# Single Phase Hybrid Inverter Low Voltage

AU3KESL-G3

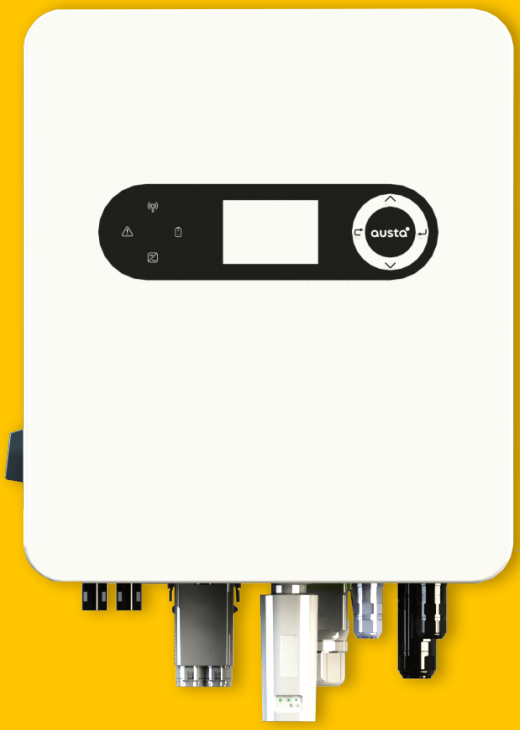
AU3.6KESL-G3

AU4KESL-G3

AU5KESL-G3

AU6KESL-G3

User Manual



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# 1.Safety Instructions

## About This Manual

The manual mainly describes the product information, guidelines for installation, operation and maintenance. The manual cannot include complete information about the photovoltaic (PV) system.

## How to Use This Manual

Read the manual and other related documents before performing any operation on the inverter. Documents must be stored carefully and be available at all times. Contents may be periodically updated or revised due to product development. The information in this manual is subject to change without notice. The latest manual can be acquired via www.austasolar.net

## 1.1 Safety Signs

| | |
|---|---|
|  | The DC input terminals of the inverter must not be grounded. |
|  | Surface high temperature, Please do not touch the inverter case. |
|   | The AC and DC circuits must be disconnected separately, and the maintenance personnel must wait for 5 minutes before they are completely powered off before they can start working. |
|  | Prohibit disassembling inverter case, there existing shock hazard, which may cause serious injury or death, please ask qualified person to repair. |
|  | Please read the instructions carefully before use. |
|  | Do Not put it in the waste bin! Recycle it by licensed professional! |

- This chapter contains important safety and operating instructions. Read and keep this manual for future reference.
- Before using the inverter, please read the instructions and warning signs of the battery and corresponding sections in the instruction manual.

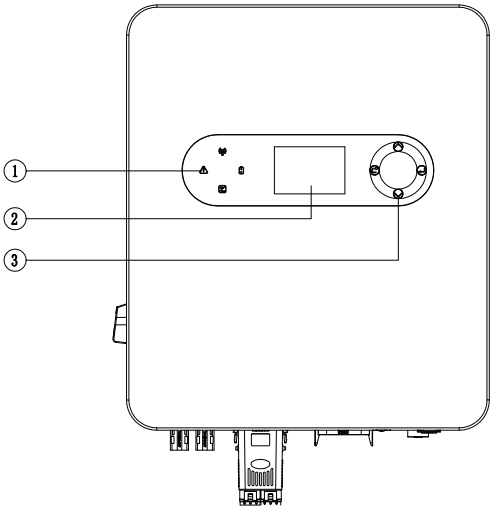
# 1.Safety Instructions

- Do not disassemble the inverter. If you need maintenance or repair, take it to a professional service center.
- Improper reassembly may result in electric shock or fire.
- To reduce risk of electric shock, disconnect all wires before attempting any maintenance or cleaning. Turning off the unit will not reduce this risk.
- Cauttion: Only qualified personnel can install this device with battery.
- Never charge a frozen battery.
- For optimum operation of this inverter, please follow required specification to select appropriate cable size. It is very important to correctly operate this inverter.
- Be very cautious when working with metal tools on or around batteries. Dropping a tool may cause a spark or short circuit in batteries or other electrical parts, even cause an explosion.
- Please strictly follow installation procedure when you want to disconnect AC or DC terminals. Please refer to "Installation" section of this manual for the details.
- Grounding instructions – this inverter should be connected to a permanent grounded wiring system. Be sure to comply with local requirements and regulation to install this inverter.
- Never cause AC output and DC input short circuited. Do not connect to the mains when DC input short circuits.

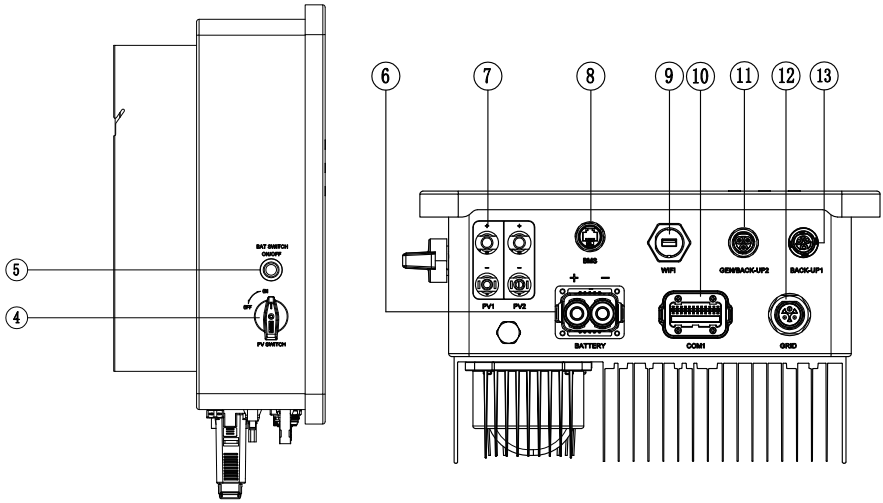
# 2.Product Introductions

This is a multifunctional inverter, combining functions of inverter, solar charger and battery charger to offer uninterruptible power support with portable size. Its comprehensive LCD display offers user configurable and easy accessible button operation such as battery charging, AC/solar charging, and acceptable input voltage based on different applications.

## 2.1 Product Overview

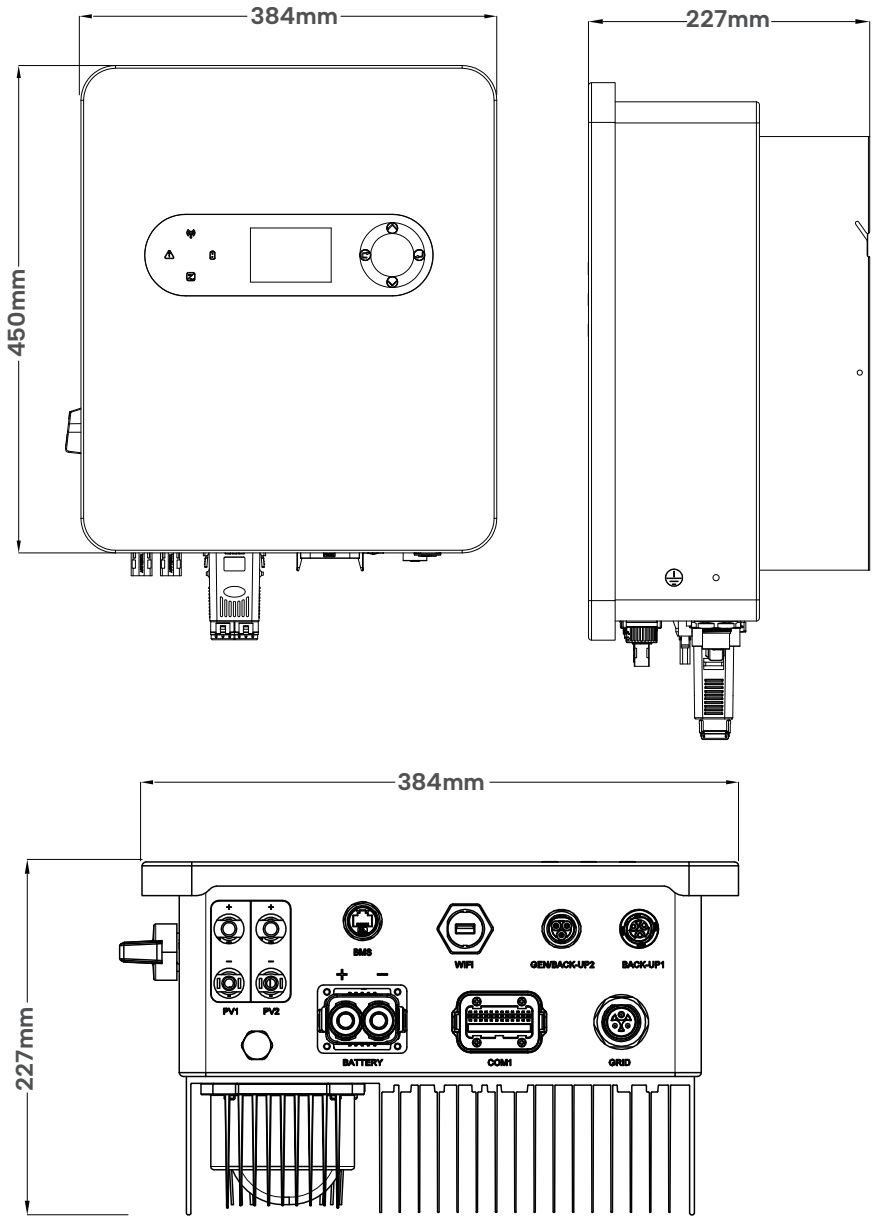



1: Inverter Indicators
2: LCD Display
3: Function Buttons
4: PV Switch
5: BAT Switch ON/OFF
6: Battery Input Connectors
7: PV Input Interface
8: BMS
9: WiFi Interface
10: Com1
11: Gen/Back-Up2
12: Grid
13: Back-Up1



# 2.Product Introductions

## 2.2 Product Size



# 2.Product Introductions

## 2.3 Safety Signs

- Self-consumption and feed-in to the grid.
- Auto restart while AC is recovering.
- Programmable supply priority for battery or grid.
- Programmable multiple operation modes: On grid, off grid and UPS.
- Configurable battery charging current/voltage based on applications by LCD setting.
- Configurable AC/Solar/Generator Charger priority by LCD setting.
- Compatible with mains voltage or generator power.
- Overload/over temperature/short circuit protection.
- Smart battery charger design for optimized battery performance
- With limit function, prevent excess power overflow to the grid.
- Supporting WIFI monitoring and 1 strings of each MPPT trackers
- Smart settable three stages MPPT charging for optimized battery performance.
- Time of use function.
- Smart load function.

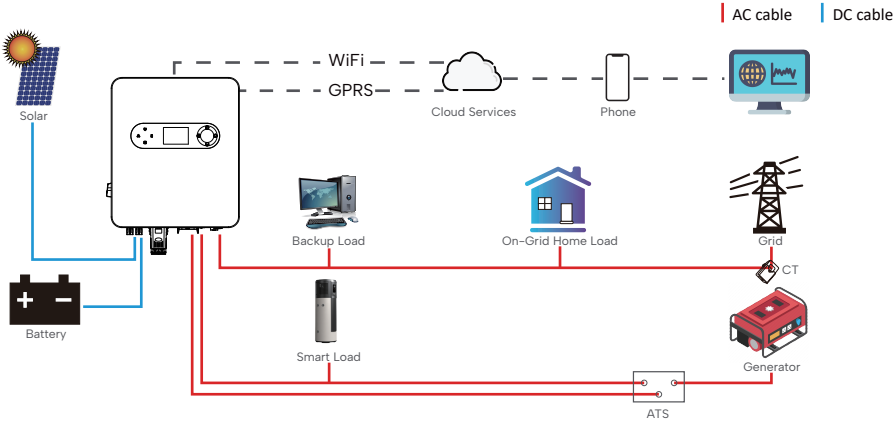
## 2.4 Basic System Architecture

The following illustration shows basic application of this inverter. It also includes following devices to have a Complete running system.

- Generator or Utility
- PV modules

Consult with your system integrator for other possible system architectures depending on your requirements.

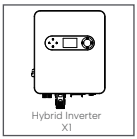
This inverter can power all kinds of appliances in home or office environment, including motor type appliances such as refrigerator and air conditioner.

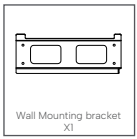


# 3.Installation

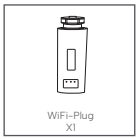
## 3.1 Parts List

Check the equipment before installation. Please make sure nothing is damaged in the package. You should have received the items in the following package:

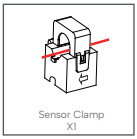

Hybrid Inverter X1

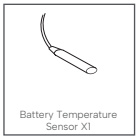

Wall Mounting bracket X1


Screw Package X1

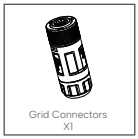

WiFi-Plug X1


PV Connectors X2


Sensor Clamp X1

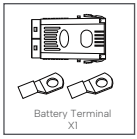

Battery Temperature Sensor X1


Communication Connector X1


Grid Connectors X1

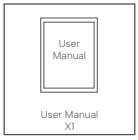

Load Connectors X1


Gen Connectors X1


Battery Terminal X1



Quality Certificate Warranty Card X1



User Manual X1

## 3.2 Mounting instructions

### Installation Precaution

This Hybrid inverter is designed for outdoor use(IP66), Please make sure the installation site meets below conditions:

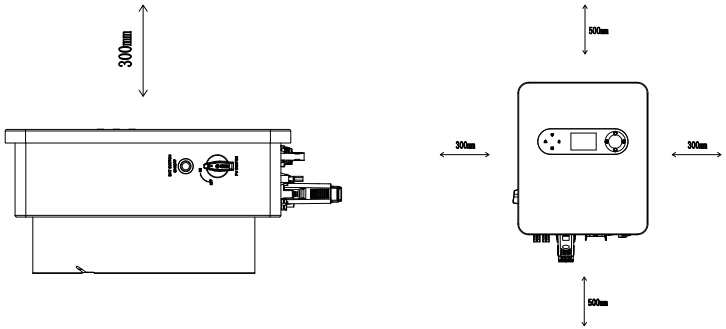
- Not in direct sunlight.
- Not in areas where highly flammable materials are stored.
- Not in potential explosive areas.
- Not near the television Antenna or antenna cable.
- Not higher than altitude of about 3000 meters above sea level.
- Not in environment of precipitation or humidity (>95%)
- Please avoid direct sunlight, rain exposure, snow laying up during installation and operation.

### Considering the following points before selecting where to install:

- Please select a vertical wall with load-bearing capacity for installation, suitable for installation on concrete or other non-flammable surfaces, installation is shown below.
- Install this inverter at eye level in order to allow the LCD display to be read at all times.

# 3.Installation

- The ambient temperature is recommeded to be between -40~60℃ to ensure optimal operation.
- Be sure to keep other objects and surfaces as shown in the diagram to guarantee sufficient heat dissipation and have enough space for removing wires.

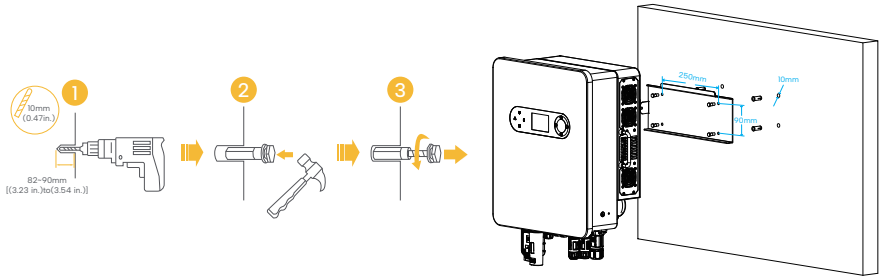



For proper air circulation to dissipate heat, allow a clearance of approx. 30cm to the side and approx. 50cm above and below the unit. And 30cm to the front.

## Mounting the inverter

Remember that this inverter is heavy! Please be careful when lifting out from the package. Choose the recommend drill head(as shown in below pic) to drill 4 holes on the wall, 82-90mm deep.

1. Use a proper hammer to fit the expansion bolt into the holes.
2. Carry the inverter and holding it, make sure the hanger aim at the expansion bolt, fix the inverter on the wall.
3. Fasten the screw head of the expansion bolt to finish the mounting.



# 3.Installation

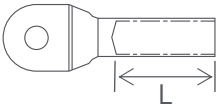
### 3.3 Battery Connection

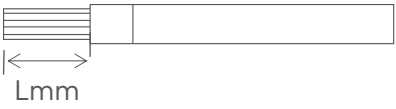
For safe operation and compliance, a separate DC over-current protector or disconnect device is required between the battery and the inverter. In some applications, switching devices may not be required but over-current protectors are still required. Refer to the typical amperage in the table below for the required fuse or circuit breaker size.

| Model | Wire Size | Cable (mm²) | Torque Value (max) |
|---|---|---|---|
| AU3/3.6/4/5/6KESL-G3 | 1/0AWG | 50 | 24.5Nm |
| ⚠ All wiring must be performed by a professional person. | | | |
| ⚠ Connecting the battery with a suitable cable is important for safe and efficient operation of the system. To reduce the risk of injury, refer to Chart 3-2 for recommended cables. | | | |

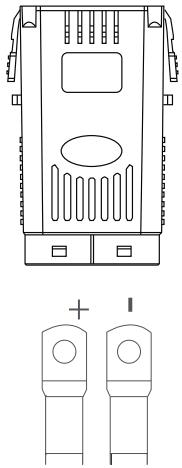
### 3.3.1 Wiring Precautions:

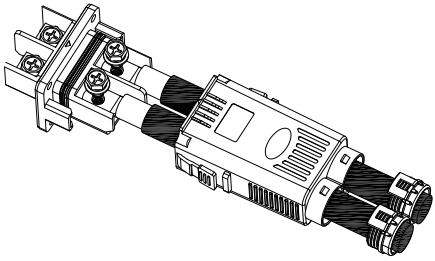
1. Dimension of stripping line outside machine.



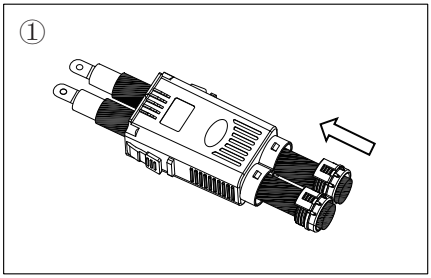

2. The wire sequence of connector is consistent with that of conductor.



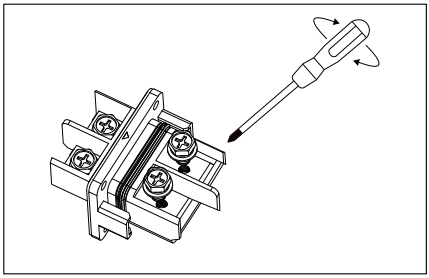



# 3.Installation

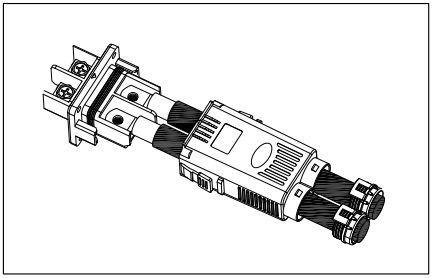
### 3.3.2 Installation Steps



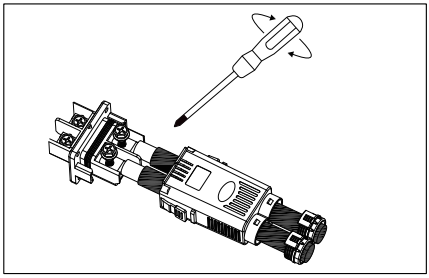

Thread the battery power cable through the battery terminals and secure the lower end; a audible click indicates assembly is complete.



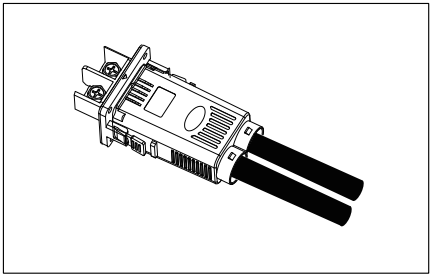
Use a screwdriver to unscrew the connector screws.



H the lead riveted to the terminal into the corresponding connecting bolt according to the wire sequence.



Tighten the screw clockwise.

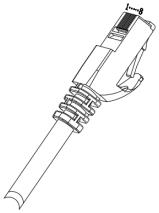


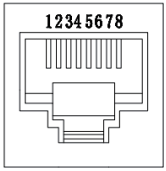
Complete the installation.

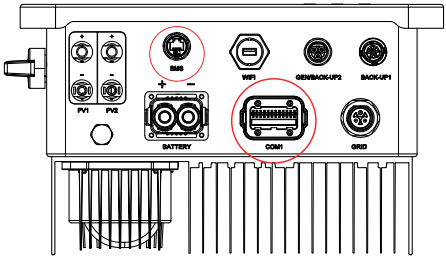
# 3.Installation

| | |
|---|---|
| ⚠ | Installation must be performed with care. |
| ⚠ | Before making the final DC connection or closing DC breaker/disconnect, be sure positive(+) must be connect to positive(+) and negative(-) must be connected to negative(-). Reverse polarity connection on battery will damage the inverter. |

### 3.3.3 Function Port Definition





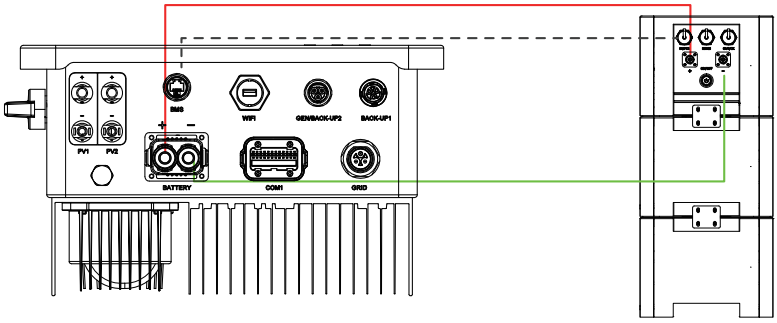




1.BMS
BMS PINS definition:

| Pin | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Function | NC | NC | NC | CANH | CANL | NC | NC | NC |

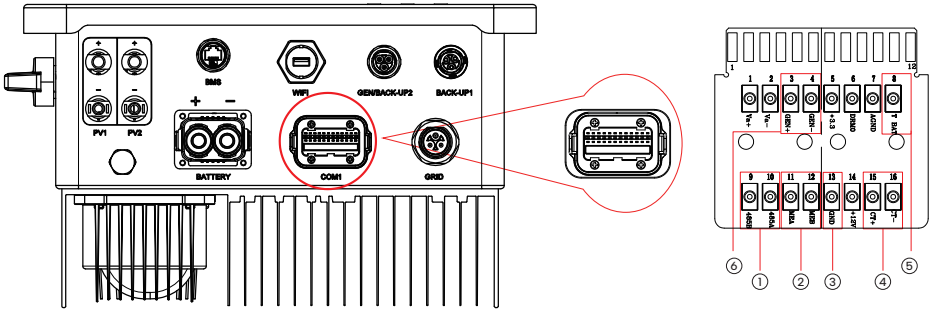
BMS connection:
One end of the network cable is connected to the BMS interface at the bottom of the inverter, and the end is connected to the IN/PCS interface of the battery.

Battery connection diagram:



# 3.Installation

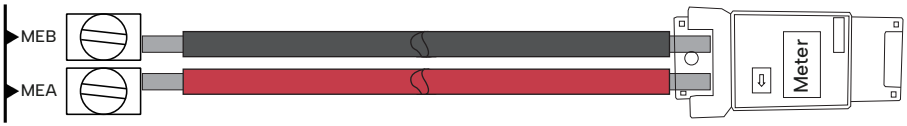
2.Communication line end connector

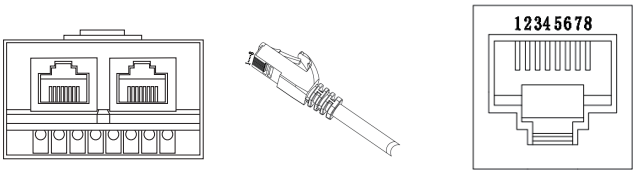



| Pin | 1 | 2 | 3&5 | 4 | 6 |
|---|---|---|---|---|---|
| Function | BMS 485 | METER 485 | External NTC of Battery | GRID CT | GEN+/- |

Meter port PINS definition:

Ports 3 to 8 are connected directly using standard cables.




| Pin | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| Function | 485A | PARALLEL_CANH | NC | PARALLEL_CANL | NC | NC | NC | NC |

# 3.Installation

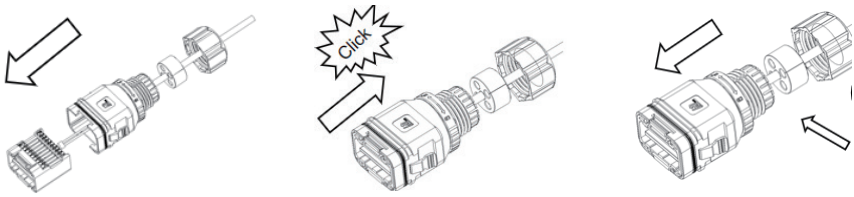
*This connector reserves interfaces

① Insert the wire into the corresponding terminal.

② Arrange the wire cores properly, and there should be no wire riding in the rubber core area. The rubber core should be installed in the main body and accompanied by a “Click” sound, indicating that the installation position is correct.

③ Install the plug into the main body and use a plug to plug the holes without wires installed.

④ Screw the locking nut onto the main body, complete the installation.




### 3.4 Grid Connection and Backup Load Connection

- Before connecTIng to the grid, a separate AC breaker must be installed between the inverter and the grid, and also between the backup load and the inverter. This will ensure the inverter can be securely disconnected during maintenance and fully protected from over current.
- There are three terminal blocks with "Grid" "Load"and "GEN" markings. Please do not misconnect input and output connectors.

> ⚠ All wiring must be performed by a qualified personnel.It is very important for system safety and efficient operation to use appropriate cable for AC input connection. To reduce risk of injury, please use the proper recommended cable as below.

| Model | Wire Size | Cable (mm²) | Torque Value (max) |
|---|---|---|---|
| AU3/3.6/4/5/6KESL-G3 | 2AWG | 35 | 18.6Nm |

Chart 3-3 Recommended Size for AC wires

# 3.Installation

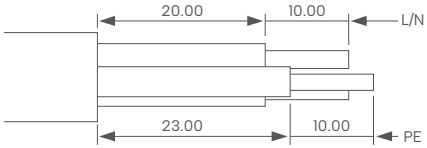
**Please follow below steps to implement AC input/output connection:**

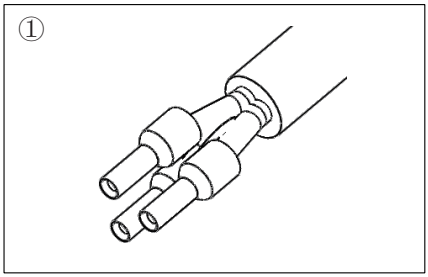
1. Before making Grid, load and Gen port connection, be sure to turn off AC breaker or disconnector first.

2. Dimension of stripping line outside machine.

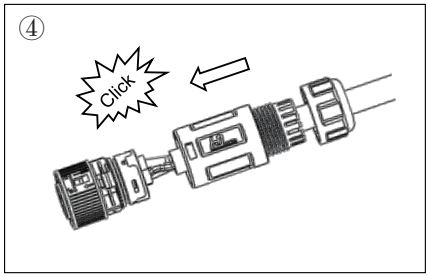
**Grid installation procedure:**

Dimension of stripping.

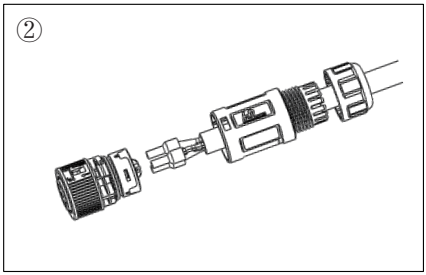


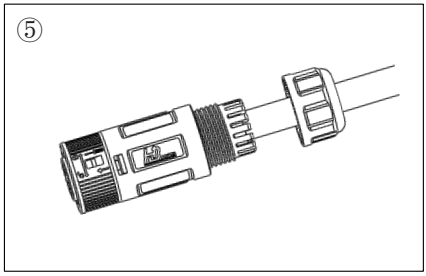

Crimp the terminals with crimping pliers.



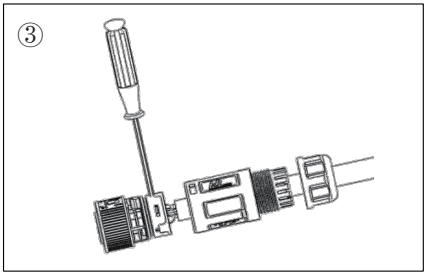

Insert the main body into the rubber core and hear the "click" sound.



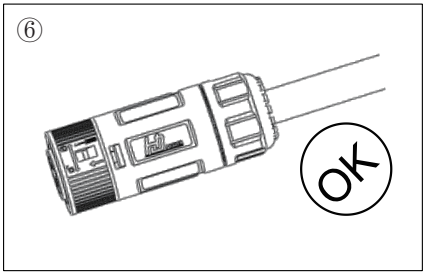

Set the parts on the cable, Insert the terminal holes in sequence.




Tighten the nut with an open-ended wrench (torque 2.5±0.5N·m).



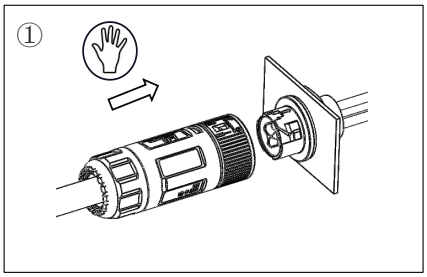

Crimp the wire with an inner hexagon screwdriver and screw the torque 1.0+/-0.1N·m.



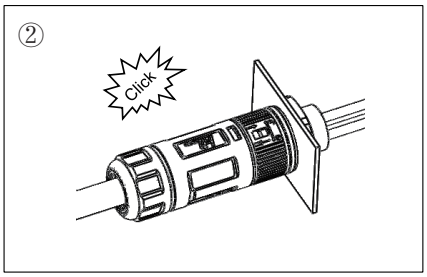

Complete the installation.

# 3.Installation

Male and female butt (plate end):

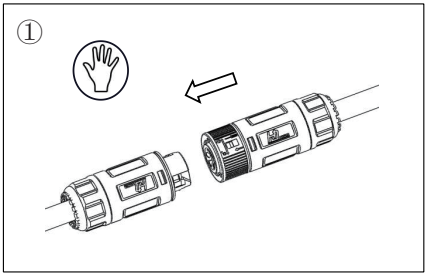



The installation arrow indicates insertion the female connector.

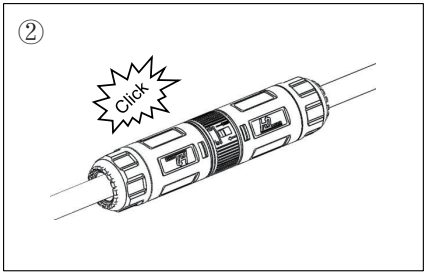



Complete the installation.

Male female connection (Wire end):



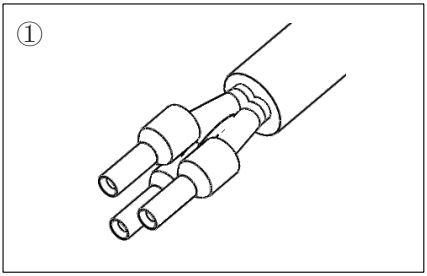

The installation arrow indicates insertion the female connector.



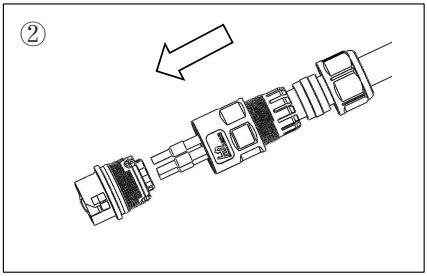

Complete the installation.

Appliances such as air conditioner are required at least 2-3 minutes to restart because it is required to have enough time to balance refrigerant gas inside of circuit. If a power shortage occurs and recovers in short time, it will cause damage to your connected appliances. To prevent this kind of damage, please check manufacturer of air conditioner if it is equipped with time-delay function before installation. Otherwise, this inverter will trigger overload fault and cut off output to protect your appliance but sometimes it still causes internal damage to the air conditioner.

**Backup1/2 Load installation procedure:**

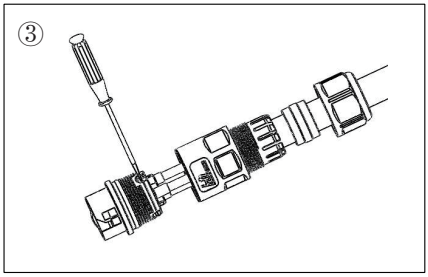



Crimp the terminals with crimping pliers.

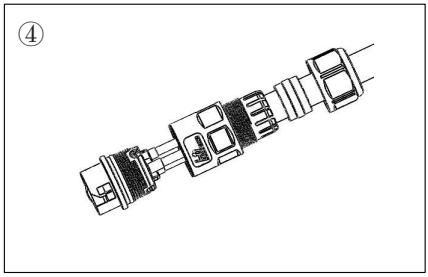



Set the parts on the cable, Insertthe terminal holes in sequence.

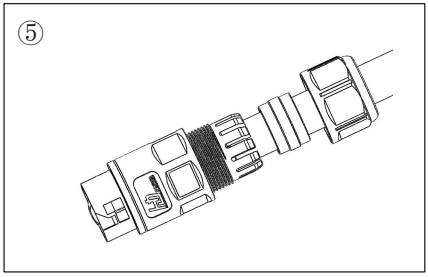
# 3.Installation



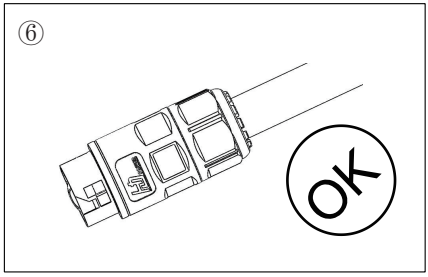

Crimp the wire with an inner hexagon screwdriver and screw the torque 1.0+/-0.1N·m.




Tighten the body with an open-ended wrench (torque 2.0±0.5N·m).

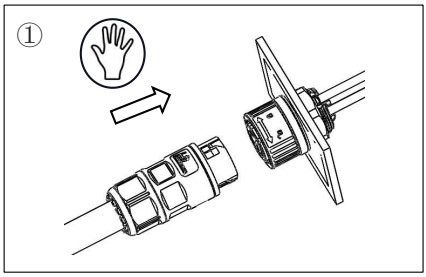



Tighten the nut with an open-ended wrench (torque 2.5±0.5N·m).

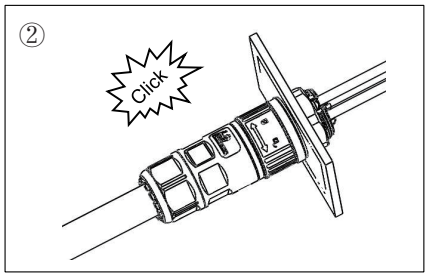



Complete the installation.

Male and female butt (plate end):



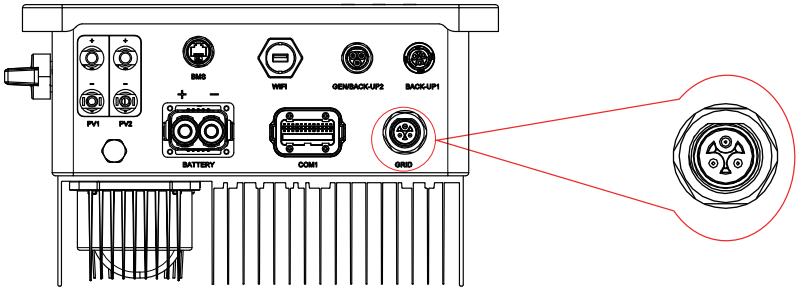

The installation arrow indicates insertion the female connector.

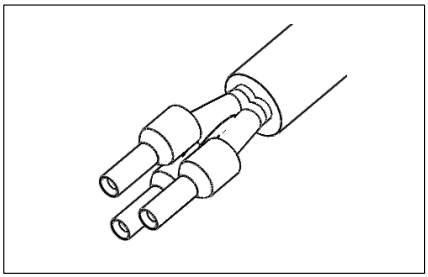



Complete the installation.

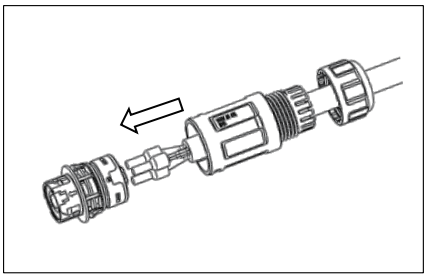
# 3.Installation

**Grid installation procedure:**

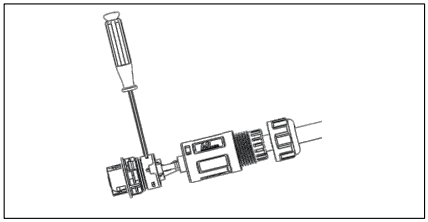


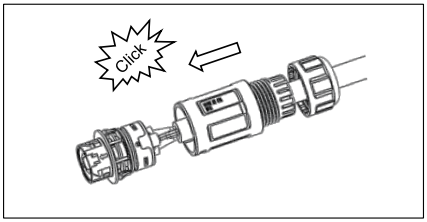
Crimp the terminals with crimping pliers.



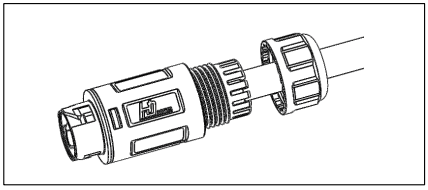
Set the parts on the cable, Insert the terminal holes in sequence.



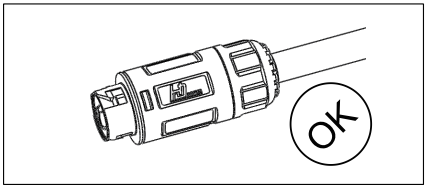
Crimp the wire with an inner hexagon screwdriver and screw the torque 1.2+/-0.1N·m.




Insert the main body into the rubber core and hear the "click" sound.



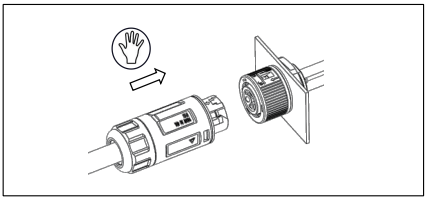
Tighten the nut with an open-ended wrench(torque 2.5±0.5N·m).



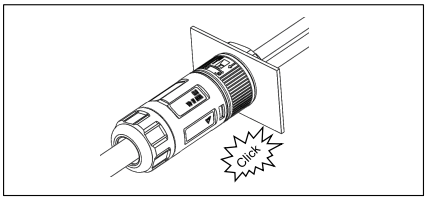

Complete the installation.

# 3.Installation

Male and female butt (plate end):

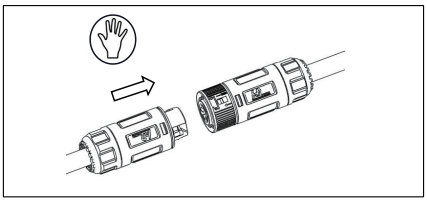


The installation arrow indicates insertion the male connector.

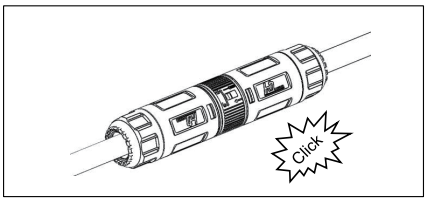



Complete the installation.

Male female connection (Wire end):



The installation arrow indicates insertion the male connector.



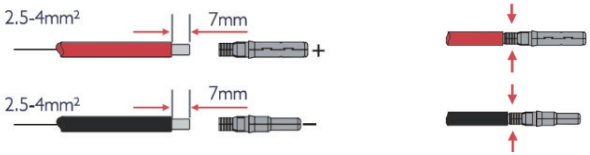

Complete the installation.

# 3.Installation

## 3.5 PV Connection

Before connecting to PV modules, please install a separately DC circuit breaker between inverter and PV modules. It is very important for system safety and efficient operaTIon to use appropriate cable for PV module connection. To reduce risk of injury, please use the proper recommended cable size as below.

| Model | Wire Size | Cable (mm²) |
|---|---|---|
| AU3/3.6/4/5/6KESL-G3 | 10AWG | 2.5-4 |




### Installing PV terminals:

① Turn off the DC switch.
② Prepare 2.5-4mm2 PV cable and PV plugs.
③ Strip 7mm of the conductor with stripping plier.
④ Insert the cable into the pin contacts and ensure that all wires are securely inserted.
⑤ Use crimping pliers to crimp the pin contacts and confirm that the pins are tightly pressed.
⑥ Insert the pin contact through the cable nut and assemble it onto the back ofthe-male or female plug. When the card slot is stuck, it indicates that the connection is correct.
⑦ Tight the DC connector.
a: Slide the cable nut towards the back shell. b: Rotate the cable nut to secure the cable.

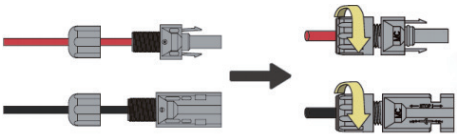


Chart 3-4 Cable size

When using PV modules, please ensure the PV+ & PV- of solar panel is not connected to the system ground bar.

It is requested to use PV junction box with surge protection. Otherwise, it will cause damage on inverter when lightning occurs on PV modules.

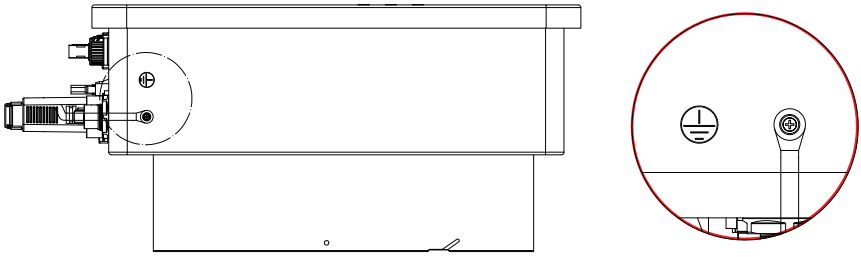
### 3.5.1 PV Module Wire Connection:

Please follow below steps to implement PV module connection:

1. Remove insulation sleeve 10 mm for positive and negative conductors.
2. Suggest to put bootlace ferrules on the end of positive and negative wires with a proper crimping tool.
3. Check correct polarity of wire connection from PV modules and PV input connectors. Then, connect positive pole (+) of connection wire to positive pole (+) of PV input connector. Connect negative pole (-) of connection wire to negative pole(-)of PV input connector. Close the switch and make sure the wires are tightly fixed.

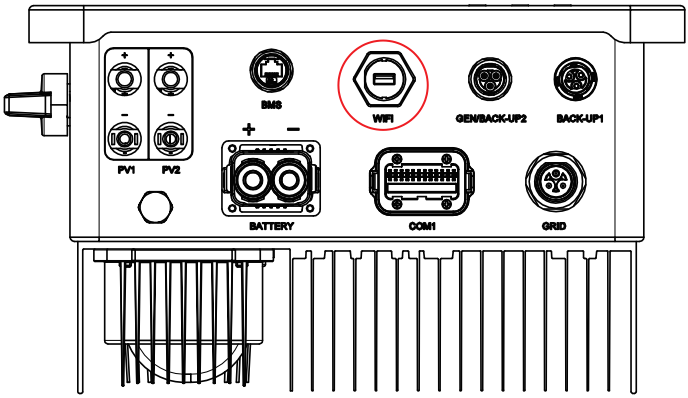
### 3.6 Earth Connection (mandatory)

Ground cable shall be connected to ground plate on grid side this prevents electric shock. if the original protective conductor fails.



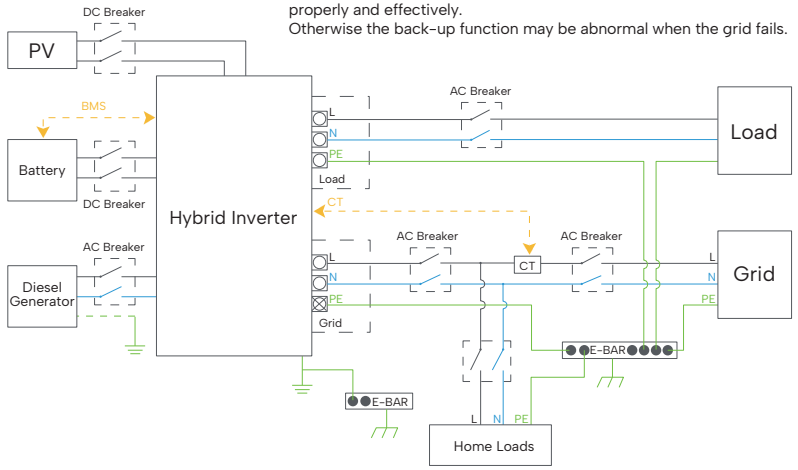
### 3.7 WiFi Connection

Austa series hybrid inverter supports WIFI communication. Plug the WIFI module into the WIFI port in the bottom of inverter.

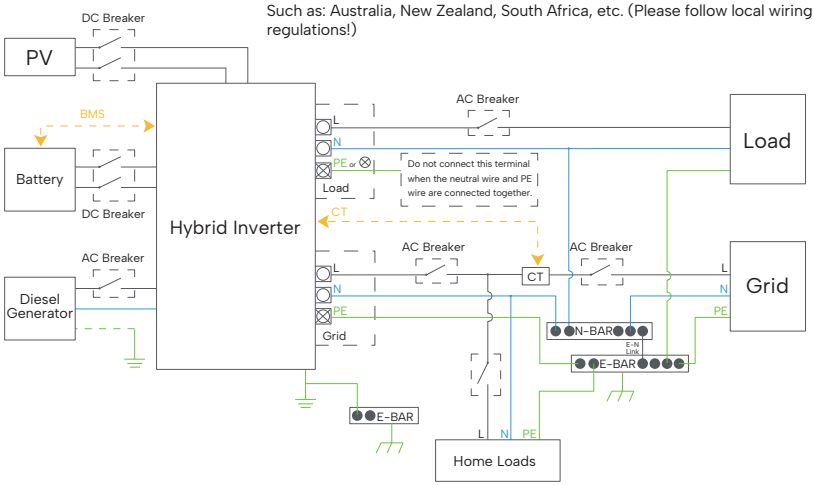


## 3.8 Wiring System for Inverter

This diagram is an example for grid systems without special requirements on electrical wiring connection.
Note: The back-up PE line and earthing bar must be grounded properly and effectively.
Otherwise the back-up function may be abnormal when the grid fails.



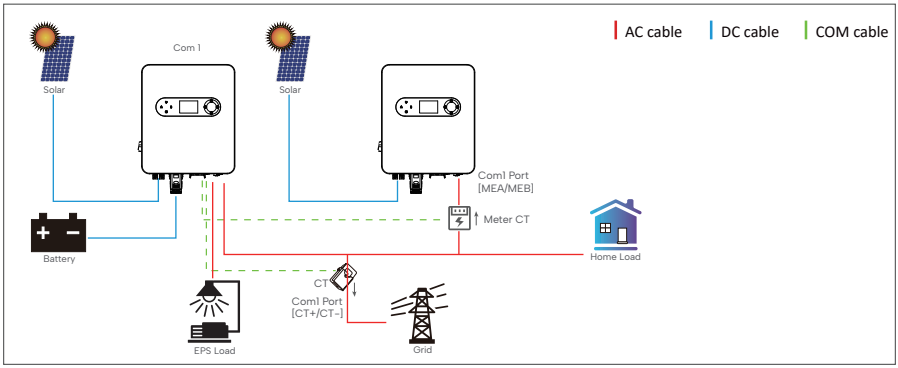

This diagram is an example for application that Neutral connects together with PE in distribution box.
Such as: Australia, New Zealand, South Africa, etc. (Please follow local wiring regulations!)



## 3.9 AC Couple

3.9.1 Grid Port：

The wiring method is shown in the figure below.




3.9.2 Function Settings

In the Hybrid Inverter screen, select [Settings], [Basic Setting], [Other] in sequence, set [Meter Mode] to [Meter + CT] and enable the [AC Couple] function;

Select [System Setup2], [Gen Setting], [Gen Port Use], and set [Gen Port Type] to Gen or Smart Load (if set to AC Couple, it will cause inaccurate power calculation during operation);

Set the password to [1234].

Meter settings: Communication address is 002; Baud rate is 9600 (already set at factory).

3.9.3 Working Mode

Set the working mode of the Hybrid Inverter to Zero Export To CT;

When the On Grid Inverter is running, the output power is prioritized to supply the Hybrid Inverter;

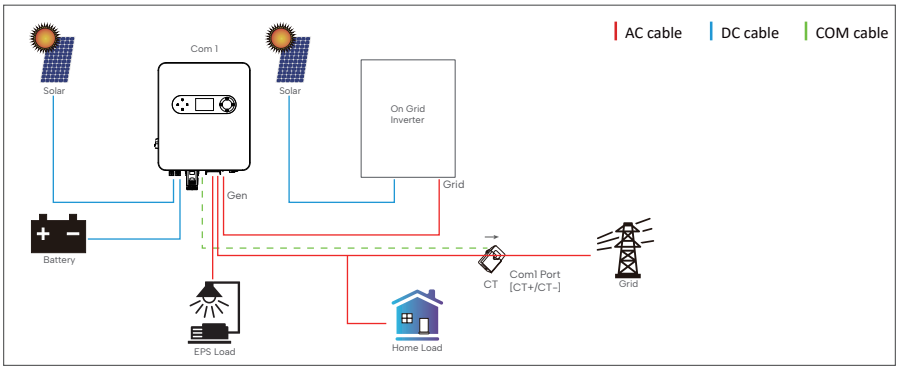
When System Load＜Hybrid Inverter PV + On Grid Inverter PV, the excess energy is used to charge the Battery. Once the Battery reaches its maximum charge capacity or is fully charged, the Hybrid Inverter PV will limit its output power. The remaining power of the On Grid Inverter will flow into the grid. In this mode, the On Grid Inverter cannot perform anti-reverse current protection.

When System Load > Hybrid Inverter PV + On Grid Inverter PV, the battery will discharge to supplement the power. When the battery reaches the discharge limit or is protected, the grid will purchase power.

If Time of Use is Disabled, the inverter will operate in self-consumption mode, and the battery can discharge to the protection value by default. When Time of Use is enabled, the battery discharge power and SoC will be restricted.

3.9.4 Gen Port:

The wiring method is shown in the figure below.




3.9.5 Function Settings

Gen Port Type: Select the output type of the generator port. When set to "AC Couple", the AC Couple function is enabled.

On Batt SOC: When the battery SOC drops below this value, the Gen Port opens and the On Grid Inverter starts working.

Off Batt SOC: When the battery SOC reaches [Batt Off] – 1%, the Gen Port output frequency gradually increases to the value set in [AC Couple Fre High]; when the battery SOC reaches [Batt Off] + 1%, the Gen Port closes; when the battery SOC reaches [Batt Off] – 2%, the Gen Port frequency returns to 50Hz.

AC Couple Fre High: When the battery charging power is limited, the Gen Port frequency gradually increases to this set value.

In the Hybrid Inverter screen, select [Settings], [Basic Settings], [Other] in sequence, enable the [AC Couple] function, and set [Meter Mode] to [CT].

In the settings interface, select [GenSetting], [Gen Port Use], and choose [AC Couple] in [Gen Port Type].

In the [Gen Port Type] interface, set the ON and OFF values to control the opening and closing of the Gen Port.

Set the password to [1234].

3.9.6 Operating Modes

On Grid Operation

Selling First Mode + Load First: The power from Hybrid Inverter PV and On Grid Inverter PV is prioritized for the Load. When there is excess energy, it charges the Battery. When the Battery charging power is limited, the excess PV power is flow to the Grid.

Selling First Mode + Bat First: The power from Hybrid Inverter PV and On Grid Inverter PV is prioritized for charging the Battery. The Load power is purchased from the Grid. When the charging power of the Battery is limited, some of the PV power will be provided to the Load. When the Load decreases, the excess energy from PV will flow into the Grid.

Zero Export To CT Mode + Load First: The power from Hybrid Inverter PV and On Grid Inverter PV is prioritized for the Load. When there is excess energy, it charges the Battery. When the Battery is charged to the "Batt Off" value, the Generator Relay is disconnected, and the Hybrid mode enters the self-use mode.

Zero Export To CT Mode + Bat First: The power from Hybrid Inverter PV and On Grid Inverter PV is prioritized for charging the Battery. The Load power is purchased from the Grid. When the Battery is charged to the "Batt Off" value, the Generator Relay is disconnected.

Time of Use Enable: In the "Selling First" mode, when the battery is charged to the set SOC, it flow to the grid; in the "Zero Export To CT" mode, when the battery is charged to the set SOC, the Gen Relay output is cut off and the On Grid Inverter stops working.

Off Grid Operation

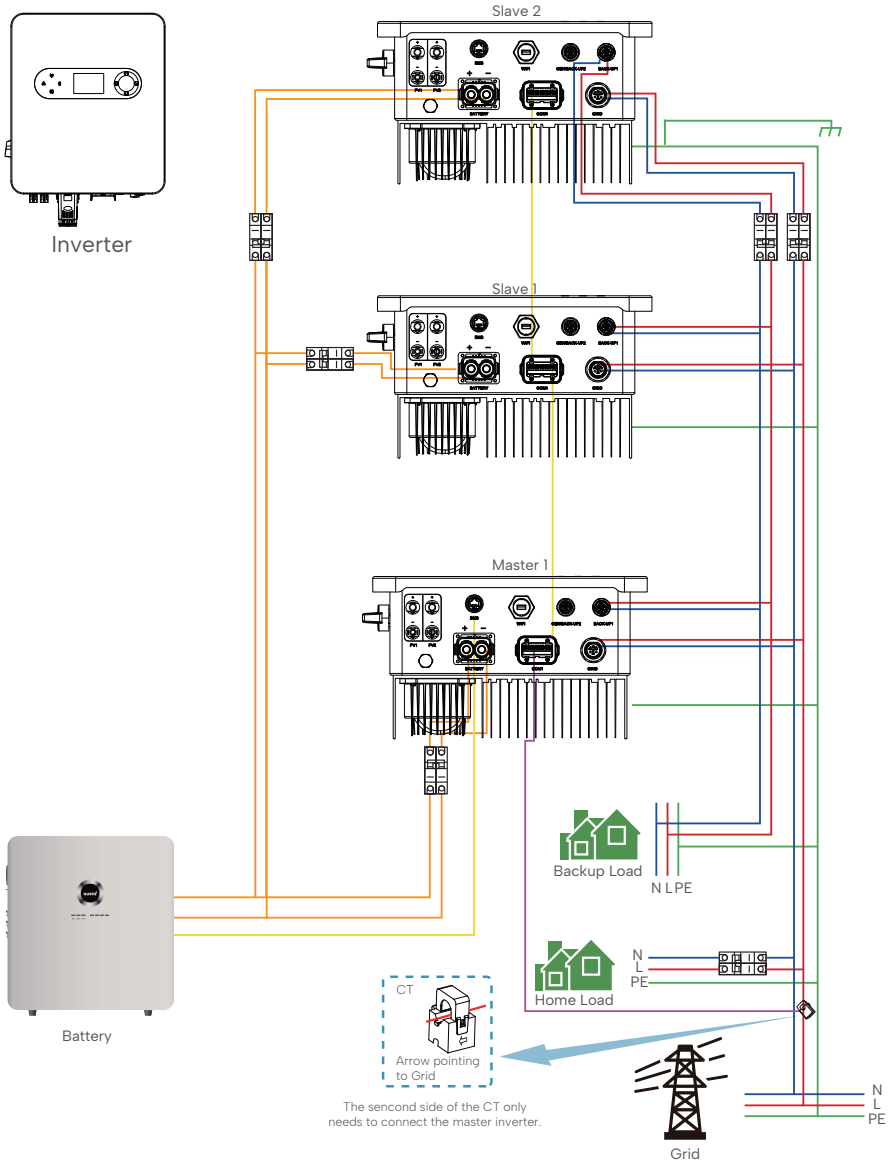
In this mode, the frequency value of "AC Couple Fre High" needs to be changed in the "AC Couple" section;

When System Load < Hybrid Inverter PV + On Grid Inverter PV, the excess energy charges the battery. When the battery charging power is limited or the load power decreases, the Hybrid Inverter performs load shedding. If the input power still exceeds the set charging power after load shedding, the Gen Port frequency will gradually increase, and the On Grid Inverter will execute the over-frequency load reduction function to start reducing the output power until it drops to 0; When the Battery is charged to the "Batt Off" value, the Generator Relay is disconnected.

System Load: EPS Load + Home Load

## 3.10 Single Phase Parallel Connection Diagram

CAN L Wire N Wire PE Wire




Note: In case of a separate machine, the CT is connected in the same way as in case of a parallel machine

# 4.OPERATION

## 4.1 Power ON/OFF

Once the unit has been properly installed and the batteries are connected well, simply press On/Off button(located on the left side of the case) to turn on the unit. When system without battery connected, but connect with either PV or grid, and ON/OFF button is switched off, LCD will still light up(Display will show OFF), In this condition, when switch on ON/OFF button and select NO battery,system can still working.

## 4.2 Operation and Display Panel

The operation and display panel, shown in below chart, is on the front panel of the inverter. It includes four indicators, four function keys and a LCD display, indicating the operating status and input/output power information.

| LED Indicator | | Messages |
|---|---|---|
| DC | Green led solid light | PV Connection normal |
| AC | Green led solid light | Grid Connection normal |
| Normal | Green led solid light | Inverter operating normal |
| Alarm | Red led solid light | Malfunction or warning |

Chart 4-1 LED indicators

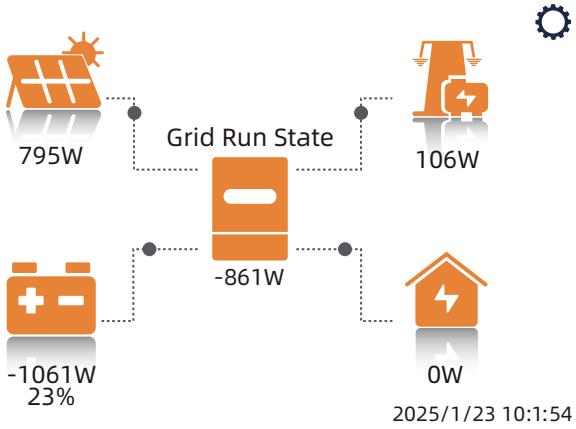
| Function Key | Description |
|---|---|
| Esc | To exit setting mode |
| Up | To go to previous selection |
| Down | To go to next selection |
| Enter | To confirm the selection |

Chart 4-2 Function Buttons

# 5.LCD Display Icons

## 5.1 Main Page

The LCD is a touch screen, please touch the screen to operate.




This is the main page. Power on the LCD to show the flow chart on the main page. When powering on, data refreshing existsa dittle delay, so please wait for a few seconds before operation until the real time appears directly above on the screen. The main page displays PV, grid, battery, load power, batery voltage and soc. At the same time, the color of the inverter icon indicates the real time operation status, Based on the realtime power changes, the battery icon changes, and through the signal dots flow direction to show the dynamic flow of power relation ship.

- **Description of Touch Functions**

| Icons | Functions |
|---|---|
|  | Click to enter the PV page, and view real-time data for the PV section. |
|  | Click to enter the Grid page, and view real-time data for the Grid section. |
|  | Click to enter the Battery page, and view real-time data for the Battery section. |
|  | Click to enter the Load page, and view real-time data for the Load section. |
|  | Real-time information displayed. |

# 5.LCD Display Icons

| | |
|---|---|
|  | Click to enter the Setting page, but you need to enter the password correctly at first. |
|   | View electricity cruve. |
|  | Save button. |
|  | Back button. |
|  | View the next cycle. |
|  | View the previous cycle. |
|  | Page-down button. |
|  | Page-up button. |

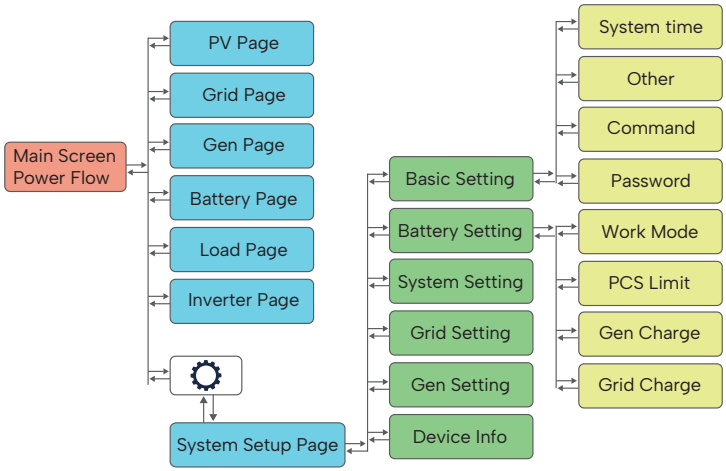
# 5.LCD Display Icons

Click on the icons of each section to view real-time data, as shown in the table above.

Cick on the gear icon in the upper right corner of the Main screen to enter the Setting interface. in order to protect the information security and prevent misuse, each time you enter the Setting interface, you need to enter the password once the default password is 1234. There is a delay of a few seconds in the judgment of the password, please be patient and waitfor the entry icon to turn on and change to green, click and enter Setting menu interface, select the system set, battery set, grid set, generator set, basic set, advanced setand others. Enter the sub-etting interface for parameter modification (If the password is wrong, the entry icon closes and turns red, you need to re-enter the correct password. If you click on the icon at this time, it will display "Error", you can only click on the home return button or back button to re-enter the password interface and enter the correct password).

In each sub-setting interface, the selection way is to click on the hollow circle to make it become a solid circle or click on the box to make the check mark appear, and the input way is to click on the rectangular input box to use the keyboard to input the numbers (there is no need to input the unit), and then click on save button to take effect, After successfu setting, it will return back to the previous interface automatically. Any parameter modification needs to click save to take effect, otherwise the modification will not work. LCD brightness and standby time are adjusted by clicking the plus/minus icon or dragging the slider, and system time is adjusted by clicking the plus/minus icon. Similaly, you need to save after modifcation. The parameter settings have limited the range of input values to protect against accidental touch, so you can operate with peace of mind.

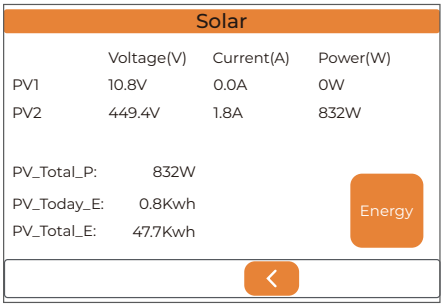
- **Description of Touch Functions**

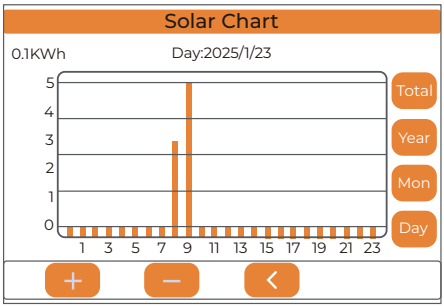


# 5.LCD Display Icons

## 5.2 Real-Time Information Page

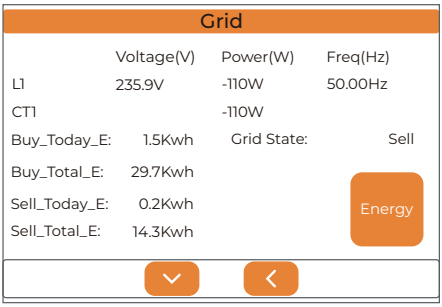
- PV Page

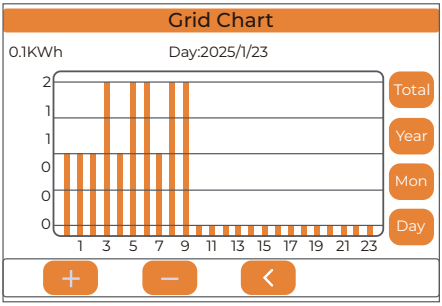



This is PV Page, two page in total.
① Real-time data: It can display the two-channel DC voltage,current, and power in real time, and simultaneously display the current day, current month, current year, and cumulative power generation.
② Button: The right area of the screen is the button area, the top one to return to the home page, next to return to the previous page button, page-up button, page-down button, save button. When the button turns transparent, it means untouchable.

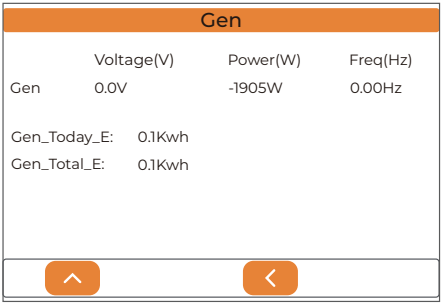
- Grid Page




This is Grid Page, two pages in total. The number of pages is displayed in the lower left corner.
① Realtime data: Real-time display of grid voltage, current, Ac output power and reactive power, power factor, meterpower, display of grid frequency, status and meter COM status, statistics of the day, month, year, and the cumulative amount of bought/sold energy.
② Grid Power Status: Balance; Sell; Buy.

- Gen Page

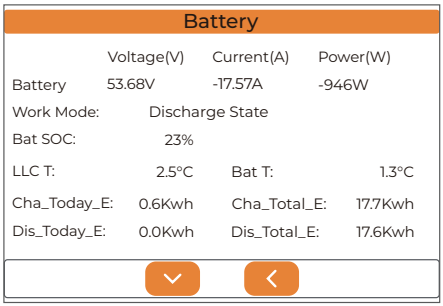


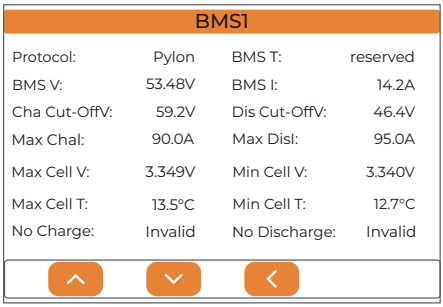
# 5.LCD Display Icons

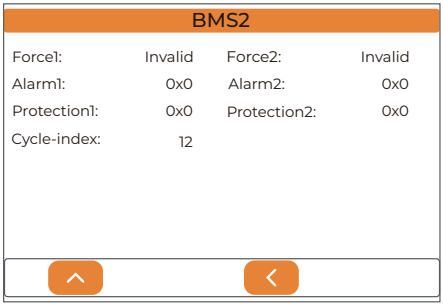
This is GEN Page, one page in total

① Real-time data: display of the voltage, power, frequency of the GEN.

- Battery Page




This is Battery Page, three pages in total. The number of pages is displayed in the lower left corner.

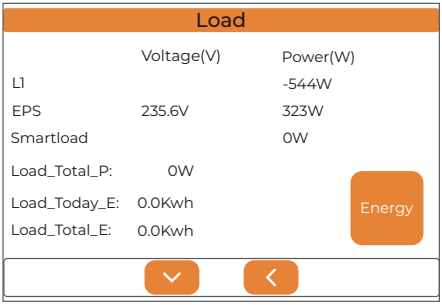
① Real-time data: Real-time display of battery voltage, current, power, power, working status, detection status, BMS COM status, temperature, Max. charging and discharging current, LLC voltage and current, and statistic of the day, month, year, and the cumulative amount of charged/discharged energy.

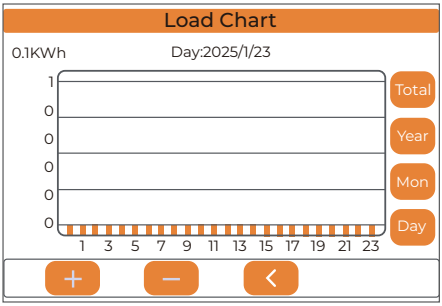
② Battery working Status: Standby; Charge; Discharge.

③ Battery Test Status: Disconnect; Charging allowed; Both allowed; Discharging allowed.

④ BMS COM Status: Failure: OK.

- Load Page



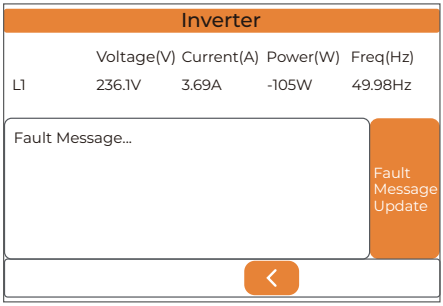




This is Load Page, two pages in total. The number of pages is displayed in the lower left corner.

① Real-time data: Real-time display of single-phase load voltage, current, AC output power statistics of total power consumption, and the day, month, year, and the cumulativeamount of consumed energy. voltage and current, and statistic ofthe day, month,

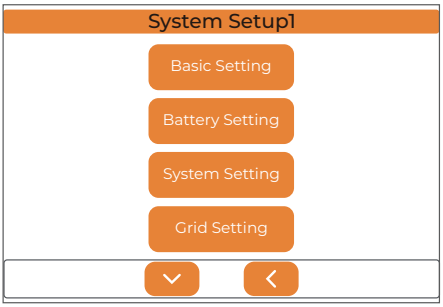
year, and the cumulative amount of charged/discharged energy.
② Battery working Status: Standby; Charge; Discharge.
③ Battery Test Status: Disconnect; Charging allowed; Both allowed; Discharging allowed.
④ BMS COM Status: Failure: OK.

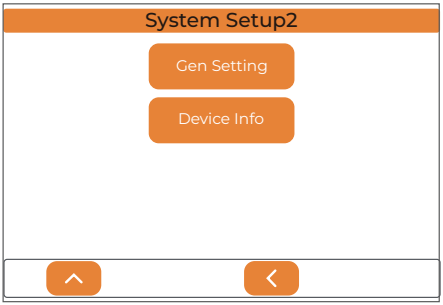
- Inverter Page




This page displays information such as the inverter's voltage, current, power, frequency, and fault codes.

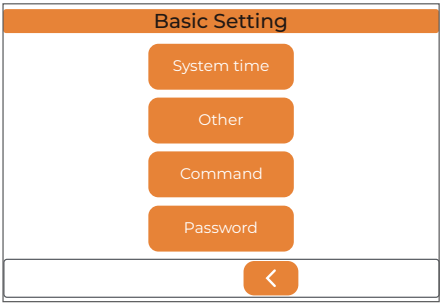
## 5.3 System Setup Page



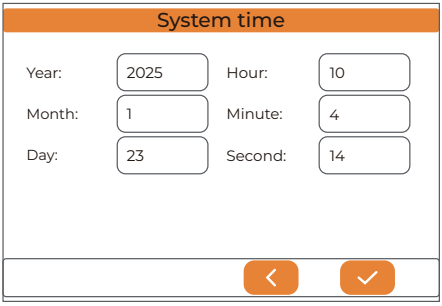




This is System Setup Page, two pages in total.The number of pages is displayed in the lower left corner.
① System Setup1 : Basic; Battery Setting; System Setting; Grid Setting.
② System Setup2: Gen Setting; Device information.

## 5.4 Basic Setting Page

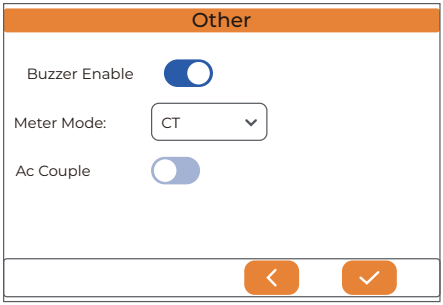



This is Basic Setting Page, Four pages in total. This page contains: Basic Setting; System time; Other; Command; New Password.




The System time Page, Set up Year; Month ; Day; Hour; Minute; Second. When the settings are complete, click Confirm to save the parameters.

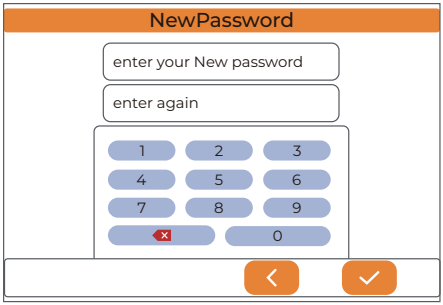
# 5.LCD Display Icons




The Other Page, Set up Buzzer Enable Status is on or off. Set up Meter Mode None 、CT、Meter、Meter+CT、Two Meter. Set up Ac Couple Status is on or off. When the settings are complete, click Confirm to save the parameters.

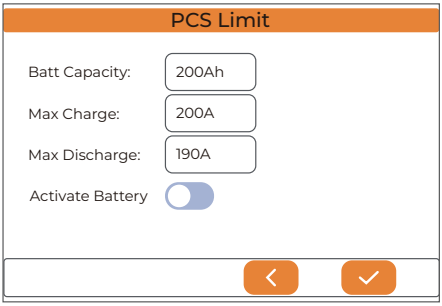


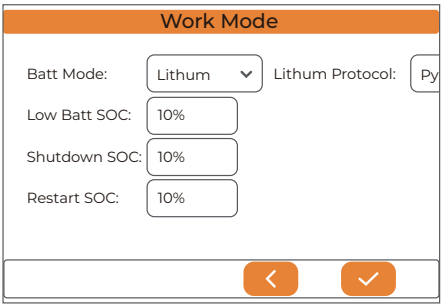

The Command Page, Set up Factory Reset ;Clear Overload; Clear History Electric. When the settings are complete, click Confirm to save the parameters.

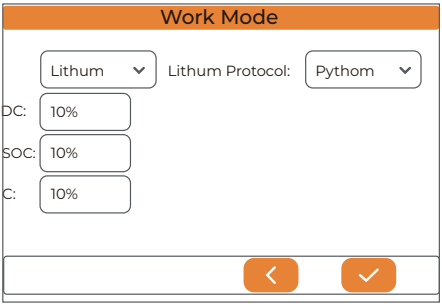



This is Password Enter Page, you need to enter the password correctly before entering the Setting Page.
① The default password is 1234.
② If the password is incorrect, you will need to re-enter it. Upon entering the correct password, you will be directed to the settings interface.
③ To change your initial password, you may enter the same new password twice in the NewPassword field to complete the reset.

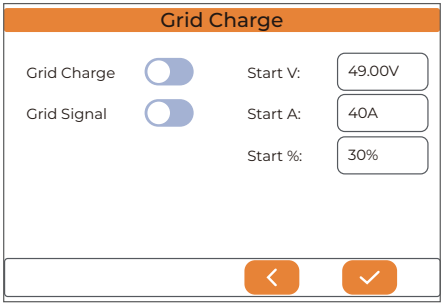
## 5.5 Battery Setting Page



# 5.LCD Display Icons




This is Battery Set Page, four pages in total. The number of pages is displayed in the lower left corner.

① PCS Limit Interface: Enables configuration of battery capacity and battery charge/discharge current.

② Get into the battery work mode interface, select the battery type and communication protocol.

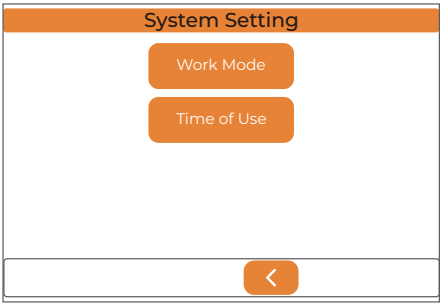
Low Batt SOC: Set the percentage of remaining battery charge for the device. When this level is reached, recharge promptly.

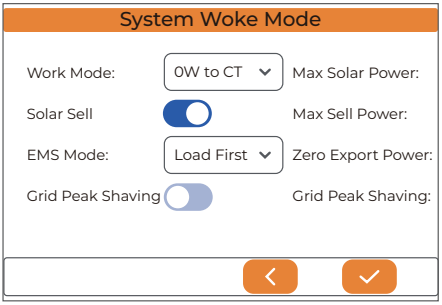
Shutdown SOC: A minimum battery percentage can be set. When the battery state of charge (SOC) drops to the preset percentage, the device will forcibly disconnect the output and shut down to prevent permanent damage to the battery caused by excessive discharge.

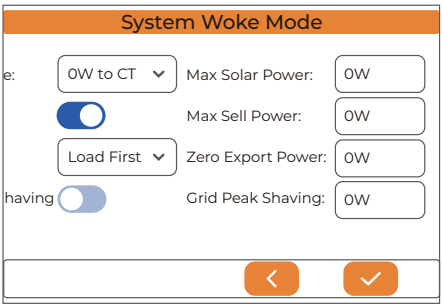
Restare SOC: The pre-set percentage of battery charge required for recovery operations. When the battery triggers the 'Shutdown SOC' protective shutdown due to excessively low charge, it must be recharged to this pre-set percentage or higher before the device's safety system permits restarting or restoring power supply.

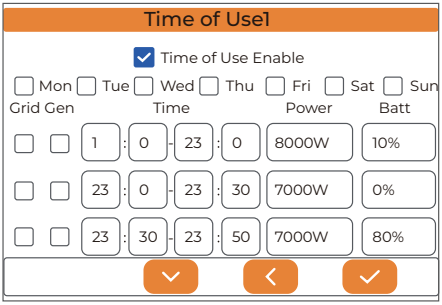
③ Grid Charge: Settings for grid-to-battery charging parameters can be configured on this page.

## 5.6 System Setting Page

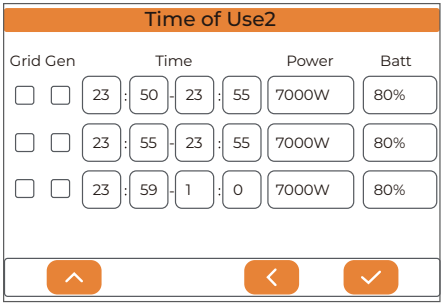


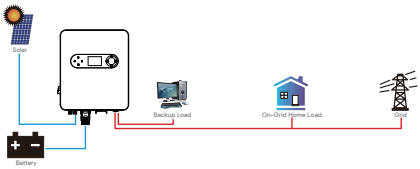
# 5.LCD Display Icons



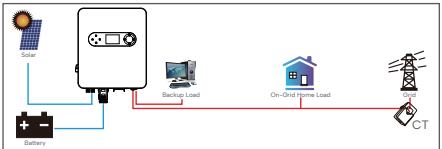

This is System Set Page, two pages in total. The number of pages is displayed in the lower left corner.

① Switch: Controls the power on and off of the inverter, means unselected, means selected.

② Work Mode: i) Selling first: PV is used to power loads and battery, allowing the inverter to sell excess energy generated by the solar panels back to the grid. if it is during a discharging period, energy of attery can also be sold back to the grid. Prioritization of power supply sources for loads: PV>Grid>Battery. ii) Anti-refux to grid: The inverter only supplies power to the connected backup load. it neither supplies power to household loads nor sells power to the grid. The built-in CT will detect the power flowing back to the grid and wil reducethe power of the inverter, only to supply local loads and charge for battery.




iii) Anti-reflux to CT: The inverter supplies power to connected backup loads and household loads. If pV power and battery-power are insufficient, they will be supplied with grid power. The inverter won't sell power to the grid. in this mode, a CT is required and an external CT will detect the power flowing back to the grid and wil reduce the power of the inverter,only to supply local and household loads, charge for battery.




③ Solar Sell: it is a special pattern in the Anti-reflux to grid or Anti-reflux to CT mode. If this pattern is on, excess energy can be sold back to the grid. At this time PV is prioritized for use as follows: loads, charging battery, grid ☐ means off ☑ means on.

④ Max Sell Power: The maximum output power allowed to flow into the grid.

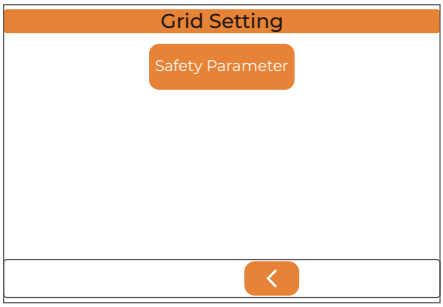
⑤ Zero-export Power: The maximum amount of power flowing into the grid with the "Solar Sell" off.

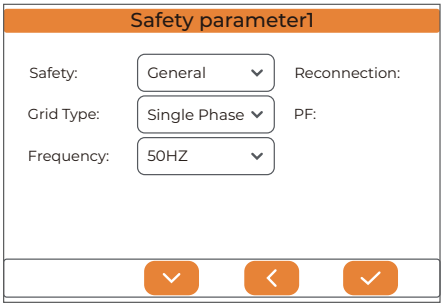
⑥ Energy Mode: Prioritization of PV energy supply. Batt First: PV energy supply is first used to charge the batery and then used to power the load. if the PV energy isinsufficient, the grid will supply both the battery and the load. Load First: PV energy supply is first used to power the load and then used to charge the battery. If the PV energy is insufficient, the grid will supply both he battery and the load. Note: If operating on off-grid status, the PV energy mode is always load first.

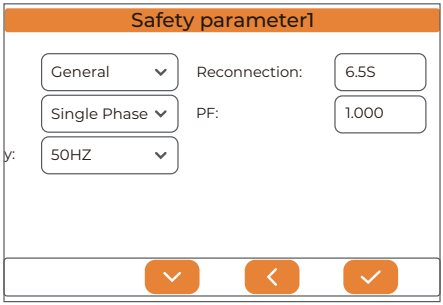
⑦ Charging and Discharging Periods: Up to six charging and discharging time periods can be set, click the circle to select charging(CHG) and discharging (EDC) mode, solid circle means selected. For convenience, hours and minutes are set separately, click on the input box and enter with the keyboard, set the start time first. and then set the end time moreover, charge and discharge power can be set, as well as battery cut-off SOC and voltage. In order to avoid generating program conflicts, the two time periods front and rear are confgured with a continuous relationship, where the end time of the previous period is the start time of the subsequent period. in addition, if the battery protocol is a Pb Acid, the battery cut-off sOc item can only be set to 0% or 100% when setting the period parameter, Charging needs to be set to 100% and discharging needs to be set to 0%.

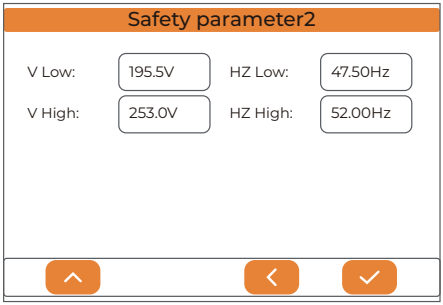
⑧ GEN Charge: utilize diesel generator to charge the battery in a time period.

## 5.7 Grid Setting Page



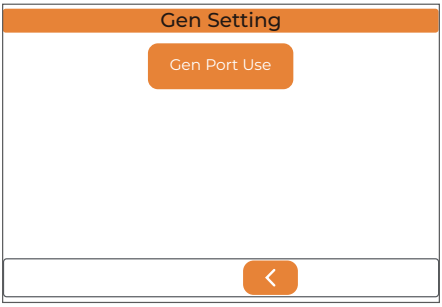



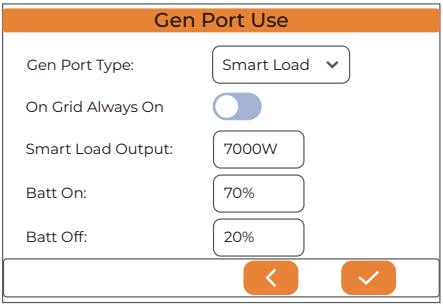




This is Grid Set Page, four page in total.
1. Safety regulation selection: select the corresponding safety regulation standard according to the local requirements, and the corresponding safety regulation parameters will be automatically updated.
2. To adjust the parameters, proceed as follows:
① Frequency select: please select your local grid frequency,you can choose 50Hz, 60Hz.
② Grid Voltage: Upper and lower grid voltage limits can beset.
③ Grid Frequency: Upper and lower grid frequency limitscan be set.
④ Grid Reconnect delay: The reconnection time can be setin the on-grid state. The grid frequency needs to be selected when the inverter is down, and the inverter needs to be powered back on after the selection is completed.

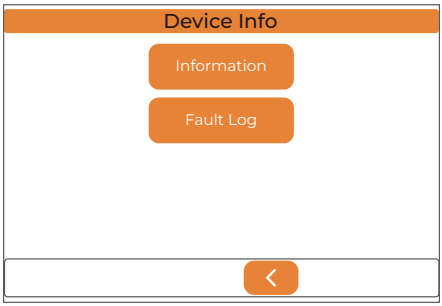
## 5.8 Gen Setting Page

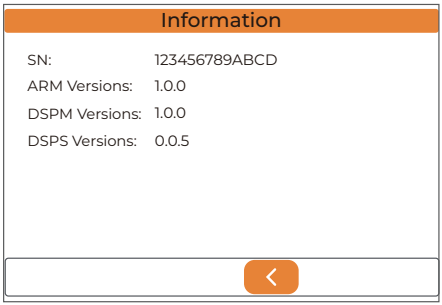


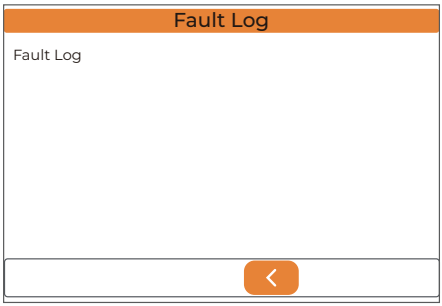




This is GEN Page, two page in total.
① Real-time data: Real-time display of the voltage, current, power, frequency of the GEN.

## 5.9 Device Info Page



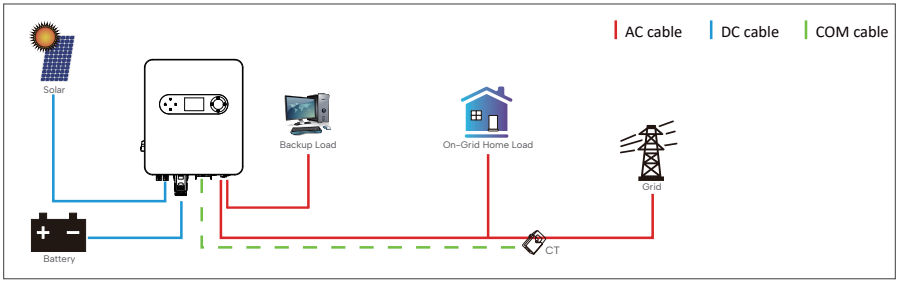



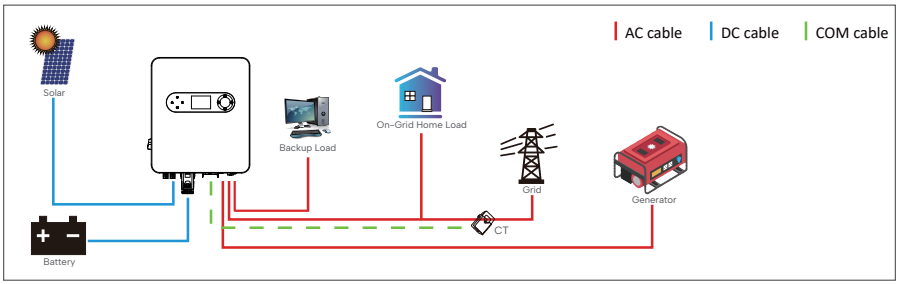

This is Device Info Page, two page in total. The information page can be viewed: SN; ARM Versions; DSPM Versions; DSPS Versions Parameters. The FAult Log page, Viewing Fault Messages.

# 6.Mode

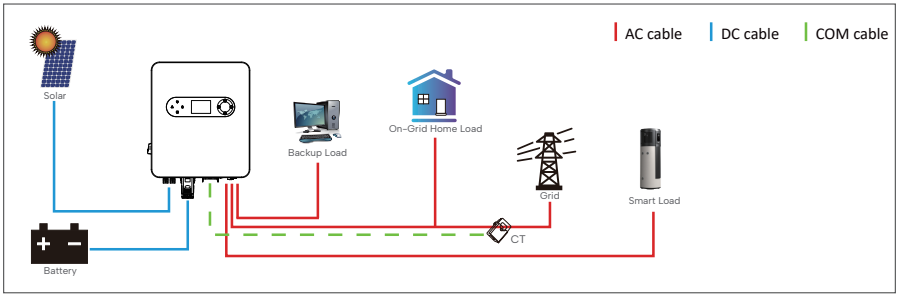
## Mode I: Basic




## Mode II: With Generator




## Mode III: With Smart-Load




The 1st priority power of the system is always the PV power, then 2nd and 3rd priority power will be the battery bank or grid according to the settings.The last power backup will be the Generator if it is available.

# 7.Fault Information and Processing

The energy storage inverter is designed according to the grid-connected operation standard and meets the safety requirements and electromagnetic comptibility requirements. Before leaving the factory, the inverter undergoes several rigorous tests to ensure that the inverter can operate reliably.



If any of the fault messages listed in Table 7.1/2/3 appear on your inverter and the fault has not been removed after restarting, please contact your local dealer or service center. You need to have the following information ready.

1. Inverter serial number;
2. Distributor or service center of the inverter ;
3. On-grid power generation date;
4. The problem description (including the fault code and indicator status displayed on the LCD) is as detailed as possible;
5. Your contact information.In order to give you a clearer understanding of the inverter's fault information, we will list all possible fault codes and their descriptions when the inverter is not working properly.

## 7.1 Warning List

| System Warning Code 1 | Warning Event | Description | Solutions |
|---|---|---|---|
| 0 | Over Ugrid | The Grid Voltage is Higer than the setting value when the inverter is running | 1. Check the AC voltage is in the range of standard voltage inspecification;<br>2. Check whether grid AC cables are firmly and correctly connected;<br>3. If the error message still remains, please contact your installer. |
| 1 | Over Ugrid | The Grid Voltage is Lower than the setting value when the inverter is running | 1. Check the AC voltage is in the range of standard voltage inspecification;<br>2. Check whether grid AC cables are firmly and correctly connected;<br>3. If the error message still remains, please contact your installer. |
| 2 | Over Fr | The Grid Frequency is Higer than the setting value when the inverter is running | 1. Check the frequency is in the range of specification or not;<br>2. Check whether AC cables are firmly and correctly connected;<br>3. If the error message still remains, please contact your installer. |
| 3 | Over Fr | The Grid Frequency is Lower than the setting value when the inverter is running | 1. Check the frequency is in the range of specification or not;<br>2. Check whether AC cables are firmly and correctly connected;<br>3. If the error message still remains, please contact your installer. |

| | | | |
|---|---|---|---|
| 4 | Line Check | The Grid is Loss when the inverter is running | 1. Check whether grid AC cables are firmly and correctly connected;<br>2. Restart the inverter 2-3 times;<br>3. if the fault still existing, please contact us for help. |
| 5 | Under Upv | The PV voltage is lower than 120V when turn on the PV switch | 1. Check the PV is in the range of specification or not;<br>2. Check whether PV cables are firmly and correctly connected;<br>3. If the error message still remains, please contact your installer. |
| 6 | Reserved | | |
| 7 | Reserved | | |
| 8 | Reserved | | |
| 9 | Reserved | | |
| 10 | Reserved | | |
| 11 | Reserved | | |
| 12 | Reserved | | |
| 13 | Reserved | | |
| 14 | Reserved | | |
| 15 | Reserved | | |

| System Warning Code 2 | Warning Event | Description | Solutions |
|---|---|---|---|
| 0 | Ubattery-Low | The battery voltage is lower than 44V or lower than the SOC that you setting | 1. Check the battery voltage;<br>2. Check whether Battery cables are firmly and correctly connected;<br>3. Restart the inverter 2-3 times;<br>4. if the fault still existing, Please contact your installer. |
| 1 | Ubattery-Loss | The Grid Voltage is Lower than the setting value when the inverter is running | 1. Check the AC voltage is in the range of standard voltage inspecification;<br>2. Check whether grid AC cables are firmly and correctly connected;<br>3. If the error message still remains, please contact your installer. |
| 2 | Reserved | | |
| 3 | Reserved | | |
| 4 | Fault FAN | The FAN isn't working | 1. Restart the inverter 2-3 times;<br>2. if the fault still existing, Please contact your installer. |
| 5 | Reserved | | |
| 6 | Battery Transient Voltage Under | The battery voltage is lower than 40V at one moment | 1. Check the battery voltage;<br>2. Check whether battery cables are firmly and correctly connected;<br>3. Restart the inverter 2-3 times; if the fault still existing, Please contactyour installer. |
| 7 | Reserved | | |
| 8 | Reserved | | |

| | | | |
|---|---|---|---|
| 9 | DC Stop | The DC side isn't working | 1. The BUS voltage can't be built from PV or battery;<br>2.Check whether Battery cables are firmly and correctly connected;<br>3. Restart the inverter 2-3 times;<br>4. If the fault still existing, Please contact your installer. |
| 10 | Reserved | | |
| 11 | Reserved | | |
| 12 | Reserved | | |
| 13 | Reserved | | |
| 14 | Reserved | | |
| 15 | Reserved | | |

## 7.2 Fault Reference Codes

| | |
|---|---|
| No Grid | Grid voltage is zero<br>1. The alarm is automatically cleared after the power supply is restored.<br>2.Check whether the AC circuit or the AC switch is disconnected. |
| Grid Volt Fault | Grid voltage over rating or under rating.<br>1. If it occurs occasionally, it may be a short-term anomaly of the power grid, and the inverter will automatically restart and return to normal operation when it detects that the grid is normal, without the need for manual intervention.<br>2. If it frequently occurs, please check whether the grid voltage are within the allowable range according to local specifications.<br>If the grid voltage exceed the allowable range, please contact your local power operator.<br>If the grid voltage are within the allowable range, you will need to obtain approval from the local power operator before modifying the grid voltage. |
| Grid Freq Fault | Grid frequency over rating or under rating.<br>1. If it occurs occasionally, it may be a short-term anomaly of the power grid, and the inverter will automatically restart and return to normal operation when itdetects that the grid is normal, without the need for manual intervention.<br>2. If it frequently occurs, please check whether the grid voltage and frequency are within the allowable range according to local specifications.<br>If the grid voltage and frequency exceed the allowable range, please contact your local power operator.<br>If the grid voltage and frequency are within the allowable range, you will need to obtain approval from the local power operator before modifying the grid voltage. |
| Grid 10Min Volt Fault | Grid frequency over rating or under rating.<br>1. If it occurs occasionally, it may be a short-term anomaly of the power grid, and the inverter will automatically restart and return to normal operation when it detects that the grid is normal, without the need for manual intervention.<br>2. If it frequently occurs, please check whether the grid voltage and frequency are within the allowable range according to local specifications.<br>If the grid voltage and frequency exceed the allowable range, please contact your local power operator.<br>If the grid voltage and frequency are within the allowable range, you will need to obtain approval from the local power operator before modifying the grid voltage. |

# 7.Fault Information and Processing

| | |
|---|---|
| Inv Sw Ocp | Software detects high output current from AC terminal.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Dci Ocp | DC component is out of limit in output current.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Batt Inv Hw Ocp | Batt Inv Hw Ocp.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Bus Sw Ovp | PV voltage is too high or BUS voltage sampling is abnormal.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Batt Volt High Fault | Battery voltage is out of range.<br>1. Check if the battery input voltage is within the normal range<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Batt Ocp | Battery current is high.<br>1. Please disconnect the battery, check if the battery connection is correct, reconnect it, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Iso lation Fault | The isolation is failed.<br>1.Check whether the PGND cable of the inverter is correctly connected.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| GFCI Fault | Ground leakage current exceeds the limitation.<br>1. If it occurs occasionally, it may be caused by an abnormality due to external cables. When the fault disappears, the inverter will automatically restart and return to normal operation, without requiring manual intervention.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Pv Volt High Fault | PV voltage out of range.<br>1. Check if the input voltage of the PV panel is within the range.<br>2. If the voltage is not within the range, please modify the photovoltaic array configuration by reducing or increasing the number of series connected photovoltaic panels in the strings. |
| Pv Llc Hw Ocp | High input current of the PV panel due to improper component configuration or component damage.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Sys Temp Fault | The temperature inside the inverter cavity is abnormal.<br>1. Check the ventilation of the inverter installation location and whether the ambient tempera-ture exceeds the maximum allowable working temperature range.<br>2. If the ventilation is poor or the ambient temperature is abnormal, improve the ventilation and heat dissipation situation.<br>3. If the ventilation and ambient temperature are both normal but the inverter cannot resume normal operation, please contact your dealer or after sales service centerfor assistance. |
| Eps Over Load Fault | The Load added to the backup port exceeds the rated power.<br>1. Please check whether the power of the backup terminal load exceeds the limit.<br>2. After shutting down the load, you need to restart the machine or send the command "Clear Eps Over Load" on the APP.<br>3.If it cannot be restored to normal, please contact your dealer or after sales service center for assistance. |
| Batt Shutdown Fault | The battery power is low.<br>Please check whether the battery connection is correct. If it is correct, wait for the battery to charge. |

# 7.Fault Information and Processing

| | |
|---|---|
| Parallel Sync Fault | The parallel machine fault.<br>1. Check whether the parallel machine is normal and the operation is correct.<br>2. If parallel operation cannot be achieved, disconnect the parallel operation and restore single machine operation. |
| Inter Comm Fault | Main DSP and Slave DSP/Main DSP and ARM.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wai for the inverter to return to normal<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Meter Fault | Meter Fault.<br>1.Check whether the meter connection is correct. Check the meter communication.<br>2. Inspect the meter for any damage. After reconnecting correctly, restart and wait for it to return to normal working condition.<br>3. If it cannot be restored to normal, please contact your distributor or after sales service center. |
| BMS Comm Fault | BMS Comm Fault.<br>1. Check the battery connection for correctness and the battery communication cable for any damage.<br>2. If it cannot be restored to normal, please contact your distributor or afte sales service center. |
| Arm Eeprom Fault | Arm Eeprom Fault.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Eeprom Write Fault | Eeprom Write Fault.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Arm Flash Fault | Arm Flash Fault.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Arm Flash Fault | Arm Flash Fault.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Gfci Device Fault | Gfci Device Fault.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Fan Fault | Fan Fault.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Sample Fault | Sample Fault.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |
| Inv Relay Fault | Inv Relay Fault.<br>1. Please disconnect the PV, grid, and battery, then reconnect them, and wait for the inverter to return to normal.<br>2. If it cannot restore to normal, please contact your distributor or after sales service center. |

# 8.Limitation of Liability

In addition to the product warranty described above, the state and local laws and regulations provide financial compensation for the product's power connection (including violation of implied terms and warranties). The company hereby declares that the terms and conditions of the product and the policy cannot and can only legally exclude all liability within a limited scope.

# 9.Datasheet

| | | AU3KESL-G3 | AU3.6KESL-G3 | AU4KESL-G3 | AU5KESL-G3 | AU6KESL-G3 |
|---|---|---|---|---|---|---|
| PV INPUT | | | | | | |
| Max.DC Input Power | [W] | 4500 | 5400 | 6000 | 7500 | 9000 |
| Max. DC Input Voltage | [V] | 500 | | | | |
| Start-Up Voltage | [V] | 125 | | | | |
| MPPT Voltage Range | [V] | 150-425 | | | | |
| Nominal Input Voltage | [V] | 370 | | | | |
| Max. Input Short-Circuit Current | [A] | 23 | 23+23 | | | |
| Max. Operating PV Input Current | [A] | 18 | 18+18 | | | |
| Number Of MPP Trackers | | 1 | 2 | | | |
| Strings Per MPP Tracker | | 1 | 1+1 | | | |
| AC INPUT/OUTPUT DATA | | | | | | |
| Nominal AC Input/Output Power | [W] | 3000 | 3600 | 4000 | 5000 | 6000 |
| Max. Input/Output Apparent Power | [VA] | 3300 | 3600 | 4400 | 5500 | 6600 |
| Max. AC Input/Output Current | [A] | 26.1/14.3 | 31.3/16 | 34.8/19.1 | 43.5/23.9 | 43.5/28.7 |
| Nominal AC Output Current | [A] | 13.0 | 16 | 17.4 | 21.7 | 26.1 |
| Output Voltage | [V] | 220/230/240 | | | | |
| AC Input Voltage Range | [V] | 80-300 | | | | |
| Nominal Grid Frequency | [Hz] | 50/60 | | | | |
| THDi (Rated Power) | [%] | <3 | | | | |
| Displacement Power Factor | | 0.8 leading~0.8 lagging | | | | |
| BATTERY PARAMETERS | | | | | | |
| Battery Type | | Lead-acid or Lithium-ion | | | | |
| Voltage Range | [V] | 40-60 | | | | |
| Max. Charge/Discharge Current | [A] | 75 | 90 | 100 | 120 | 135 |
| Number of Battery Input | | 1 | | | | |
| Charging Strategy for Li-ion Battery | | Self-adaption to BMS | | | | |
| EQUIPMENT PROTECTION | | | | | | |
| Integrated | | DC Polarity Reverse Connection Protection, AC Output Overcurrent Protection,AC Output Overvoltage Protection, AC Output $hort Circuit Protection, Thermal Protection,DC Terminal linsulation Impedance Monitoring, Dc Component Monitoring, Ground Fault Current Monitoring,Power Network Monitoring, Island Protection Monitoring, Earth Fault Detection, DC input Switch Overvoltage Load Drop Protection, Residual Current Detection (RCD), Surge protection level,Groundfault circuit interrupter (GFCI) | | | | |
| Surge Protection Leve | | TYPE II(DC), TYPE II(AC) | | | | |
| EPS (OFF-GRID OR BACK-UP) OUTPUT (WITH BATTERY) | | | | | | |
| Nominal Output Power | [W] | 3000 | 3600 | 4000 | 5000 | 6000 |
| Peak Apparent Power | [VA] | 6000(20s) | 7200(20s) | 8000(20s) | 10000(20s) | 12000(20s) |
| Max.Continous Current | [A] | 13 | 15.7 | 17.4 | 21.7 | 26.1 |
| Continous Voltage | [V] | 230 | | | | |
| Nominal Grid Frequency | [Hz] | 50/60 | | | | |
| Switch Time | [ms] | <10 | | | | |
| Parallel Operation | | Yes | | | | |
| SYSTEM DATA | | | | | | |
| Max. Efficiency | [%] | 97.6 | | | | |
| MPPT Efficiency | [%] | >99 | | | | |
| Euro. Efficiency | [%] | 96.5 | | | | |
| Ingress Protection | | IP66 | | | | |
| Operating Temperature Range | [°C] | -40~+60 (Derating above +45) | | | | |
| Max. Operating Altitude | [m] | <3000 | | | | |
| Typical Noise Emission | [dB] | <30 | | | | |
| Storage Temperature Range | [°C] | -40~+65 | | | | |
| Over Voltage Category | | OVC II(DC), OVC III(AC) | | | | |
| Dimensions (W×H×D) | [mm] | 384*450*227 | | | | |
| Net Weight | [kg] | 18 | | | | |
| Cooling Type | | Natural | | | | |
| Communication Interfaces | | RS485/CAN/WiFi/LAN&4G (Optional) | | | | |
| AFCI Fault Protection | | Optional | | | | |
| STANDARD | | | | | | |
| Safety Standard/EMC Standard | | EN IEC 61000-6-3:2021 EN IEC 61000-6-2:2019 EN 61000-3-12:2011/A1:2024 EN IEC 61000-3-11:2019 IEC 62109-1, IEC 62109-2 | | | | |
| Grid-Connected Standard | | EN 50549-1:2019+A1:2023 EN 50549-10:2022 EN 50549-1_A | | | | |
| Comapatible Batteries | | Pylontech;Austa | | | | |

# 10.Stick Logger Quick Guide

Notice:

Please read this manual carefully before using products and keep it in the place where O&M providers can easily find.

Due to product upgrade and other factors, the content of this manual might change from time to time. Please take actual product as standard and get latest manual from www.austasolar. net or sales. Unless otherwise agreed herein, this manual will only be used as guidance. Any statement, information or suggestion in this manual will not take any form of responsibility.

Without written permission, any content of this document (partly or entirely) cannot be extracted, copied or transmitted in any form by any company or individual.

**Warning:**
Please remove logger after power off.

## 10.1 Download APP

If you are an household user, please scan QR code below to download Austa Solar APP. Or you can log in to http://partner.austasolar.net/login.

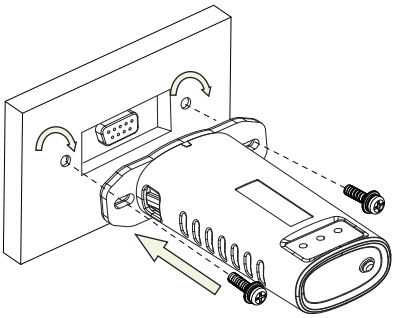
android

ios

## 10.2 Stick Logger Installation

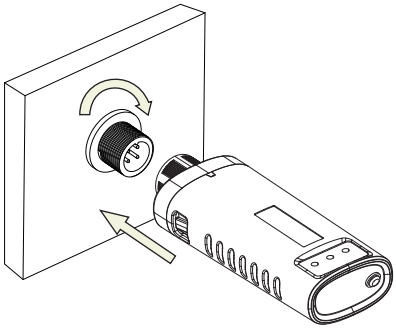
Type 1

Step1:Assemble logger to the inverter communication interface as shown in the diagram.



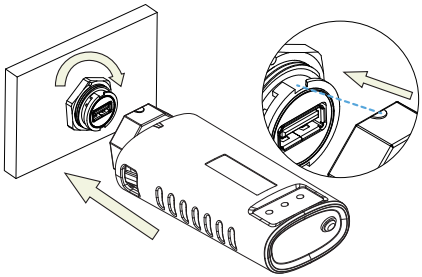
Type 2

Step1:Assemble logger to the inverter communication interface as shown in the diagram.



Type 3

Step1:Assemble logger to the inverter communication interface as shown in the diagram.



## 10.3 Logger Status

10.3.1 Check Indicator light

| Lights | Implication | Status Description(All lights are single green lights.) |
|---|---|---|
| NET | Communication with router | 1.Light off: Connection to the router failed.<br>2.On 1s/Off 1s(Slow flash): Connection to the router succeeded.<br>3.Light keeps on: Connection to the server succeeded.<br>4.On 100ms/Off 100ms(Fast flash): Distributing network fast. |
| COM | Communication with inverter | 1.Light keeps on: Logger connected to the inverter.<br>2.Light off: Connection to the inverter failed.<br>3.On 1s/Off 1s(Slow flash): Communicating with inverter. |
| READY | Logger running status | 1.Light off: Running abnormally.<br>2.On 1s/Off 1s (Slow flash): Running normally.<br>3.On 100ms/Off 100ms(Fast flash): Restore factory settings. |

The normal operation status of the stick logger, when router connected to the network normally:

1.Connection to the server succeeded: NET light keeps on after the logger powered on.

2.Logger running normally: READY light flashes.

3.Connection to the inverter succeeded: COM light keeps on.

## 10.4 Abnormal State Processing

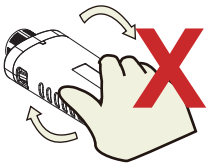
If the data on platform is abnormal when the stick logger is running, please check the table below and according to the status of indicator lights to complete a simple troubleshooting. If it still can not be resol□ved or indicator lights status do not show in the table below, please contact Customer Support.

(Note: Please using the following table query after power-on for 2mins at least.)

# 10.Stick Logger Quick Guide

| NET<br>NET | COM<br>COM | READY<br>READY | Fault Description | Fault Cause | Solution |
|---|---|---|---|---|---|
| Any state | OFF | Slow flash | Communicate with inverter abnormally | 1.Connection between stick logger and inverter loosen.<br>2.Inverter does not match with stick logger's communication rate. | 1.Check the connection between stick logger and inverter. Remove the stick logger and install again.<br>2.Check inverter's communication rate to see if it matches with stick logger's.<br>3.Long press Reset button for 5s, reboot stick logger. |
| OFF | ON | Slow flash | Connection between logger and router abnormal | 1.Stick logger doesnot have a network.<br>2.Router WiFi signalstrength weak. | 1.Check if the wireless network configured.<br>2.Enhance router WiFi signal strength. |
| Slow flash | ON | Slow flash | Connection between logger and router normal, connection between logger and remote server abnormal | 1.Router networking abnormal.<br>2.The server pointof logger is modified<br>3.Network limitation server cannot beconnected. | 1.Check if the router has access to the network.<br>2.Check the router's setting, if the connection is limited.<br>3.Contact our customer service. |
| OFF | OFF | OFF | Power supply abnormal | 1.Connection between stick logger and inverter loosen orabnormal.<br>2.inverter power insufficient.<br>3.Stick Logger abnormal. | 1.Check the connection, remove the stick logger and install again.<br>2.Check inverter output power.<br>3.Contact our customer service. |
| Fast flash | Any state | Any state | Networking status | Normal | 1.Exit automatically after 2mins.<br>2.Long press Reset button for 5s, reboot stick logger.<br>3.Long press Reset button for 10s, restore factory settings. |
| Any state | Any state | Fast flash | Restore factory settings | Normal | 1.Exit automatically after 1mins.<br>2.Long press Reset button for 5s, reboot stick logger.<br>3.Long press Reset button for 10s, restore factory settings. |

**Warning:**
Please do not hold the logger body to rotate while install or remove the logger.



**Notice:**
Do not remove waterproof plug.



## 10.5 USER MANUAL for Austa Solar APP

IPlease make sure Bluetooth and WiFi are ON and the router can connect to the network normally.

10.5.1 Registration

Go to Austa Solar and register.

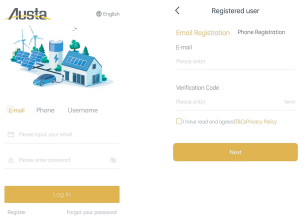
Click "Register" and create your account here.

# 10.Stick Logger Quick Guide

10.5.1 Registration

Go to Austa Solar and register.

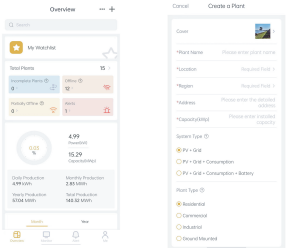
Click "Register" and create your account here.




10.5.2 Create a Plant

Click "+" to create your plant.

Please fill in plant basic info and other info here.




10.5.3 Add a Logger

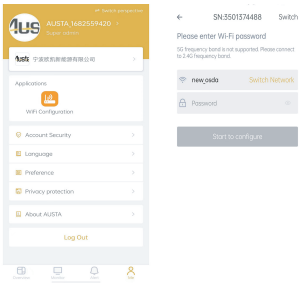
Method 1: Click the Add Datalogger button.

Method 2: Scan QR code or enter logger SN.You can find logger SN in the external packaging or on the logger body.

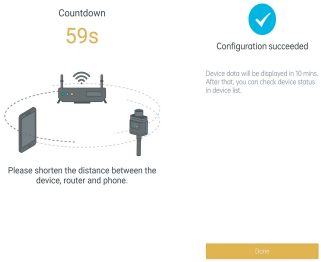



10.5.4 Network Configuration

Step 1: Click"Wifi Configuration"to set the network. (Please make sure Bluetooth and WiFi are ON.).Then scan QR code or enter SN. After that, enter your home wifi name and password.




Step 2: Click "start to configure".Please wait for a few minute. Then click "Done" and view plant data.



# 10.Stick Logger Quick Guide

**Notice:**
5G WiFi is not supported .

If configuration failure occurs, please check the following reason and try it again.

（1） Make sure WLAN is ON.
（2） Make sure WiFi is normal.
（3） Make sure wireless router does not implement the white-black list.
（4） Remove the special characters in Wi-Fi network.
（5） Shorten the distance between the phone and device.
（6） Try to connect to other Wi-Fi.

**Warning:** Please make sure the stick logger is working properly before you leave the site. If there is anything abnormal, please do not leave the site and contact customer service at the first time.
Customer service number: +86 574 891 37130

If you have any technical queries about our products, please contact us and provide the following information:

1. Product model and serial number of stick logger.

2. Product model and serial number of connected inverter. Thank you for your support and cooperation.

## WARRANTY CARD

Dear Customers,

Thank you very much for using our products.in order to provide you with better service, please fill in the warranty card and reserve it carefully.

| | | | |
|---|---|---|---|
| User Name | | Customer Name | |
| Purchase Date | | Customer Phone | |
| Product Name&Model | | Product SN | |
| Customer Address | | | |
| Order No. | | | |
| MaintenanceRecords | Date | Failure Cause and Treatment | |
| | | | |
| | | | |

Warranty Policy

If there is any breakdown which caused by the product's own quality, customers can send the warranty card with the product to our Customer Service Center.

1.According to the prescription, the warranty period is 5 years(From the day when you receive the product). During the warranty period, we provide free maintenance service to solve all non-artifical quality problems if the product is under normal usage circumstance. If the product exceeds the warranty period, only maintenance cost will be charged.

# 10.Stick Logger Quick Guide

2.If the failure of the product is not due to quality problems(such as improper use, improper storage, unauthorized disassembly, etc. ) , maintenance cost will be charged.

3.Please pay for back goods freight in advance. Freight collect is not accepted.

Support Email: marketing@osdasol.com

Customer Hotline: +86 574 89137130

Company Address: 3, F0005 No.77 Zhuangxing Road jiangbei District Ningbo Zhejang P.R. China

# 11.EU Declaration of Conformity

within the scope of the EU directives

- Electromagnetic compatibility 2014/30/EU (EMC)
- Low Voltage Directive 2014/35/EU (LVD)
- Restriction of the use of certain hazardous substances 2011/65/EU (ROHS)

NINGBO AUSTA SOLAR TECH CO.,LTD confirms here with that the products described in this document are in compliance with the fundamental requirements and other relevant provisions of the above mentioned directives. The entire EU Declaration of Conformity can be found at www.austasolar.net.

Please scan the QR code to download and view certificates, manuals and more.

Scan Here for Austa Solar App

ios

Android

NINGBO AUSTA SOLAR TECH CO.,LTD
marketing@osdasol.com
www.austasolar.net
service tel:+86 574 89137130

Note:If there is a discrepancy between the manual and the real thing, please take the real thing as the standard. When you have a problem, please let us know the serial number of the product you are using the inverter for.
We will reply you as soon as possible!

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