



EN

User Manual

STE-FS Li-HV System

sunways

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Before transporting, storing, installing, operating, using, and/or maintaining the equipment, read this document, strictly follow the instructions provided herein, and follow all the safety instructions on the equipment and in this document. The Danger, Warning, Caution, and Notice statements described in this document do not cover all the safety precautions. You also need to comply with relevant international, national, or regional standards and industry practices. The Company shall not be liable for any consequences that may arise due to violations of safety requirements or safety standards concerning the design, production, and usage of the equipment.

The equipment should be used in an environment that meets the design specifications. Otherwise, the equipment may be faulty, malfunctioning, or damaged, which is not covered under the warranty. The Company shall not be liable for any property loss, personal injury, or even death caused thereby.

» 1 Preface

※ 1.1 Overview

This manual is an integral part of Sunways STE-FS series LFP battery system (hereinafter referred to as the battery or STE-FS battery). It mainly introduces the assembly, installation, electrical connection, debugging, maintenance and troubleshooting of the products. Before installing and using battery, please read this manual carefully, understand the safety information and be familiar with the functions and characteristics of hybrid battery.

※ 1.2 Target Groups

This manual is applicable to the electrical installers with professional qualifications and end-users. If there are any problems in the installation process, please call Sunways service telephone at +86 400-9922-958 or email Sunways at service@sunways-tech.com for consultation.

» 2 Safety Instructions

※ 2.1 Safety Notes

Before installation, please read this manual and warning labels on battery carefully and follow the instructions in this manual strictly.

※ 2.2 Important Safety Matters

SAVE THESE IMPORTANT SAFETY INSTRUCTIONS.

STE-FS stackable Li-HV system installation and repair instructions assume knowledge of high voltage electricity and should only be performed by Sunways certified installers. Sunways assumes no liability for injury or property damage due to repairs attempted by unqualified individuals or a failure to properly follow these instructions. These warnings and cautions must be followed when using our product.

 Warning	Read this entire document before installing or using STE-FS stackable Li-HV system. Failure to do so or to follow any of the instructions or warnings in this document can result in electrical shock, serious injury, or death, or can damage STE-FS stackable Li-HV system, potentially rendering it inoperable.
 Warning	A battery can present a risk of electrical shock, fire, or explosion from vented gases. Observe proper precautions.
 Warning	STE-FS stackable Li-HV storage system installation must be carried out only by Sunways Certified Installers, who have been trained in dealing with high voltage electricity.
 Warning	The product is heavy and challenging to lift.

 Warning	Use STE-FS Battery only as directed.
 Warning	Do not use STE-FS Battery if it is defective, appears cracked, broken, or otherwise damaged, or fails to operate.
 Warning	Do not use STE-FS Battery if it is defective, appears cracked, broken, or otherwise damaged, or fails to operate.
 Warning	Do not attempt to open, disassemble, repair, tamper with, or modify STE-FS Battery. STE-FS Battery is not user serviceable. LFP Cells in STE-FS Battery are not replaceable. Contact the STE-FS Authorized Reseller who sold the STE-FS Battery for any repairs.
 Warning	Do not connect STE-FS Battery to alternating current carrying conductors. STE-FS storage system including battery and battery must be wired to either a battery or a DC combiner panel that is then wired to an inverter. No other wiring configuration may be used.
 Warning	STE-FS Battery contains components, such as switches and relays, that can produce arcs or sparks.
 Warning	To protect STE-FS Battery and its components from damage when transporting, handle with care. Do not impact, pull, drag, or step on STE-FS Battery. Do not subject STE-FS Battery to any strong force. To prevent damage, leave STE-FS Battery in its shipping packaging until it is ready to be installed.
 Warning	Do not insert foreign objects into any part of STE-FS Battery.

 Warning	Do not expose STE-FS Battery or its components to direct flame.
 Warning	Do not install STE-FS Battery near heating equipment.
 Warning	Do not immerse STE-FS Battery or its components in water or other fluids.
 Caution	Do not use cleaning solvents to clean STE-FS Battery, or expose STE-FS Battery to flammable or harsh chemicals or vapors.
 Caution	Do not use fluids, parts, or accessories other than those specified in this manual, including use of non-genuine STE-FS parts or accessories, or parts or accessories not purchased directly from STE-FS or a STE-FS -certified party.
 Caution	Do not place STE-FS Battery in a storage condition for more than one (1) month, or permit the electrical feed on the STE-FS Battery to be severed for more than one (1) month, without placing STE-FS Battery into a storage condition in accordance with STE-FS' s storage specifications.
 Caution	Do not paint any part of STE-FS Battery, including any internal or external components such as the exterior shell or casing.
 Caution	Do not connect STE-FS Battery directly to photovoltaic (PV) solar wiring.

 Caution	When installing STE-FS Battery in a garage or near vehicles, keep it out of the driving path. If possible, install the STE-FS Battery on a side wall and/or above the height of vehicle bumpers.
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※ 2.3 Environmental Conditions

 Warning	Install STE-FS Battery at a height that prevents damage from flooding.
 Warning	Operating or storing STE-FS Battery in temperatures outside its specified range might cause damage to STE-FS Battery.
 Warning	Do not expose the STE-FS Battery to ambient temperatures above 45°C (113°F) or below 0°C (32°F).
 Caution	Ensure that no water sources are above or near STE-FS Battery, including downspouts, sprinklers, or faucets.

※ 2.4 Statement

Sunways Technologies Co.,Ltd. has the right not to undertake quality assurance in any of the following circumstances:

- ① Damages caused by improper transportation.
- ② Damages caused by incorrect storage, installation or use.

- ③ Damages caused by installation and use of equipment by non-professionals or untrained personnel.
- ④ Damages caused by failure to comply with the instructions and safety warnings in this document.
- ⑤ Damages of running in an environment that does not meet the requirements stated in this document.
- ⑥ Damages caused by operation beyond the parameters specified in applicable technical specifications.
- ⑦ Damages caused by unauthorized disassembly, alteration of products or modification of software codes.
- ⑧ Damages caused by abnormal natural environment (force majeure, such as lightning, earthquake, fire, storm, etc.).
- ⑨ Any damages caused by the process of installation and operation which don't follow the local standards and regulations.
- ⑩ Products beyond the warranty period.

※ 2.5 Symbol on the Battery Label

Sunways Technologies Co.,Ltd. has the right not to undertake quality assurance in any of the following circumstances:

- ① Damages caused by improper transportation.
- ② Damages caused by incorrect storage, installation or use.

Symbol	Description
	Do not sit or put things on battery.
	Do not disconnect or disassemble by non-professional personnel.

	Do not place near open flame or flammable material.
	Do not place at a children's or pet's reach area.
	Electric shock hazard, live parts, risk of electric shock, do not touch.
	If fire, switch off the breaker on DC side and stay away from battery.
	Please read the instructions carefully before installation.
	The battery cannot be disposed of with household waste.

※ 2.6 Symbol on the Packing Box

Symbol	Description
	Handle with care.
	This side up.
	Keep dry.
	Stacked layers.

» 3 Product Description

※ 3.1 Basic Features

▼ 3.1.1 Function

The STE-FS series is a stackable mounted energy storage battery.

▼ 3.1.2 Models

The STE-FS series battery includes 9 models which are listed below:

STE-FS10, STE-FS20, STE-FS30, STE-FS40, STE-FS50

» 4 Battery Introduction

※ 4.1 Appearance Introduction

▼ 4.1.1 Control Module

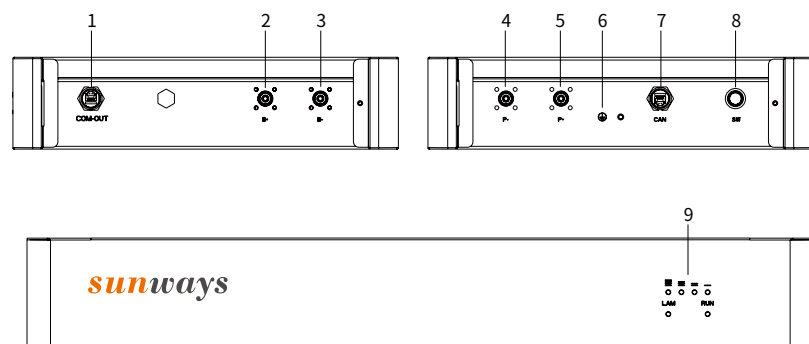


Figure 4-1 Control module

Item	Terminal	Note
1	COM-OUT	COM cable port (BCU to BAT)
2	B+	Power+ (BCU to BAT)
3	B-	Power- (BCU to BAT)
4	P-	Power - (BCU to PCS)
5	P+	Power + (BCU to PCS)
6		Grounding Point
7	CAN	CAN COM cable port (BCU to PCS)
8	SW	Switch on/off the battery system
9	LED	Indicates the battery system status, running green light, warning red light, SOC blue light

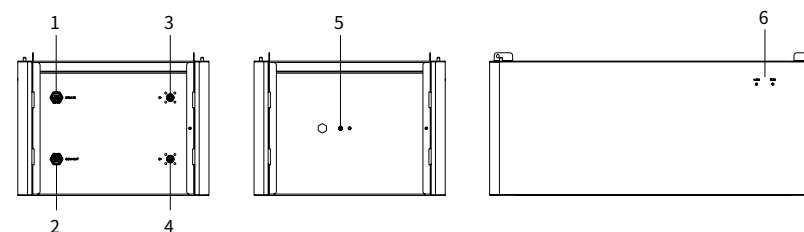


Figure 4-2 Battery Module

Item	Terminal	Note
1	COM-IN	COM cable port (BCU to BAT, BAT to BAT)
2	COM-OUT	COM cable port (BCU to BAT, BAT to BAT)
3	B-	Power - (BCU to BAT, BAT to BAT)
4	B+	Power + (BCU to BAT, BAT to BAT)
5		Grounding Point
6	LED	Indicates the battery system status, running green light, warning red light

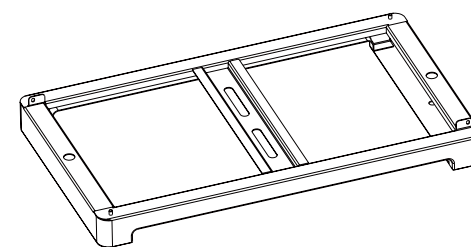


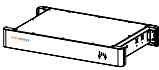
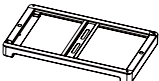
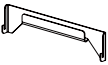
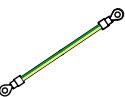
Figure 4-3 Base

※ 4.2 Packing List

The package of the battery includes the following accessories. Please check whether the accessories in the packing box are complete when receiving the goods.

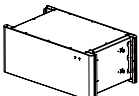
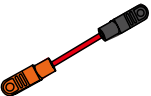
The following items are required for BCU installation and ALL of them are included in the BCU carton.

▼ Battery Control Unit

		
Battery Control Unit x 1	Base x 1	Panel x 2
		
Lifting Handle x 2	Locking Bracket x 2	Positive Power Cable x 1 (BCU-PCS)
		
Negative Power Cable x 1 (BCU-PCS)	COM Cable x 1 (BCU-PCS)	Ground Cable x 1 (BCU-Electric Box)
		
Positive Power Cable x 1 (BCU-BAT)	Negative Power Cable x 1 (BCU-BAT)	COM Cable x 1 (BCU-BAT)
		
Ground Cable x 1 (BCU-BAT)	M8 Expansion Bolt x 4	M5 Screw x 5
		
M4 Screw x 2	User Manual x 1	

The following items are required for Battery Module Installation and cables & screws are packed in the BCU carton.

▼ Battery Control Unit

		
Battery Module x 1	Panel x 2	Power Cable x 1 (BAT-BAT)
		
COM Cable x 1 (BAT-BAT)	Ground Cable x 1 (BAT-BAT)	M4 Screw x 2
		
M5 Screw x 3		

» 5 Installation

※ 5.1 Installation Location and Clearance

Installation Location Requirements:

- ① There must be no highly flammable or explosive materials nearby.
- ② The ambient temperature should be within the range of -4° F to 122° F (-20° C to 50° C).
- ③ The battery module must be installed on flat leveled ground that can support its weight.
- ④ Product shall be installed indoors (ex. in a basement or a garage) or outdoors under an eave can out of direct sunlight.

Recommendations:

- ① The building should be designed to withstand earthquakes.
- ② The area should be waterproof and properly ventilated. (IP65)
- ③ The product should be installed out of reach of children and animals.



Warning

If the ambient temperature is outside operating range, the battery module will stop operating to protect itself. The optimal temperature range for the battery module to operate is from 59°F to 86°F (15°C to 30°C). Frequent exposure to harsh temperatures may deteriorate the performance and life of the battery module.

Clearance:

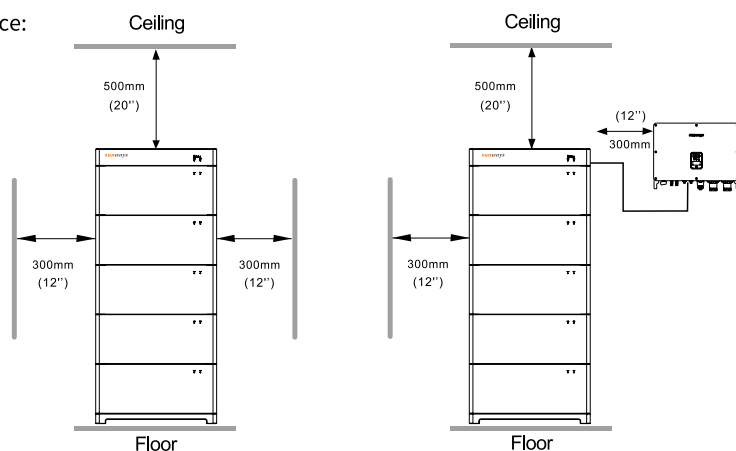


Figure 5-1

Clearance:

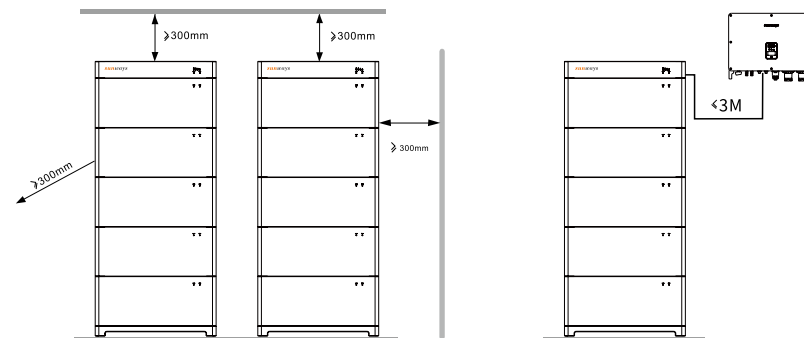


Figure 5-2

※ 5.2 Mounting

Install the battery system through the following steps:

Step 1:

- 1) Align the installation base with the wall and keep 20mm to 50mm away from the brick wall, or 150mm away from the wooden wall.
- 2) Mark the drilling hole positions using a marker on the floor.
- 3) Then drill the hole and install the base with M8 expansion bolts.
- 4) Hole diameter 12mm and depth 60mm. Fix the M8 Expansion bolts, tightening torque: 20N.m.

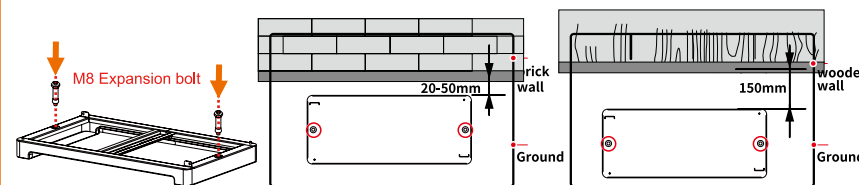


Figure 5-3

Step 2:

Place the first battery module on the base and tighten the 2pcs screws.

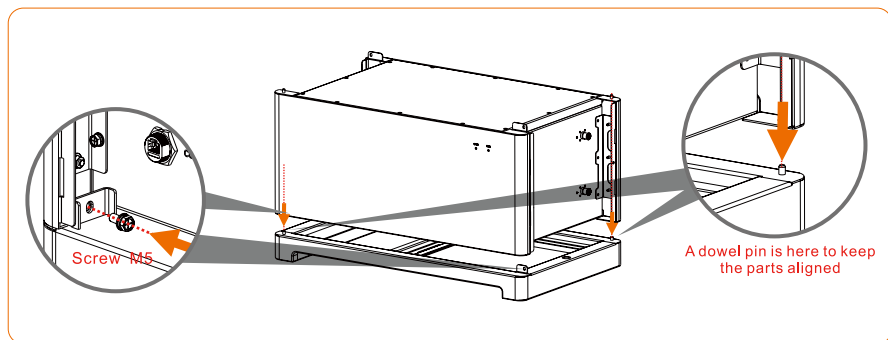


Figure 5-4

Step 3:

Install the second battery expansion module, the third battery expansion module, and the fourth, and the fifth, and BCU from bottom to top.

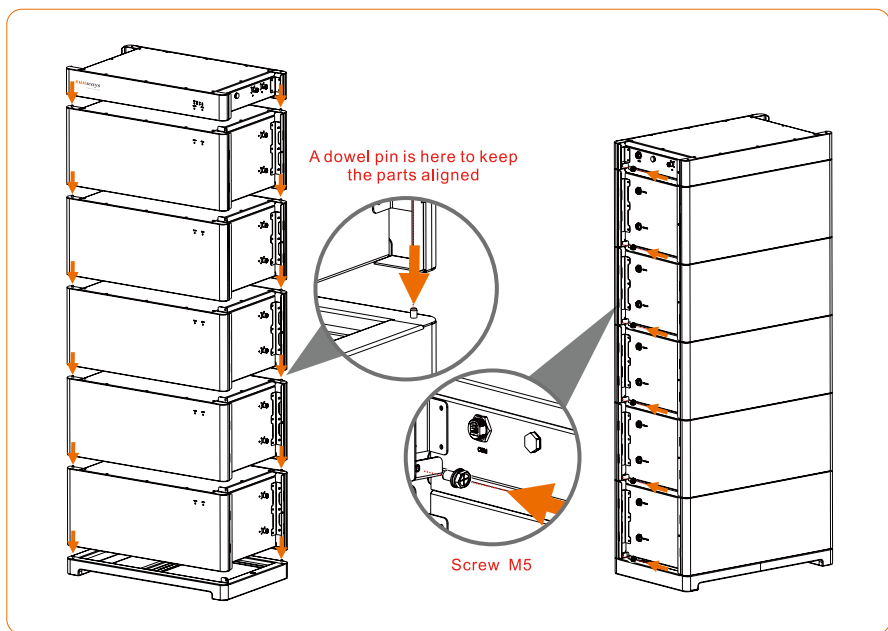


Figure e 5-5

Step 4:

- 1) Screw the Locking Bracket right & left on the BCU fixed to the wall with bolts.
- 2) Mark the drilling hole positions using a marker on the wall.
- 3) Then drill the hole and install the base with M8 expansion bolts.
- 4) Hole diameter 12mm and depth 60mm. Fix the M8 Expansion bolts, tightening torque: 20N.m.

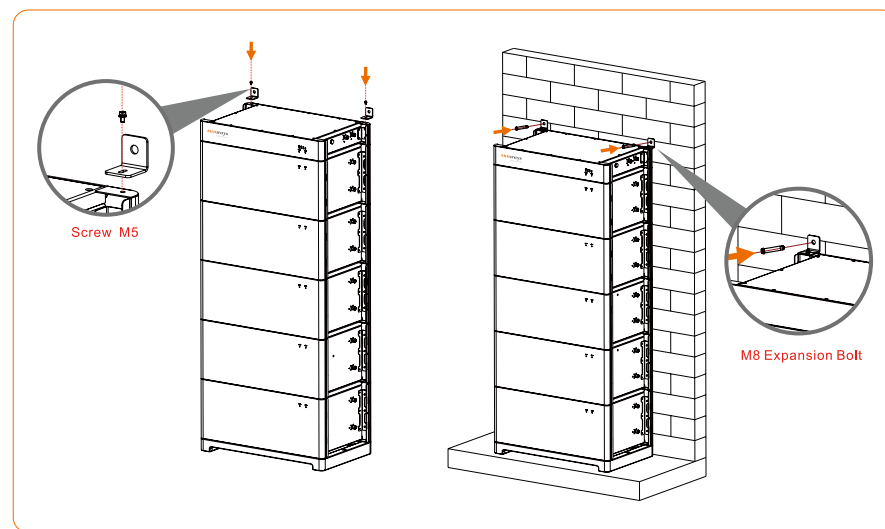


Figure 5-6

※ 5.3 Cable Connection

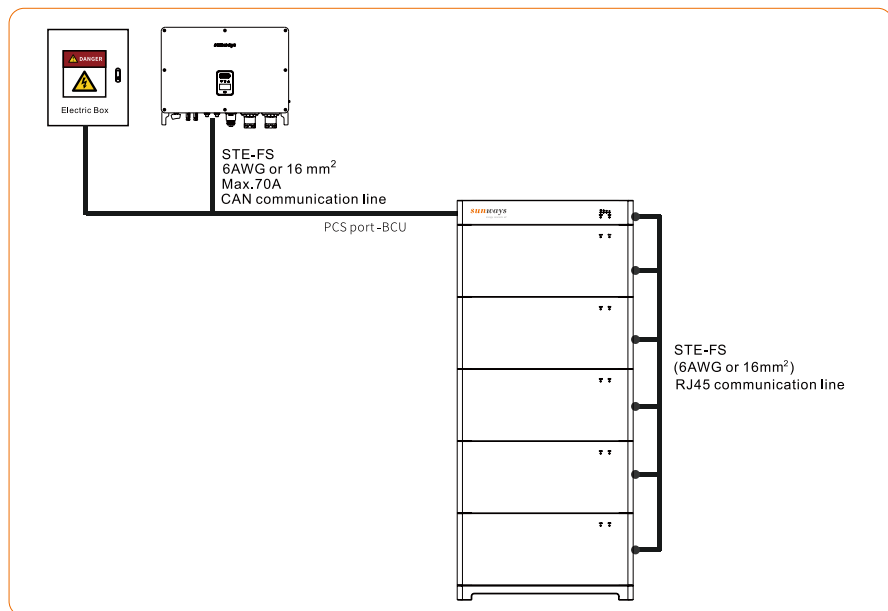


Figure 5-7

① Installing an Internal Grounding

Please ensure the ground point of the battery module to the battery module point. Otherwise, electric shocks may occur.

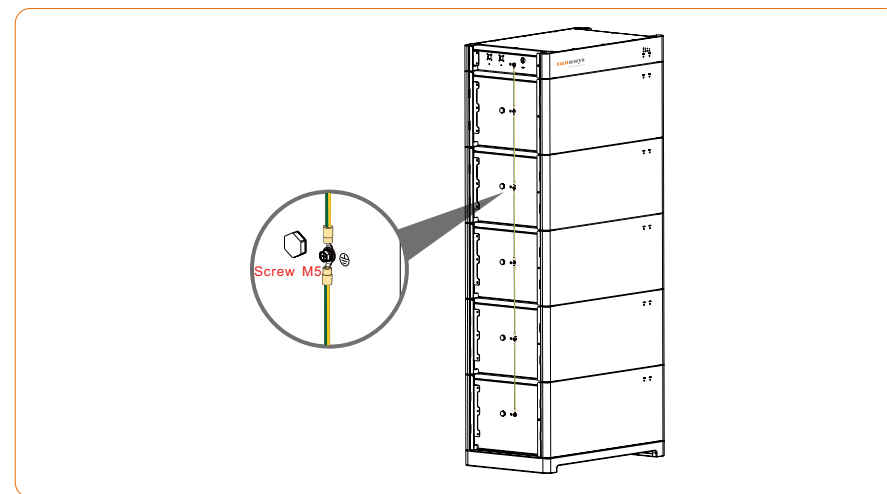


Figure 5-9

② Installing Internal DC Power Cables

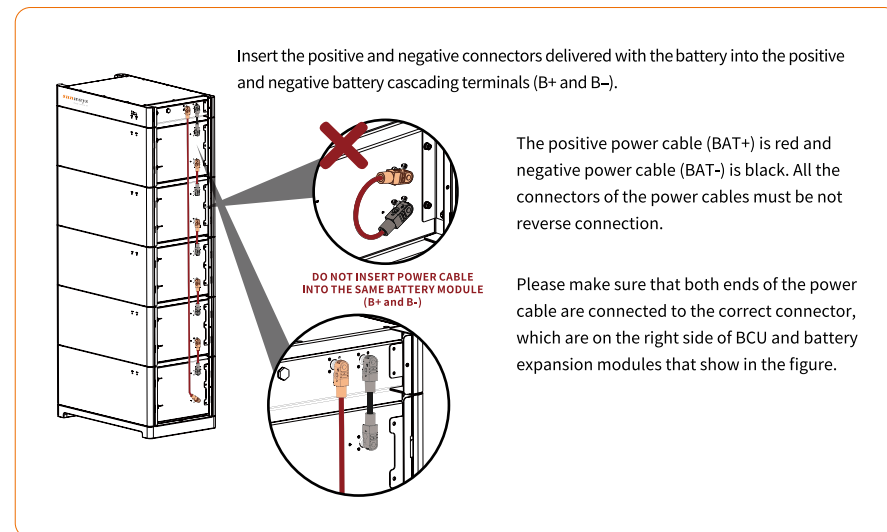


Figure 5-10

▼ 5.3.1 Internal Electrical Connections of the Battery System

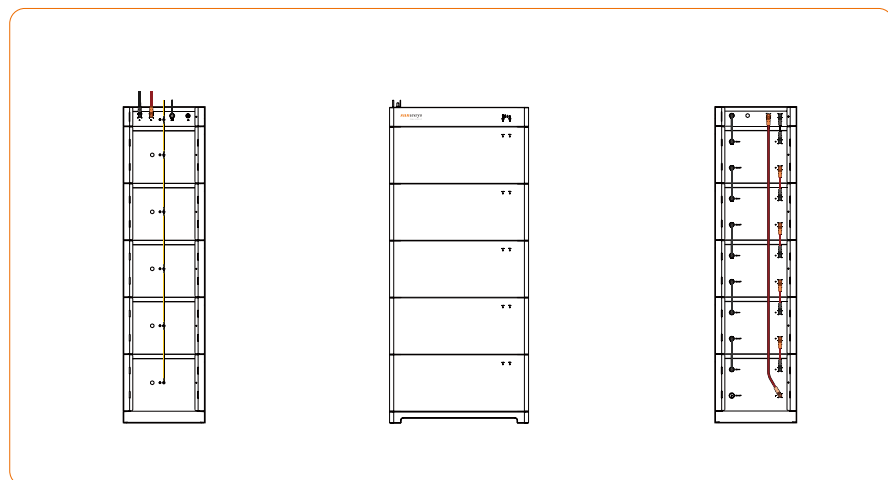


Figure 5-8

③ Installing Internal Signal Cables

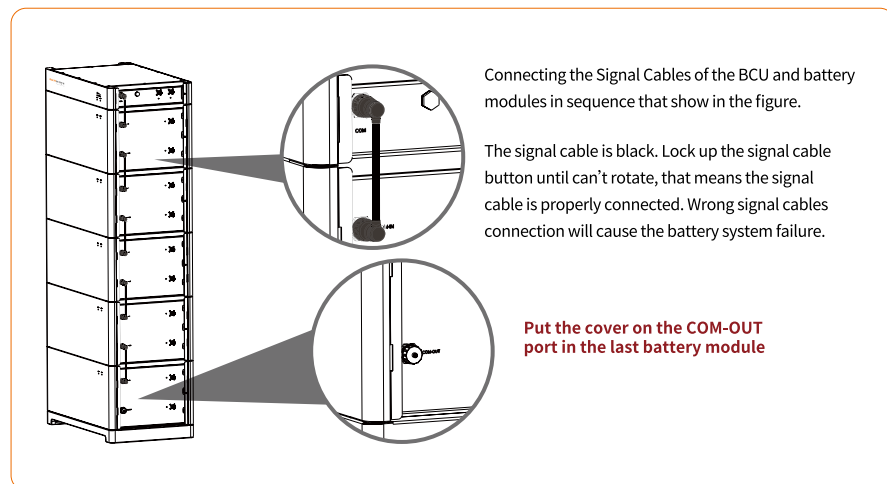


Figure 5-11

① Installing an external Grounding

Connect the ground point (⊕) of the cabinet to the external Electric Box. Otherwise, electric shocks may occur.

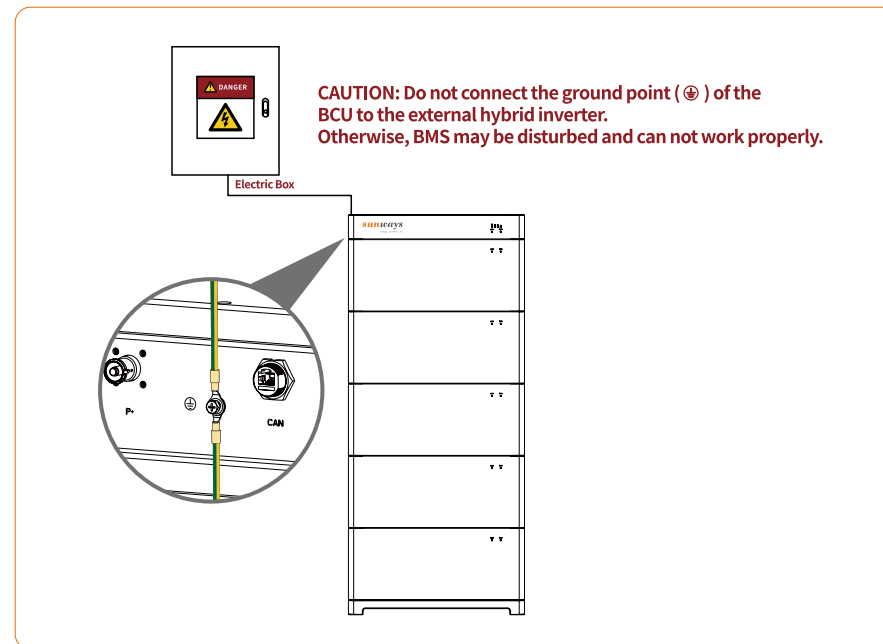


Figure 5-13

▼ 5.3.2 External Electrical Connection of the Battery System

Route all the external cables through the left side of BCU

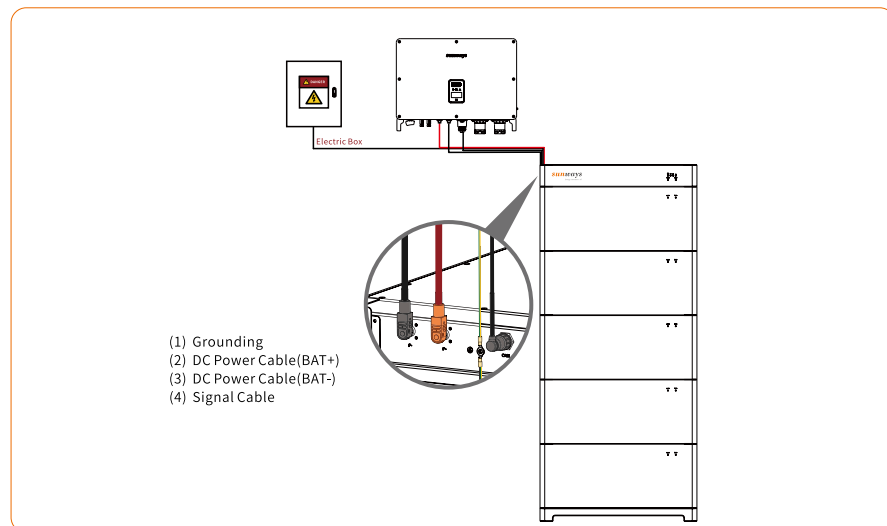


Figure 5-12

② Installing external DC Power Cables

Insert the positive and negative battery connectors into the corresponding DC input terminals

(P+ and P-)

The positive power cable (BAT+) is red and negative power cable (BAT-) is black. Before assembling

DC connectors, label the cable polarities correctly to ensure correct cable connections

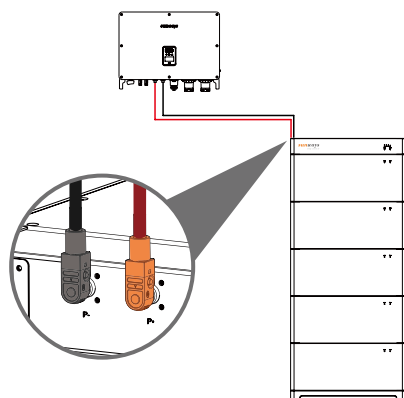


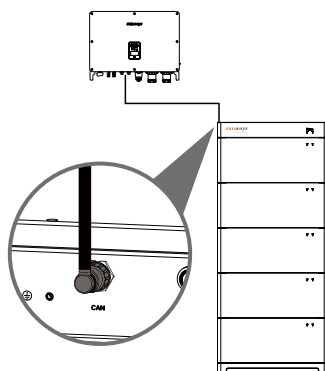
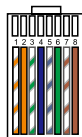
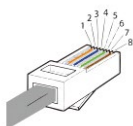
Figure 5-14

③ Installing external Signal Cable

Connecting the Signal Cable between the BCU and the Inverter when laying out a signal cable, separate it from power cables and keep it away from strong interference sources to prevent communication interruption.

The wiring order of the signal cable is as follows:

- 1) White with an orange stripe
- 2) Orange
- 3) White with a green stripe
- 4) Blue
- 5) White with a blue stripe
- 6) Green
- 7) White with a brown stripe
- 8) Brown



Sequence	1	2	3	4	5	6	7	8
CAN	NC	NC	NC	CAN_H	CAN_L	NC	NC	NC

Figure 5-15

④ Screw the Left & Right Panel

After check that cables are correctly and securely connected, screw the left & right panel.

Note: As next step commissioning needs the door open, please screw the panel after normal running.

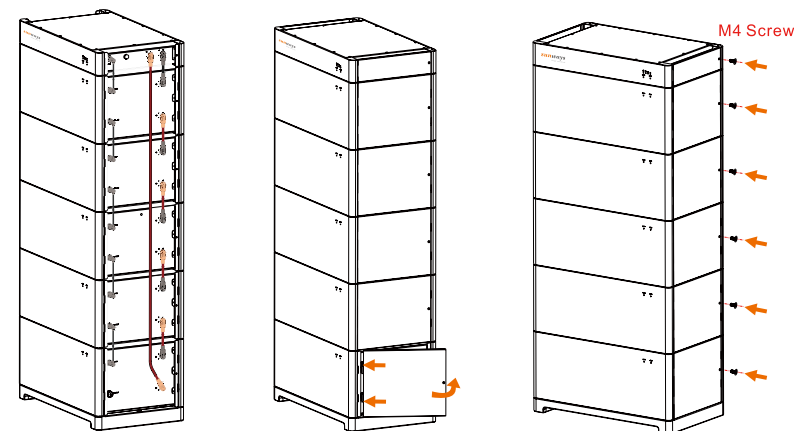


Figure 5-16

» 6 System Commissioning

※ 6.1 Inspection before Power On

Table Check items and acceptance standard

No.	Check Item	Acceptance
1	Installation	The installation is correct and reliable.
2	Grounding	The GD cable is connected correctly, securely and reliably.
3	Cable connection	The DC power cables, signal cables and ground cables are connected correctly, securely, and reliably.
4	Installation environment	The installation space is proper, and the installation environment is clean and tidy.

※ 6.2 Svsstem Power On

Power on the system through the following steps:

- ① Press the Switch button (SW) on equipment.
- ② The green running LED is normal ON.
- ③ If it is failed to switch on the system, check if all the electrical connection is correct.
- ④ If the electrical connection is correct, but the system is still unable to switch on, contact our after-sale service within 48 hours.

※ 6.3 LED Indicators

▼ 6.3.1 Normal State

LED Indicator	SoCIndicator	Description
Working: Green light blinking for 1s		SOC=0%
		0% < SOC < 25%
		25% ≤ SOC < 50%
		50% ≤ SOC < 75%
		75% ≤ SOC < 100%

▼ 6.3.2 Faulty

LED Indicator	Faulty	Description
Green light blinking for 1s Red light on	Over voltage	Green light is blinking for 1s, red light on
	Over current	Green light is blinking for 1s, red light on, SOC the third light on
	Under voltage	Green light is blinking for 1s, red light on, SOC the first light on
	Overtemperature	Green light is blinking for 1s, red light on, SOC the second light on

※ 6.4 Power off

Power off the system through the following steps:

- ① Turn off the inverter.
- ② Press the Switch button (SW) to be OFF.
- ③ Make sure that LED indicators are OFF and the system will shut down completely.
- ④ Disconnect all the system wiring.



Warning

After the system powers off, the remaining electricity and heat may still cause electric shocks and body burns. Therefore, wear protective gloves 5 minutes after the system is powered off before performing any operation on the system.

» 7 System Maintenance

※ 7.1 Routine Maintenance

To ensure that the system can operate properly for a long term, it is recommended to perform routine maintenance according to the description in this chapter.



Caution

Before cleaning the system, connecting cables, and ensuring the grounding reliability, power off the system.

Check Item	Check Method	Maintenance Period
Appearance Status	Check that the battery module is not damaged or deformed	Once every 6 months
System Running status	Check that the battery module does not generate abnormal sound when it is in operation	Once every 6 months
Electrical Connection	Check that cables are secured and intact, in particular, the parts touching the metallic surface are not scratched	The first inspection is 6 months after the initial commissioning. From then on, the interval can be 6 to 12 months.
Ground reliability	Check that ground cables are securely connected	The first inspection is 6 months after the initial commissioning. From then on, the interval can be 6 to 12 months

※ 7.2 Troubleshooting

Common alarms find troubleshooting measures as follows:

No.	Warning Messages	Description	Troubleshooting
1	Over voltage	SOC light off, red light on and green light is blinking for 1s	Please contact your dealer or technical support.
2	Under voltage	SOC the fourth light on, red light on and green light is blinking for 1s	Please contact your dealer or technical support.
3	Over temperature	SOC the third light on, red light on and green light is blinking for 1s	Wait till the temperature of cell go back to the normal state.
4	Under temperature	SOC the fourth/third light on, red light on and green light is blinking for 1s	Wait till the temperature of cell go back to the normal state.
5	Over current	SOC the second light on, red light on and green light is blinking for 1s	Please contact your dealer or technical support.
6	PCB over temperature	SOC the second/fourth light on, red light on and green light is blinking for 1s	Wait till the temperature of cell go back to the normal state.
7	Precharge error	SOC the second/third light on, red light on and green light is blinking for 1s	Please contact your dealer or technical support.
8	Relay error	SOC the second/third/fourth light on, red light on and green light is blinking for 1s	Please contact your dealer or technical support.
9	Self-test failure	SOC the first light on, red light on and green light is blinking for 1s	Please contact your dealer or technical support.

» 8 What to Do in Case of an Emergency

In the event of any threat to health or safety, always begin with these two steps before addressing the other suggestions below:

- ① Immediately contact the fire department or other relevant emergency response team.
- ② Notify all people who might be affected and ensure that they can evacuate the area.



Warning

Only perform the suggested actions below if it is safe to do so.

※ 8.1 In case of a fire:

The battery module may catch fire when heated about 150°C.

- ① Press the Switch button (SW) to be OFF.
- ② Turn off the breaker to the inverter.
- ③ Acceptable fire extinguisher types are CO2 and ABC.

※ 8.2 In case of flooding:

- ① Stay out of the water if any part of the battery module or any wiring is submerged.
- ② Press the Switch button (SW) to be OFF.
- ③ Turn off the breaker to the inverter.
- ④ If possible, protect the system by finding and stopping the source of the water, and pumping water away.
- ⑤ Let the area dry completely before use

※ 8.3 In case of unusual noises:

- ① Press the Switch button (SW) to be OFF.
- ② Turn off the breaker to the inverter.

- ③ Ensure that nothing is inside the case, then restart it and if still making unusual noises, please contact your dealer or technical support.

※ 8.4 In case of unusual smell or smoke:

- ① Please ensure your safety first, then contact your dealer or fire department based on the actual situation to move to the next step.
- ② Press the Switch button (SW) to be OFF.
- ③ Turn off the breaker to the inverter.
- ④ Ensure nothing is in contact with the battery system.

» 9 Transportation Requirements

※ 9.1 Requirements

 Danger	Do not load or unload batteries in a rude way. Otherwise, the batteries may be short circuited or damaged (such as leakage and crack), catch fire, or explode.
 Caution	Move batteries in the required direction. They must not be placed upside down or tilted and must be protected against falling down, mechanical impact, rains, snows, and falling into water during transportation. Batteries must be transported separately. Do not transport a cabinet with batteries installed. If the cabinet needs to be transported or moved, remove the batteries first.
 Attention	Restart the battery only after removing the fault that impairs safety performance. Never arbitrarily replace any internal components For any maintenance support, please contact Sunways. Otherwise, Sunways shall not be held liable for any damage caused.
 Note	Servicing of the device in accordance with the manual should never be undertaken in the absence of proper tools, test equipment or the latest revision of the manual which has been clearly and thoroughly understood.

STE-BS battery passes the certificate of the UN38.3(UN38.3: section 38.3 of the seventh Revised Edition of the Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria). The batteries can be delivered to the site directly and transported by land and water.

When battery need to be transported, please follow bellow requirements strictly.

- 1) Choose sea or roads in good conditions for transportation as transportation by railway or air is not supported. Avoid tilt or jolt during transportation.
- 2) Maritime transport must comply with the International Maritime Dangerous.

Goods Code(IMDG Code).

3) Road transport must comply with the Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) or JT/T T617.

4) Before transportation, check that the battery package is intact and that there is no abnormal odor, leakage, smoke, or sign of burning. Otherwise, the batteries cannot be transported.

5) The packing case must be secured for transportation. Handle the case with care during loading, unloading, and transportation with moisture-proof measures in place.

6) Exercise caution when moving batteries to prevent bumping and ensure personal safety

7) Unless otherwise specified, dangerous goods cannot be mixed with goods containing food, medicine, animal feed, or their additives in the same vehicle or container.

8) Unless otherwise specified, when dangerous goods packages are loaded in the same vehicle or container as ordinary goods, they should be separated in either of the following ways:

- Use a spacer that is as high as the packages.
- Keep a distance of at least 0.8 m around

» 10 Battery Storage

※ 10.1 Storage Requirements

The STE-BS battery storage environment requirements are as follows :

- Ambient temperature: 18-25° C
- Relative humidity: less than 40%
- Dry, clean, and well-ventilated
- Away from corrosive organic solvents and gases
- Away from direct sunlight
- At least 2 meters away from heat sources

- 1) The batteries in storage must be disconnected from external devices. The indicators (if any) on the batteries must be off.
- 2) Ensure that the storage duration is updated after every charge.
- 3) The warehouse keeper should collect battery storage information every month and periodically report the battery inventory information. The batteries that have been stored overdue should be recharged in a timely manner.
- 4) Do not unpack batteries. Batteries should be recharged during storage by professionals as required, and they should be put back to their cartons after recharge.
- 5) If batteries have been stored overdue, promptly report the event to the person in charge.
- 6) Ensure that batteries are delivered based on the “first in, first out” rule.
- 7) Handle batteries with caution to avoid damage.
- 8) Inappropriate storage will cause the battery performance and service life may be affected. Sunways Technologies Co.,Ltd. has the right not to undertake quality assurance in irregular storage.



Warning

Ensure that batteries are stored indoors. Install batteries in a dry, clean, and ventilated environment that is free from sources of strong infrared or other radiations, organic solvents, corrosive gases, and conductive metal dust. Do not expose batteries to sunlight or water and keep them far away from sources of heat and ignition.



Warning

Risk of battery damage or personal injury due to incorrect service. Dispose of bulged, deformed, damaged, or leaking batteries irrespective of how long they have been stored.



Warning

Place batteries correctly according to the signs on the packing case during storage. Do not place batteries upside down, lay them on one side, or tilt them. Stack batteries in accordance with the stacking requirements on the packing cases.



Warning

Store batteries in a separate place. Do not store batteries together with other devices. Do not stack batteries too high. The site must be equipped with qualified fire suppression facilities, such as firefighting sands and fire extinguishers.



Caution

Batteries should be used soon after being deployed onsite. Batteries that have been stored for an extended period should be recharged periodically. Otherwise, they may be damaged.



Caution

Only trained and qualified personnel are allowed to recharge batteries. Wear insulated gloves and use dedicated insulated tools during the operation.



Caution

Observe onsite during recharge and handle any exceptions in a timely manner.



Caution

If a battery experiences an abnormality such as bulging or smoking during recharge, stop charging immediately and dispose of it.

※ 10.2 Storage Duration Overdue and Recharge

Do not store batteries for extended periods. Otherwise, the battery performance and service life may be affected.

. The total storage and transportation time of the battery packs cannot exceed six months (starting from manufacture date or the latest charge date).

If it exceeds six months, discharge the battery to 0% SOC and then charge to 50% SOC.

if it exceeds twelve months, discharge the battery to 0% SOC, then charge to 100% SOC and finally discharge to 50% SOC.

. Dispose of deformed, damaged, or leaking batteries directly irrespective of how long they have been stored.

» 11 Technical Parameters

Model	STE-FS10	STE-FS20	STE-FS30
Nominal Capacity (kWh)	10.24	10.24	30.72
Nominal Capacity (Ah)	100	100	100
Nominal Voltage (V)	102.4	102.4	307.2
Maximum Charge/Discharge Current (A)	70	70	70
Recommend Continuous Charge / Discharge Current (A)	50	50	50
Weight (kg)	105	105	283
Dimension[W*H*D](mm)	720*420*455	720*420*455	720*420*1045
Protection Degree	IP65		
Cycle Life	6,000 cycles @90% DOD		
Operating Temperature Range (°C)	0~50		
Storage Temperature (°C)	0~35		
Relative humidity	≤ 95%		
Altitude (m)	2000		
Internal Battery Module	STE-10240		
Module Connection	Series/Hard Connection with Positioner		
Installation Method	Stackable		
Module Number	1	2	3
Communication Protocol / Connector Type	CAN/RJ45		
Certification	CE/IEC62619/UN38.3		

Model	TE-FS40	STE-FS50
Nominal Capacity (kWh)	40.96	51.2
Nominal Capacity (Ah)	100	100
Nominal Voltage (V)	409.6	512
Maximum Charge/Discharge Current (A)	70	70
Recommend Continuous Charge / Discharge Current (A)	50	50
Weight (kg)	372	461
Dimension[W*H*D](mm)	720*420*1340	720*420*1635
Protection Degree	IP65	
Cycle Life	6,000 cycles @90% DOD	
Operating Temperature Range (°C)	0~50	
Storage Temperature (°C)	0~35	
Relative humidity	≤ 95%	
Altitude (m)	2000	
Internal Battery Module	STE-10240	
Module Connection	Series/Hard Connection with Positioner	
Installation Method	Stackable	
Module Number	4	5
Communication Protocol / Connector Type	CAN/RJ45	
Certification	CE/IEC62619/UN38.3	



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