YelonESS

HV6/8/10/12K-3H

Three-Phase Hybrid Inverter

User Manual

Contents

1. About this Manual

1.1 Applicable Product Model

This manual applies to the following models:

HV6K-3H, HV8K-3H, HV10K-3H, HV12K-3H.

This manual introduces product information, installation, electrical connection, using methods, troubleshooting and maintenance. Please read this manual carefully to understand the safety information, functions and features before installing and using the product.

1.2 For Users

This product can only be installed and repaired by professionals who are familiar with local laws and regulations related to power grid and electrical systems. Meanwhile, they shall get professional training and get themselves familiar with the knowledge related to the products.

2. Safety Precautions

2.1 Symbol Description

The safety precautions mentioned in this manual must always be followed when you operate the product. This product has been designed in strict accordance with safety regulations. The products have passed the tests and obtained relevant certificates. When installing or using this product, please follow the safety instructions. Improper operation may result in injury or property losses.

The following types of safety instructions and general information appear in this manual as follows:

	High voltage warning High voltage during operation
	Warnings, Dangers and Precautions Failure to follow the warnings in this manual could result in injury
	Heat Hazard During the operation, parts of the cover, housing, and heat sink of the inverter will generate heat, which may cause burns.
	Grounding
	Instructions Please read this user manual before installing and operating the product.
	Capacitor Discharge Delay After the device is powered off, please wait for at least 10 minutes to fully discharge before performing maintenance.
	CE mark The inverter complies with the requirements of the applicable CE guild lines and LVD requirements.
	The device may not be disposed of as household waste. Please dispose of the device according to local laws and regulations.

2.2 Precautions

1) Please read this manual carefully before installation. It is important and necessary to get yourself familiar with the product, safety precautions, and the correct operation method.

2) Only professional and qualified electrical technicians can operate this product. The operators need to be familiar with relevant local standards and safety regulations.

3) Use insulated tools and wear personal protective equipment to ensure safety during the operation. When touching electronic devices, wear anti-static gloves, anti-static bracelets, anti-static clothing, etc., to protect the product from electrostatic damage.

4) Equipment damage or personal injury caused by failure to install, use, and configure this product under the requirements of this manual is not within the scope of responsibility of the equipment manufacturer.

5) Make sure the battery is compatible with the inverter before connection. Please contact via email (service@yeloness.com) to check the compatibility.

6) Use a multimeter to measure the positive and negative poles of the DC cable to ensure they are not reversely connected. Make sure the voltage is within the allowable range.

7) Do not connect the same battery pack to multiple inverters. Otherwise, the inverter may be damaged.

2.3 Precautions for PV Strings

1) Please use the PV connectors (included with this product) to connect to the PV terminals. Using other DC connectors may lead to serious consequences, and the equipment damage caused by this is not within the scope of the product warranty.

2) Make sure the PV module frame and support system are well grounded.

3) Make sure the DC cables are securely connected and tightened.

4) Use a multimeter to measure the positive and negative end of the DC cable to ensure they are not reversely connected. Make sure the voltage is within the allowable range.

5) Do not connect one PV string to multiple inverters. Otherwise, the inverter may be damaged.

6) The connected PV panels should be IEC 61730 certified and the max system voltage of the panels should match the max system voltage of the inverter.

7) Please be aware when the PV panels are exposed to sunlight, because there might be high voltage electricity.

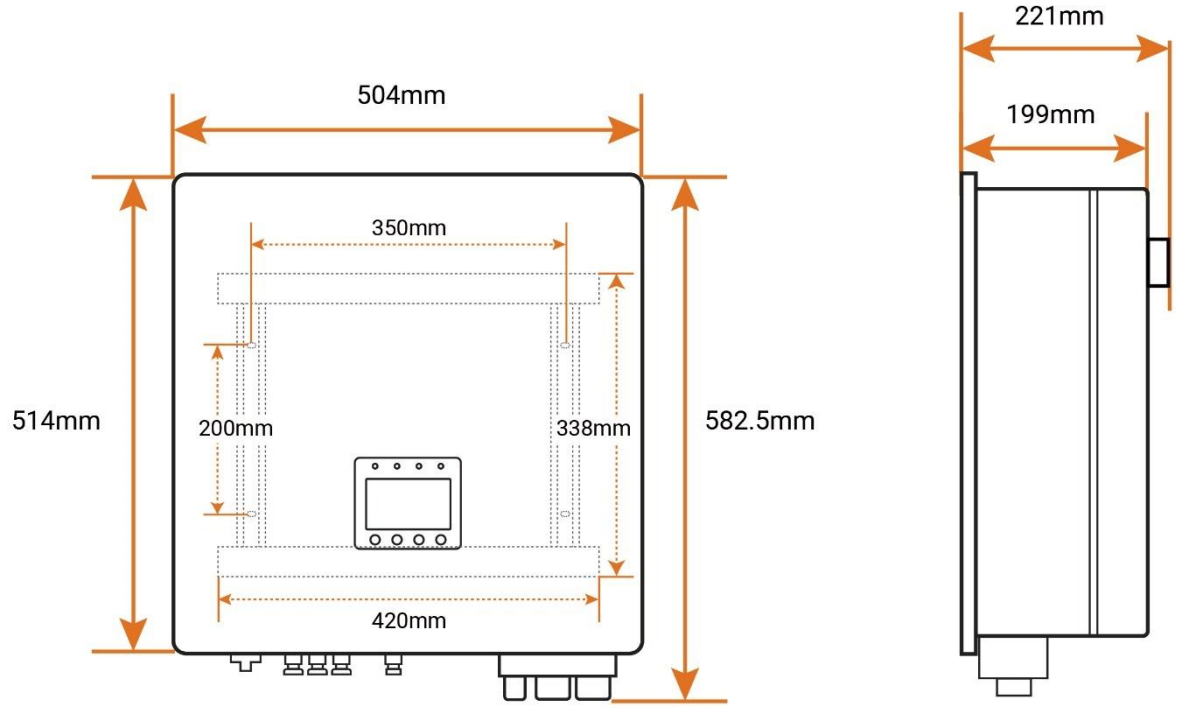
2.4 CE Directive

This chapter follows the requirements of the European Low Voltage Directive, which contains safety instructions and acceptable conditions by import duty systems.

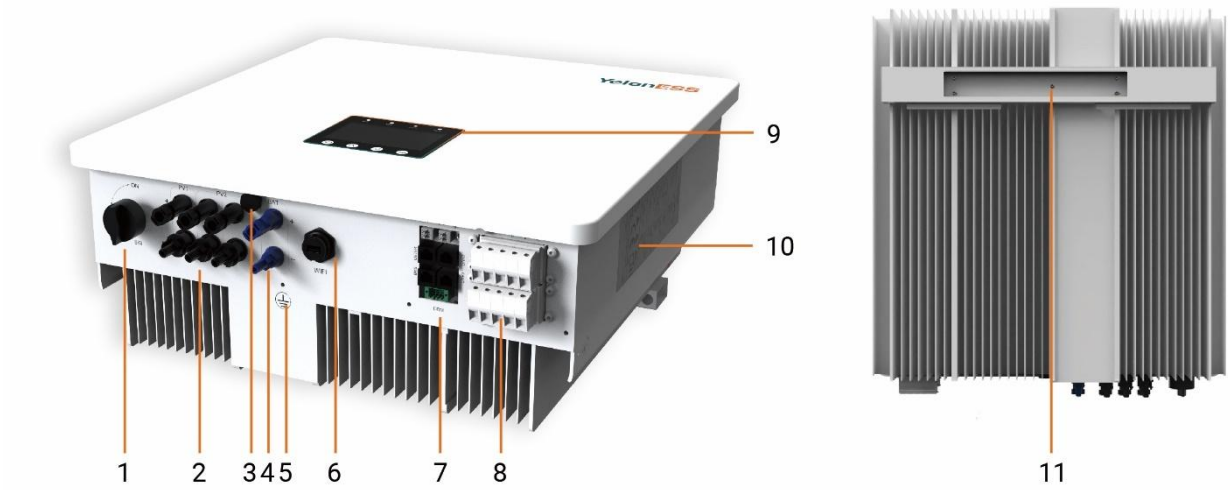
The operators must follow these instructions and conditions while installing, operating and maintaining the equipment. Ignoring them may lead to injury. If you do not understand a hazard, warning, or instruction, contact the YelonESS local dealer before installing, operating and servicing the equipment.

3. Product Introduction

3.1 Dimensions



3.2 Introduction



No.	Description
1	DC Switch
2	PV Terminal
3	Pressure Relief Valve
4	Battery Terminal
5	Grounding Terminal
6	Wireless Kit Connection Terminal
7	Communication Terminal
8	GRID & EPS Connection Terminal
9	Control Panel
10	Nameplate Label
11	Installation Rack

3.3 Tech Specs

Models	HV6K-3H	HV8K-3H	HV10K-3H	HV12K-3H
PV input				
Recommended PV array power	9000W	12000W	15000W	15000W
Max. input voltage	1000Vd.c			
Rated input voltage	720Vd.c			
MPPT voltage range	200~950Vd.c.			
Start-up voltage	250Vd.c			
Max. input current	14/14Ad.c.	14/14Ad.c.	14/28Ad.c.	14/28Ad.c.
Max. short circuit PV	17/17Ad.c.	17/17Ad.c.	17/34Ad.c.	17/34Ad.c.
MPPT number	2			
No. of PV strings MPPT A/MPPT B	1/1	1/1	1/2	1/2
Overvoltage Category (OVC)	II			

Battery				
Battery type	Lithium-ion			
Rated voltage	500V			
Battery voltage range	160~600Vd.c.			
Recommended charge/discharge current	25Ad.c.	25Ad.c.	25Ad.c.	25Ad.c.
Max. charge/discharge current	50/50Ad.c.	50/50Ad.c.	50/50Ad.c.	50/50Ad.c.
Max. charge/discharge power	6000W	8000W	10000W	12000W
Overvoltage Category (OVC)	II			

Grid output/input				
Rated output power	6000W	8000W	10000W	12000W
Max. continuous output apparent power	6600VA	8800VA	11000VA	12000VA
Max. AC output current	9.5Aa.c.	12.7Aa.c.	15.9Aa.c	17.3Aa.c.
Max. continuous input apparent power	12000VA	16000VA	16000VA	16000VA
Max. AC input current	17.3Aa.c.	23.1Aa.c.	23.1Aa.c.	23.1Aa.c.
Rated AC voltage	230V/400Va.c.,3L+N+PE			
Rated grid frequency	50/60Hz			
Power factor at rated power/Adjustable power factor	>0.99(0.8 leading-0.8 lagging)			
THDi @rated power	<3%			
Overvoltage Category (OVC)	III			

Backup output				
Rated output power	6000W	8000W	10000W	12000W
Max. output apparent power	6600VA	8800VA	11000VA	12000VA
Max. AC output current	9.5Aa.c.	12.7Aa.c.	15.9Aa.c	17.3Aa.c.
Rated voltage	230/400Va.c., 3L/N/PE			
Rated frequency	50/60Hz			
Switch time	＜20ms			

Output THDv @Linear Load	<3%

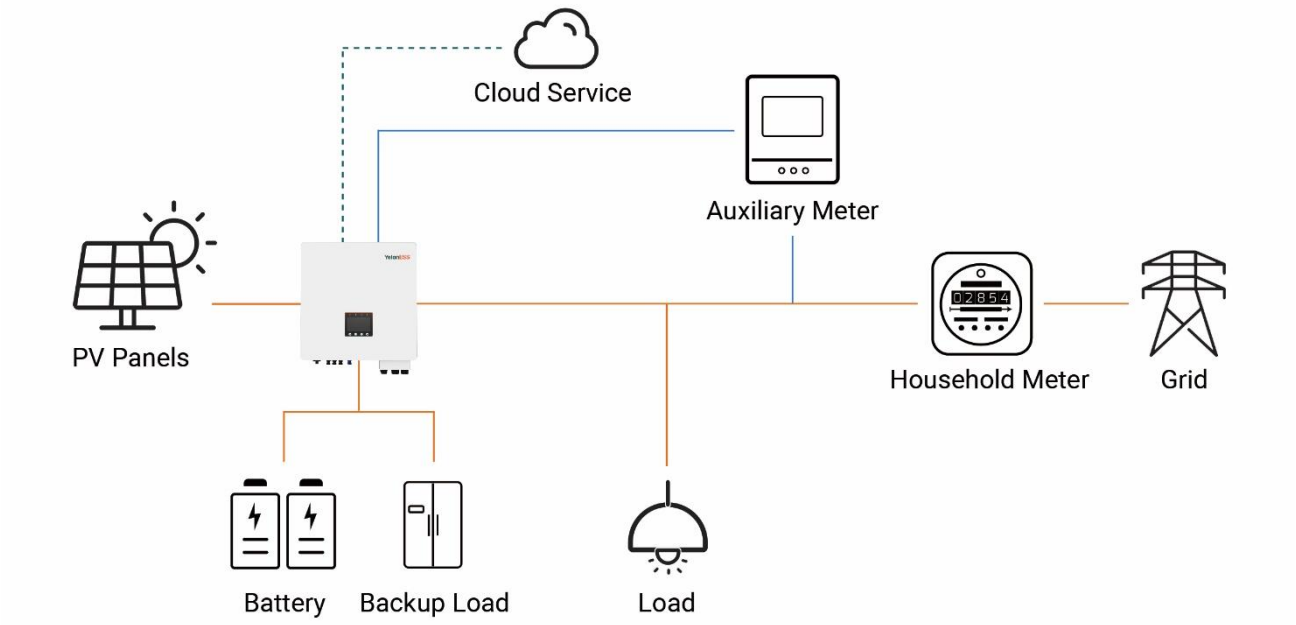
Efficiency				
Max. efficiency	97.8%	97.8%	98.0%	98.0%
EU efficiency	97.5%	97.5%	97.6%	97.6%
BAT charged Max. efficiency	98.0%	98.0%	98.0%	98.0%
BAT discharged Max. efficiency	97.5%	97.5%	97.6%	97.6%
MPPT efficiency	99.9%			

Protection	
Grid monitoring	Yes
PV insulation resistance detection	Yes
DC reverse polarity protection	Yes
AC short-circuit protection	Yes
AC over-current protection	Yes
AC over-voltage protection	Yes
Leakage current monitoring	Yes
DC switch(solar)	Yes
DC overvoltage protection (Battery)	Yes
Overvoltage protection	DC Type II/AC Type III
Anti-islanding protection	Yes

General information	
Dimensions(W*H*D)	504×514×199mm
Weight	33.0kg
Topology	Transformerless
Operating temperature range	-25~+60°C
Relative humidity	0-95% (no condensation)
Overvoltage Category (OVC)	III(AC), II (DC)
Protective Class	Class I
Pollution Degree (PD)	3
Ingress protection	IP65
Cooling method	Natural Convection
Max. operating altitude	2000m
Acoustic noise	<40dB
Display	LCD, APP
Communication	CAN/RS485/WiFi

3.4 Application Scenario

This product is a high-performance three-phase hybrid inverter. The energy system consisting of the hybrid inverter, photovoltaic panels, energy storage batteries, loads, and power grids can ensure energy reliability and reduce energy costs. The product has a variety of working modes to choose from. Users can set the working modes flexibly according to user's preferences.



3.5 Working Mode Introduction

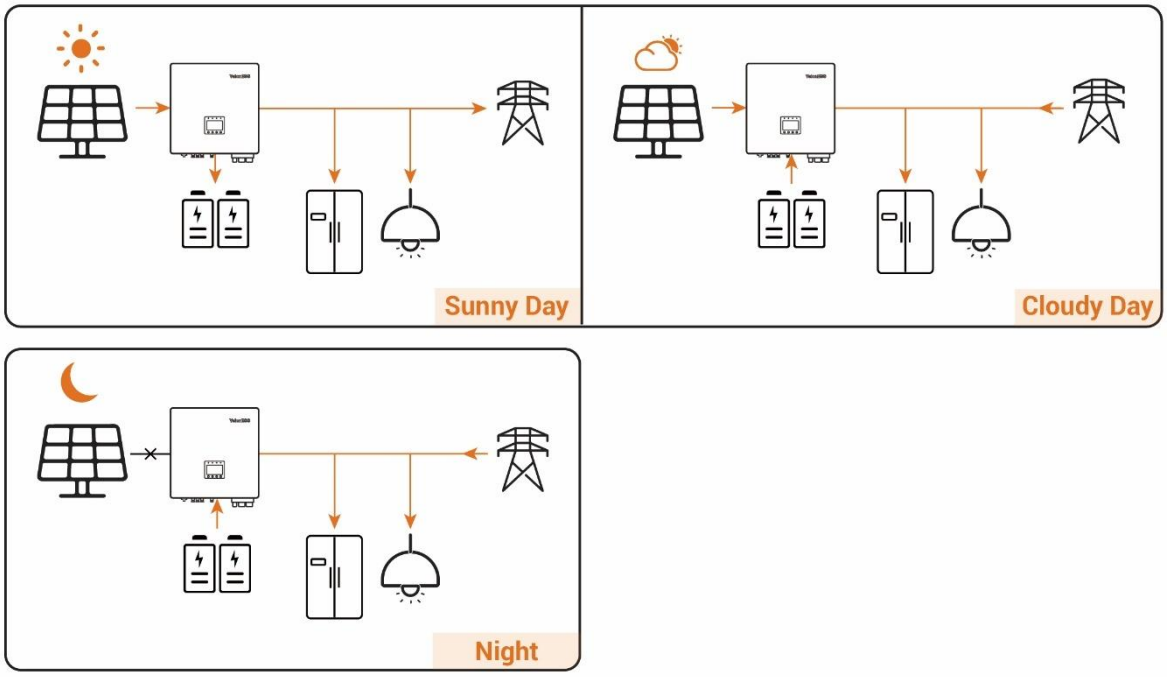
1) Self-consumption Mode

This mode is suitable for area where electricity price is high and there is only a small amount or no subsidies for sending solar-generated electricity to grid.

When there's sufficient sunlight in the daytime, the PV-generated electricity power household loads in priority; the surplus energy will be stored in batteries; and send remaining energy to grid (if it is permitted).

During the daytime with sufficient sunlight, the PV panels and the storage battery power the household loads together. If still not enough, the inverter will draw energy from the grid to meet the needs.

During night time when the battery is fully charged and the inverter has sufficient power, the battery will supply power to loads. Otherwise, the inverter will draw energy from the grid to make up.

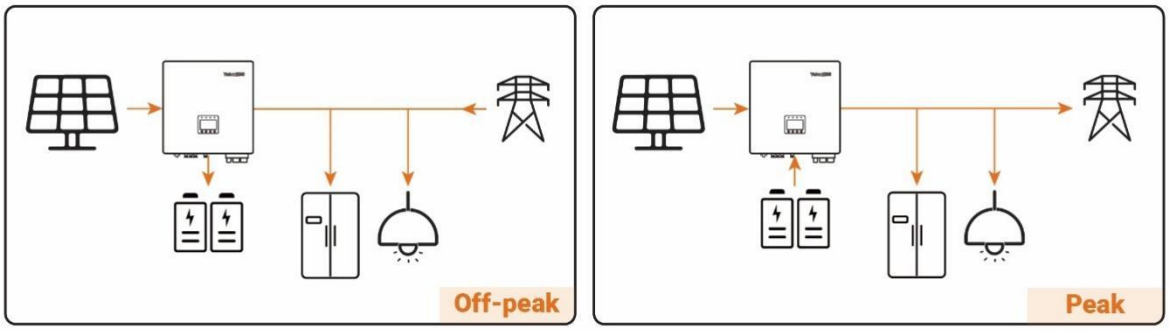


2) ECO Mode

This mode adds the charging and discharging time setting function compared to the self-consumption mode. Users can set battery charging time at off-peak hours and power household loads or send electricity to the grid.

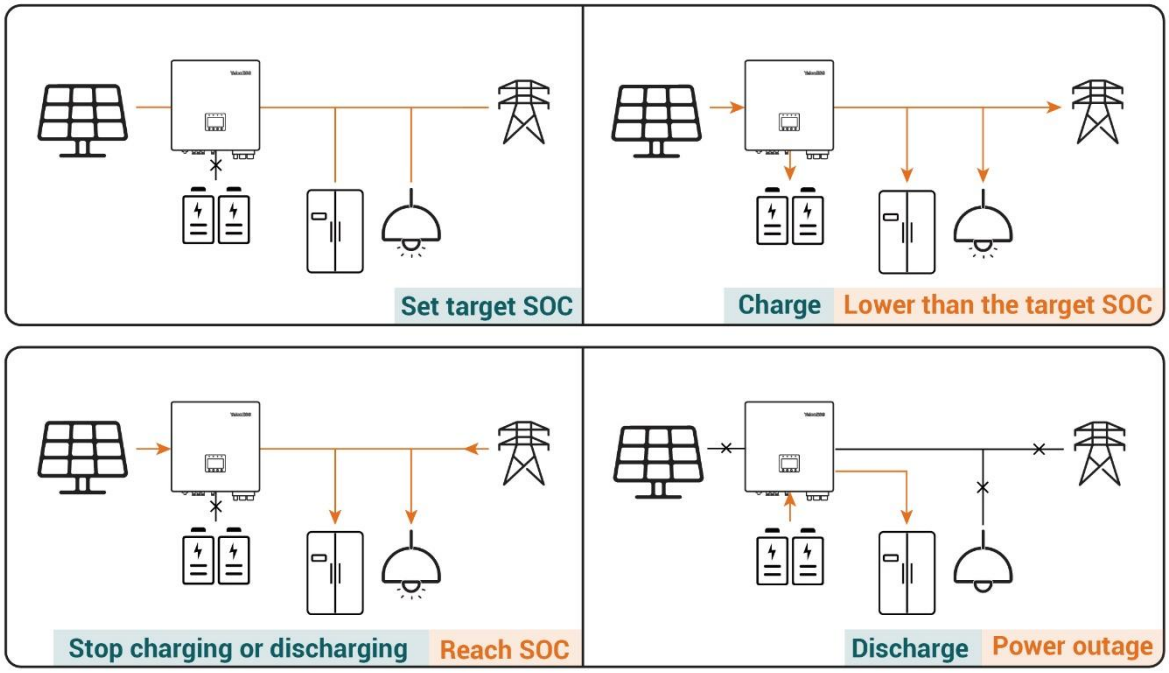
Off-peak: Charge the battery. If the PV power is insufficient to power the load and charge the battery, the grid will charge the battery.

Peak: Battery discharges to power the loads and send the surplus to the grid.



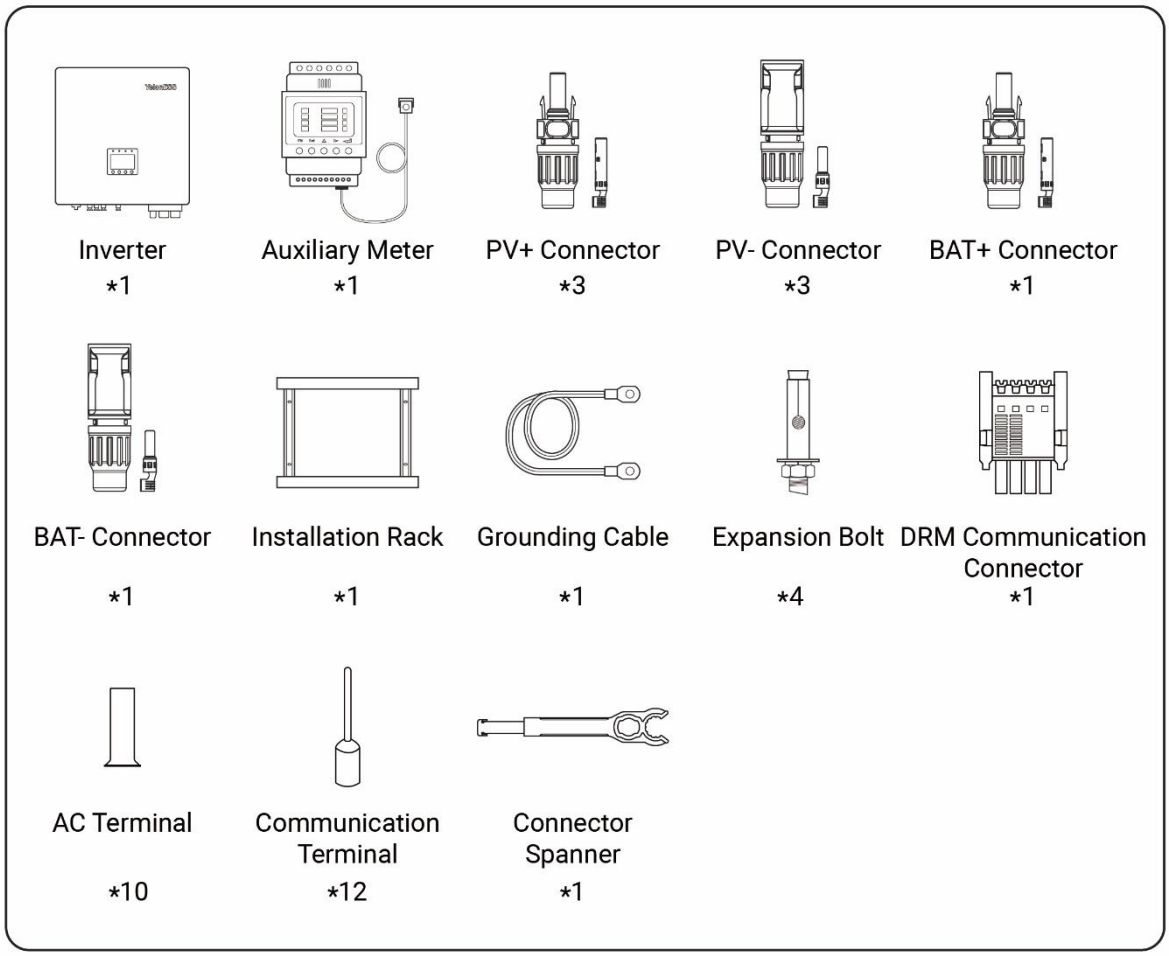
3) Backup Mode

This mode is recommended for areas with frequent power outage. The inverter will automatically charge the battery when the SOC is lower than the preset value until the value is reached. This mode ensures sufficient energy supply by the battery when there is an outage.



4. Installation

4.1 Packing List



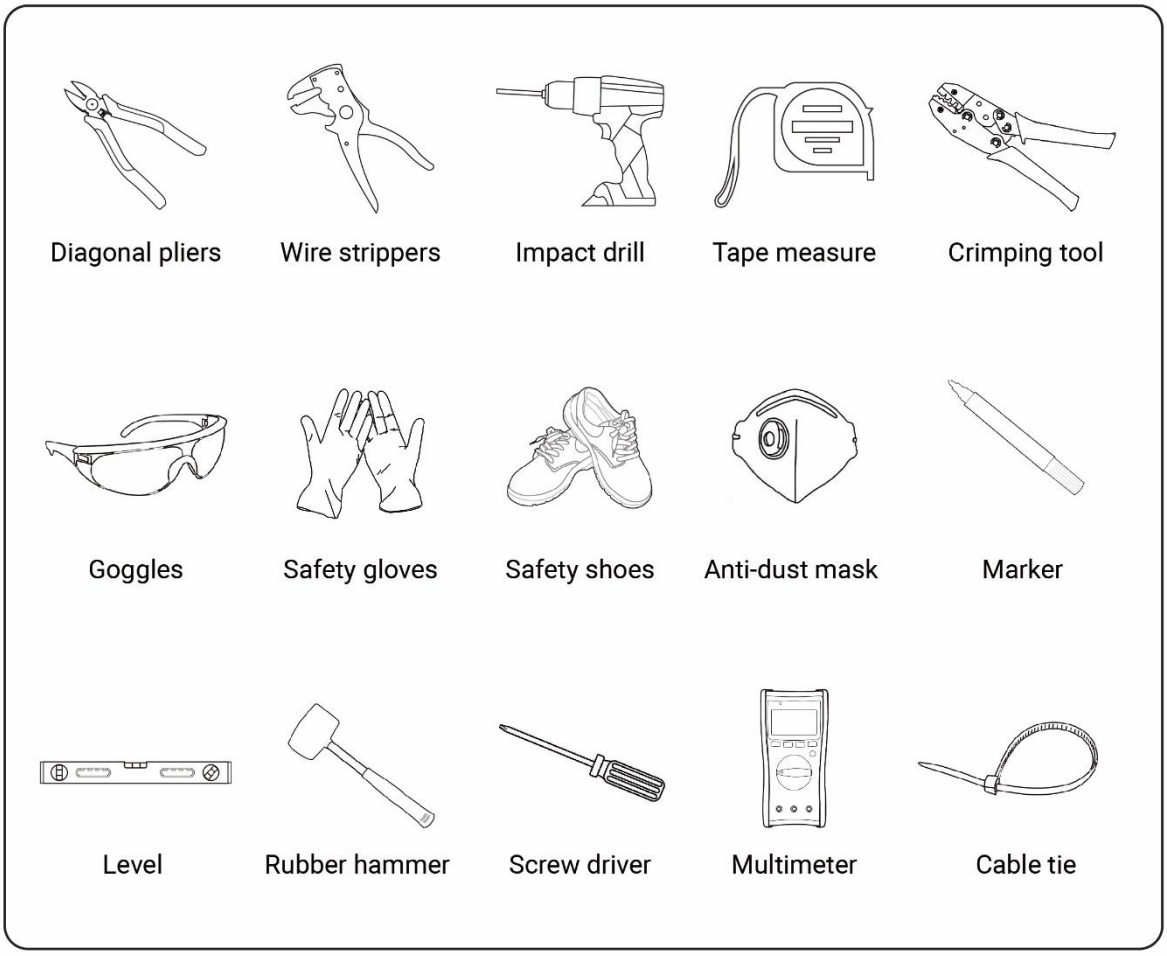
Before signing for the equipment, please check the following:

1) Check the outer packaging for damage, such as deformation, holes, cracks, or other signs that may cause damage to the device in the box. If damaged, do not open the package and contact the authorized dealer.

2) Check the inverter model. If the model differs from what you ordered, please do not open the package and contact the authorized dealer.

3) Check the type/model， quantity and appearance of the delivered products. In case of damage, please contact the authorized dealer.

4.2 Preparation



4.3 Installation Requirements

1) The ingress protection level of this product meets the requirement of indoor and outdoor installation. The temperature and humidity of the installation environment must be within the range required by the manual.

2) This product is prohibited to be installed in flammable, explosive or corrosive environments.

3) The temperature of the product surface will rise during operation. Please choose the installation location reasonably to prevent burns.

4) To avoid danger when drilling, please do not install the product near water pipes, cables, etc.

5) This product should be installed in suitable places with no direct sunlight, rain or snow.

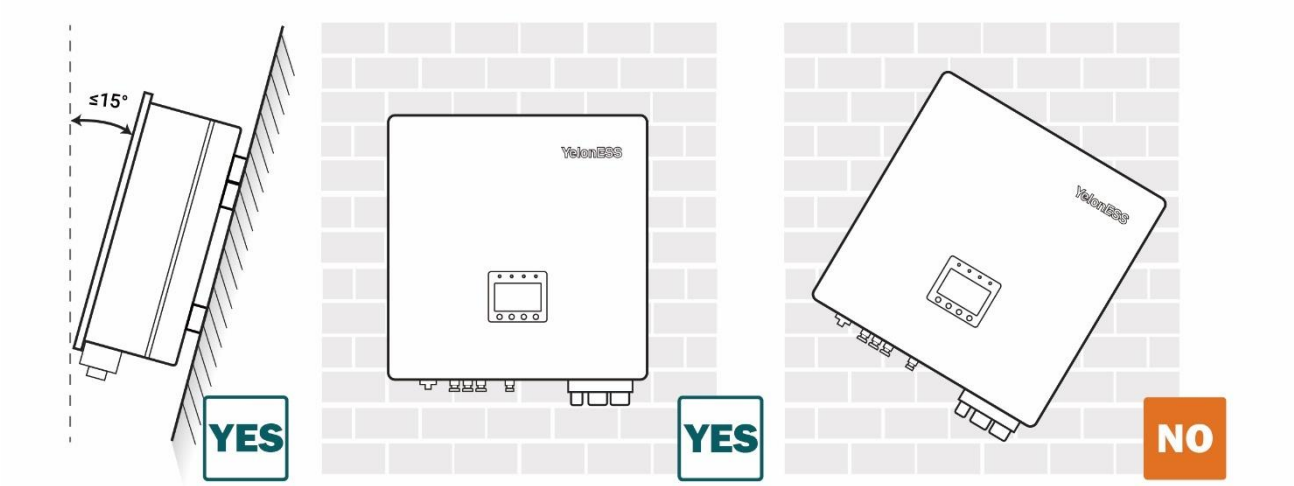
6) The installation space of this product must meet the requirements of ventilation, heat dissipation, and operating space. Please avoid installation in confined areas.

7) The installation altitude of this product should be lower than the maximum working altitude.

8) Keep this product away from strong magnetic field to avoid electromagnetic interference.

9) Recommended installation angle: vertical or backward ≤ 15°. Do not install the product upside down, leaning forward or back beyond the recommendation.

10) The product should be installed in a place that can bear the weight of the inverter and is solid and reliable.



4.4 Unpacking and Handling

1) Unpack the inverter and take out the supporting foam. At least TWO operators are needed to take the inverter out of the package and move it to the installation location.

2) Take out the installation rack, auxiliary meter, wireless kit and other accessories.

Please note:

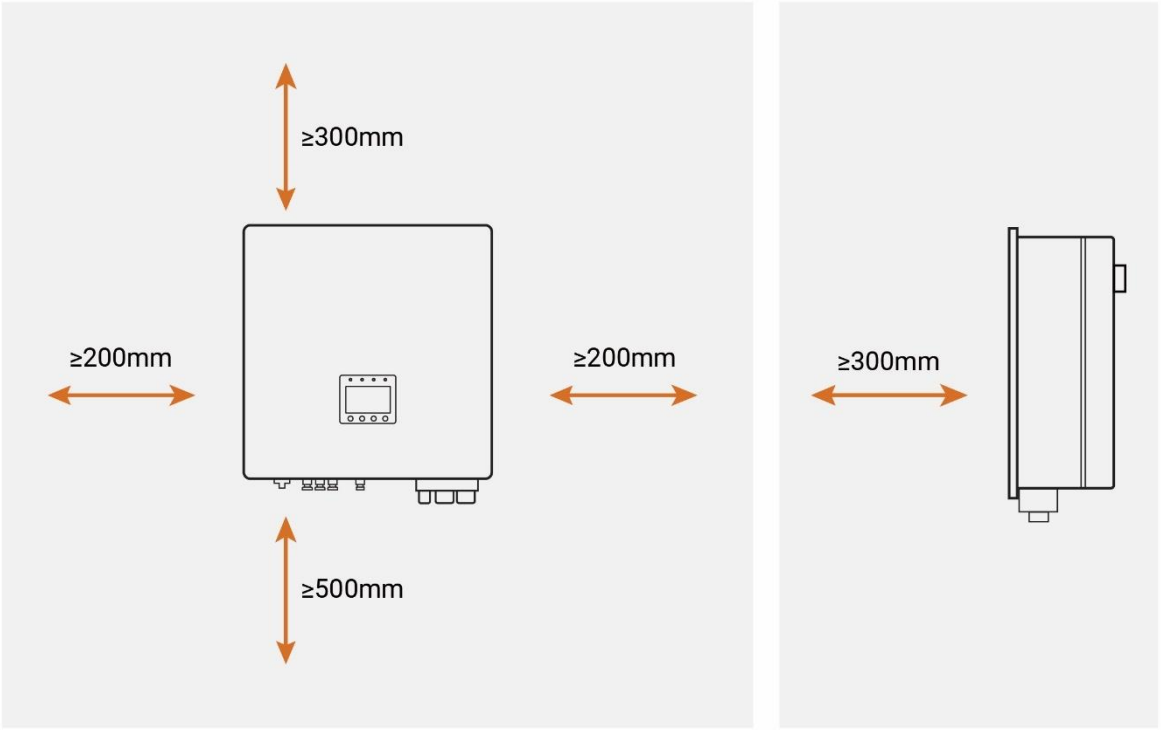
* Please keep balance while handling the product to avoid injuries from equipment falling.

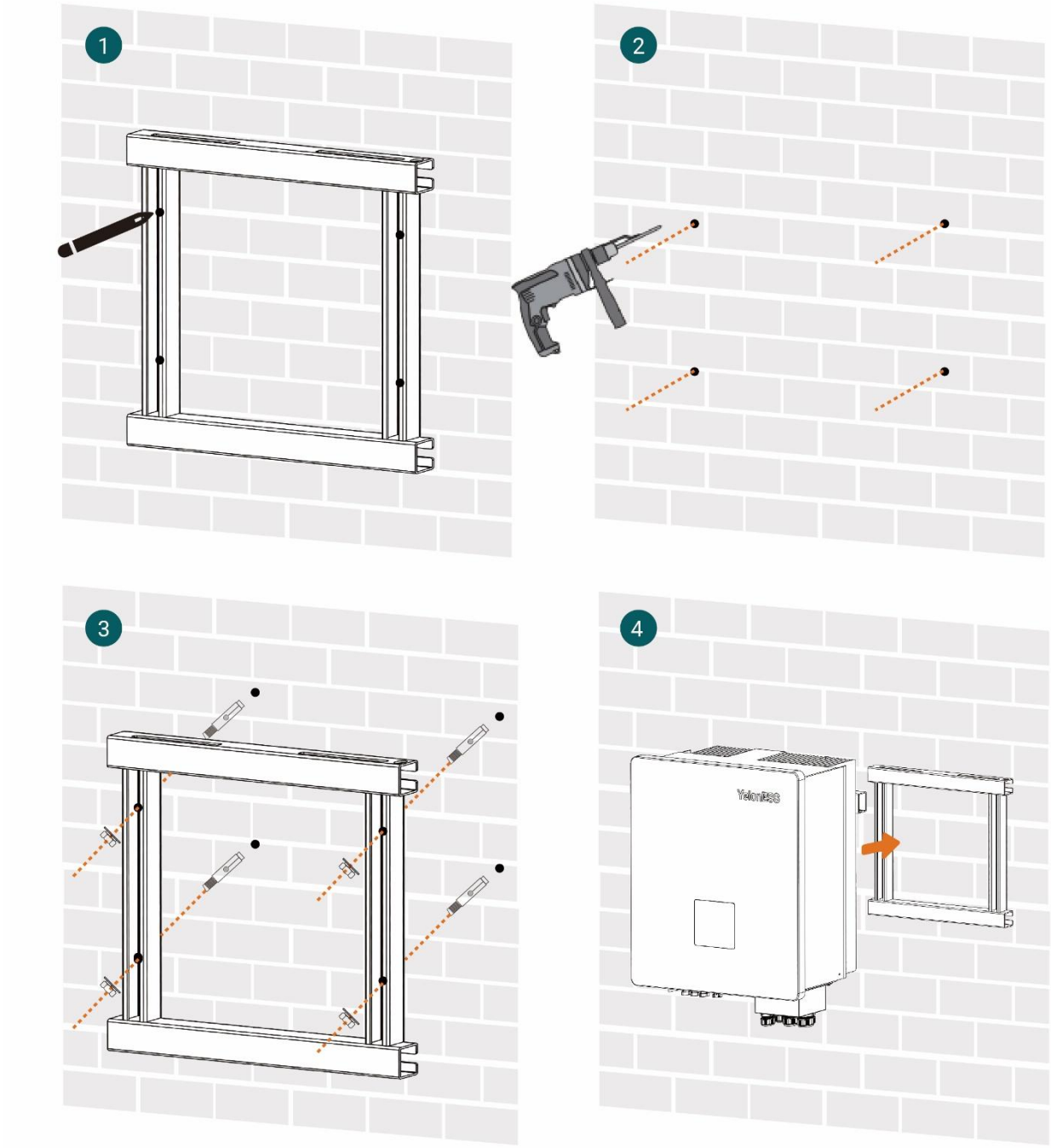
* In case of bad weather, such as heavy rain, fog, strong wind, etc., please stop the operation to avoid colliding with walls or other obstacles during handling.

4.5 Installation Methods

1) Place the installation rack on the wall and mark the drill holes.
2) Use a Φ10mm drill bit to drill and make sure the hole is 31mm deep.
3) Use expansion bolts to fix the installation rack to the wall.
4) Hang the inverter on the installation rack, and ensure the inverter is firmly installed.

Up	300mm	**Front**	300mm
Down	500mm	**Left and right**	200mm



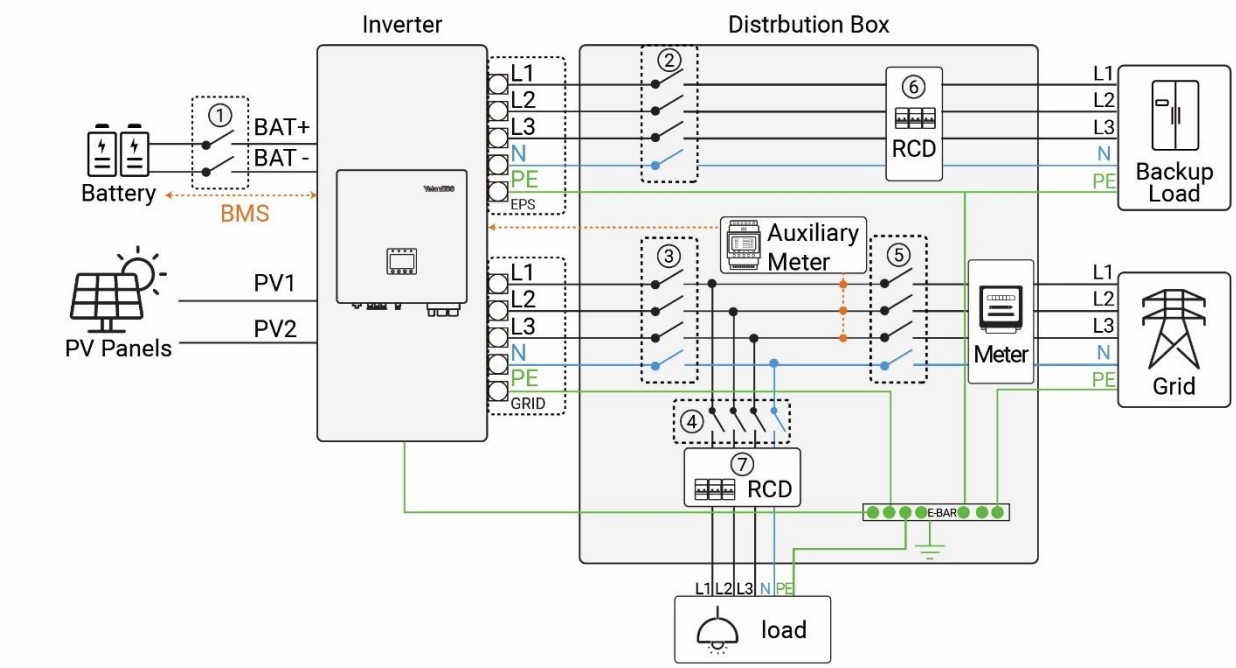


5. Electrical Connections

5.1 Electrical Connection Diagram

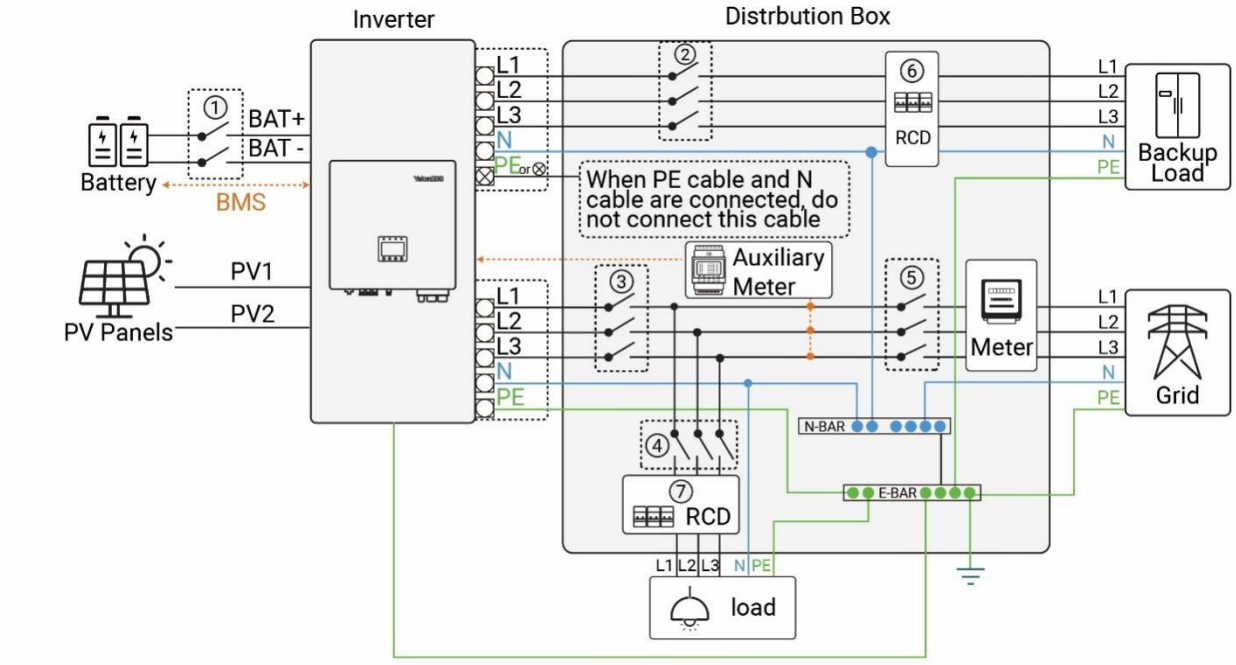
According to the regulations and requirements of different regions, the connection methods of the N and PE cables of the GRID and EPS ports of the inverter are different. The specific requirements of the local regulations shall prevail.

1) Connect the N and PE cables separately in the distribution box. This wiring method applies to countries other than Australia, New Zealand, and South Africa.



No.	①	②	③	④	⑤	⑥⑦
Recommended Specification	60A/600V DC Breaker	32A/400V AC Breaker	32A/400V AC Breaker	Depends on Loads	Main Breaker	30 mA RCD

2) Connect the N and PE cables together to the distribution box. This wiring method applies to Australia, New Zealand, and South Africa.



No.	①	②	③	④	⑤	⑥⑦
Recommended Specification	60A/600V DC Breaker	32A/400V AC Breaker	32A/400V AC Breaker	Depends on Loads	Main Breaker	30 mA RCD

5.2 Installation Precautions

1) Do not reversely connect the positive and negative cables, and ensure there is no short circuit with the external circuit.

2) Please ensure that the electrical specification of the product meets the requirement of the equipment which it works with.

3) Please add circuit breakers, fuses, leakage protectors and other devices during the electrical connection of the equipment.

5.3 Grounding

1) Both the inverter and the load should be grounded.

2) Fix the grounding wire to the grounding terminal on the inverter.

3) Recommended ground wire specification:

   a) Material: copper wire for outdoor use

   b) Conductor cross-sectional area: 6mm²

   c) Color: yellow and green

5.4 PV Connection

1) Please ensure the PV panels are insulated from the ground (at MΩ level).

2) Please ensure that the maximum short-circuit current and maximum input voltage of each MPPT are within the allowable range of this product.

3) Please connect the positive and negative connectors correctly to avoid a reverse connection. Connect the positive pole of the PV connector to the PV+ of the inverter and the negative to the PV-. Use a multimeter to measure the positive and negative poles of the DC cable and make sure the voltage is within the allowable range.

4) Make sure the DC cables are securely connected and not loose.

5) Installation Steps:

   a) Prepare PV cables according to the diagram.

   b) Disassemble the PV connector into lock nuts and threaded joints (including sealing rings).

   c) Insert the cable into the metal core and tighten it. Please note that the positive and negative metal cores are different.

   d) Thread the PV cable through the lock nut.

   e) Insert the metal core into the threaded joint until tightened.

   f) Gently pull on the cable to check if it is firmly fastened.

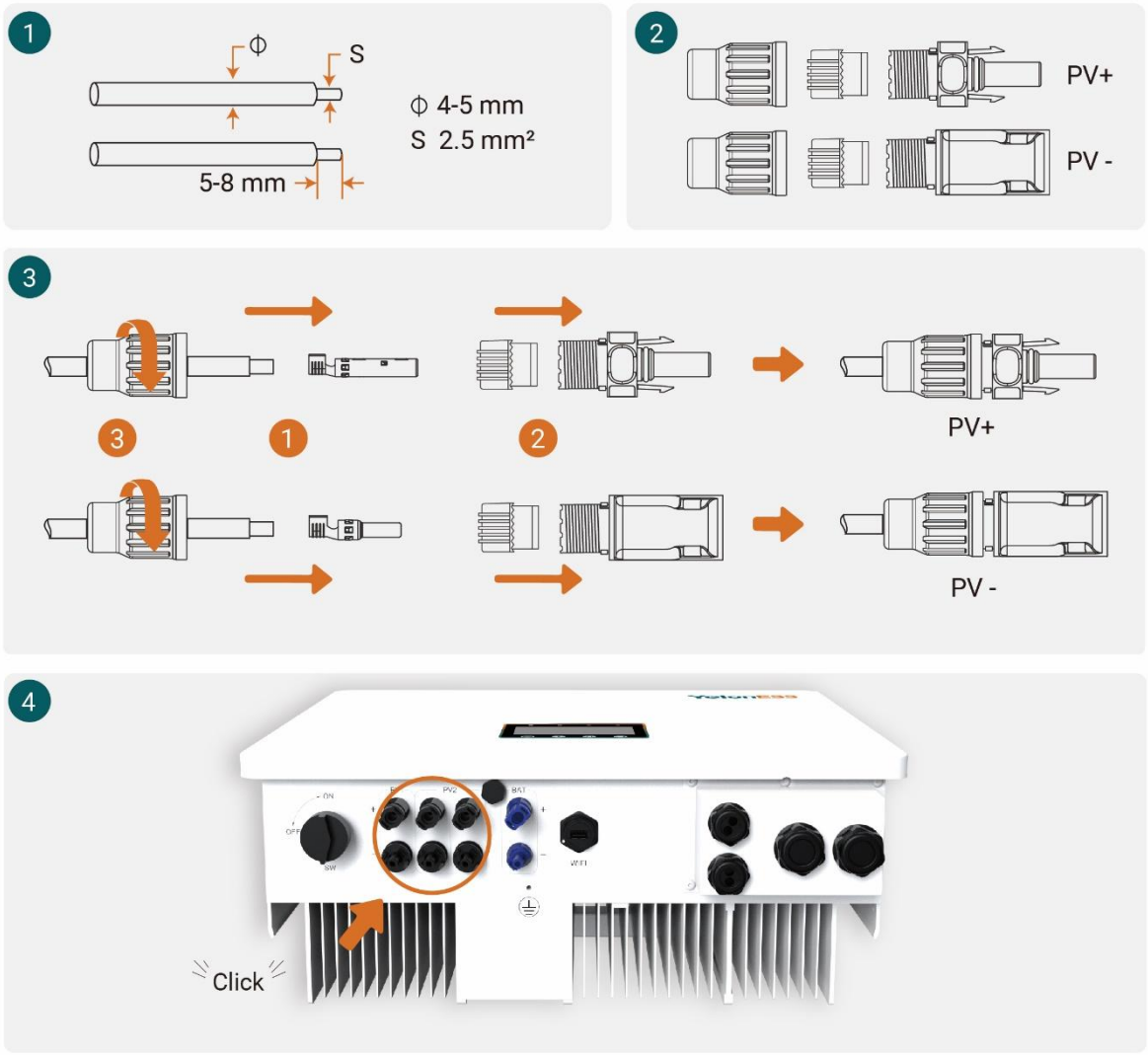
   g) Tighten the lock nut.

   h) Connect to PV terminal.

4) Recommended ground wire specification:

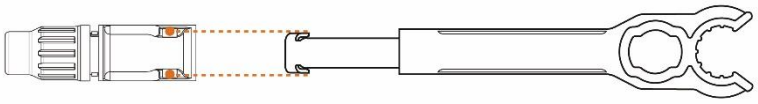
   a) Material: copper wire for outdoor use

   b) Conductor cross-sectional area: 2.5mm²



Please note:

* To avoid the risk of electric shock, please install the PV connectors on the unoccupied PV2 terminals of the inverter.
* When disassembling the PV connector, please use the connector spanner.



5.5 BAT Connection

1) Please ensure the battery's maximum voltage is within the allowable range of this product.
2) Do not connect or disconnect the battery cables during the operation. For any cable connection/disconnect, please disconnect the power of the inverter and battery first.
3) Use insulated tools during the cable connection to prevent electric shock or battery short circuits.
4) Installation Steps:
   a) Please follow the diagram to prepare the BAT cable.
   b) Disassemble the BAT connector into lock nuts and threaded joints (including sealing rings).
   c) Insert the cable into the metal core and tighten it. Please note that the positive and negative metal cores are different.

d) Thread the BAT cable through the lock nut.

e) Insert the metal core into the threaded joint until tightened.

f) Gently pull on the cable to check if it is firmly fastened.

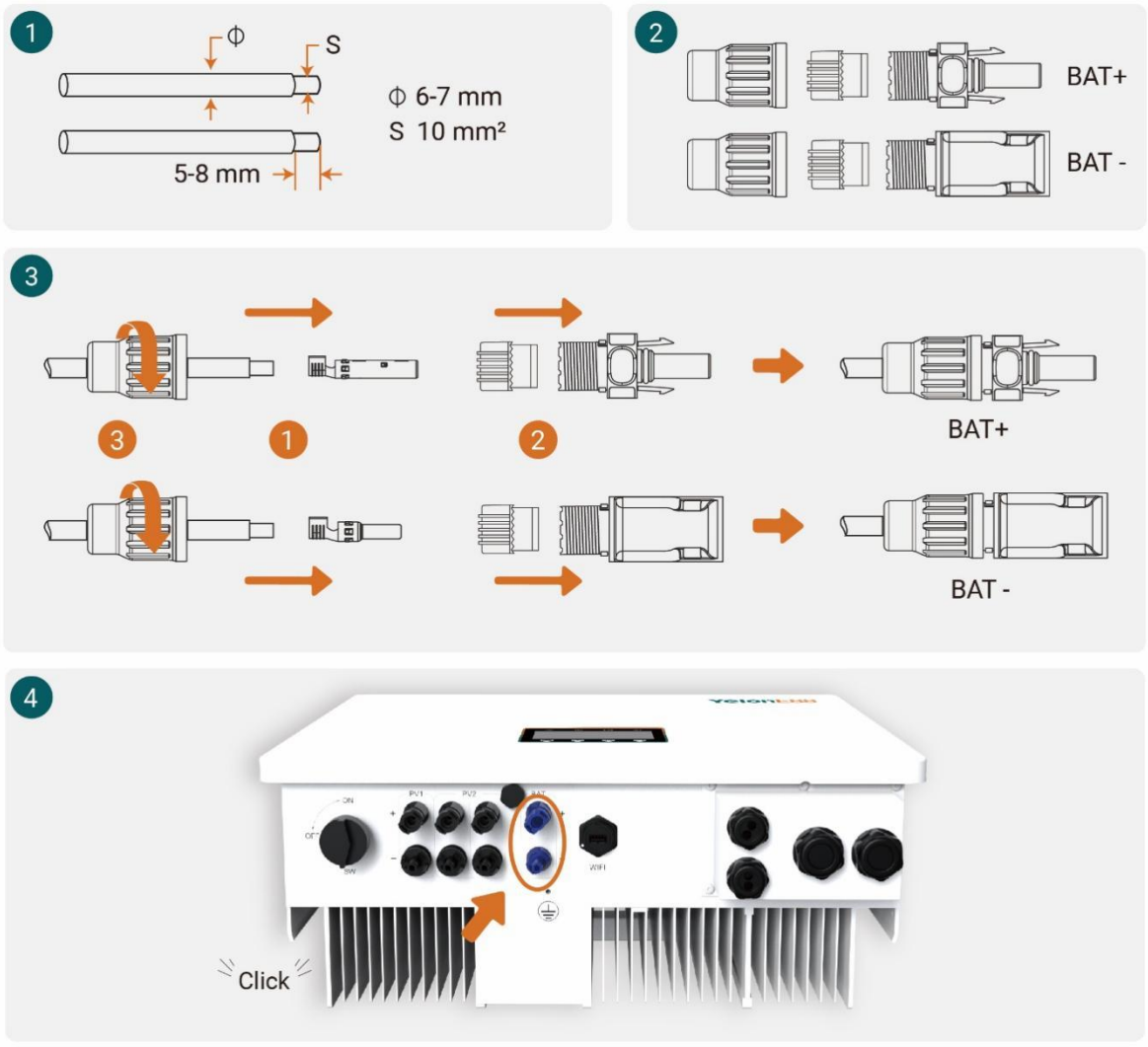
g) Tighten the lock nut.

h) Connect to BAT port.

5) Recommended ground wire specification:

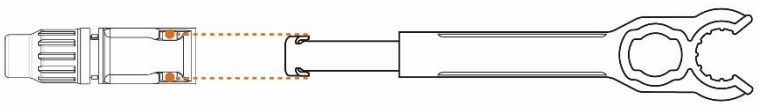
a) Material: copper wire for outdoor use

b) Conductor cross-sectional area: 10mm²



Please note:

* When disassembling the BAT connector, please use the connector spanner.



5.6 GRID and EPS Connection

1) Please connect the cables correctly according to the "L1", "L2", "L3", "N", and the grounding terminal of the AC terminals. If the cables are wrongly connected, the inverter will be damaged.

2) It is recommended to connect the EPS cables first and then the grid cable.

3) When the inverter is turned on, the EPS AC terminal is live. If you need to do maintenance of the EPS load, please make sure to disconnect the EPS load circuit breaker or turn off the inverter. Otherwise, it may cause electric shock.

4) Make sure the cables are securely connected and not loose.

5) Installation Steps:

a) Prepare GRID and EPS cables according to the diagram.

b) Remove the lock nuts of GRID and EPS on the connector cover. Pass the cables through the lock nuts and the hole on the connector cover.

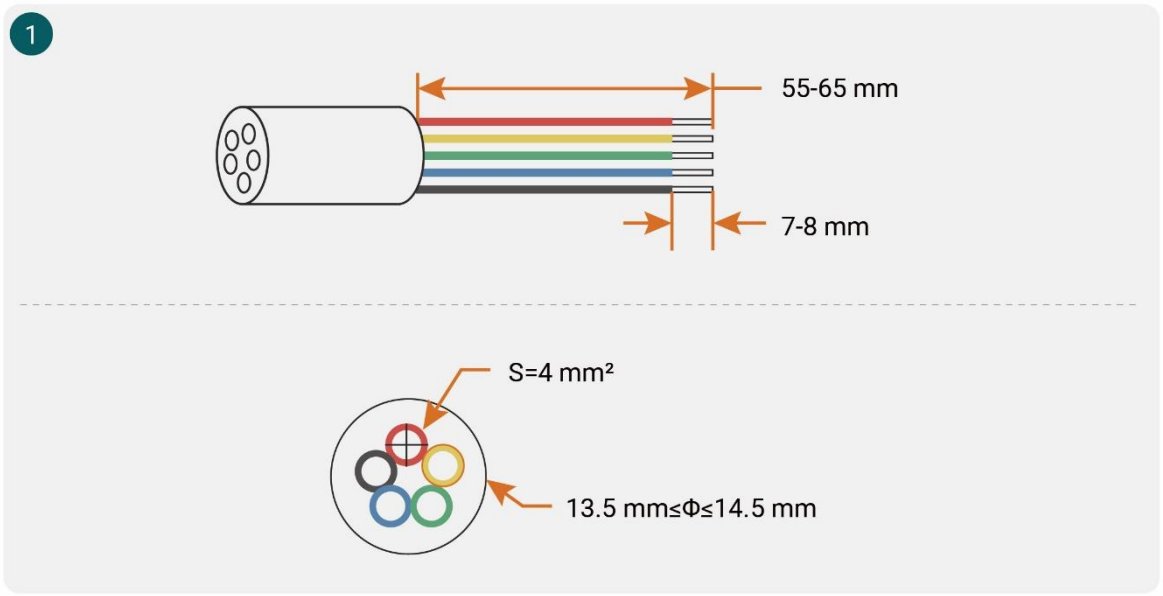
c) Connect the GRID and EPS cables to the GRID and EPS ports (corresponding to L1, L2, L3, N, and PE).

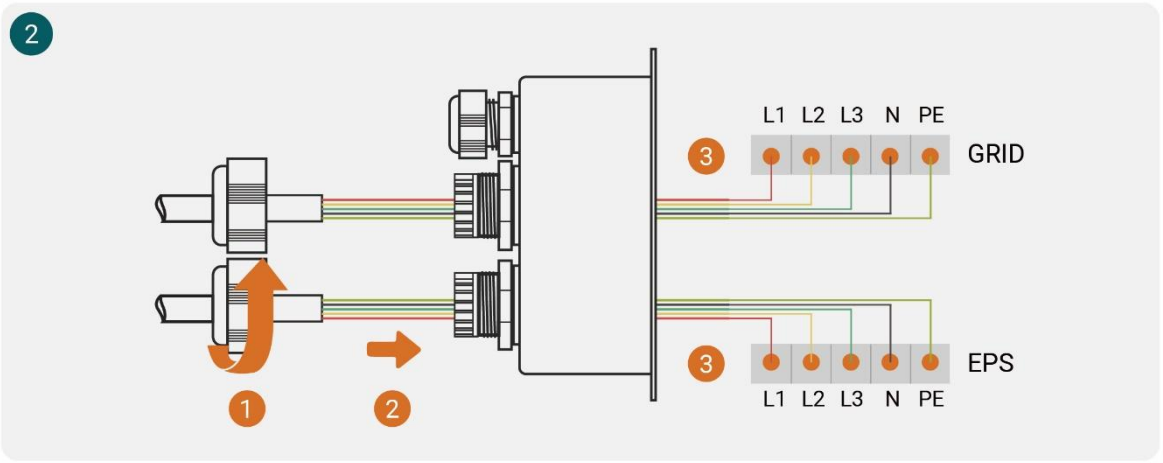
6) Recommended ground wire specification:

a) Material: copper wire for outdoor use

b) Conductor cross-sectional area: 4mm²

c) Outer diameter: 13.5~14.5mm





5.7 Communication Port Definition

The interface definition of the communication port is as follows:

DO1	DO1-1 DO1-2	DO2	DO1-1 DO1-2	120 Ohm	ON OFF
METER  87654321	1:NC 2:NC 3:NC 4:485A	5:485B 6:NC 7:NC 8:NC	LINK2  87654321	1:CTRA 2:CTRB 3:CANH 4:CANL	5:485B-1 6:485A-1 7:485B-2 8:485A-2
BMS  87654321	1:Temp+ 2:NC 3:Temp- 4:CANH	5:CANL 6:NC 7:485A 8:485B	LINK1  87654321	1:CTRA 2:CTRB 3:CANH 4:CANL	5:485B-1 6:485A-1 7:485B-2 8:485A-2

DRM			
7	5	3	1
D4/8	D4/8	D0	CTRA
8	6	4	2
NC	NC	D1/5	CTRB

The communication port is defined as follows:

Label	Description
DO1	Dry contact output port 1
DO2	Dry contact output port 2
120 Ohm	120Ω Resistor
METER	Auxiliary meter communication interface, RS485 supported
BMS	Battery BMS communication interface, CAN communication supported
LINK1	Maintenance Interface 1
LINK2	Maintenance Interface 2
DRM	DRM Communication Interface

5.8 Communication Cable Connection

1） The communication cable (between the inverter and each external device) is recommended to be no longer than 3m. Check the connection status of the communication cable or shorten the cable length if the communication signal is unstable.

2） Make sure that the cables are tightly connected.

3） Installation Steps:

a) Remove the lock nuts of the communication port on the connector cover.

b) Take off the sealing rings on the communication port. Cut the edge of the sealing ring along the edge of the communication cable hole.

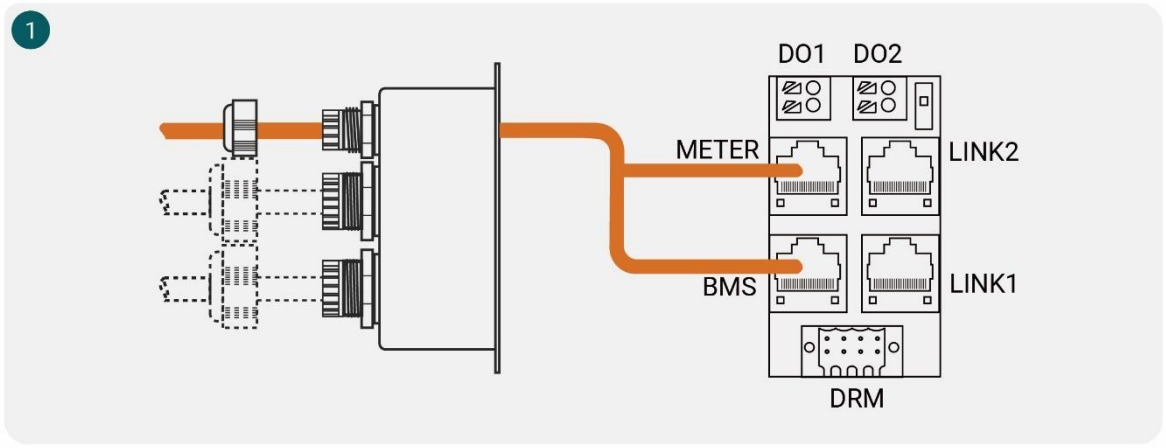
c) Prepare the communication cable according to the communication port. Pass the communication cable through the lock nut and the hole on the connector cover.

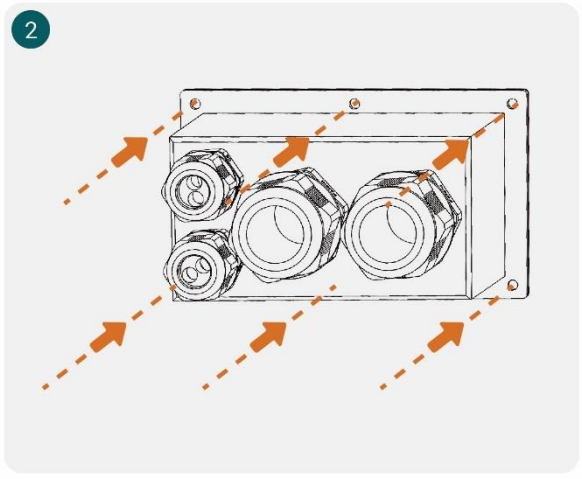
d) Connect the corresponding communication connectors to the communication ports respectively.

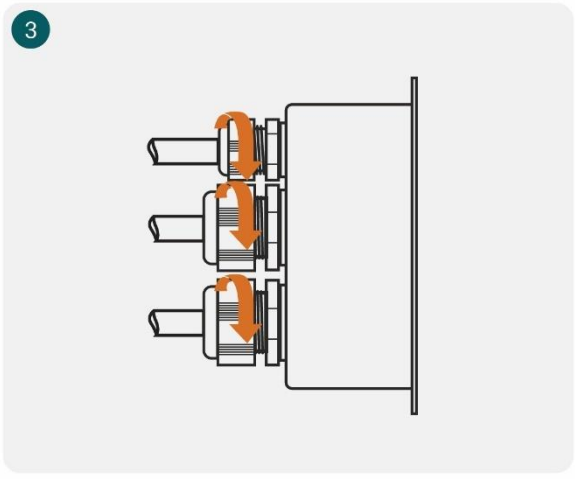
e) Fix the connector cover to the device with screws.

f) Tighten the lock nut.

g) Gently pull on the cable to check if it is firmly fastened.







Please note:

* Ensure the GRID, EPS, and other communication cables are well connected to the inverter. Fix the connector cover and tighten the lock nuts.

* For DO1/DO2/DRM functions, please contact YelonESS Technical Support.

5.9 Auxiliary Meter Connection

1) The auxiliary meter and CT (with preset parameters) are shipped with the inverter. Please do not modify the meter and CT parameters.

2) One auxiliary meter can only be connected to one inverter. Do not connect to multiple inverters.

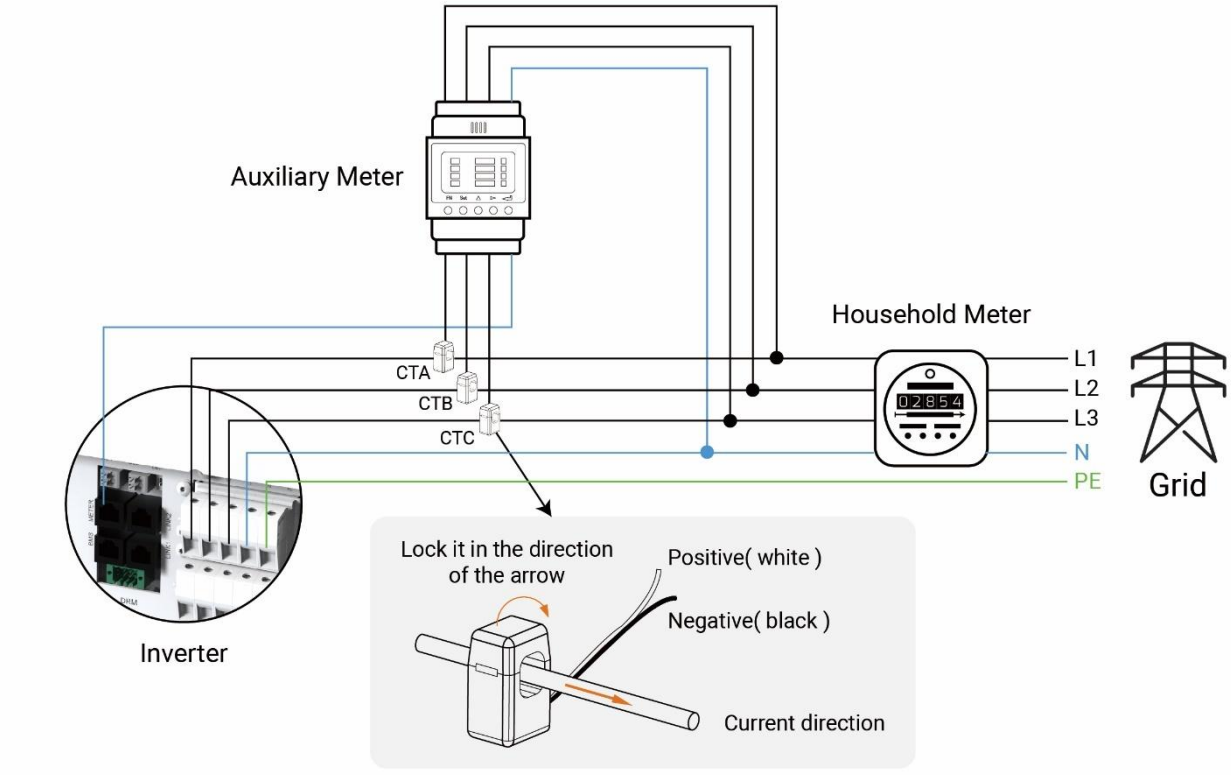
3) Make sure that the CT are properly matched to the phase wires. Connect CTA to L1, CTB to L2, and CTC to L3.

4) Make sure that the direction of CT is consistent with the current direction of the auxiliary meter. If the CT direction is reversed, it will trigger a CT reverse fault.

5) Please install the meter and CT according to the site conditions.

6) The auxiliary meter communication cable length is 3m. Please plan the installation layout properly.

7) For auxiliary meter port definition, please refer to: 5.7 Communication Port Definition.



5.10 Wireless Kit Connection

Take off the protective cover of the wireless kit and USB interface. Plug in the wireless kit.

5.11 APP Connection

With YelonESS APP, you can view the data of the product. For specific operation, please visit the YelonESS official website(**www.yeloness.com**) for more info.

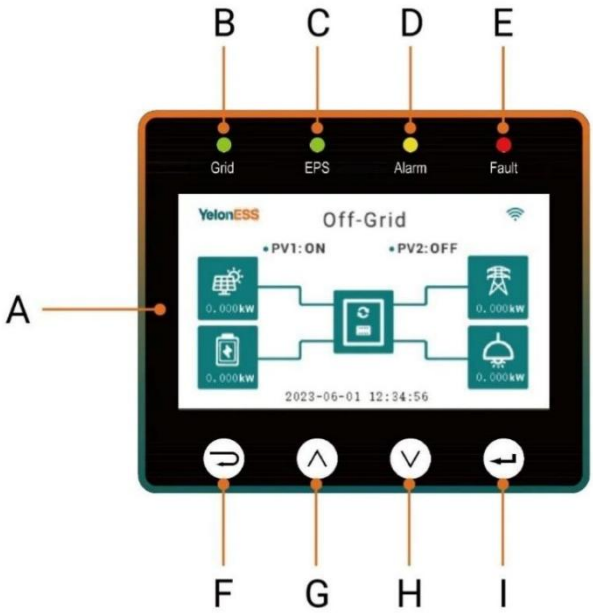
You can also scan code and download YelonESS APP.

App Store

Google Play

6. Operation Method

6.1 Control Panel Introduction



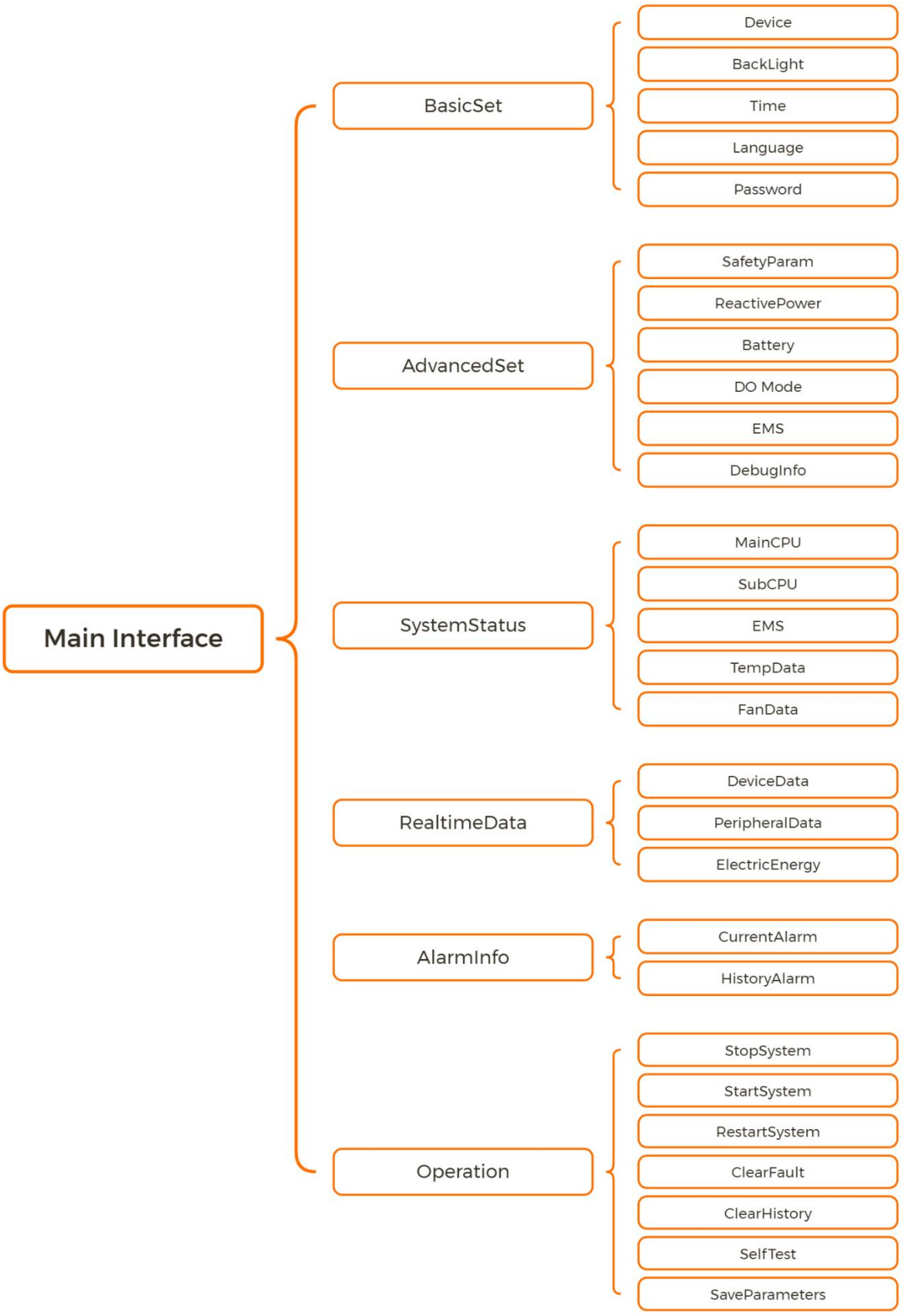
No.	Name	Description
A	Display Screen	Display the operating information
B	Grid Indicator	Display on-grid mode status
C	EPS Indicator	Display off-grid mode status
D	Alarm Indicator	Display warning status
E	Fault Indicator	Display failure status
F	Esc Button	Return from the current settings interface
G	Up Button	Press to scroll up or increase the setting value
H	Down Button	Press to scroll up or decrease the setting value
I	Enter	Confirm and save the current settings

6.2 Indicator

Status	Grid	EPS	Alarm	Fault
Initialization	OFF	OFF	OFF	OFF
Standby Mode	OFF	OFF	OFF	OFF
On-grid	ON	OFF	OFF	OFF
Off-grid	OFF	ON	OFF	OFF
Bypass	ON	ON	ON	OFF
Failure	OFF	OFF	OFF	ON
Alert	No Change	No Change	ON	OFF

6.3 Setup Guide

1) Functions



2) Battery Parameter Setting

a) Select " AdvancedSet " from the main interface.

b) Select "Battery".

c) Set battery parameters.

d) Save and exit.

3) Self-consumption Mode Setting

a) Select " AdvancedSet " from the main interface.

b) Select " EMS ".

c) Select " WorkingMode ".

d) Select " EMS_Mode ".

e) Select " SelfUse".

f) Save and exit.

4) ECO Mode

a) Select " AdvancedSet " from the main interface.

b) Select " EMS ".

c) Select " WorkingMode ".

d) Select "EMS_Mode".

e) Select " Economical".

f) Save and exit.

g) Select " ECO Mode".

h) Set the switch on and off time.

5) Backup Mode

a) Select " AdvancedSet " from the main interface.

b) Select " EMS ".

c) Select " WorkingMode ".

d) Select " EMS_Mode ".

e) Select " BackUp".

f) Save and exit.

7. Test Run

7.1 Check Before Power On

1) Ensure the product is firmly installed, easy to operate and maintain, and has good ventilation and heat dissipation.

2) Ensure the PV, GRID, EPS, and grounding wires are correctly and firmly connected.

3) Ensure the wire holes are sealed.

4) Ensure the inverter voltage and frequency of the grid-connected access point meet the requirements of local grid-connected regulations.

7.2 Power On

1) Turn on the AC breaker between the equipment and the grid.

2) Rotate the DC switch and set to "ON".

3) Power on the battery.

4) Turn on the GRID load AC breaker.

5) Turn on the EPS load AC breaker.

7.3 Power Off

1) Rotate the DC switch to “OFF”.

2) Turn off the battery.
3) Turn off the AC breaker between the product, GRID, and EPS.
4) If necessary, disconnect all power cables before removing the wireless kit and auxiliary meter.

8. Wireless Kit Introduction

The wireless kit (YCOMM) conducts long-term and effective monitoring of the photovoltaic and energy system by collecting and recording the working status of this product. YCOMM can be connected to this product through the USB interface. It receives data from this product and sends it to the cloud platform. The cloud platform sends the processed data to the APP. The real-time status and historical data of the PV generation and energy are presented in graphical charts for easy reading. The APP will prompt info such as alarms, faults, and firmware upgrade reminders, and users can monitor or upgrade on the APP.

Please note:

To fix firmware bugs and eliminate potential risks, YelonESS will provide a remote upgrade service to improve product performance. YelonESS strongly recommends that users connect YelonESS products to the Smart Energy Management System (YCloud+) to upgrade the system remotely or through a third-party platform authorized by YelonESS. YelonESS will not be responsible for the resulting bugs, risks, or related adverse consequences if the user does not connect or access YCloud+ and thus disabling YelonESS to perform remote system upgrades.

9. Troubleshooting and Maintenance

9.1 Alarm

Failure	Cause	Solutions
Grid Overvoltage Protection	The grid voltage is higher than the rated range.	Generally, after the power grid is restored, the inverter will be connected to the grid again. If alerts occur frequently: 1) Check the inverter grid parameters. 2) Ensure the grid voltage in your area is stable and within the normal range. 3) Check whether the cross-sectional area of the AC cable meets the requirements.
Grid Undervoltage Protection	The grid voltage is lower than the rated range.	Generally, after the power grid is restored, the inverter will be connected to the grid again. If alerts occur frequently: 1) Check the inverter grid parameters. 2) Ensure the grid voltage in your area is stable and within the normal range. 3) Check whether the AC cable is firmly connected.
Grid Over-frequency Protection	The actual frequency of the power grid is higher than the rated range.	Generally, after the power grid is restored, the inverter will be connected to the grid again. If alerts occur frequently: 1) Check the inverter grid parameters. 2) Ensure the grid voltage in your area is stable and within the normal range.
Grid Underfrequency Protection	The actual frequency of the power grid is lower than the rated range.	
Off Grid	The inverter detects no grid connection.	Generally, after the power grid is restored, the inverter will be connected to the grid again. If alerts occur frequently: 1) Check the grid supply stability. 2) Check whether the AC cable is firmly connected. 3) Check whether the AC cable is correctly connected. 4) Check if the AC breaker is OFF.
Residual Current Causing Failure	The residual current is too high.	1) The alarm may cause by high ambient humidity. After it returns to the operating range, connect the inverter to the grid again. 2) If the humidity is in the normal range, check the connection of the AC and DC cables.
PV Reverse Connection	The inverter detects that the PV panels are reversely connected.	If the PV panels are reversely connected, correct them after cut off the DC power switch.
PV Undervoltage	PV voltage is lower than the rated range	1) Check the DC cable connection. 2) Check whether the PV panels are covered. If so, remove the covering, and ensure the panels are clean. 3) Check the status of the PV panels.
PV Overvoltage	PV voltage is higher than the rated range	Check the specifications and quantities of PV panels.
Over Temperature	The temperature inside the inverter is higher than the rated range.	1) Try to decrease surrounding temperature. 2) Make sure the installation complies with the instruction on user manual.
Insulation Fault	The ground insulation resistance of the PV panels is too low.	1) Use a multimeter to determine if the resistance between the earth and the inverter frame is close to zero. If not,

		please ensure that the connection is good. 2) If the humidity is too high, it may trigger the insulation failure. Please try to restart the inverter. If the fault persists, please check again on a sunny day. 3) Check the ground resistance of the PV modules/cables.
Arc Fault	The inverter has detected an arc fault.	Disconnect the DC switch. Check whether the DC cable is damaged or the terminals are loose or in poor contact.
EPS Overload	The EPS load power is higher than the rated range.	Reduce the power of the EPS load or the number of EPS loads.
Auxiliary Meter Reverse Connection	Inverter detects auxiliary meter or CT reversely connected.	Check installation requirements in this user manual and install the auxiliary meter according to the actual situation.
Auxiliary Meter Communication Failure	The inverter detects auxiliary meter communication failure.	1) Check the connection between the auxiliary meter communication cable and terminals. 2) Reconnect the auxiliary meter and the communication cable.
Battery Reverse Connection	The inverter detects that the battery is connected reversely.	Check the battery polarity.
Battery Voltage Failure	The battery voltage is higher than the rated range.	Check whether the battery input voltage is within the rated range.
BMS Communication Failure	The inverter detects a BMS communication failure.	1) Check BMS communication cable connection. 2) Reconnect the BMS communication cable.
BMS Battery Failure	The inverter detects a BMS battery failure.	1) Check the installation between battery modules. 2) Reboot the battery.
Relay Failure	The inverter detects a relay self-test failure.	Reboot the inverter.

9.2 Precautions

1) Always disconnect power and ensure the battery is turned off when performing any movement or maintenance.

2) It is forbidden to open, repair or disassemble this product (QC sticker is removed or damaged).

3) After the device is powered off, please wait for at least 10 minutes to fully discharge before performing maintenance.

9.3 Recycle and Disposal

If the product no longer works and needs to be scrapped, please dispose of it according to the electrical waste disposal requirements of the country/region regulations. It is forbidden to treat the equipment as domestic waste.

YelonESS

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