User Manual

Hybrid Inverter

SSE-HL3-8K-P1EU Series

SSE-HL3K-P1EU
SSE-HL3K6-P1EU
SSE-HL4K-P1EU
SSE-HL4K6-P1EU
SSE-HL5K-P1EU
SSE-HL6K-P1EU
SSE-HL7K-P1EU
SSE-HL8K-P1EU

Please read this manual before use and follow its guidance.
Keep this manual for future reference.

CONTENTS

1. About This Manual

This manual provides essential information about the product, including installation, electrical connections, commissioning, troubleshooting, and maintenance. Please read this manual thoroughly before installing and operating the product. All installers and users should be familiar with the product's features, functions, and safety precautions. Note that this manual may be updated without prior notice. For more details about the product and to access the latest documents, visit https://www.soseninverter.com

1.1 Applicable Model

Model	Nominal Output Power	Nominal Output Voltage
SSE-HL3K-P1EU	3000W	230V a.c
SSE-HL3K6-P1EU	3600W	230V a.c
SSF-HL4K-P1EU	4000W	230V a.c
SSE-HL4K6-P1EU	4600W	230V a.c
SSE-HL5K-P1EU	5000W	230V a.c
SSE-HL6K-P1EU	6000W	230V a.c
SSE-HL7K-P1EU	7000W	230V a.c
SSE-HL8K-P1EU	8000W	230V a.c

1.2 Target Group

This manual is intended for qualified and knowledgeable electrical technical personnel who are responsible for hybrid inverter installation and commissioning in the energy storage system and electric system.

1.3 Symbol Definition

The following types of safety instructions and general information appear in this document as described below:

DANGER	WARNING	CAUTION	NOTICE
"Danger" indicates a hazardous situation with a high level of risk that, if not avoided, will result in death or serious injury.	"Warning" indicates a hazardous situation with a medium level of risk that, if not avoided, could result in death or serious injury.	"Caution" indicates a hazardous situation with a low level of risk that, if not avoided, could result in minor or moderate injury.	"Notice" provides some tips and methods to solve product-related problems to save time.

1.4 Updates

The latest document contains all the updates made in earlier issues.

V1.0 2023-12-15

- First Issue

2. Safety Precaution

Please strictly follow these safety instructions in the user manual during the operation.

2.1 General Safety

NOTICE

• The information in this user manual is subject to change due to product updates or other reasons. This guide cannot replace the product labels or the safety precautions indications unless otherwise specified. All descriptions here are for guidance only.
• Before installations, must read the user manual.
• All installations should be performed by trained and knowledgeable technicians who are familiar with local standards and safety regulations.
• Use insulating tools and wear personal protective equipment when operating the equipment to ensure personal safety. Wear anti-static gloves, clothes, and wrist strips when touching electronic devices to protect the inverter from damage.
• Strictly follow the installation, operation, and configuration instructions in this manual. The manufacturer shall not be liable for equipment damage or personal injury if you do not follow the instructions, For more warranty details, please visit https://www.soseninverter.com/.

2.2 PV String Safety

DANGER

Connect the DC cables using the delivered PV connectors. The manufacturer shall not be liable for the equipment damage if other connectors or terminals are used.

WARNING

• Ensure the component frames and the bracket system are securely grounded.
• Ensure the DC cables are connected tightly, securely and correctly.
• Measure the DC cables with a multimeter to avoid reverse polarity connection. Also, the voltage should be under the permissible range.
• Do not connect one PV string to more than one inverter at the same time. Otherwise, it may cause damage to the inverter.
• The PV modules used with the inverter must have an IEC61730 class A rating.
• When the photovoltaic array is exposed to light, it supplies a DC voltage to the inverter.

2.3 Inverter Safety

WARNING

• The voltage and frequency at the connecting point should meet the on-grid requirements.
• Additional protective devices like circuit breakers or fuses are recommended on the AC side. Specification of the protective device should be at least 1.25 times the AC rated output current.
• Make sure that all the groundings are tightly connected. When there are multiple inverters, ensure that all cabinet grounding points are equipotentially grounded.
• Off-grid function is not recommended if the PV system is not configured with batteries. Otherwise, the risk in system power usage is beyond the equipment manufacturer's warranty scope.
• If the battery is not connected, the instability characteristics of photovoltaic energy must be considered and it must also be noted that the EPS function is not available.

DANGER			
• All labels and warning marks should be visible after the installation. Do not cover, scrawl, or damage any label on the equipment. • Warning labels on the inverter are as follows:			
	DANGER High voltage hazard. Disconnect all incoming power and turn off the product before working on it.		Delayed discharge. Wait 5 minutes after power off until the components are completely discharged.
	Read through the user manual before working on this device.		Potential risks exist. Wear proper PPE before any operations.
	High-temperature hazard. Do not touch the product under operation to avoid being burnt.		Grounding point.
	With CE mark, the inverter fulfills the basic requirements of the guideline governing Low-Voltage and electro-magnetic compatibility.		Do not dispose of the inverter as household waste. Discard the product in compliance with local laws and regulations or send it back to the manufacturer.
	UKCA marking Indicates that it meets UK product safety certification requirements.		RCM marking

2.4 Battery Safety

WARNING

• The battery used with the inverter shall be approved by the inverter manufacturer. The approved battery list can be obtained through the official website .

• Before installations, read through the corresponding battery's User Manual to learn about the product and the precautions. Strictly follow its requirements.

• If the battery is completely discharged, please charge it strictly following the User Manual of the corresponding model.

• Factors such as temperature, humidity, weather conditions, etc. can limit the battery current and affect its charging.

• Contact after-sale service immediately if the battery is not able to be started. Otherwise, the battery might be damaged permanently.

• Use the multimeter to measure the DC cable to avoid reverse polarity connection. Also, the voltage should be under the permissible range.

2.5 Personal Requirements

NOTICE

• Personnel who install or maintain the equipment must be strictly trained, learn about safety precautions and correct operations.

• Only qualified professionals or trained personnel are allowed to install, operate, maintain, and replace the equipment or parts.

2.6 EU Declaration of Conformity

Shenzhen SOSEN Innovation Technology Co., Ltd. hereby declares that the inverter with wireless communication modules sold in the European market meets the requirements of the following directives:

- Radio Equipment Directive 2014/53/EU (RED)
- Restrictions of Hazardous Substances Directive 2011/65/EU and (EU) 2015/863 (RoHS)
- Waste Electrical and Electronic Equipment 2012/19/EU
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)

Shenzhen SOSEN Innovation Technology Co., Ltd. hereby declares that the inverter without wireless communication modules sold in the European market meets the requirements of the following directives:

- Electromagnetic compatibility Directive 2014/30/EU (EMC)
- Electrical Apparatus Low Voltage Directive 2014/35/EU (LVD)
- Restrictions of Hazardous Substances Directive 2011/65/EU and (EU) 2015/863 (RoHS)
- Waste Electrical and Electronic Equipment 2012/19/EU
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)

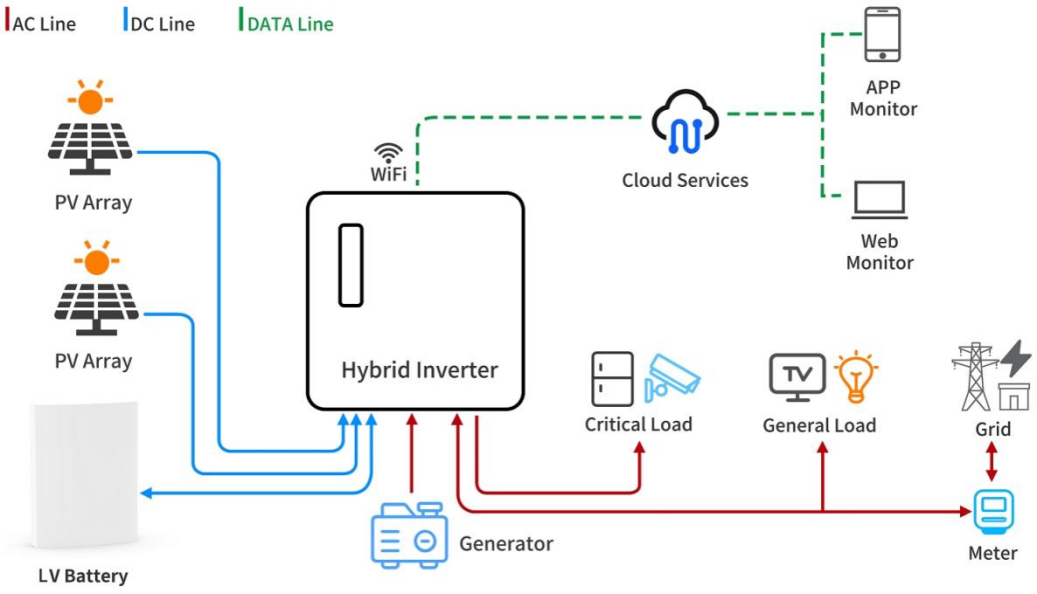
You can download the EU Declaration of Conformity on our website .

3. Product Introduction

3.1 Product Features

Intended usage

SSE-HL3-8K-P1EU series hybrid inverters are used for energy storage systems with battery, load and grid. The energy produced by the PV system will be used to optimize self-consumption, the excess energy will charge the battery and the rest energy can be fed into the grid. The battery will be discharged to support loads when the PV power is insufficient to meet self-consumption. If both the PV power and battery power are insufficient, the system will take power from the grid to support loads. The working mode depends on the PV power and user preference.

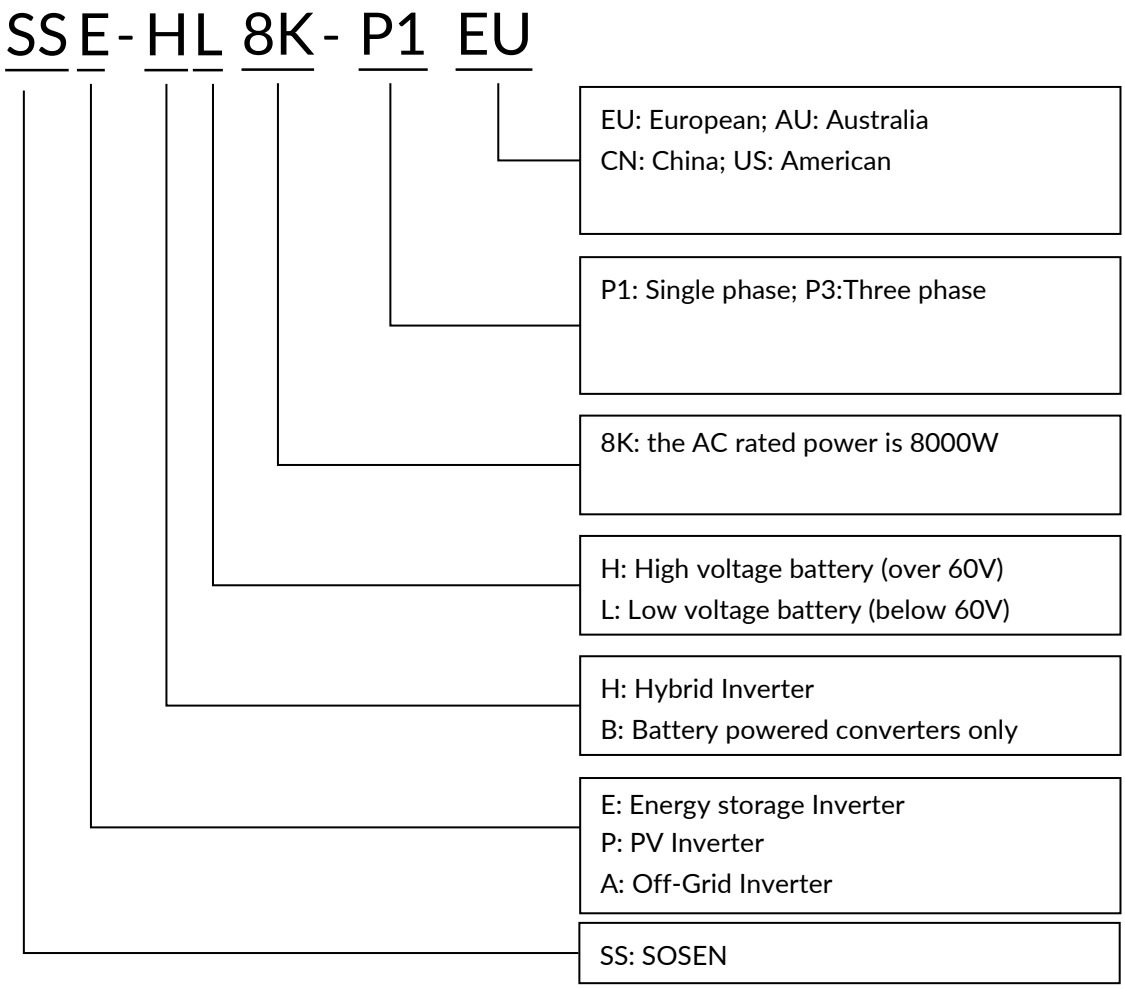


Model

This manual applies to the listed inverters below:

SSE-HL3K-P1EU, SSE-HL3K6-P1EU, SSE-HL4K-P1EU, SSE-HL4K6-P1EU, SSE-HL5K-P1EU, SSE-HL6K-P1EU, SSE-HL7K-P1EU, SSE-HL8K-P1EU.

Model description



Series Code:

SN: SXXXXXXXX24011000001

Series Code description

No.	Referring to	Code	Description
1	Brand name	S	SOSEN
2	Product category	XXXXXXXX	Inverter model ID
3	Production date	24	The year of Production
4	Production date	01	The month of Production
5	Production date	11	The day of Production
6	Production serial number	00001	

3.2 Working Mode

The SSE-HL3-8K-P1EU Series hybrid inverter has the following work modes based on your configuration and layout conditions.

Work modes	Description
Self Use (with PV Power)	Priority: Load > Battery > Grid The energy produced by the PV system is used to optimize self-consumption. The excess energy is used to charge the batteries and then exported to the power grid.
Self Use (without PV Power)	Priority: Load > Battery When no PV supplied, battery will discharge for local loads firstly and grid will supply power when the battery capacity is not enough.
TOU[1] Balance	In this mode, users can set different operating patterns during different periods of the day. So that the best use of solar PV, batteries and different electricity rates can be made to achieve a balance between the utilization rate of PV energy and economic benefits. **Peak price:** Run the standard self-use mode. **Flat price:** Photovoltaics gives priority to supplying power to the load, and when the photovoltaic power is insufficient, the battery is discharged to ensure continuity of power. **Valley price:** Charge the battery at full power priority until it is full.
TOU[1] Eco	This mode can be used to optimize the use of peak and valley prices of the electricity tariff and achieve maximum economic benefit when there are large differences between the prices of one and the other. **Peak price:** The battery is discharged at full power to sell electricity to the grid at a high price **Flat price:** Run the standard self-use mode. **Valley price:** Buy electricity from the grid at a low price to charge the battery at full power
Back up only	Priority: Load > Battery When entering this mode, the system will start to charge the battery until it is fully charged and remains fully charged, waiting for the power grid to fail. When the grid is off, the system will supply emergency power from PV or battery to supply the home loads .
Grid Priority	Priority: Load > Grid When the system works in this mode, the electricity generated by the photovoltaic power will be preferentially injected into the power grid. Users can send requests to the grid during peak hours, and in this mode, they can set the end point of SOC (State Of Charge of the battery).

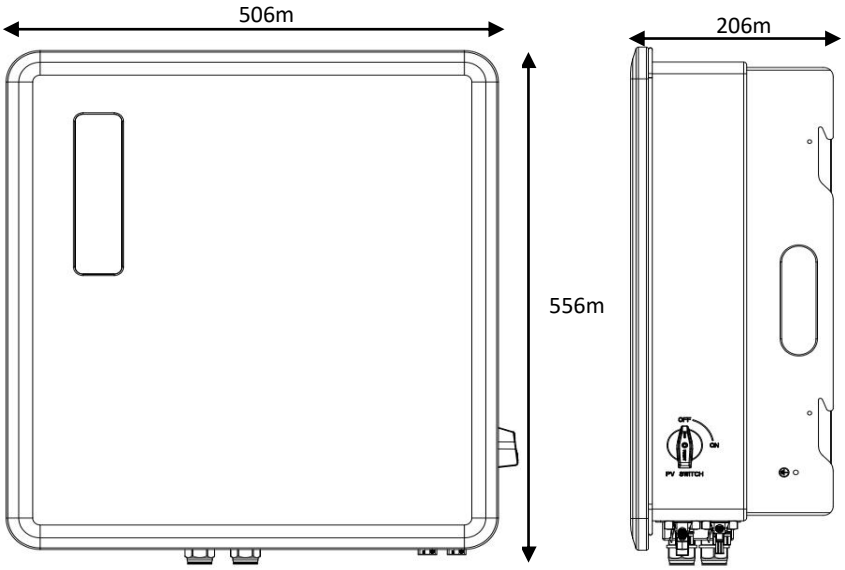
1) TOU = Time of use

⚠ DANGER

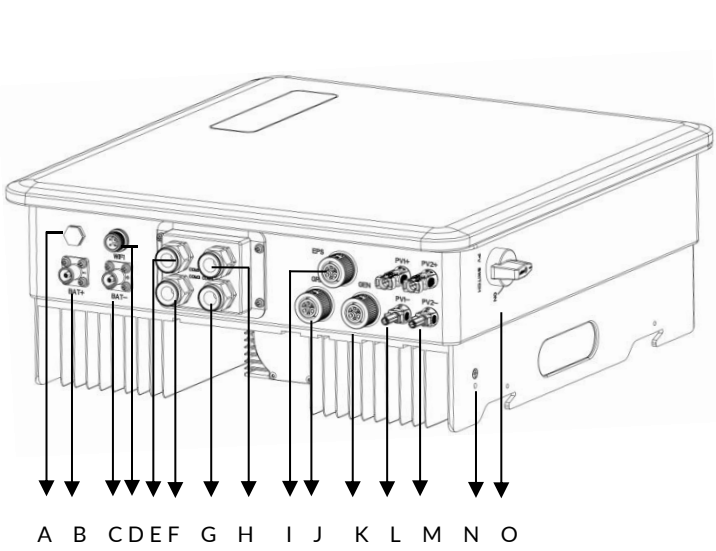
Make sure the load power connected to the EPS output is within the output power of EPS. Otherwise, the inverter will shut down with an "overload" warning. When "overload" appears, adjust the load power, make sure it is within the range of EPS output, and turn on the inverter. For non-linear load, pay attention to the input power, make sure it is within the range of EPS output.

3.3 Appearance

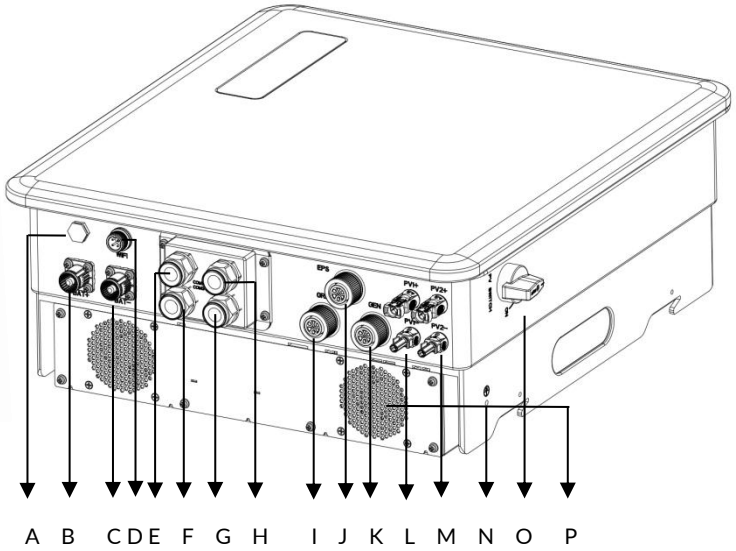
3.3.1 Dimension



3.3.2 Ports



SSE-HL3-6K-P1EU



SSE-HL-7-8K-P1EU

item	Description	item	Description
A	Air valve	B	Battery connector+
C	Battery connector-	D	WiFi
E	Meter / CT	F	Parallel connector
G	BMS connector	H	DRM, Dry connector
I	Grid connector	J	EPS connector
K	Generator connector	L	PV1 connector
M	PV2 connector	N	GND port
O	PV switch	P	FAN (for 7-8K)

3.3.3 Nameplate

The nameplate is for reference only.

SOSEN

Hybrid Inverter

Model	SSE-HL8K-P1EU
Vmax PV(Max.PV input voltage)	550V d.c
PV input operating voltage range	120-500V d.c
Max.operating PV input current	18A d.c*2
Isc PV	24A d.c*2
Grid rated voltage	230V a.c, 1W+N+PE
Grid rated frequency	50Hz
Grid rated input or output current	34.8A a.c
Grid rated output apparent power	8000VA
EPS rated output voltage	230V a.c, 1W+N+PE
EPS rated output frequency	50Hz
EPS rated output current	34.8A a.c
EPS rated output apparent power	8000VA
Power Factor	0.8Leading-0.8Lagging
Battery operation voltage range	45-58V d.c
Max.charge and discharge current	160A d.c
Battery type	Li-ion
Protective class	Ⅰ
Ingress protection degree	IP65
Overvoltage category	PV: Ⅱ AC:Ⅲ
Inverter topology	Non-isolated
Operating temperature range	-25℃-+60℃
Manufacturer: Shenzhen Innovation Technology Co., Ltd	
Address: 601, Pengzhanhui, Building1, No.233, Xinqiao Community Center Road,Xinqiao Street, Bao'an District, Shenzhen, China	

3.3.4 Features

- Intelligent energy management
- High efficiency
- Compatible with on grid and off grid
- High Sealed design With IP65
- Multiple operating modes are available
- Wide range of battery charge and discharge current
- High speed on/off grid switching

3.3.5 Specification

Model for EU	SSE-HL3K-P1EU	SSE-HL3K6-P1EU	SSE-HL4K-P1EU	SSE-HL4K6-P1EU	SSE-HL5K-P1EU	SSE-HL6K-P1EU	SSE-HL7K-P1EU	SSE-HL8K-P1EU
Product Type	Hybrid Inverter							
Battery								
Battery Type	Li-ion							
Battery Voltage range	45-58V d.c							
Rated Battery Voltage	51.2V d.c							
Max. charge/discharge Power	3000W	3600W	4000W	4600W	5000W	6000W	7000W	8000W
Max Charge Current	60A d.c	70A d.c	80A d.c	90A d.c	100A d.c	110A d.c	140A d.c	160A d.c
Max Discharge Current	60A d.c	70A d.c	80A d.c	90A d.c	100A d.c	110A d.c	140A d.c	160A d.c
BMS Communication	CAN/RS485							
Reverse Connect Protection	Yes							
PV Input								
Recommended Max. PV array power	4500W	5400W	6000W	6900W	7500W	9000W	10500W	12000W
Max. operating PV input current (PV 1 / PV 2)	15/15A d.c						18/18A d.c	
Max. Isc PV (PV 1 / PV 2)	24/24 A d.c							
Vmax PV (Max. PV input voltage)	550V d.c							
PV input operating voltage range	120-550V d.c							
MPPT Voltage Range	120-550V d.c							
Full power MPPT voltage range	300-500V d.c						292-500V d.c	333-500V d.c
Start-up Voltage	120V d.c							
Number of MPP Trackers	2							
Strings per MPP Tracker	1							
Number of PV input	2							
Grid AC input and AC output								
Grid rated voltage	220/230/240VA.C., L+N+PE							
Grid rated frequency	50/60Hz							
Grid rated input active power	3000W	3600W	4000W	4600W	5000W	6000W	7000W	8000W
Grid rated input apparent power	3000VA	3600VA	4000VA	4600VA	5000VA	6000VA	7000VA	8000VA
Grid Max. input active power	3300W	3960W	4400W	5060W	5500W	6600W	7700W	8800W
Grid Max. input apparent power	3300VA	3960VA	4400VA	5060V	5500VA	6600VA	7700VA	8800VA
Grid rated output active power	3000W	3600W	4000W	4600W	5000W	6000W	7000W	8000W
Grid rated output apparent power	3000VA	3600VA	4000VA	4600VA	5000VA	6000VA	7000VA	8800VA
Grid Max. output active power	3300W	3960W	4400W	5060W	5500W	6600W	7700W	8800W
Grid Max. output apparent power	3300VA	3960VA	4400VA	5060VA	5500VA	6600VA	7700VA	8800VA
Grid rated input current	13Aac	16Aac	17Aac	20Aac	21Aac	26Aac	30.4Aac	34.8A a.c
Grid rated output current	13Aac	16Aac	17Aac	20Aac	21Aac	26Aac	30.4Aac	34.8A a.c
Grid power factor	0.8 leading to 0.8 lagging							
Grid input and output Inrush current	96Aac @ 3μs							
Max. Grid output fault current	96Aac @ 3μs							
Max. Grid output overcurrent protection	250Vac /60Aac							
Grid input Icc (Rated conditional short-circuit current)	500Aac							
Grid input Icw (Rated short-time withstand current)	500Aac							
Total Harmonic Distortion (THDi, rated power)	<3%							

EPS Output	SSE-HL3K -P1EU	SSE-HL3K6 -P1EU	SSE-HL4K -P1EU	SSE-HL4K6 -P1EU	SSE-HL5K -P1EU	SSE-HL6K -P1EU	SSE-HL7K -P1EU	SSE-HL8K -P1EU
EPS rated output Voltage	220/230/240V a.c, L+N+PE							
EPS rated output frequency	50/60Hz							
EPS rated output active power	3000W	3600W	4000W	4600W	5000W	6000W	7000W	8000W
EPS rated output apparent power	3000VA	3600VA	4000VA	4600VA	5000VA	6000VA	7000VA	8000VA
EPS rated output current	13Aac	16Aac	17Aac	20Aac	21Aac	26Aac	30.4Aac	34.8Aac
EPS output power factor	0.8 leading to 0.8 lagging							
EPS output peak power	6600VA(<10s)						8800VA(<10s)	
EPS output Inrush current	96Aac @ 3μs							
EPS Max. output fault current	96Aac @ 3μs							
EPS Max. output overcurrent protection	250Vac /60 Aac							
Switch Time	<20ms							
Total Harmonic Distortion (THDv, linear Load)	<2%							
Compatible with the Generator	Optional							
Efficiency								
MPPT Efficiency	99 .90%							
Euro-efficiency	97.00%							
Max. efficiency	97.80%							
Standard								
Safety	EN/IEC 62109-1/2, EN/IEC 60529, EN/IEC 62040-1							
EMC	EN IEC 61000-6-1, EN IEC 61000-6-3, EN IEC 61000-3-12, EN IEC 61000-3-11, EN IEC 61000-3-2, EN 61000-3-3							
Grid-interactive	CEI 0-21, EN 50549-1, VDE-AR-N 4105, UNE 217002, NTS TYPEA, G99, AS/NZS 4777.2 and so on							
General Data								
Degree of ingress protection	IP65							
Protection class	I							
Environment category	Outdoor							
Wet location classification	Yes							
Pollution degree	PD3							
Operating altitude	<2000 m							
Operating ambient temperature	-25 to +60 °C (lineal derating to 60% when exceeding +45 to +60 °C)							
Operating relative Humidity	0-100% (non-condensing)							
Storage Temperature	-25- +60 °C							
Storage relative Humidity	0-100% (non-condensing)							
Noise Emission(typical)	<35db						<56db	
Overvoltage Category	AC: III, PV: II							
Electrical supply system	TN, TT							
Dimension (WxHxD)	506x556x206mm							
Net Weight	25kg						30.6kg	
Cooling Mode	Natural Cooling						Fan Cooling	
Topology	Non-isolated							
Active anti-islanding method	Active frequency drift							
Communication with Meter	RS485							
Communication with Portal	Bluetooth/WIFI (Optional)/CAN/RS485							
LED indicator	8 led							

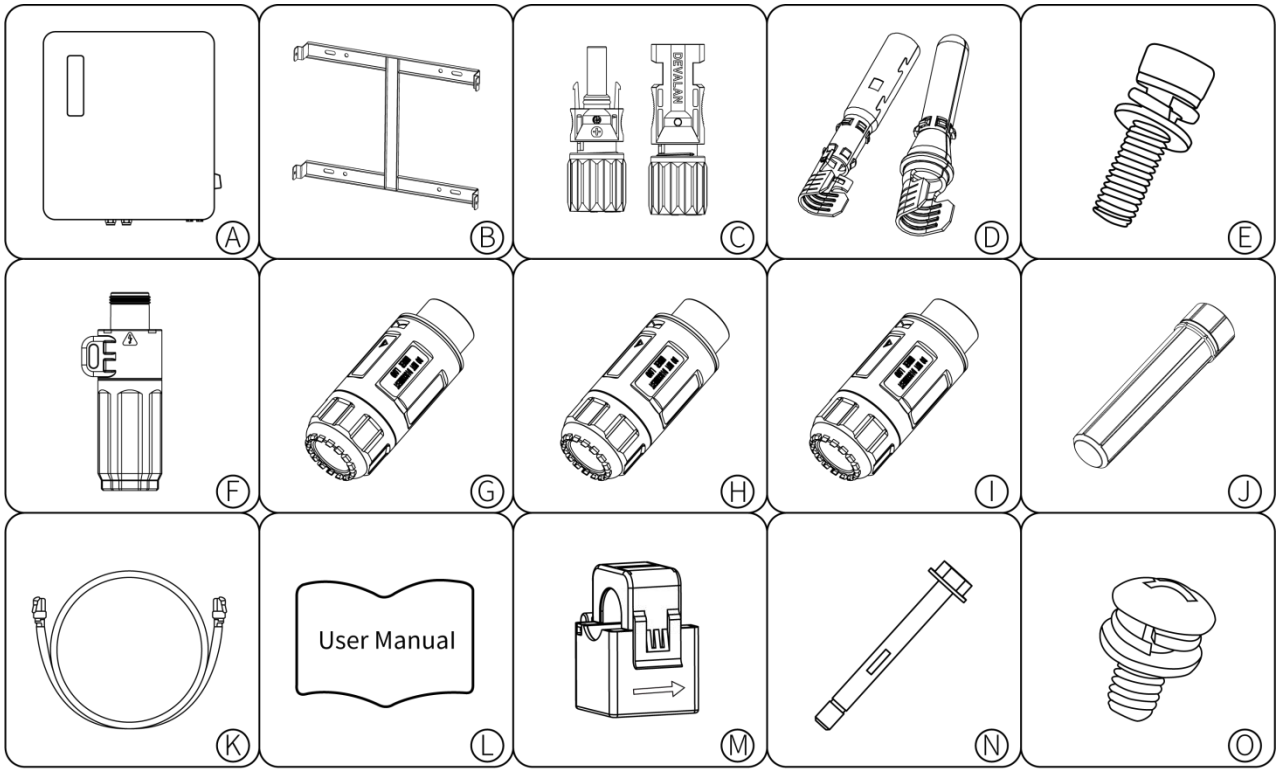
4. Check and Storage

4.1 Check Before Receiving

Check the following items before receiving the product.

1. Check the outer packing box for damage, such as holes, cracks, deformation, and other signs of equipment damage. Do not unpack the package and contact the supplier as soon as possible if any damage is found.
2. Check the inverter model. If the inverter model is not what you requested, do not unpack the product and contact the supplier.
3. Please check that the product model is correct, that the contents are complete and that it is in perfect condition. Contact the supplier as soon as possible if you detect any damage.

4.2 What's in the box?



Item	Quantity	Description	Item	Quantity	Description
A	1	Inverter	B	1	Bracket
C	4	PV connectors (Black) (2*positive, 2*negative)	D	4	PV pin contacts (Black) (2*positive, 2*negative)
E	2	PM6*12 stainless steel screw*2	F	2	Battery pin contacts (Blue) (1*positive, 1*negative)
G	1	AC EPS terminal connector	H	1	AC grid terminal connector
I	1	Generator connector	J	1	Wi-Fi module
K	1	Network cable	L	1	User manual
M	1	CT (1000/1)	N	4	M8*80 Expansion tubes *4 & Expansion screws * 4
O	4	PM5*16 screws			

4.3 Storage

If the equipment is not to be installed or used immediately, please ensure that the storage environment meets the following requirements:

1. Do not unpack the outer package or throw the desiccant away.
2. Store the equipment in a clean place. Make sure the temperature and humidity are appropriate and there is no condensation.
3. The height and direction of the stacking inverters should follow the instructions on the packing box.
4. The inverters must be stacked with caution to prevent them from falling.
5. If the inverter has been stored for a long period of time, it should be checked by professionals before being put into use.
6. The storage temperature range is: -25℃~60℃, and the storage humidity is 0~95%.
7. The box must be suitable for loads of more than 30 kg.

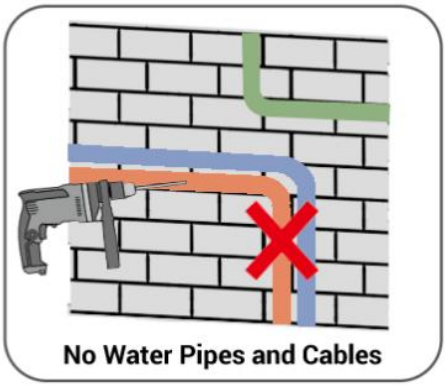
5. Installation

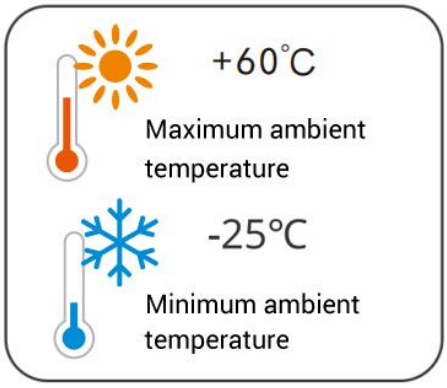
5.1 Installation Requirements

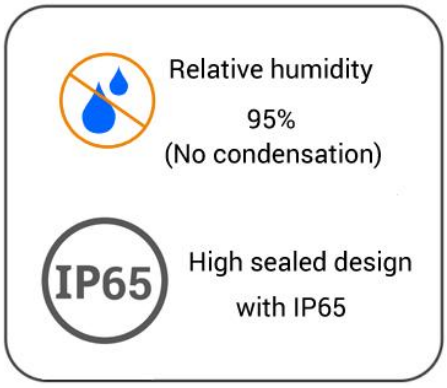
Installation Environment Requirements

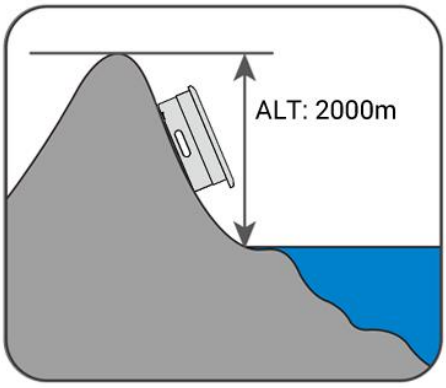
1. Do not install the equipment in a place near flammable, explosive, or corrosive materials.
2. Do not install the equipment in a place that is easy to touch, especially within children's reach. High temperatures occur when the equipment is in operation. Do not touch the surface to avoid burning.
3. Avoid the water pipes and cables buried in the wall when drilling holes.
4. Install the equipment in a sheltered place to avoid direct sunlight, rain and snow. Build a sunshade if necessary.
5. The location of the equipment must be well-ventilated to prevent heat radiation and be large enough for operations.
6. The equipment with a high IP rating can be installed indoors or outdoors. The temperature and humidity at the installation site should be within the appropriate range.
7. Install the equipment at a height that is convenient for operation and maintenance, electrical connections, and checking indicators and labels.
8. The altitude to install the inverter shall be lower than the maximum working altitude 2000m or apply the derating power during the system dimensioning.
9. The PV modules used with the inverter must have an IEC61730 class A rating.
10. Overcurrent protection (such as a 250V AC/60A AC circuit breaker) must be provided before the AC input and after the EPS output. Ensure that the installation of those parts does not obstruct access to the disconnecting means.
11. Please ensure that there is adequate ventilation space for the inverter after installation, refer to the installation diagram below.
12. This inverter does not provide an internal isolated transformer between the PV input and battery with the AC output circuits. But basic isolation is provided between the PV input/battery/AC output circuits and the metal case/ground, and reinforced/double isolation is provided between the PV input/battery/AC output and the communication circuits (DRM/Meter/WiFi/RS485).
13. The PV input ranges and ratings please refer to the specification table of subclause 3.3.5, and please make sure that PV array should not be grounded.
14. Install the equipment away from electromagnetic interference. If there are radio stations or wireless communication equipment below 30 MHz near the installation location, please install the equipment as follows:
    - Add a multi-turn winding ferrite core at the DC input line or AC output line of the inverter or add a low-pass EMI filter.
    - The distance between the inverter and the wireless EMI equipment is more than 30m.

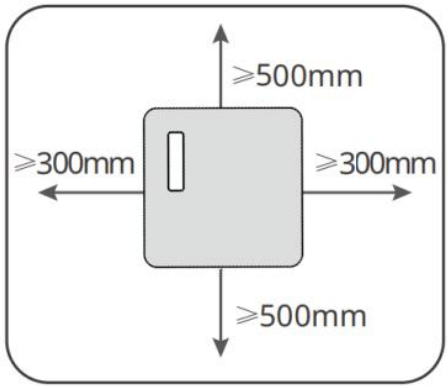

Children No Reach

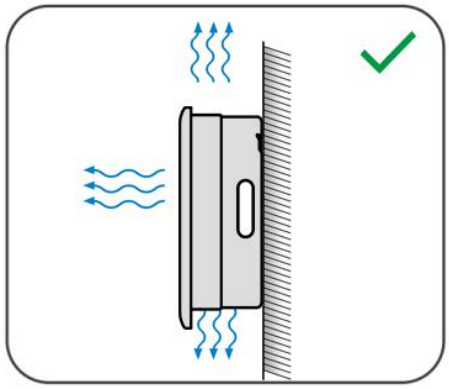

No Water Pipes and Cables

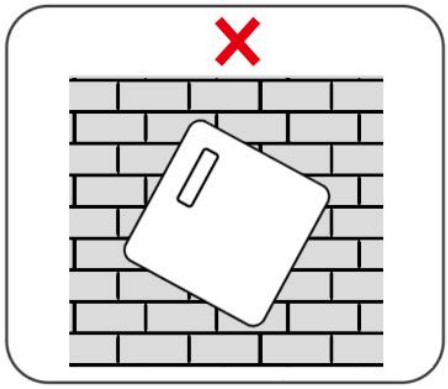

+60˚C
Maximum ambient temperature
-25°C
Minimum ambient temperature

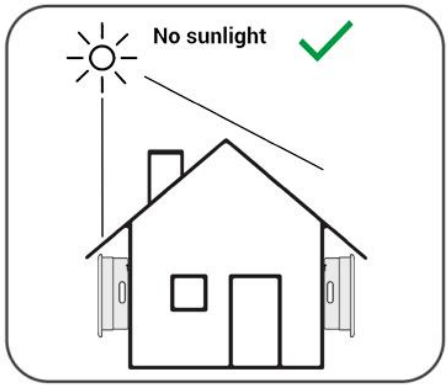

Relative humidity
95%
(No condensation)
IP65
High sealed design with IP65

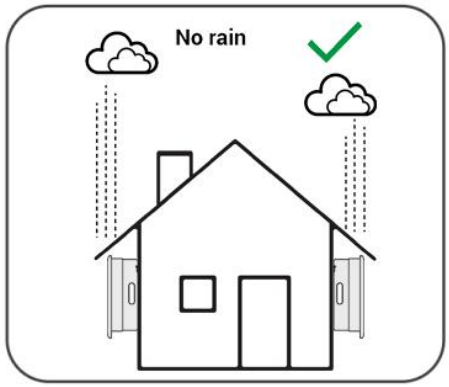

ALT: 2000m

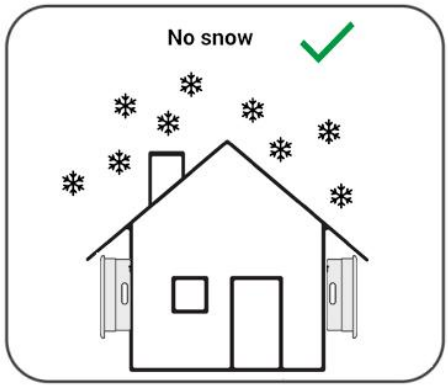

⩾500mm
⩾300mm
⩾300mm
⩾500mm

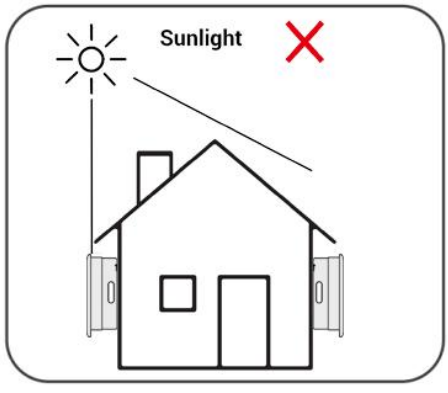


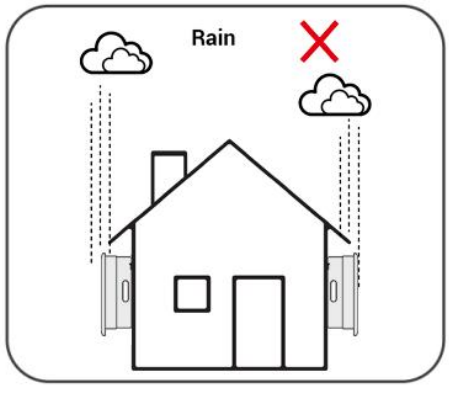


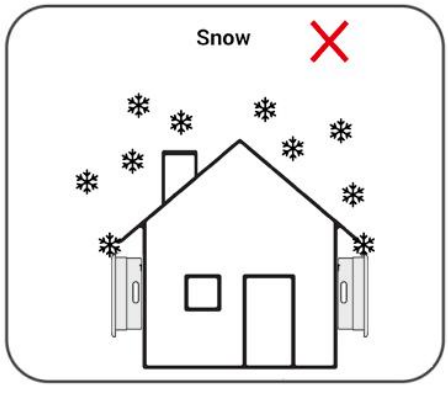

No sunlight


No rain


No snow


Sunlight

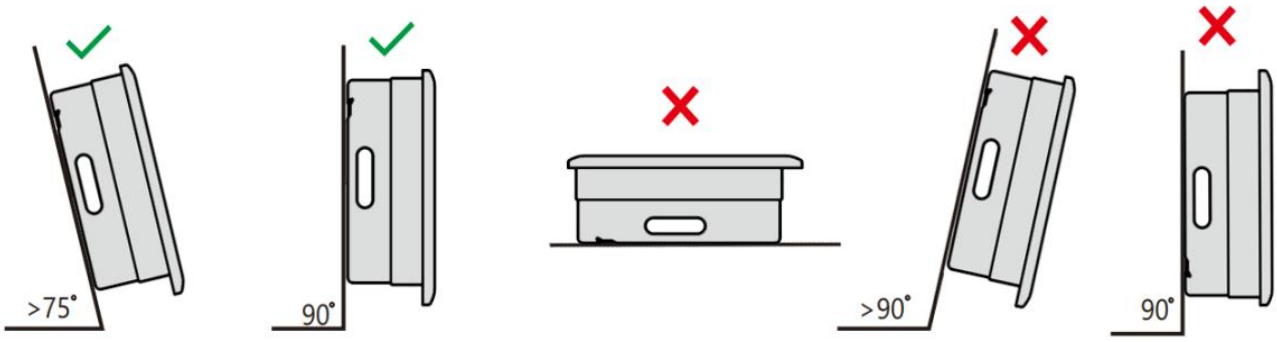

Rain


Snow

Installation Angle Requirements

• Install the inverter vertically or at a maximum back tilt of 15 degrees.

• Do not install the inverter upside down, forward tilt, back forward tilt or horizontally.



Installation Tool Requirements

The following tools are recommended when installing the equipment. Use other auxiliary tools on site if necessary.

5.2 Inverter Installation

5.2.1 Moving the Inverter

CAUTION

• The unit is heavy. Do not lift it alone. During lifting procedures, ensure that the unit is securely supported to prevent the risk of accidental tipping or falling. Parts used to support or immobilize the unit must be designed and constructed to minimize the risk of physical injury and accidental loosening of fasteners. Ensure that the lifting method does not allow the unit to slip from chains and slings or tip or slide from lifting devices.

• Transportation must be carried by specialized personal (truck operators. Hook-up personal), equipped with the necessary protection equipment (overalls, safe shoes, protective gloves, helmets, goggles)

• Do not walk or stand beneath or in the proximity of the load. Avoid sudden movements and jolts when unloading and positioning the unit, Internal handling procedures must be conducted with care.

• Do not exert leverage on the components of the machine. If the unit is not balanced apply ballast, any protruding parts should not be supported by hand. The inverter must be installed so that the control panel is easily accessible and allows easy access to the power connection point.

• Accessible for maintenance and repair work. Parts for support or immobilization of unit shall be designed and manufactured to minimize the risk of physical injuries and accidental loosening of fixings.

• Loading capacity and hardness of the supporting surface, load rating of mounting bracket should be at least four times the weight of the devices according to lEC62109-1. And supporting characteristics will be impaired by wear, corrosion, material fatigue or ageing. This should be calculated by inspection of the design data of supporting material and consulting construction engineer.

5.2.2 Installation steps

NOTICE

• Avoid the water pipes and cables buried in the wall when drilling holes.

• Wear goggles and a dust mask to prevent the dust from being inhaled or contacting eyes when drilling holes.

• Make sure the inverter is installed firmly to prevent it from falling.

Step 1 : Place the mounting plate or bracket on the wall horizontally and mark the positions for drilling the holes.

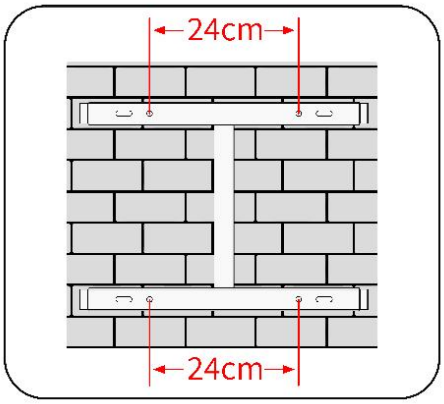
Step 2 : Drill holes to a depth of 80 mm using a hammer drill. The drill bit diameter should be 10 mm.

Step 3 : Secure the mounting plate using the expansion bolts.

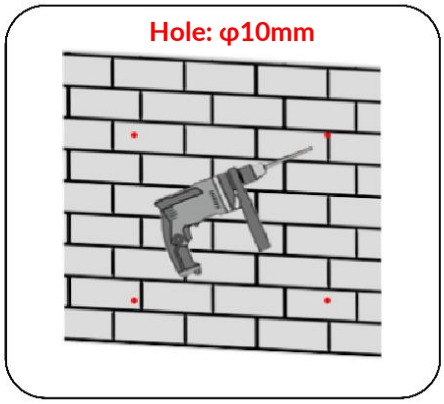
Step 4 : Install the inverter on the mounting plate.

Step 5: Make sure the pin hook the inverter

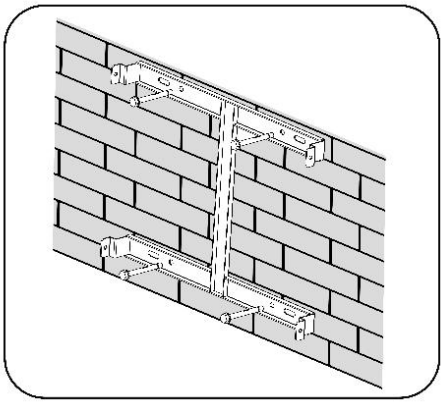
Step 6 : Install the screws to lock it tight.



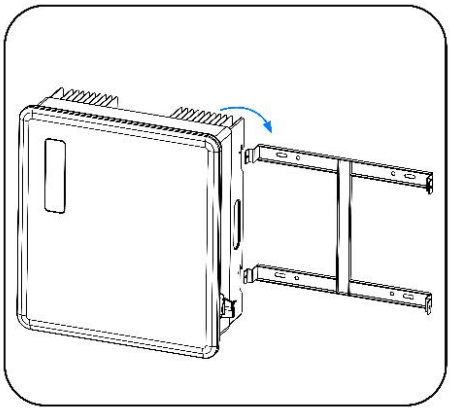
Step 1



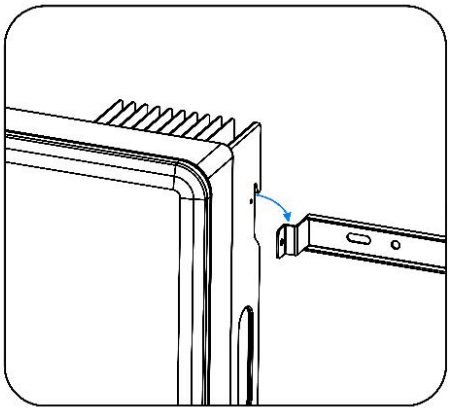
Step 2



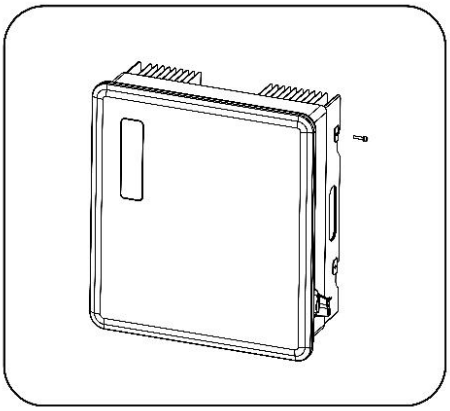
Step 3



Step 4



Step 5



Step 6

6. Electrical Connection

6.1 Safety Precaution

DANGER

• All operations, cables, and parts specifications during electrical connections must comply with local laws and regulations.

• To safely power off the inverter, disconnect both the DC switch and the AC output switch. Allow at least 5 minutes for the capacitor to discharge before making any electrical connections. Never work with the power turned on, as this may cause an electric shock.

• Group similar types of cables together and keep them separate from different types. Avoid placing the cables in an entangled or crossed manner.

• If the cable is under excessive tension, the connection may be poor. Leave a certain length of the cable before connecting it to the inverter cable port.

• When crimping the terminals, make sure the conductor part of the cable is fully in contact with the terminals. Avoid crimping the cable jacket along with the terminal. If this is not done correctly, the inverter may not operate, or the terminal block could be damaged due to overheating and other issues resulting from an unreliable connection during operation.

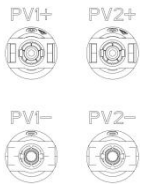
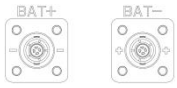
NOTICE

• Always wear personal protective equipment, including safety shoes, safety gloves, and insulating gloves, when making electrical connections.

• All electrical connections should be performed by qualified professionals.

• Cable colors in this document are for reference only. The cable specifications shall meet local laws and regulations.

6.2 Connection Port Description

Connector	Description		Recommend cable type	Recommended Cable specifications
	+：Connect the positive electrode of photovoltaic modules		Industry common outdoor Photovoltaic cable	Conductor cross-sectional area: 2,5-4mm² (12AWG)
	-：Connect the negative electrode of photovoltaic modules			
	+：Connect the positive electrode of battery		Outdoor multi-core copper cable	Conductor cross-sectional area: 21-25mm² (4AWG)
	-：Connect the negative electrode of battery			
	EPS (Load)	L	Outdoor multi-core copper cable	Conductor cross-sectional area: 6mm² (10AWG)
		N		
		PE		
	Grid (AC)	L	Outdoor multi-core copper cable	Conductor cross-sectional area: 6mm² (10AWG)
		N		
		PE		
	GEN (AC)	L	Outdoor multi-core copper cable	Conductor cross-sectional area: 6mm² (10AWG)
		N		
		PE		
	WiFi			

6.3 PE Cable Connection

WARNING

• The PE cable connected to the inverter's enclosure cannot replace the PE cable connected to the AC output port. Both PE cables must be securely connected.

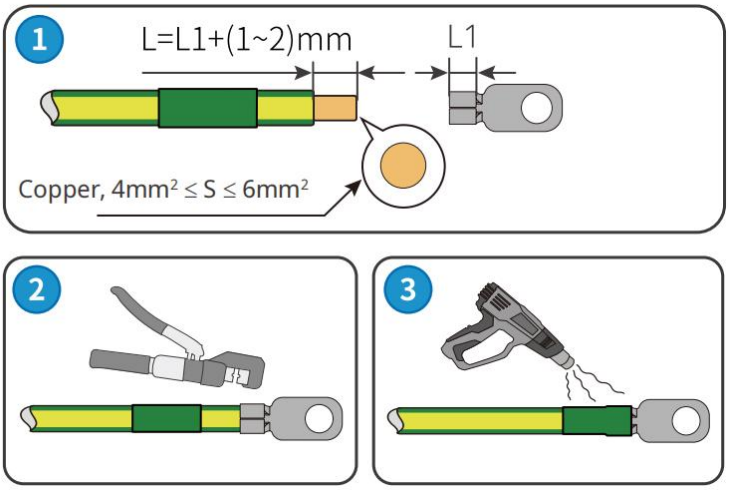
• Ensure all grounding points on the enclosures are equipotentially connected when using multiple inverters.

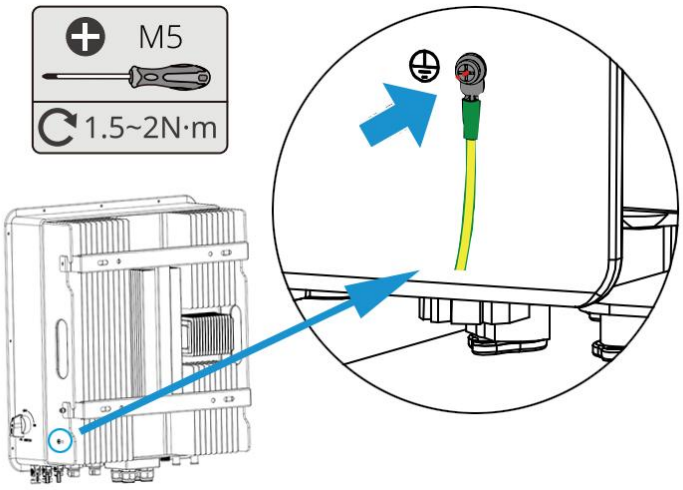
• To enhance the corrosion resistance of the ground terminal, it is advisable to apply silica gel or paint after installing the PE cable.

• Prepare PE cables with the recommended specifications:

  • Type: Outdoor single-core copper wire.

  • Cross-sectional area: 10mm2 (6AWG).





6.4 EPS, Grid and Generator Connection

NOTICE

SSE-HL3-8K-P1EU series inverters are designed for single-phase grids. The voltage range is 220/230/240V, and the frequency is 50/60Hz. Other technical specifications must comply with the requirements of the local public grid.

WARNING

• An AC breaker for maximum output overcurrent protection device must be installed between the inverter and the grid. The current rating of the protection device should refer to the table above, and no load should be connected directly to the inverter.

NOTICE

Check the grid voltage and ensure it falls within the permitted voltage range (refer to technical datasheet).

• Disconnect the circuit breaker from all the phases and secure against re-connection.

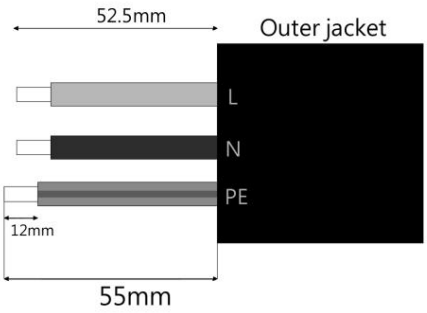
• Trim the wires:

  - Trim the outer jacket to 52.5mm and the PE wire to 55mm (see image below).

  - Use the crimping pliers to trim 12mm of insulation from all wire ends as below.

  - Please refer to local cable type and color for actual installation.

  - Cross-sectional area: 10mm^2 (6AWG).

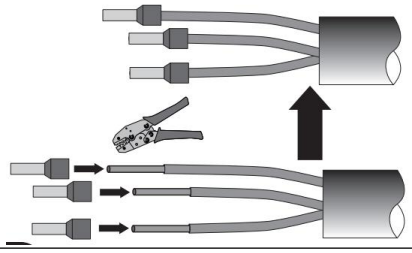
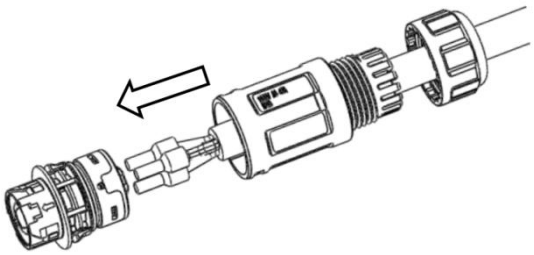
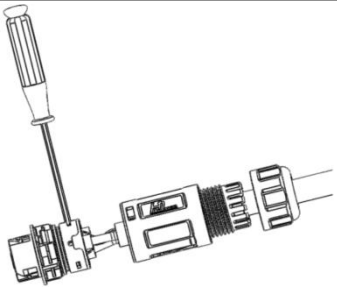
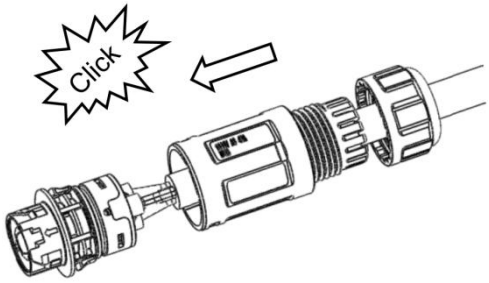


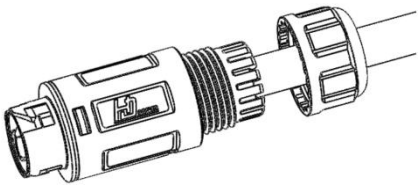
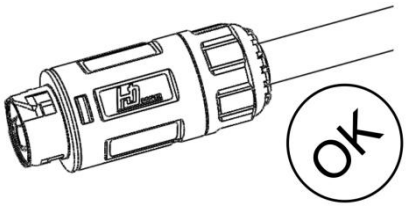
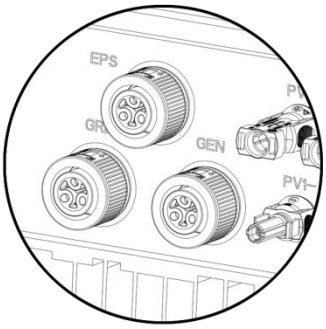
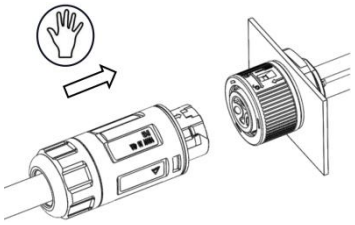
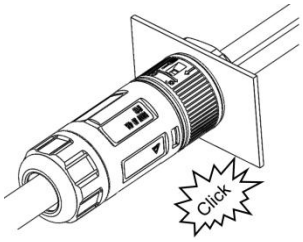
L: Brown/Red Wire

N: Blue/Black Wire

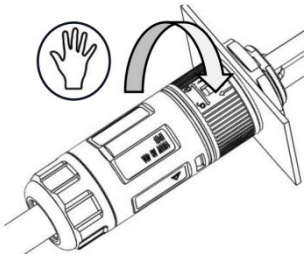
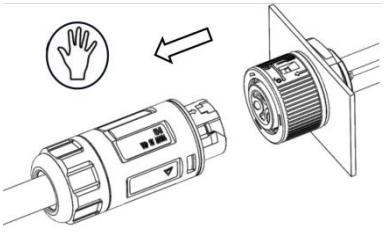
PE: Yellow & Green Wire

Installation Procedure

	Step 1: • Turn off the DC and battery switch . • Choose 5-6mm2 (10 AWG) wire to connect the EPS port. • Trim 6mm of insulation from the wire end.
Step 2: Crimp the terminals with crimping pliers	
	Step 3: Choose the appropriate connector. They look the same, but they are all different. Insert the cable through the nut and the body first. Insert each cable into its corresponding hole (L, N, PE)
Step 4: Use a Phillips screwdriver to tighten (torque 1.2+/-0.1 N·m)	
	Step 5: Insert the main body into the rubber core and hear the "click" sound

Step 6: Tighten the nut with an open-ended wrench （torque 2.5±0.5N·m）	
	Step 7: Female Connector completed
Step 8: Find the EPS /GRID/GEN male connector in the inverter	
	Step 9: The installation arrow indicates insertion the EPS female connector
Step 10: Complete the installation	

Unlock instructions

	Step 1: there are two icon of lock and unlock. Rotate the latch as shown(unlock icon)
Step 2: Pull the male end of the cable is unlocked	

6.5 PV Connection

6.5 .1 PV String Connection

DANGER

Confirm the following information before connecting the PV string to the inverter. Otherwise, the inverter may be damaged permanently or even cause fire and cause personal and property losses.

1. Make sure that the max. short circuit current and the max input voltage per MPPT are within the permissible range.
2. Make sure that the positive pole of the PV string connects to the PV+ of the inverter. And the negative pole of the PV string connects to the PV- of the inverter.

WARNING

1- Please choose a suitable external DC switch if the inverter does not have a built-in DC switch.

2- PV module voltage is very high and within a dangerous voltage range, please comply with the electric safety rules when connecting.

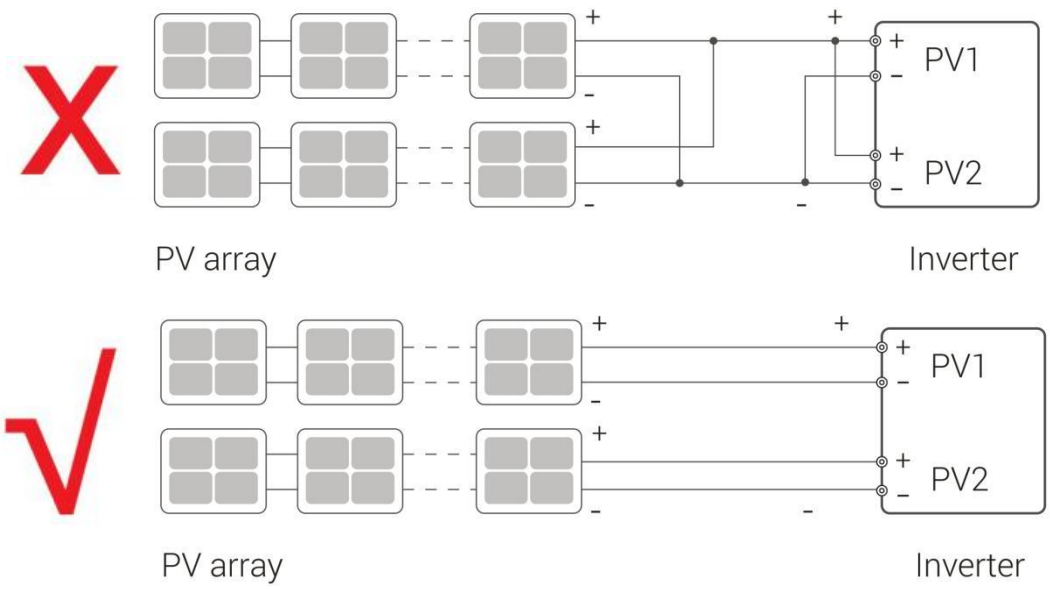
3- Please do not make PV positive or negative to ground.

4- PV modules: Please ensure that all components are of the same type, have identical output and specifications, are aligned properly, and are tilted at the same angle. To minimize cable use and reduce DC loss, we recommend installing the inverter as close to the PV modules as possible.

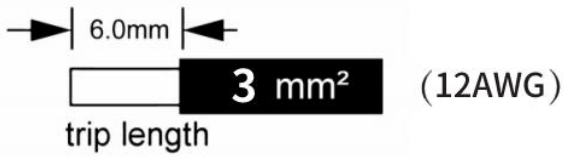
NOTICE

The DC input cable is prepared by the installer. Recommended specifications:

- Type: The outdoor photovoltaic cable must be compatible with the maximum input voltage of the inverter.
- Conductor cross-sectional area: 2.5~4mm2 (Devalan) or 4~6mm2 (MC4).



6.5 .2 PV Wiring

<table>
<tr><td>• Turn off the PV and battery switch.
• Choose 2,5-4mm2 (12 AWG) wire to connect the PV module.
• Trim 6mm of insulation from the wire end.</td><td> 
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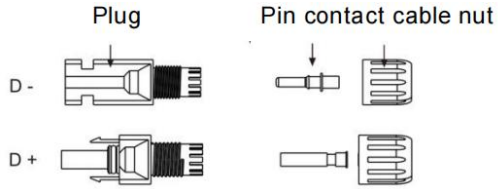
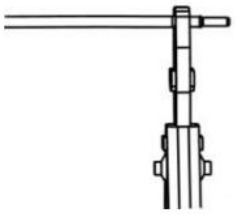
<tr><td> 
</td><td>Separate the DC connector (PV) as below.</td></tr>
<tr><td>• Insert stripped cable into the pin contact and ensure all conductor strands are captured in the pin contact.
• Put the pin contact with striped cable into the corresponding crimping pliers and crimp the contact.</td><td>  </td></tr>
<tr><td>  </td><td>Insert pin contact through the cable nut to assemble into the back of the male or female plug. When you feel or hear a “click” the pin contact assembly is seated correctly.</td></tr>
<tr><td colspan="2">Unlock the DC connector
- Use the specified wrench tool.
- When separating the PV + connector, push the tool down from the top.
- When separating the PV - connector, push the tool down from the bottom.
- Separate the connectors by hand.</td></tr>
</table>

6.6 Battery Connection

DANGER

• The battery used with the inverter shall be approved by the inverter manufacturer. The approved battery list can be obtained through the official website.

• A short circuit in the battery may cause personal injury. The instantaneous high current caused by a short circuit can release a large amount of energy and may cause a fire.

• Before connecting the battery cable, ensure the inverter and the battery, and downstream and upstream switches are all disconnected.

• It is forbidden to connect and disconnect the battery cables when the inverter is running. Otherwise, it may cause electric shock.

• It is forbidden to connect loads between the inverter and batteries.

• When connecting battery cables, use insulated tools to prevent accidental electric shock or short circuits to the batteries.

• Ensure that the open circuit battery voltage is within the permissible range of the inverter.

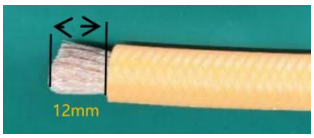
• Install a DC switch between the inverter and the battery

WARNING

• Connect the battery cables to the corresponding terminals such BAT+, BAT- and grounding ports correctly. Otherwise, it will cause damage to the inverter.
• Ensure that the whole cable cores are inserted into the terminal holes. No part of the cable core can be exposed.
• Make sure the cables are securely connected. Otherwise, it may damage the inverter due to overheating during operation.
• Servicing of batteries should be performed or supervised by personnel knowledgeable about batteries and the required precautions.
• When replacing batteries, replace them with the same type and number of batteries or battery packs.
• CAUTION: Do not dispose of batteries in a fire. The batteries may explode.
• CAUTION: Do not open or damage batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.
• CAUTION: A battery can present a risk of electrical shock and high short-circuit current. The following precautions should be observed when working on batteries:

a) Remove watches, rings, or other metal objects.
b) Use tools with insulated handles.
c) Wear rubber gloves and boots.
d) Do not lay tools or metal parts on top of batteries.
e) Disconnect charging source prior to connecting or disconnecting battery terminals.
f) Determine if battery is inadvertently grounded. If inadvertently grounded, remove the source from ground. Contact with any part of a grounded battery can result in electrical shock. The likelihood of such shock can be reduced if such grounds are removed during installation and maintenance (applicable to equipment and remote battery supplies not having a grounded supply circuit).

Connection steps:

<table>
<tr><td>• Turn off the PV and battery switch.
• Choose 25mm2 (4 AWG) wires to connect the battery.
• Trim 12mm of insulation from the wire end.</td><td> 
</td></tr>
<tr><td>  </td><td>Separate the DC connector (Battery) as below.</td></tr>
<tr><td>• Insert stripped cable into the pin contact and ensure all conductor strands are captured in the pin contact.
• Crimp the pin contact by using a crimping plier. Put the pin contact with stripped cable into the corresponding crimping pliers and crimp the contact.</td><td> 
  </td></tr>
<tr><td> 
 
</td><td>Insert to the inverter battery port (BAT+/-)</td></tr>
</table>

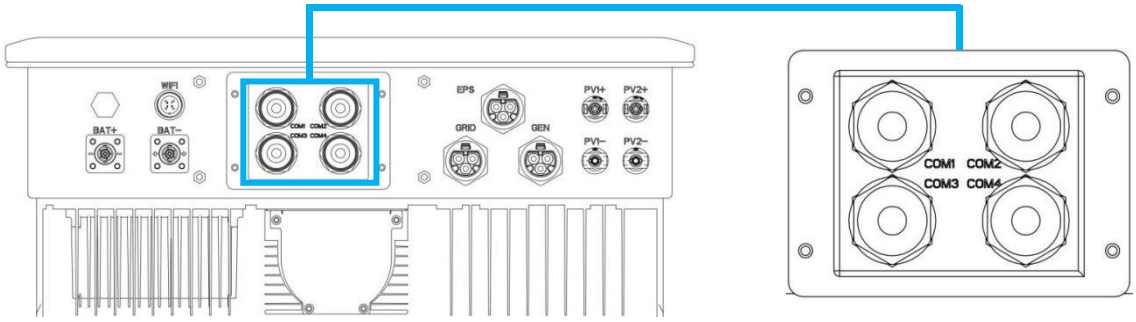
6.7 Communication Cable Installation

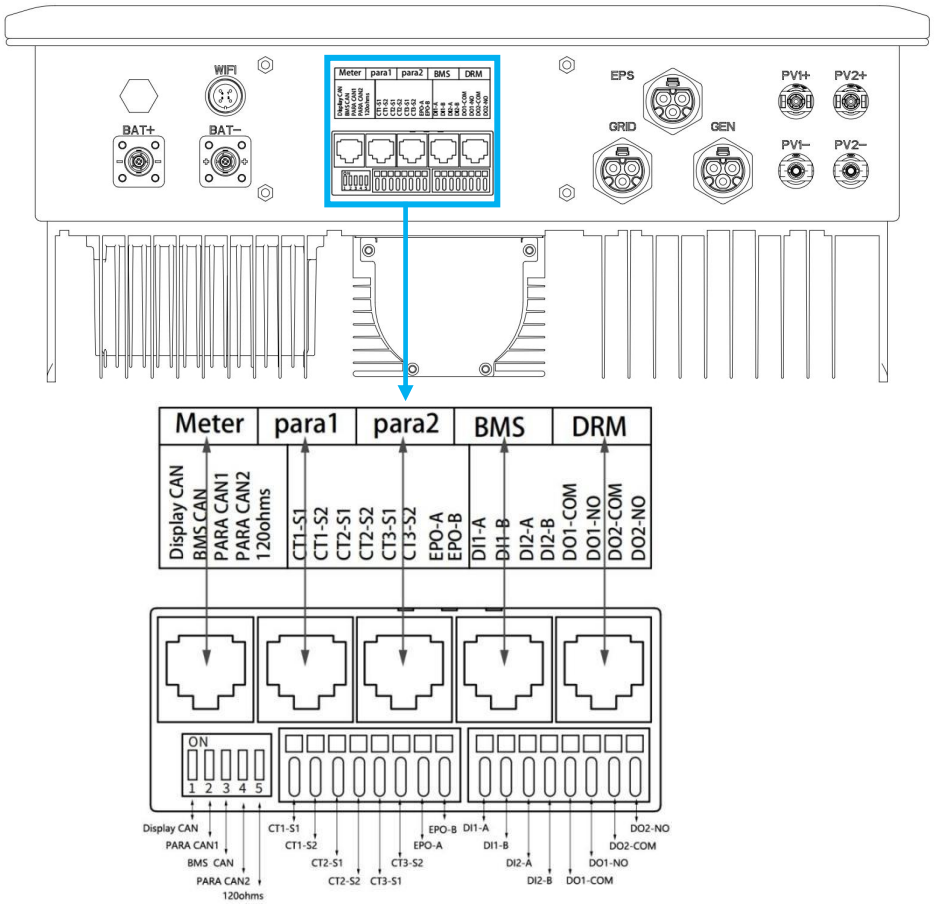
NOTICE

The SSE-HL3-8K-P1EU series inverter are available with multiple communication options such as WiFi, Bluetooth, RS485 and Meter with an external device.

Operating information like output voltage, current, frequency, fault information, etc., can be monitored locally or remotely and cellphone App via these interfaces.

6.7.1 Protective Cover for Communication Ports





The inverter package includes a protective cover to safeguard the communication ports.

Step 1. Use screwdriver to take out the 4 screws on the cover.

Step 2. Please review the following sections of the manual and prepare the internet cables accordingly.

Step 3. Loose the cable gland and remove the watertight caps inside the cable gland based on the number of the cables and keep the unused holes with watertight cap.

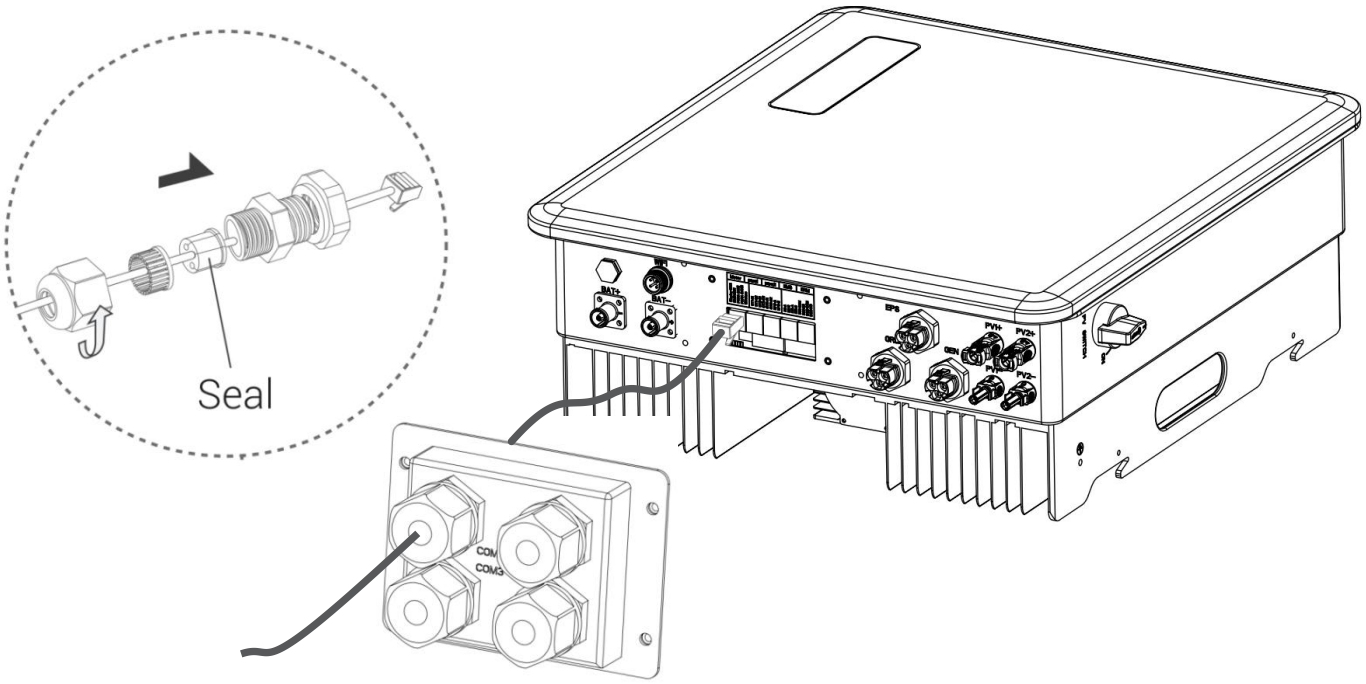
Step 4. Lead the cables into the holes in the cable gland. (Hole diameter: 6mm)

Step 5. Crimp the RJ45 connectors onto the cables according to the pin definitions described in the following sections

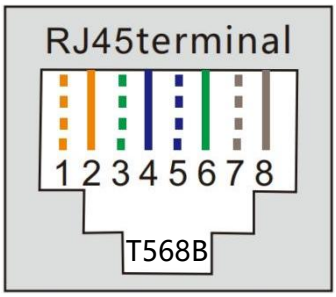
and connect to the ports accordingly.

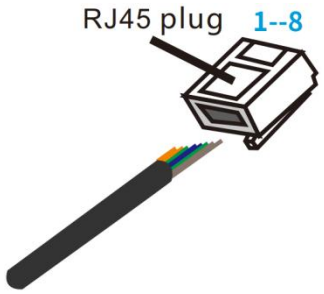
Step 6. Fasten the 4 screws on the cover (Torque: 1.7N.m-2 N.m)

Step 7. Reassemble the cable gland and ensure there is no bending or stretching of the internet cables inside the cover.

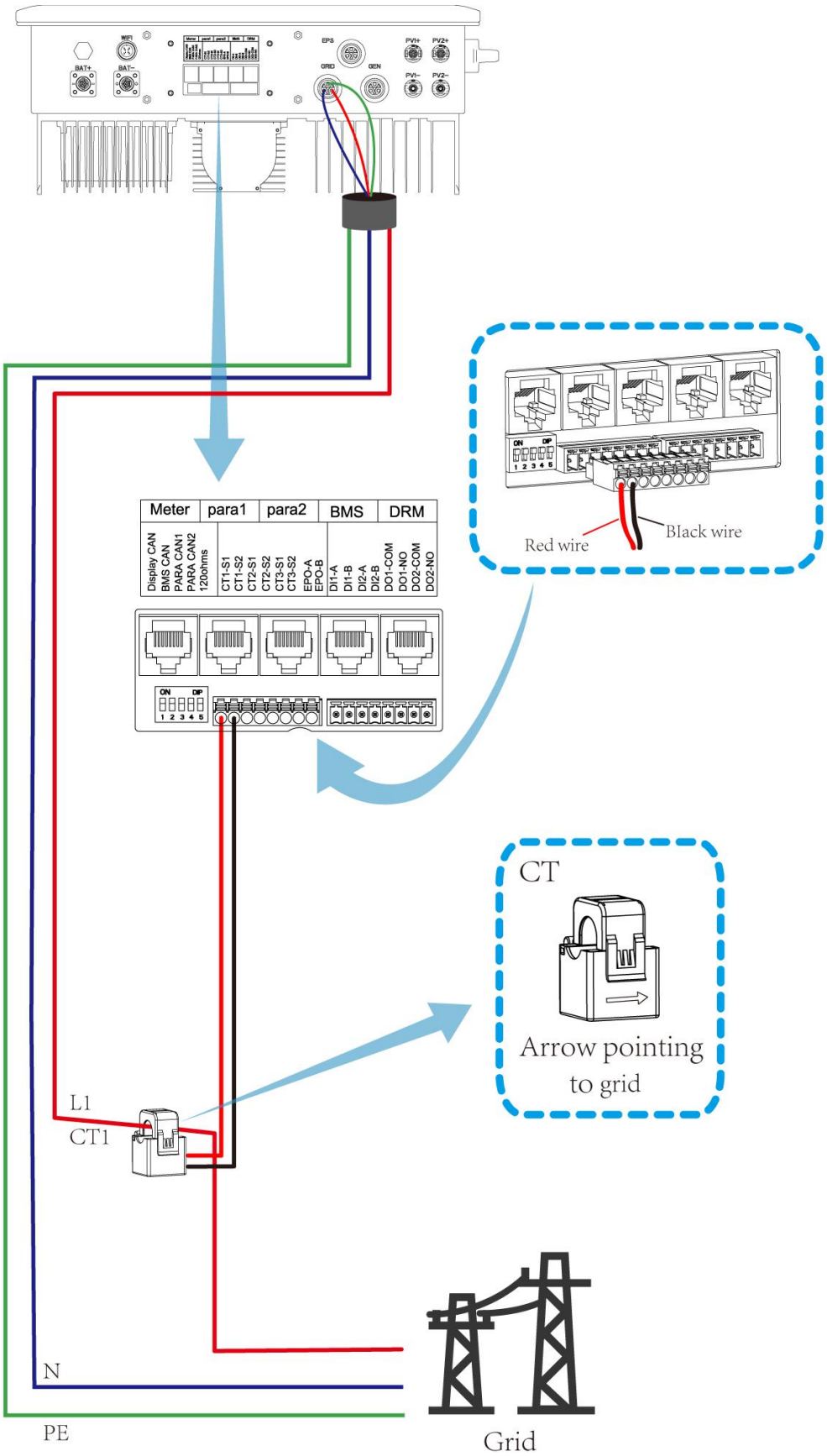


PIN	Meter	BMS RJ45	PARA1/2	DRM
1	Meter RS485A	Lead-acid cell NTC	Para Display CAN_H	DRM1/5
2	Meter RS485B	GND	Para Display CAN_L	DRM2/6
3	/	/	/	DRM3/7
4	5V_VCC	BMS_CAN1_H	Para Power CAN1_H	DRM4/8
5	FR_ALM_IN	BMS_ CAN1_L	Para Power CAN1_L	REFGEN
6	5V_GND	GND	/	COM/DRM0
7	AFCI_485A	BMS_485A	Para Power CAN2_ H	+12VS
8	AFCI_485B	BMS_485B	Para Power CAN2_L	GND





6.8 CT Connection (Default)



*Note： When the load power reading in the App is not correct, reverse the CT.

6.9 Wi-Fi&BLE stick installation and trouble shooting

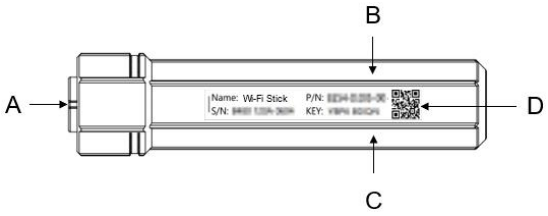
6.9.1 Indication

A: Circular Connector Interface: Connect to inverter and communication

B: Red LED: Inverter communication indication

C: Green LED: Network communication indication

D: Product label: Show product information

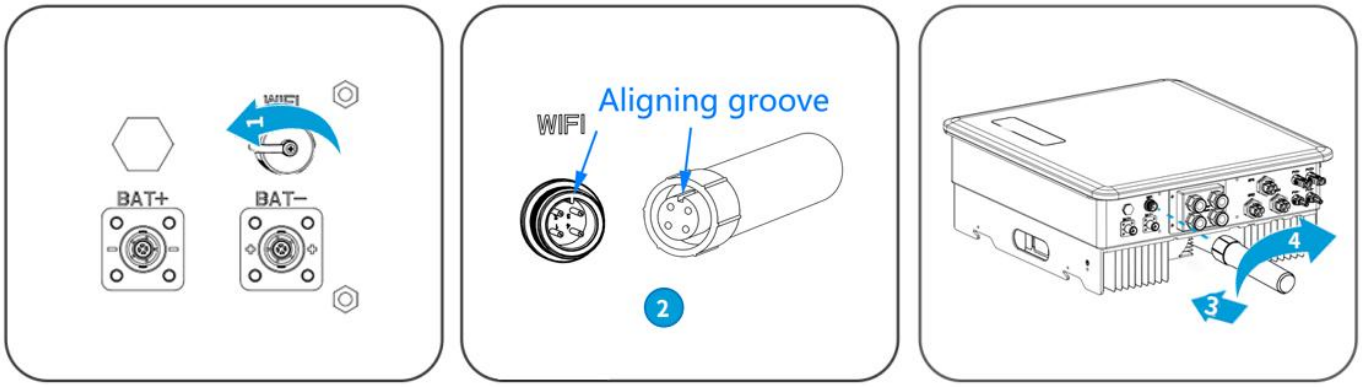


1. The LED lights up only when the Wi-Fi&BLE device is powered on.
2. When the Wi-Fi&BLE stick is powered on, the green LED glows for 3s as a power-on indication.
3. For more details about LED indication, see Chapter 6.9.6 “LED Indication and Troubleshooting”.

6.9.2 Install the Wi-Fi&BLE stick

Follow the installation steps!

1. Remove the waterproof cover.	2. Aligning groove.
3. Plug in WiFi module.	4. Rotate to lock the WiFi module.



6.9.3 Web/APP

Item	Web View	APP	SOSEN Energy Web&APP manual
QR Code			
Website	https://sosen.inteless.com/	iOS: search”SOSEN Energy” in Apple Store Android: search “SOSEN Energy”in Google Play	https://www.soseninverter.com/product-manual.html

6.9.4 Wi-Fi Connection

The Wi-Fi connection diagram of the Wi-Fi&BLE device is shown in the following figure. The specific process can be done by downloading the APP and setting up the network connection according to the APP operation guide.

NOTICE

Wi-Fi Trouble Shooting

1. Place the inverter within 10 meters of the WiFi router.
2. Place the phone within 5 meters of the device's Bluetooth.
3. Make sure to enter the correct WiFi name and password.
4. The router must be set to 2.4GHz band.
5. Set the router´s security mode to WPA2 or WPA, and it can not support WPA3.
6. Is the whitelist enabled on the router?

6.9.5 Installation qualification

If the Wi-Fi&BLE stick works normally, red LED and green LED are always glowing. Otherwise, it needs to be corrected by referring to chapter 6.9.6 “LED indication and trouble shooting”

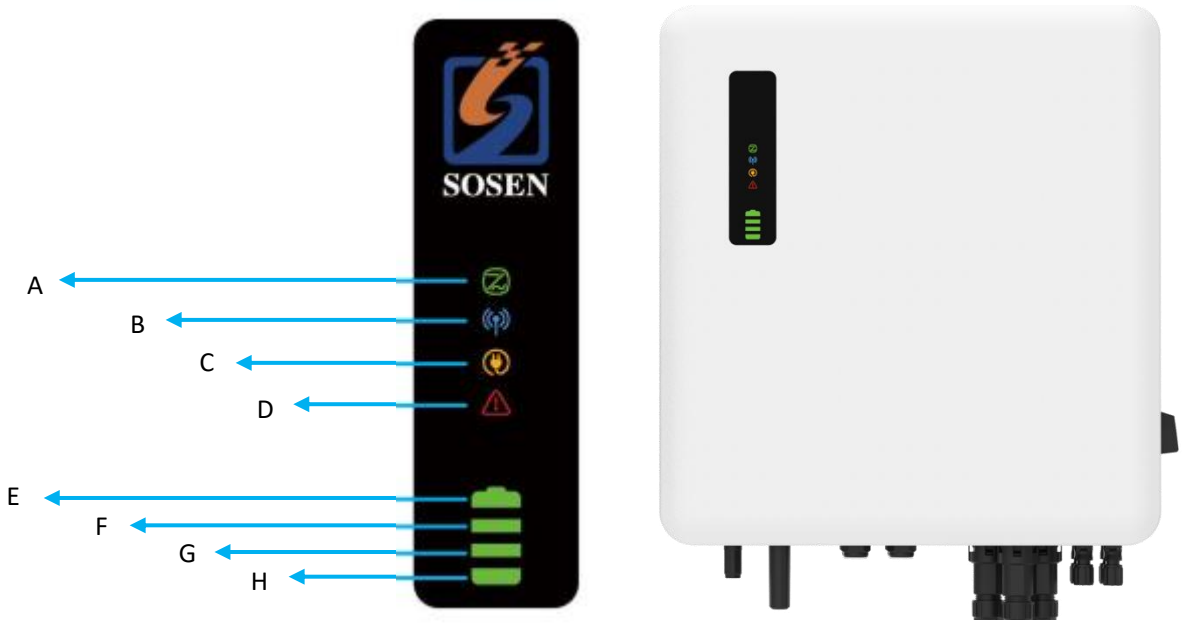
6.9.6 LED indication and trouble shooting

LED	State	Indication
	**Red LED: Inverter communication indication**	
	Cycle for 2s: flash once quickly, then glowing	
	Not glow more than 20s	The power supply to the Wi-Fi&BLE stick is abnormal or damaged： 1. Check whether the power supply of the Aerial Plug Interface on the inverter is normal 2. Wi-Fi&BLE stick abnormal, contact the dealer
	Cycle for 2s: flash once quickly, then off	Communication failure： Check whether the connection between the Wi-Fi&BLE stick and inverter is loose or poor contact
	**Green LED: Network communication indication**	

	When powered on, continuously glows 3s, and then off	Power on indication
	Glow more than 5s	Communication is normal
	During the long glowing, flash occasionally	The network transmits data
	Cycle for 20s: flash once quickly, then off	The router is not connected: 1. Check whether the password is right 2. Check the strength of the router
	Cycle for 20s: flash 3 times continuously, then off	Connected to the route, but can't connect to the cloud server: 1. Check whether the router has Internet access permission 2. Check the firewall setting
	Cycle for 20s: flash 4 times continuously, then off	Wi-Fi&BLE stick information error: Please contact the dealer

7. Operation

7.1 Indicator panel (Leds)



Name	Object	Function
Indicator LED	A	Green: ON, the inverter is running; Flash is on Standby.
	B	Blue: ON, Communication with BMS normal.
	C	Yellow: ON, the inverter is in Backup (EPS) mode. Power grid not available.
	D	Red: The inverter is in fault mode. Go to the App to get more information.
	E	Green: ON, battery capacity is 90~100%.
	F	Green: ON, battery capacity is 61~89%.
	G	Green: ON, battery capacity is 35~60%.
	H	Green: ON, battery capacity is 10~34%.

8. Trouble Shooting

This section contains information and procedures for resolving potential problems with the SSE-HL3-7K-P1EU series inverters and provides tips for identifying and resolving most problems that might occur with the SSE-HL3-8K-P1EU series inverters.

This section will assist you in identifying potential problems. Please follow the troubleshooting steps below.

Check the warning or fault messages on the System Control Panel and the fault codes on the inverter information panel. If any message is displayed, record it before proceeding further. Attempt the solutions indicated on the table below.

Code	Fault Name	Solution
W03	Grid over frequency alarm	If there is an occasional alarm, it may indicate an abnormal condition in the power grid. Once the power grid is restored to normal, the inverter will automatically revert to its normal working state. However, if the alarm occurs frequently, check whether the grid voltage and frequency are set correctly, as well as the inverter's AC circuit breaker and AC wiring. If the check is correct and the alarm is still repeated, contact technical support
W04	Grid under frequency alarm	
W05	Grid overvoltage alarm	
W06	Grid undervoltage alarm	
W08	Grid long time OV alarm	If the power grid malfunctions, the inverter automatically resumes normal operation once the grid recovers. Otherwise, please contact us for assistance.
W10	Grid amplitude fast inspection alarm	
W11	Grid DC component fast detection alarm	
W12	Grid phase fast inspection alarm	
F05	Overload protection	If the load power is too large or the device derates, reduce the power consumption. Or seek help from us, if not go back to normal state.
W01	Overload alarm	
F29	CT reverse connect failure	Check whether the CT connection is correct.
F30	CT fault	
F31	Ground fault	Check whether the PE cable is grounded properly.
W07	Grid phase deficiency alarm	Check whether the AC input cable is correctly connected.
F32	LN reverse connect failure	
W09	Grid phase abnormal alarm	
F01	INV overvoltage fault	The inverter is faulty. To resolve this, turn off the PV, grid, and battery, and wait for 5 minutes before turning on the inverter. Check if the problem is resolved. If it persists, please seek assistance from us.
F02	INV undervoltage fault	
F10	Leakage current self-test failure	
F03	Short circuit fault	
F04	INV overcurrent protection	
F07	INV bus overvoltage protection	
F08	INV bus undervoltage protection	
F09	Bus unbalance alarm	
F12	Relay self-test failure	
F13	INV fault lock	
F14	Busbar buffer failure	
F35	INV phase lock fault	
F36	Internal para matching fail	
F52	Aux power fault	
F64	Fan fault	
F83	DC fault lock	
F49	DC bus overvolt protection	
F50	DC bus undervolt protection	
F11	Leakage current overlimit fault	
F88	PV1 overcurrent protection	
F89	PV2 overcurrent protection	
F33	INV FLASH fault	The internal communication and storage are abnormal. Turn off the PV,

F34	INV-DC comm fault	grid, and battery, and wait 5 minutes before turning on the inverter. Check whether the problem is resolved. Or seek help from us, if not go back to normal state.
F66	ARM-INV comm fault	
F67	ARM-DCDC comm fault	
F70	Power module para mis-matched	
F76	Power parameter setting failed	
F74	ARM FLASH abnormal	
F81	DC-INV comm fault	
F82	DC FLASH fault	
F38	Host fault	Turn off the host PV, power grid, and battery, and wait 5 minutes before turning on the inverter. Check whether the problem is resolved. Or seek help from us, if not go back to normal state.
F102	Parallel parameter synchronization fault	Check whether the parallel communication cable is properly connected.
F105	Single machine parallel line fault	
F53	Discharge OC protection	Check whether the battery settings are inconsistent with the battery specifications.
F54	Charge OC protection	
F56	DC BAT overvoltage protection	
F57	DC BAT undervoltage protection	
F60	BAT reverse connect failure	Check whether the positive and negative terminals of the battery power line are connected in reverse mode.
W16	DC over-temp alarm	Ensure that the inverter is installed in a place without direct sunlight. Make sure the inverter is installed in a cool/well-ventilated area. Ensure that the inverter is installed vertically and the ambient temperature is lower than the upper limit of the inverter temperature.
F63	DC over-temp fault	
F15	INV overtemperature protection	
W02	INV overtemperature alarm	
F65	Meter comm fault	Check whether the meter communication line is normal.
F69	BMS-CAN comm abnormal	Make sure the battery you use is compatible with the inverter. Check whether the communication cables or ports between the battery and the inverter are properly connected
F73	BMS-485 comm abnormal	
F75	NTC disconnected	Check whether cables to the NTC temperature sensor are properly connected.
F86	PV1 overvoltage protection	Check whether the PV string voltage (Voc) is higher than the maximum input voltage of the inverter. If so, adjust the number of series PV modules and reduce the PV string voltage to fit the input voltage range of the inverter. After correction, the inverter will automatically return to its normal state.
F87	PV2 overvoltage protection	
F90	PV1 reverse connect protection	Check whether the PV cables are correctly connected.
F91	PV2 reverse connect protection	
W13	DC BAT overvoltage alarm	The inverter is unable to detect the battery voltage. Please ensure that the battery switch system is turned on and that the cables are properly connected.
W14	DC BAT undervoltage alarm	
W15	BAT none-connected	
W17	SOC low alarm	If the battery is low, make sure to recharge it promptly.
W20	BAT ch/disch prohibition alarm	If the internal fault of the lithium battery occurs, Turn off the PV, grid, and battery, and wait 5 minutes to turn on the inverter and lithium battery. Check whether the problem is resolved. Or seek help from us, if not go back to normal state.
W49	Bat genaral warning	
F114	Bat over-volt fault	
F115	Bat under-volt fault	
F116	Bat high-temp protection	
F117	Bat low-temp protection	
F118	Bat disch over-curr protection	
F119	Bat charge over-curr protection	
F120	Bat contactor fault	
F121	Bat short circuit	
F122	BMS fault	

F123	Bat cell protection	
F124	Bat EOL	The battery has reached the end of its life. Please contact the battery´s manufacturer for assistance.
W50	Bat high-volt warning	If there is an internal fault with the lithium battery, please follow these steps: First, turn off the photovoltaic (PV) system, the grid, and the battery. Wait for 5 minutes before turning on the inverter and the lithium battery again. Check to see if the issue has been resolved. If the problem persists, don't hesitate to seek our assistance. If everything returns to normal, you can continue as usual.
W51	Bat low-volt warning	
W52	Bat high-temp warning	
W53	Bat low-temp warning	
W54	Bat disch over-curr warning	
W55	Bat charge over-curr warning	
W56	Bat contactor warning	
W57	Bat short circuit warning	
W58	BMS internal warning	
W59	Bat cell warning	

NOTICE

If your inverters information panel is not displaying a Fault light, check the following list to make sure that the present state of the installation allows proper operation of the unit.

Is the inverter located in a clean, dry, and adequately ventilated place?

Have the DC input breakers been opened?

Are the cables adequately sized and short enough?

Are the input and output connections and wiring in good condition?

Are the configurations settings correct for your particular installation?

Are the display panel and the communications cable properly connected and undamaged?

Contact our Customer Service for further assistance. Please be prepared to describe details of your system installation and provide the model and serial number of the unit.

9. Maintenance

9.1 Power ON the Inverter for first time

DANGER

Important: Please follow these steps to turn on the inverter.

Step 1: make the PV SWITCH to the ON position.

Step 2: Turn on the battery. Turn on the DC switch between battery and inverter.

Step 3: Turn on the AC circuit breaker between the inverter port and the power grid.

Step 4: Open the AC circuit breaker between the inverter load port and the emergency load.

Step 5: Manually send the startup command through the APP (for safety, it can be set to automatic startup after the initial power-on).

Step 6: The inverter should start running now.

9.2 Power Off the Inverter

DANGER

• Turn off the inverter before performing maintenance operations. Otherwise, the inverter may be subject to electric

shock or damage.

• Delayed discharge. Wait until the components are discharged after turning off the unit.

Step 1: Turn off the AC breaker on the ON-GRID side of the inverter.

Step 2: Turn off the AC breaker on the BACK-UP (EPS) side of the inverter.

Step 3: Turn off the battery breaker between the inverter and the battery.

Step 4: Turn off the PV switch of the inverter.

9.3 Removing the Inverter

WARNING

• Make sure that the inverter is powered off.

• Wear proper PPE before any operations.

Step 1: Disconnect all the cables, including DC cables, AC cables, communication cables, the communication module and PE cables.

Step 2: Remove the inverter from the mounting plate.

Step 3: Remove the mounting plate.

Step 4: Store the inverter properly. If the inverter needs to be used later, ensure that the storage conditions meet the requirements.

9.4 Disposing of the Inverter

If the inverter cannot work anymore, dispose of it according to the local disposal requirements,

The inverter cannot be disposed of together with household waste.

WARNING

• Make sure that the inverter is powered off.

• Wear proper PPE before any operations.

9.5 Routine Maintenance

Maintaining Item	Maintaining Method	Maintaining Period
System Clean	Check the heat sink, air intake and air outlet for foreign matter or dust.	Once 6-12 months
PV Switch	Turn the DC switch on and off ten consecutive times to make sure that it is working properly.	Once a year
Electrical Connection	Check whether the cables are securely connected. Check whether the cables are broken or whether there is any exposed copper core.	Once 6-12 months
Sealing	Check whether all the terminals and ports are properly sealed. Reseal the cable hole if it is not sealed or too big.	Once a year