid for supplementary if PV energy is insufficient. When the PV energy is sufficient, the utility grid will stop charging. Note: PV and utility grid are available for charging at the same time only when the bypass output is loaded, and only PV charging can be

Parameter Number	Parameter Name	Setting options (Default)	Description
			activated when the inverter is working.
		AC1ST	The Mains Power is charged first, and PV charging is started only when the Mains Power has failed
		PV1ST	Priority shall be given to charging by PV and mains charging will be initiated only when the PV has failed.
		ONLYPV	Only PV charging, no mains charging is enabled.
07	Maximum Charging Current	100A	Set Range of 0~100A
08	Battery type	LFP16	LFP14/LFP15/LFP16 are corresponding to Battery Series of 14, 15 and 16, and their default constant charge voltages are 49.6V, 53.2V and 56.8V respectively, which can be adjusted.
		NCM13/NCM14	NCM lithium battery, adjustable
09	Boost Voltage	56.8V	Setting of Boost Voltage: Set Range of 48V~58.4V, Step 0.4V, available when the battery type is user-defined and lithium battery.
10	Maximum Boost Duration	120	Setting of Maximum Boost Duration, which is the maximum charging time when the voltage reaches the Parameter [09] when charging at constant voltage, with the Set Range of 5min~900min, and Step of 5mim. It is available when the battery type is user-defined and lithium battery.
11	Float charge voltage	56.8V	Floating Charge Voltage, with the Set Range of 48V~58.4 V, Step of 0.4 V, and available when battery type is user-defined.
12	Over-discharge voltage	46.4V	Over-discharge Voltage: the battery voltage is lower than such criterion, and the Inverter output is turned off after the time delay parameter is set to [13], with the Set Range of 40V~48V and Step of 0.4V. available when the

Parameter Number	Parameter Name	Setting options (Default)	Description
			battery type is user-defined and lithium battery.
13	Over discharge Delay Time	5S	Over-discharge Delay Time: when the battery voltage is lower than the Parameter [12], the inverter output is turned off upon delay of time set by this Parameter, with the Set Range of 5S~50S, Step of 5S, available when the battery type is custom and lithium battery.
14	Battery under voltage alarm point	49.6V	Battery under-voltage alarm point: when the battery voltage is lower than such criterion, under-voltage alarm will be given, the output will not be shut down, with the Set Range of 40V~52V, Step of 0.4V, available when battery type is user-defined and lithium battery.
15	Battery Discharge Limit Voltage	44.8V	Battery Discharge Limit Voltage: the battery voltage is lower than such criterion, output and shut down immediately. Set Range of 40V~52V, Step of 0.4V, available when the battery type is user-defined and lithium battery.
16	Equalization charge	DIS	No equalization charging
		ENA	Enable equalization charging, only Flooded lead-acid batteries, sealed lead-acid batteries and user-defined are effective
17	Equalization Voltage	58V	Equalization Charging Voltage, with the Set Range of 48V~58V, Step of 0.4V, available for Flooded lead-acid battery, sealed lead-acid battery and user-defined
18	Equalization Charging Time	120	Equalization Charging Time, with the Set Range of min~900min, Step of 5min, available for Flooded lead-acid battery, sealed lead-acid battery and user-defined
19	Equalized Charging Delay	120	Equalization Charging Delay, with the Set Range of min~900min, Step of 5min, available for Flooded lead-acid battery, sealed lead-acid battery and user-defined
20	Equalization Charge Interval Time	30	Equalization Charge Interval Time, 0~30d, Step of 1d, available for Flooded lead-acid battery, sealed lead-acid battery and user-defined

Parameter Number	Parameter Name	Setting options (Default)	Description
21	Equalization Charging Start-Stop	ENA	Start equalization charging immediately
		DIS	Stop equalization charging immediately
22	ECO mode	DIS	NO ECO mode
		ENA	When the ECO mode is enabled, if the load is below 50W, the inverter output is delayed for 5 minutes and then the output is turned off. When the hull switch is pressed to the "OFF" State, and then pressed to the "ON" State, the inverter will resume the output
23	Overload Automatic Restart	DIS	Overload automatic restart is disabled. If overload occurs, the output will be shut down, and the machine will not be restarted.
		ENA	Enable overload auto restart. If overload occurs, shut down output, delay the machine for 3 min and then restart the output. After 5 times in total, no startup will be resumed.
24	Auto restart upon over-temperature	DIS	Over-temperature automatic restart is disabled. If over-temperature occurs, the output will be shut down, and the machine will not be restarted for output.
		ENA	Enable automatic restart upon over-temperature. If over-temperature occurs, shut down output, and restart output after the temperature has dropped.
25	Buzzer Alarm	DIS	No Alarm
		ENA	Enable alarm
26	Mode Change Reminder	DIS	Alarm is disabled when the status of the main input source has change.
		ENA	Alarm is disabled when the status of the main input source has change.
27	Inverter Overload to Bypass	DIS	Automatic switch to Mains Power is disabled when the Inverter is overloaded.
		ENA	Automatic switch to Mains Power when the inverter is overloaded.
28	Current of charging under grid electricity	60A	AC output 230Vac, with the Set Range of 0~60A

Parameter Number	Parameter Name	Setting options (Default)	Description
		40A	AC output 120Vac, with the Set Range of 0~40A
30	RS485 Address Setting	1	RS485 communication address can be set within the range of 1~254
31	AC output mode **(can be set in the standby mode only)**	SIG	Single machine setting （for S & U model）
		PAL	Single-phase parallel connection setting（for S & U model）
		[31] 2P0/2P1/2P2	Split-phase parallel connection setting（for U model）
		When the parameter **[38]** setting item=120 for **U** series model. All connected P1-phase inverters are set to **"2P0"** : **1)** If all connected P2-phase inverters are set to **"2P1"**, AC output line voltage difference is 120 degrees (L1-L2), line voltage is 120*1.732= 208Vac; Phase voltage is 120Vac (L1-N; L2-N). **2)** If all connected P2-phase inverters are set to **"2P2"**, AC output line voltage difference is 180 degrees (L1-L2), line voltage is 120*2= 240Vac; Phase voltage is 120Vac (L1-N; L2-N).	
		[31] 3P1/3P2/3P3	Three-phase parallel connection setting（for S & U model）
		All machines in phase 1 must be set as 【3P1】 **All machines in phase 2 must be set as 【3P2】** **All machines in phase 3 must be set as 【3P3】** **1.When the output voltage set in the setting 【38】 is 120 Vac (U model)** At present the line voltage between L1 in phase 1 and L2 in phase 2 is 120*1.732 = 208 Vac, similarly the line voltage between L1-L3, L2-L3 is 208 Vac; the single phase voltage between L1-N, L2-N, L3-N is 120 Vac. **2.When the output voltage set in the setting【38】 is 230Vac (S model)** At present the line voltage between the live wire L1 in phase 1 and the live wire L2 in phase 2 is 230*1.732 = 398Vac, and similarly the line voltage between L1-L3, L2-L3 is 398Vac; the single phase voltage between L1-N, L2-N, L3-N is 230Vac.	
32	Communication function	SLA	RS485-2 port for PC or telecommunication control.
		485	RS485-2 port for 485-BMS communication.

Parameter Number	Parameter Name	Setting options (Default)	Description
33	BMS communication protocol	When [32] enables BMS communication, the corresponding lithium battery manufacturer brand should be selected for communication	
		PAC=PACE，RDA=Ritar，AOG=ALLGRAND，OLT=OLITER，HWD=SUNWODA, DAQ=Dyness, WOW=SRNE, PYL=PYLONTECH，UOL=WEILAN	
34	PV grid-connected power generation function	DIS	Disable this Function
		TOGRID	In the utility bypass state, when no battery is connected or when the battery is full, the surplus PV energy is fed back to the grid.
		TOLOAD	In the utility bypass state, when no battery is connected or when the battery is full, the load power is supplied by the hybrid of PV and the utility.
35	Battery Under-voltage Recovery Point	52V	When the battery is under-voltage, the battery voltage should be greater than this set value to restore the inverter AC output of the battery, and the set range is 44V~54.4V.
36	Max PV charger current	100A	Max PV charger current. Setting range: 0~100A
37	Battery Recharge Recovery Point	52.8V	After the battery is fully charged, the inverter will stop charging, and when the battery voltage is lower than this Value, the Inverter will resume charging again. And the set range is 44V~54V.
38	AC Output Rated Voltage	230Vac	You can set: 200/208/220/240Vac
		120Vac	You can set: 100/105/110/120Vac
39	Charge current limiting method (when BMS is enabled)	LC SET	Max. battery charging current not greater than the value of setting 【07】
		LC BMS	Max. battery charging current not greater than the limit value of BMS
		LC INV	Max. battery charging current not greater than the logic judgements value of the inverter.
40	1-section start charging time	00:00:00	Set Range: 00: 00-23: 59: 00
41	1-section end charging time	00:00:00	Set Range: 00: 00-23: 59: 00

Parameter Number	Parameter Name	Setting options (Default)	Description
42	2-section start charging time	00:00:00	Set Range: 00: 00-23: 59: 00
43	2-section end charging time	00:00:00	Set Range: 00: 00-23: 59: 00
44	3-section start charging time	00:00:00	Set Range: 00: 00-23: 59: 00
45	3-section end charging time	00:00:00	Set Range: 00: 00-23: 59: 00
46	Sectional charging function	DIS	Disable this Function
		[46] ENA	After the sectioned charging function is enabled, the power supply mode will change to BT1ST, and system will enable the mains power charging only in the set charging period or battery over discharge; If the sectioned discharge function is enabled at the same time, the power supply mode of the system will change to AC1ST, which only enable the mains charging in the set charging period, and switch to the battery inverter power supply mode in the set discharge period or when the mains power is off
47	1-section start discharging time	00:00:00	Set Range: 00: 00-23: 59: 00
48	1-section end discharging time	00:00:00	Set Range: 00: 00-23: 59: 00
49	2-section start discharging time	00:00:00	Set Range: 00: 00-23: 59: 00
50	2-section end discharging time	00:00:00	Set Range: 00: 00-23: 59: 00
51	3-section start discharging time	00:00:00	Set Range: 00: 00-23: 59: 00
52	3-section end discharging time	00:00:00	Set Range: 00: 00-23: 59: 00
53	Sectional discharge function	DIS	Disable this Function
		ENA	After the sectioned discharge function is enabled, the power supply mode will change to AC1ST and the system will switch to battery inverter power supply only during the set discharge period or when the mains power is off

Parameter Number	Parameter Name	Setting options (Default)	Description
54	Current date setting	00:00:00	Set Range: 00:01: 01-99:12:31
55	Current time setting	00:00:00	Set Range: 00:00: 00-23:59: 59
56	Leakage protection function	DIS	Disable this Function
		ENA	Enable leakage protection function
57	Stop charging current	2A	Charging stops when the default charging current is less than this setting
58	Discharge alarm SOC setting	15%	SOC alarm when capacity is less than this set value (valid when BMS communication is normal)
59	Cut-off discharge SOC Settings	5%	Stops discharging when the capacity is less than this setting (valid when BMS communication is normal)
60	Cut-off charge SOC Settings	100%	Stops charging when capacity is greater than or equal to this setting (valid when BMS communication is normal)
61	Switch to mains SOC Settings	10%	Switch to mains when capacity is less than this setting (valid when BMS communication is normal)
62	Switch to inverter output SOC Settings	95%	Switches to inverter output mode when capacity is greater than or equal to this setting (valid when BMS communication is normal)

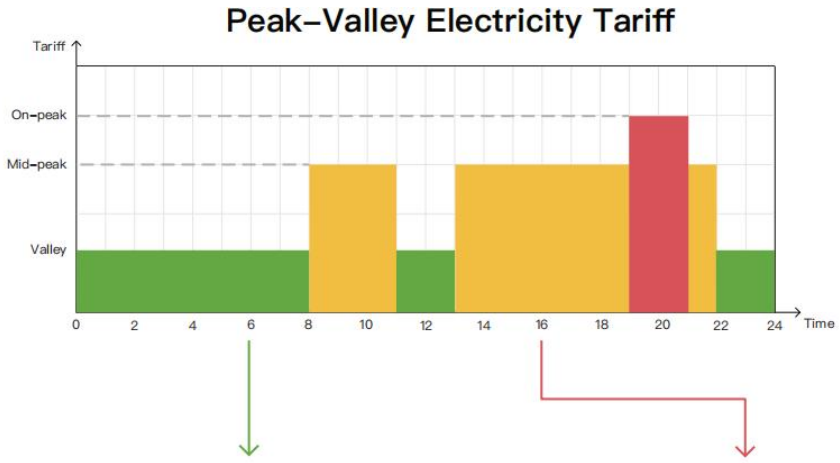
7.3.2.2 Time-slot Charging/Discharging Function

The series is equipped with a time-slot charging and discharging function, which allows users to set different charging and discharging periods according to the local peak and valley tariffs, so that the utility power and PV energy can be used rationally.

When mains electricity is expensive, the battery inverter is used to carry the load; when the mains electricity is cheap, the mains electricity is used to carry the load and charge, which can help customers to save electricity costs to the greatest extent.

The user can turn on/off the time-slot charging/discharging function in setup menu parameter 46 and 53.and set charging and discharging slot in parameter 40-45, 47-52. Below are examples for users to understand the function.

Before using this function for the first time, please set the local time in parameter items 54, 55, then the user can set the corresponding time slot according to the local peak and valley tariff charges.



Time-slot Utility Charging/Carrying Function

With 3 definable periods, the user can freely set the mains charging/carrying time within the range of 00:00 to 23:59. During the time period set by the user, if PV energy is available, PV energy will be used first, and if PV energy is not available or insufficient, utility energy will be used as a supplement.

Time-slot Battery Disacharging Function

With 3 definable time periods, users can freely set the battery discharge time within the range of 00:00 to 23:59. During the time period set by the user, the inverter will give priority to the battery inverter to carry the load, and if the battery power is insufficient, the inverter will automatically switch to mains power to ensure stable operation of the load.

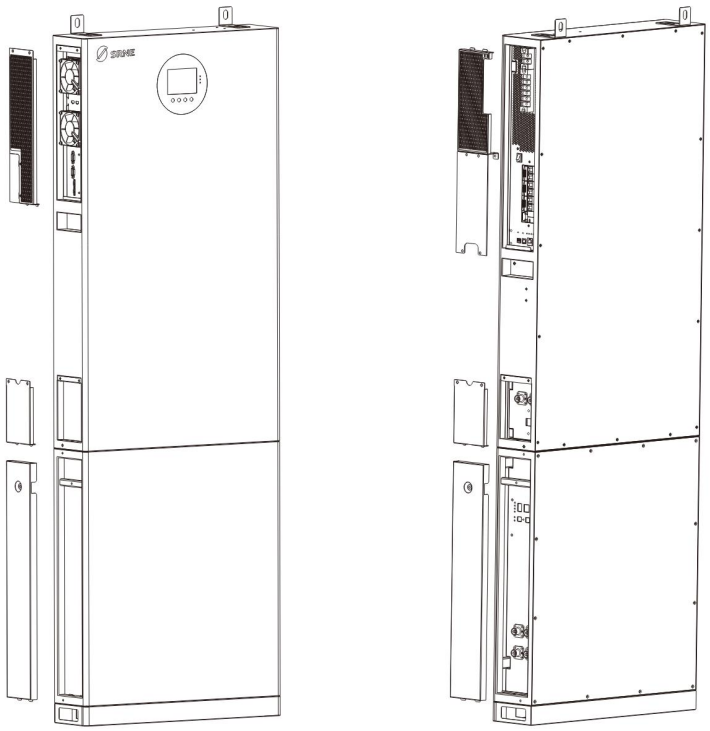
7.4 Protective Function

No.	Protections	Description
1	PV current/power limiting protection	When charging current or power of the PV array configured exceeds the PV rated, it will charge at the rated.
2	PV night reverse-current protection	At night, the battery is prevented from discharging through the PV module because the battery voltage is greater than the voltage of PV module.
3	Mains input over voltage protection	When the mains voltage exceeds 280V (230V model) , the mains charging will be stopped and switched to the inverter mode.
4	Mains input under voltage protection	When the mains voltage is lower than 170V (230V model / UPS mode), the mains charging will be stopped and switched to the inverter mode.
5	Battery over voltage protection	When the battery voltage reaches the overvoltage disconnection point, the PV and the mains will be automatically stopped to charge the battery to prevent the battery from being overcharged and damaged.
6	Battery low voltage protection	When the battery voltage reaches the low voltage disconnection point, the battery discharging will be automatically stopped to prevent the battery from being over-discharged and damaged.
7	Load output short circuit	When a short-circuit fault occurs at the load output terminal, the AC output

	protection	is immediately turned off and turned on again after 1 second.
8	Heat sink over temperature protection	When the internal temperature is too high, the machine will stop charging and discharging; when the temperature returns to normal, charging and discharging will resume.
9	Overload protection	Output again 3 minutes after an overload protection, and turn the output off after 5 consecutive times of overload protection until the machine is re-powered. For the specific overload level and duration, refer to the technical parameters table in the manual.
10	PV reverse polarity protection	When the PV polarity is reversed, the machine will not be damaged.
11	AC reverse protection	Prevent battery inverter AC current from being reversely input to bypass.
12	Bypass over current protection	Built-in AC input overcurrent protection circuit breaker.
13	Battery input over current protection	When the discharge output current of the battery is greater than the maximum value and lasts for 1 minute, the AC input would switched to load.
14	Battery input protection	When the battery is reversely connected or the inverter is short-circuited, the battery input fuse in the inverter will blow out to prevent the battery from being damaged or causing a fire.
15	Charge short-circuit protection	When the external battery port is short-circuited in the PV or AC charging state, the inverter will protect and stop the output current.

7.5 Install The Cover Plate

When all wiring is complete and the system is operating normally, close the side cover.



8 System Maintenance

8.1 System Power-Off

After the system is powered off, the case still has residual power and heat, which may cause electric shocks or burns. Therefore, protective gloves should be worn before operating the energy storage 5 minutes after the system is powered off. Maintenance operations on energy storage should be performed only after ensuring that all indicator lights of the energy storage are off.

Power-off operation steps of the system:

Step 1 Turn off the breaker switch between the inverter and AC output (If installed).

Step 2 Turn off the breaker switch between the inverter unit and AC input(If installed).

Step 3 Turn off the breaker switch between the inverter unit and the PV string(If installed).

Step 4 Turn off the battery breaker switch, all LED indicators are off.

Step 5 Turn off button on all storage battery modules, the energy storage is powered off successfully.

8.2 Routine Maintenance

To ensure the long-term and good operation of the energy storage system, it is recommended to perform the routine maintenance as described in this section.

Items	Methods	Maintenance interval
System cleanliness	Check if the radiator is covered or dirt on a regular basis.	Once every six months to one year.
Running status of system	• Observe whether the energy storage appearance is damaged or deformed. • Listen to whether the energy storage has any abnormal sound during running. • When the energy storage is running, check whether the indicator of the energy storage battery is correct.	Once every six months.
Electrical connection	• Check if any cable connection is off or loose. • Check if any cable is damaged, and especially if there are cuts on the sheath where the cable contacts with the metal surface. • Check if the unused DC input terminals, energy storage terminals, COM ports, and covers are locked.	Half a year after first debugging and testing, and once every six months to one year thereafter.
Grounding reliability	Check if the grounding cable is grounded reliably.	Half a year after first debugging and testing, and once every six months to one year thereafter.

8.3 Troubleshooting

8.3.1 Fault Code and Handling Methods

Fault code	Fault name	Whether it affects the output or not	Description
【01】	BatVoltLow	No	Battery undervoltage alarm
【02】	BatOverCurrSw	Yes	Battery discharge average current overcurrent software protection
【03】	BatOpen	Yes	Battery not-connected alarm
【04】	BatLowEod	Yes	Battery undervoltage stop discharge alarm
【05】	BatOverCurrHw	Yes	Battery overcurrent hardware protection
【06】	BatOverVolt	Yes	Charging overvoltage protection
【07】	BusOverVoltHw	Yes	Bus overvoltage hardware protection
【08】	BusOverVoltSw	Yes	Bus overvoltage software protection
【09】	PvVoltHigh	No	PV overvoltage protection
【10】	PvBuckOCSw	No	Buck overcurrent software protection
【11】	PvBuckOCHw	No	Buck overcurrent hardware protection
【12】	bLineLoss	No	Mains power down
【13】	OverloadBypass	Yes	Bypass overload protection
【14】	OverloadInverter	Yes	Inverter overload protection
【15】	AcOverCurrHw	Yes	Inverter overcurrent hardware protection
【17】	InvShort	Yes	Inverter short circuit protection
【19】	OverTemperMppt	No	Buck heat sink over temperature protection
【20】	OverTemperInv	Yes	Inverter heat sink over temperature protection
【21】	FanFail	Yes	Fan failure
【22】	EEPROM	Yes	Memory failure
【23】	ModelNumErr	Yes	Model setting error
【26】	RlyShort	Yes	Inverted AC Output Backfills to Bypass AC Input
【29】	BusVoltLow	Yes	Internal battery boost circuit failure
【30】	BatSocLow1	No	Battery Soc < 10%
【31】	BatSocLow2	No	Battery Soc < 5%
【32】	BatSocLowStop	Yes	Battery Soc < 1%,Turn off the inverter
【44】	Serial number error	Yes	If the serial number is not set by omission in production, please contact the manufacturer to set it
【58】	BMS communication error	No	Check whether the communication line is connected correctly and whether [33] is set

			to the corresponding lithium battery communication protocol
【59】	BMS alarm	No	Check the BMS fault type and troubleshoot battery problems
【60】	BmsBatTempLow	No	Battery low temperature warning
【61】	BmsBatTempHigh	No	Battery high temperature warning
【62】	BmsBatOverCurr	No	Battery over current warning
【63】	BmsBatVoltLow	No	Battery low voltage warning
【64】	BmsBatFullCharge	No	The battery is fully charged, and if the fault indicator lights up at the same time, the battery overvoltage warning.

8.3.2 Common Faults and Handling Methods

Fault code	Fault	Measures
Display	No display on the screen	Check if the battery air switch or the PV air switch has been closed; if the switch is in the "ON" state; press any button on the screen to exit the screen sleep mode.
【06】	Battery overvoltage protection	Measure if the battery voltage exceeds rated, and turn off the PV array air switch and mains air switch.
【01】 【04】	Battery undervoltage protection	Charge the battery until it returns to the low voltage disconnection recovery voltage.
【30】 【31】 【32】 【63】	Battery low capacity alarm	Charge the battery until it returns to the recovery capacity.
【21】	Fan failure	Check if the fan is not turning or blocked by foreign object.
【19】 【20】	Heat sink over temperature protection	When the temperature of the device is cooled below the recovery temperature, normal charge and discharge control is resumed.
【13】 【14】	Bypass overload protection, Inverter overload protection	① Reduce the use of power equipment; ② Restart the unit to resume load output.
【17】	Inverter short-circuit protection	① Check the load connection carefully and clear the short-circuit fault points; ② Re-power up to resume load output.
【09】	PV over-voltage	Use a multimeter to check if the PV input voltage exceeds the maximum allowable input voltage rated.
【03】	Battery disconnected alarm	Check if the battery is not connected or if the battery circuit-breaker

		is not closed.
【26】	Inverted AC output backfills to bypass AC input	Disconnect the AC input, PV input and battery input. After the screen is off, only connect the battery and start up. If fault 26 is reported, it indicates that the AC input relay switch is short-circuited, and you need to contact the manufacturer to replace it.

8.4 Battery Storage and Maintenance

8.4.1 Battery Storage Requirements

Do not put the battery into fire. The battery may explode.
Do not open or damage the battery. The electrolyte flowing out from the battery is harmful to the skin and eyes. The electrolyte may also be toxic;

1. When being stored, the batteries shall be placed correctly in accordance with the marks on the packing case. Do not put them upside down or on the side.
2. When stacking up the battery packing cases, the stacking requirements on the outer package shall be met.
3. The batteries should be handled with care, and damage to batteries should be strictly prohibited.
4. Requirements for the storage environment:

– Ambient temperature: -10℃ to 55 ℃, recommended storage temperature: 20℃ to 30℃.
– Relative humidity: 5%RH-80%RH.
– Dry, well ventilated, and clean.
– The corrosive organic solvents, gases and other substances shall be kept away.
– Exposing to direct sunlight shall be avoided.
– The distance from the heat source should not be less than two meters.

5. When being stored, the battery shall be disconnected from the external connection. If there is an indicator light on the battery panel, the indicator light shall be off.
6. When the stored batteries are going to be delivered, the first-in first-out principle should be followed.
7. After the battery is produced and tested, it shall be recharged to at least 50% SOC before being stored. If the device will not be used for a long period of time, discharge the battery to 45% to 60% of the battery capacity and disconnect the battery output to avoid the battery runs out;
8. Do not touch the battery pack with wet hands.
9. Do not squeeze, drop, or pierce the battery.
10. The battery should always be disposed in accordance with local safety regulations.
11. The battery should be stored and recharged in accordance with this User's Manual.
12. Do not reverse polarity of the battery when storing or transporting the batteries, the batteries shall not be stacked up without protective packaging, and the number of stacked packed batteries should not exceed the number specified on the packaging.

13. All operators of the energy storage system shall comply with the user manual, installation and service manual, and quality assurance requirements. Any damage to the device resulting from neglecting or misreading of the user's manual, installation and service manual, and the quality assurance requirements will invalidate the product warranty.

8.4.2 Requirements for Charging of Battery

The batteries to be stored for a long period of time (unused, for more than 3 months) must be kept in a dry and cool place. The storage voltage is 51V-53V. The batteries should be stored in a clean environment of 23± 2℃ and humidity of 45%-75%. If the battery will be shelved and not used for a long period of time, it should be recharged every 3 months to ensure that the battery voltage is within the above range.

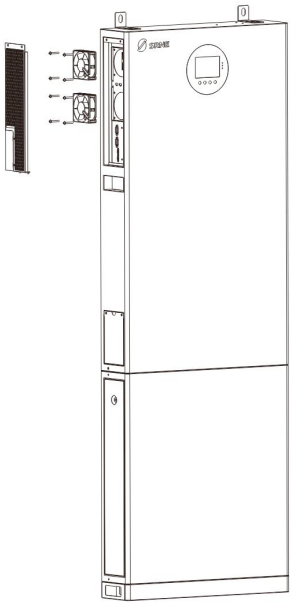
As for batteries and long-term storage, routine maintenance is required. Please charge the battery to 40% SOC at a current of 0.2C according to the requirements in the table below.

Ambient temperature for storage	Relative humidity for storage environment	Storage Time	SOC
<-10℃	/	Prohibited	/
-10~25℃	5%~70%	≤12 months	30%≤SOC≤60%
25~35℃		≤6 months	
35~45℃		≤3 months	
>45℃	/	Prohibited	/

8.5 Device Cleaning

It is recommended to clean and maintain the product from time to time. When cleaning, the dust and stains on the product shall be removed with a piece of soft dry cloth or vacuum cleaner, especially when cleaning the heat dissipation and air vents on both sides of the product. The product shall not be cleaned with organic solvents, corrosive liquids and other cleaning products.

If the fan fails, it can be replaced by a professional.



9 Technical Data

9.1 All-in-one Module Data

Product model	SR-EOT03S-220	SR-EOT05S-220	SR-EOT05S-110
Inverter Output			
Rated Output Power	3,500W	5,000W	
Max.Peak Power	6,000VA	10,000VA	
Load Capacity of Motor	2HP	4HP	
Rated Output Voltage	230Vac		120Vac
Waveform	Pure Sine Wave		
Power Factor	1		
Frequency	50/60Hz		
Auto Switch Period	< 10ms (typical)		
THD	3%		
Battery			
Battery Type	LiFePO4		
Battery Energy	5.12kWh		
Battery Capacity	100AH		
Battery Rated Voltage	51.2V		
Battery Working Voltage Range	44.8 ~ 57.6V		
Standard Charge/Discharge current	50A		
Max. Charge/Discharge Current	100A		
Cycling Lifespan	6000 (80%DOD,0.5C,25°C)		
Max. Parallel Capacity	/	2 units (up to 10kW)	
PV Charge			
Solar Charge Type	MPPT		
Max. Output Power	3,200W	5,500W	
Max. input Current	40A	22A	
Max. MPPT Charging Current	60A	100A	
Max. Voltage of Open Circuit	145V	500V	
MPPT Voltage Range	60~115Vdc	120~450Vdc	
AC Charge			
Max. AC Charge Power	3,150W		2100W

Max. AC Charging Current	60A		40A
Rated Input Voltage	220/230Vac		110/120Vac
Input Voltage Range	90 ~ 280Vac		90 ~ 140Vac
GRID/GENERATOR INPUT			
Input Voltage Range	90 ~ 280Vac		90 ~ 140Vac
Bypass Overload Current	30A	40A	63A
Efficiency			
MPPT Tracking Efficiency	99.9%		
General			
Protection Degree	IP20，Indoor Only		
Charging temperature range	0℃~45℃		
Noise	≤60dB		
Storage time / temperature	6 months @25℃;3 months @35℃;1 months @45℃		
Dimensions	972*555*130mm		
Weight	63.5Kg		
Cooling Method	Forced Air Cooling		
Certification			
Safety	MSDS,UN38.3,IEC61000-6:2019,NRS097,RoHS		

9.2 Extra Battery Module Data

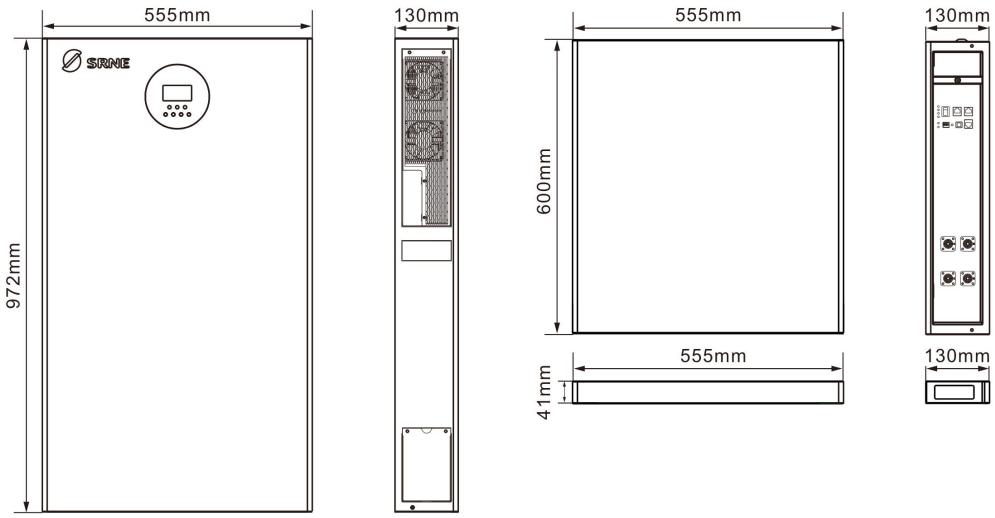
Product model	SR-EOV05B
Battery Type	LiFePO4
Battery Energy	5.12kWh
Battery Capacity	100AH
Battery Rated Voltage	51.2V
Battery Working Voltage Range	44.8 ~ 57.6V
Standard charge current	50A
Standard discharge current	50A
Maximum Charging Current	100A
Maximum Discharging Current	100A
DOD	80%
Parallel Quantity	3 units （up to 15.36kWh）
Designed Life-span	6000 (80%DOD,0.5C,25°C)

Operating Temperature	Charge : 0 ~ 45℃ Discharge : -10 ~ 45℃
Operation Humidity	5% ~ 85%
Nominal Operation Altitude	< 3000m
Ingress Protection Rating	IP20
Recommended Operation Environment	Indoor
Installation Method	Vertical
Gross Weight	50kg
Dimension	600*555*130mm

10 Product Dimensions and Packaging

10.1 Product Dimensions

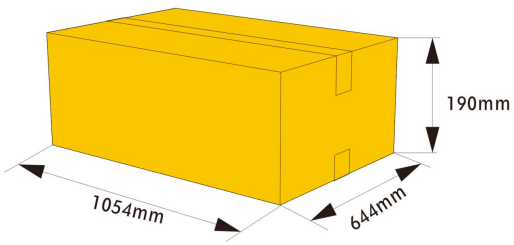
The external dimensions of the All-in-one module is 972*555*130mm,the external dimensions of the energy storage battery module is 600*555*130mm,the external dimensions of the base module is 41*555*130mm.



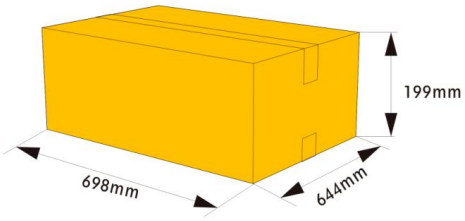
10.2 Package Dimensions

The package size of a single energy storage battery module is 644*698*199mm.

The package size of the All-in-one unit is 1054*644*190 mm.

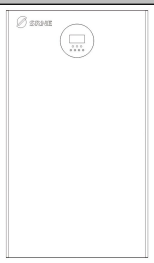
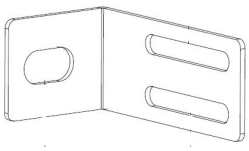
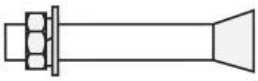
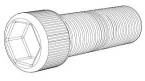
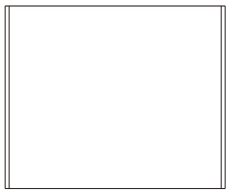
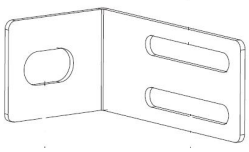


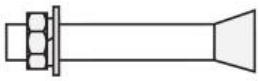
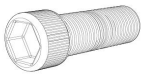
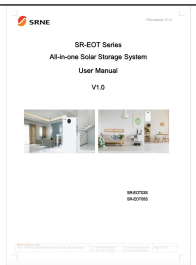
All-in-one machine



Energy storage battery

10.3 Packaging List

NO.	Picture	Item	Quantity	Specification	Source
1		All-in-one	1	3.5kW/5.0kWh or 5.0kW/5.0kWh	All-in-one Package
2		Base	1	41*555*130mm	All-in-one Package
3		Mounting Frame	2	80*44mm	All-in-one Package
4		Mounting Frame Screw	6	M8*60 expansion bolt	All-in-one Package
5		Mounting Frame	2	50*128*40mm	All-in-one Package
6		Screw	4	M5*12	All-in-one Package
7		Screw	4	M6*10	All-in-one Package
8		Fixing screw	2	M6*35	All-in-one Package
9		Battery	1	5.12kWh/51.2V	Battery Package (Optional)
10		Mounting Frame	2	80*44mm	Battery Package (Optional)

11		Mounting Frame Screw	2	M8*60 expansion bolt	Battery Package (Optional)
12		Screw	4	M5*12	Battery Package (Optional)
13		Fixing screw	2	M6*35	Battery Package (Optional)
14		Power cable	1	560mm,4AWG or 1.5m,4AWG	(Optional)
15		Expand Capacity Signal cable	1	2.0m	(Optional)
16		Signal cable	1	700mm	Battery Package (Optional)
17		Parallel communication line	1	1.2m	All-in-one Package (Optional)
18		Current sharing detection line	1	1.2m	All-in-one Package (Optional)
19		User Manual	1		All-in-one Package

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Wiring diagram and circuit breaker