



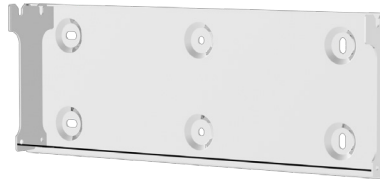
# Hanchu Single Phase Hybrid Inverter **Quick Installation Guide**

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What's Included



Hybrid Inverter



Wall Bracket



Fixing Screws



AC Plug



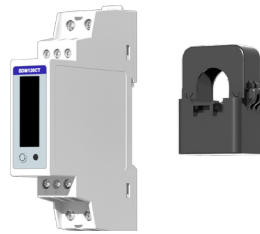
EPS Plug



MC4 Connectors



Battery Terminal Cover

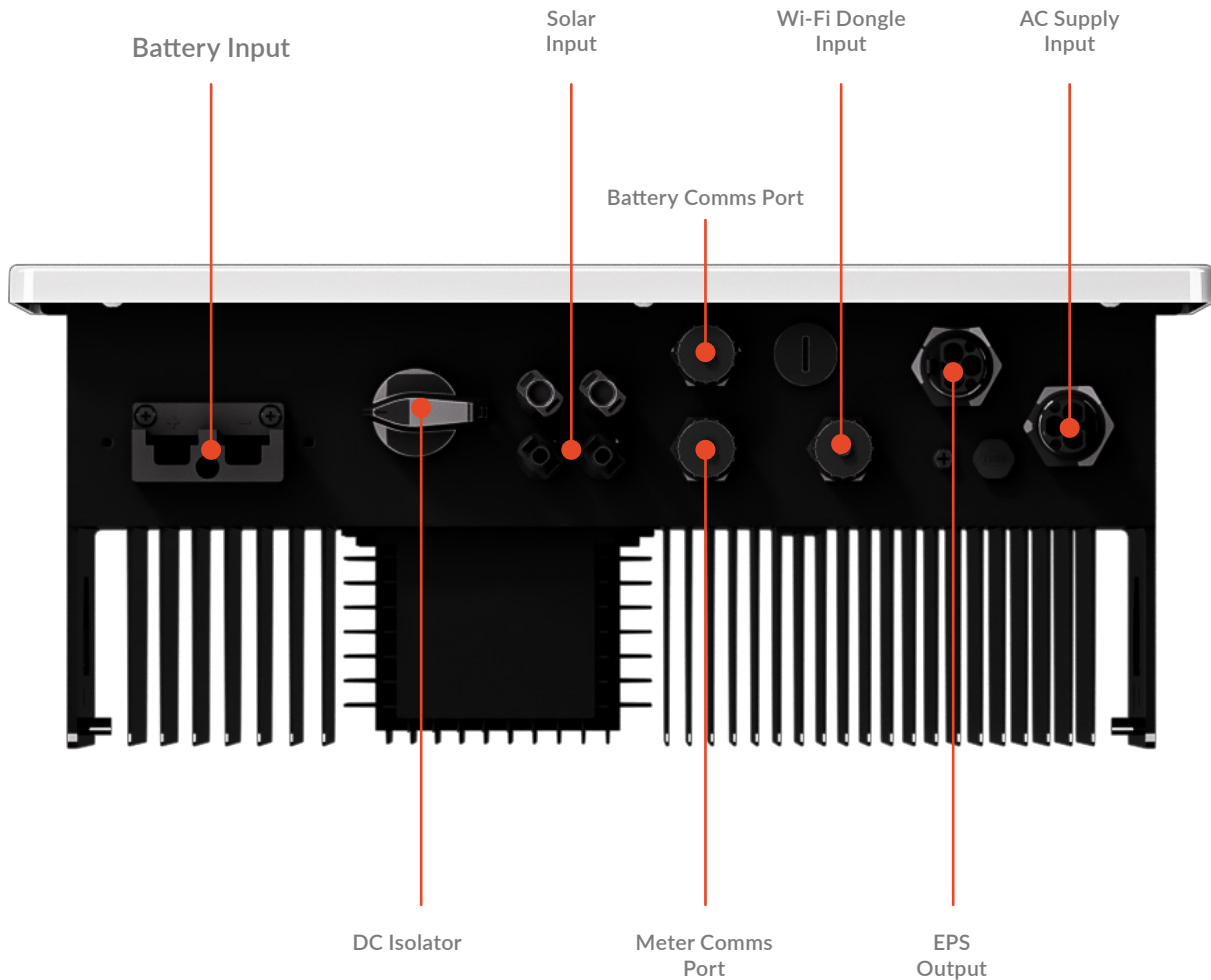


CT Meter



WI-FI Dongle

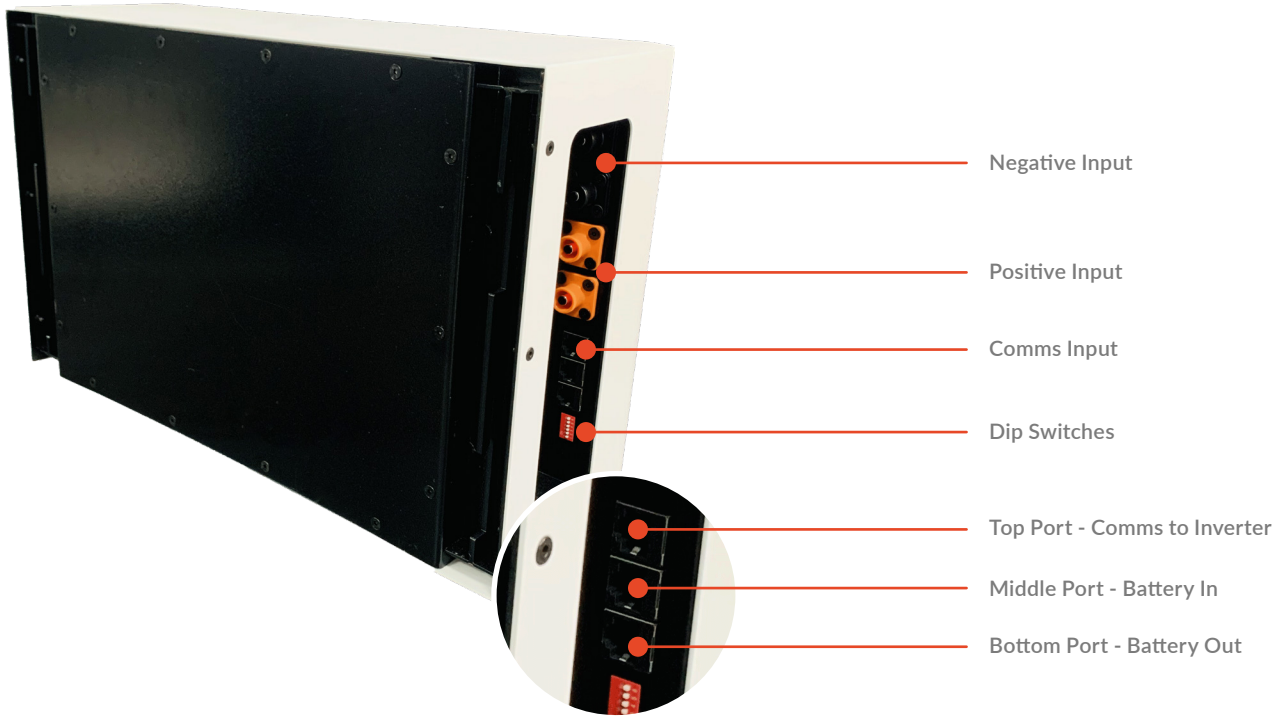
Inverter Ports



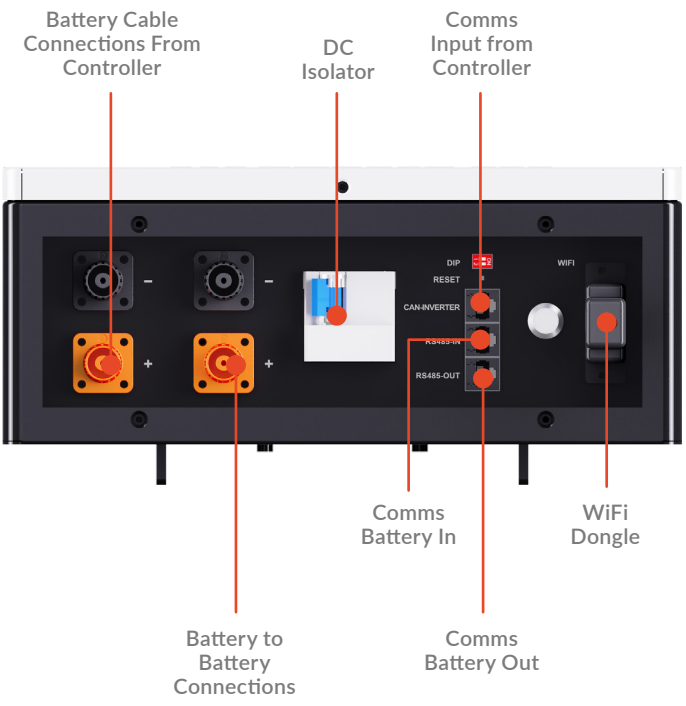
The inverter features several key ports and connections for seamless integration with various systems. It includes dedicated battery and communications (comms) ports, along with a meter comms port for enhanced monitoring and control. The EPS (Emergency Power Supply) connection ensures backup power functionality. The DC port output allows for efficient energy transmission, while the isolator provides safety control. The inverter is equipped to handle inputs from a battery and solar energy sources, as well as an AC supply. Additionally, it supports input through Wi-Fi and dongle connections for flexible and convenient operation.

Battery Ports

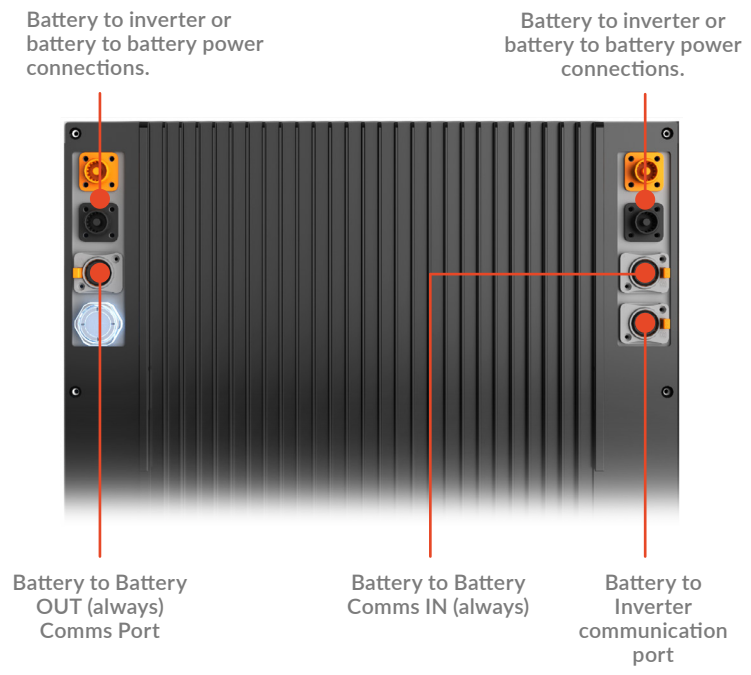
Hanchu 3.2kWH



Hanchu 5.12kWH



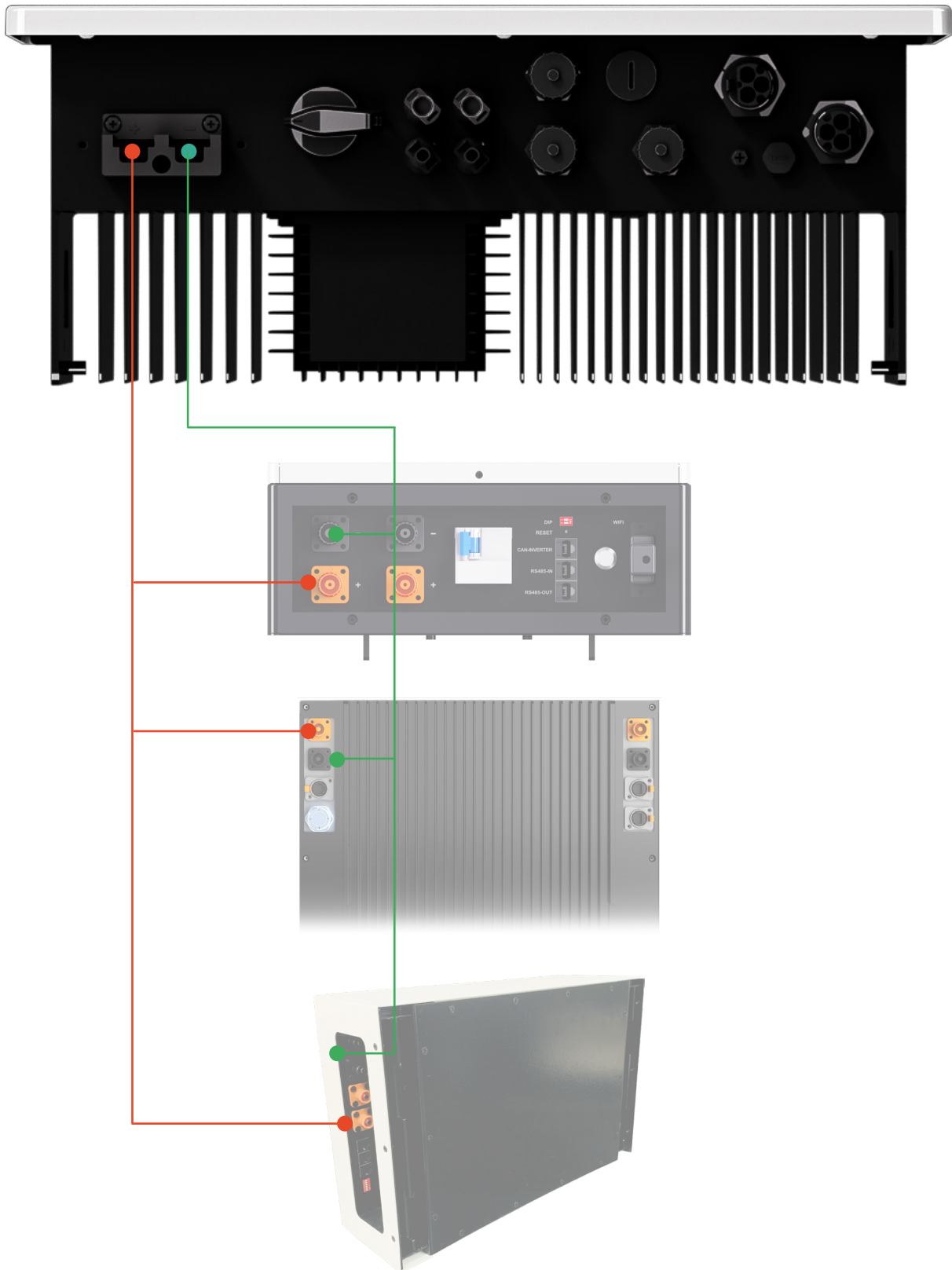
Hanchu 9.4kWH



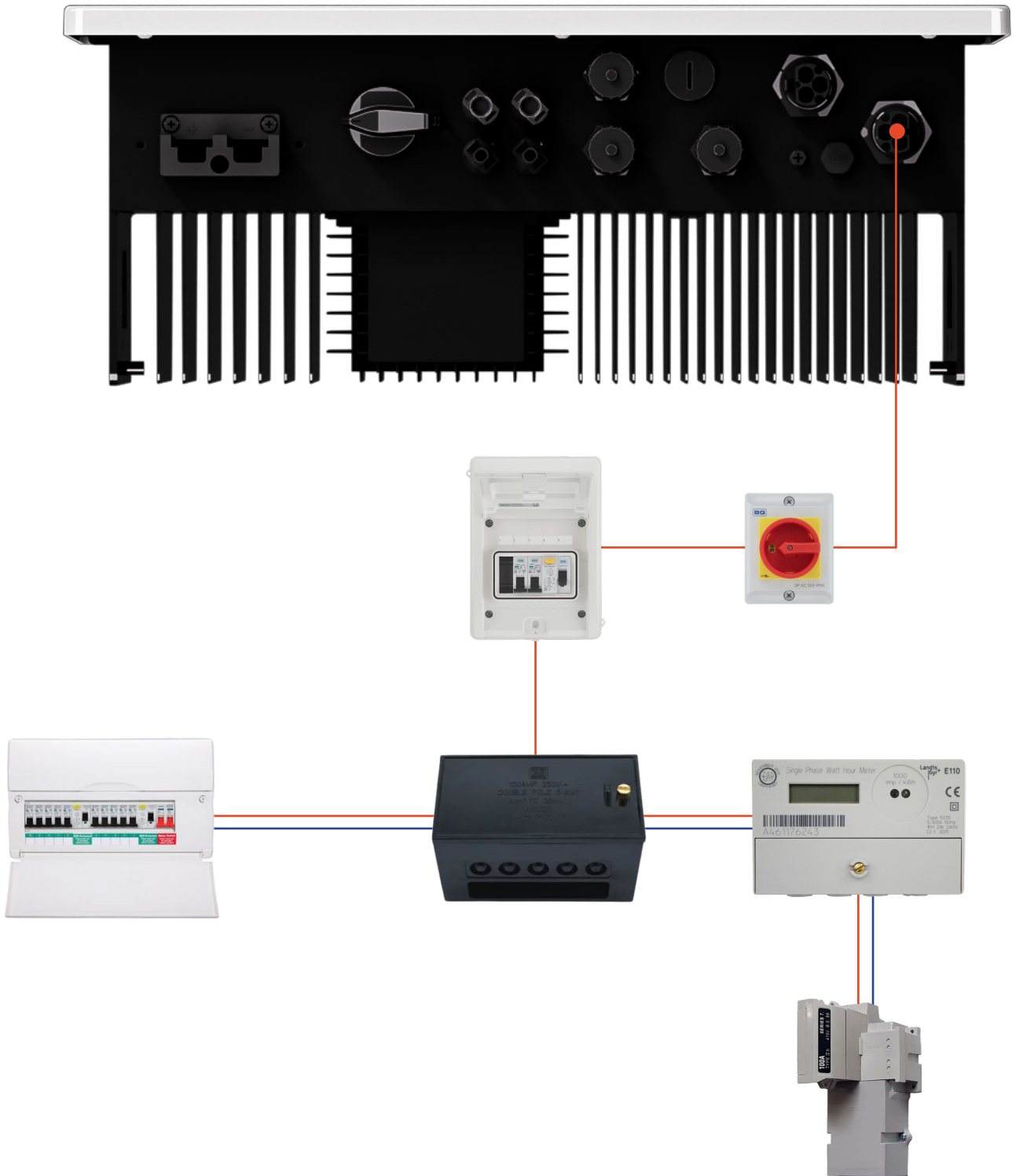
Controller to Battery Comms Cable



Controller to Battery Power Leads

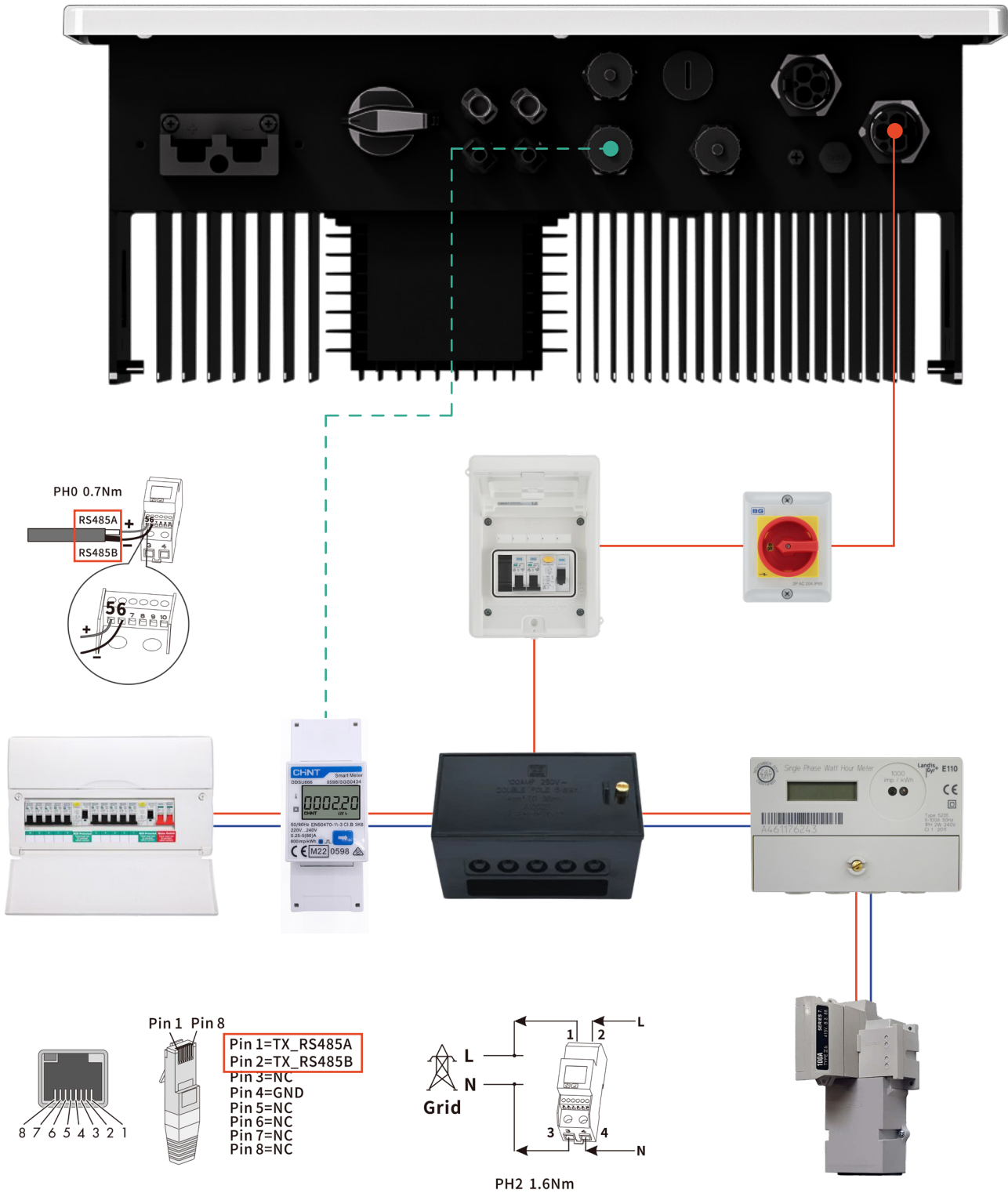


AC Supply

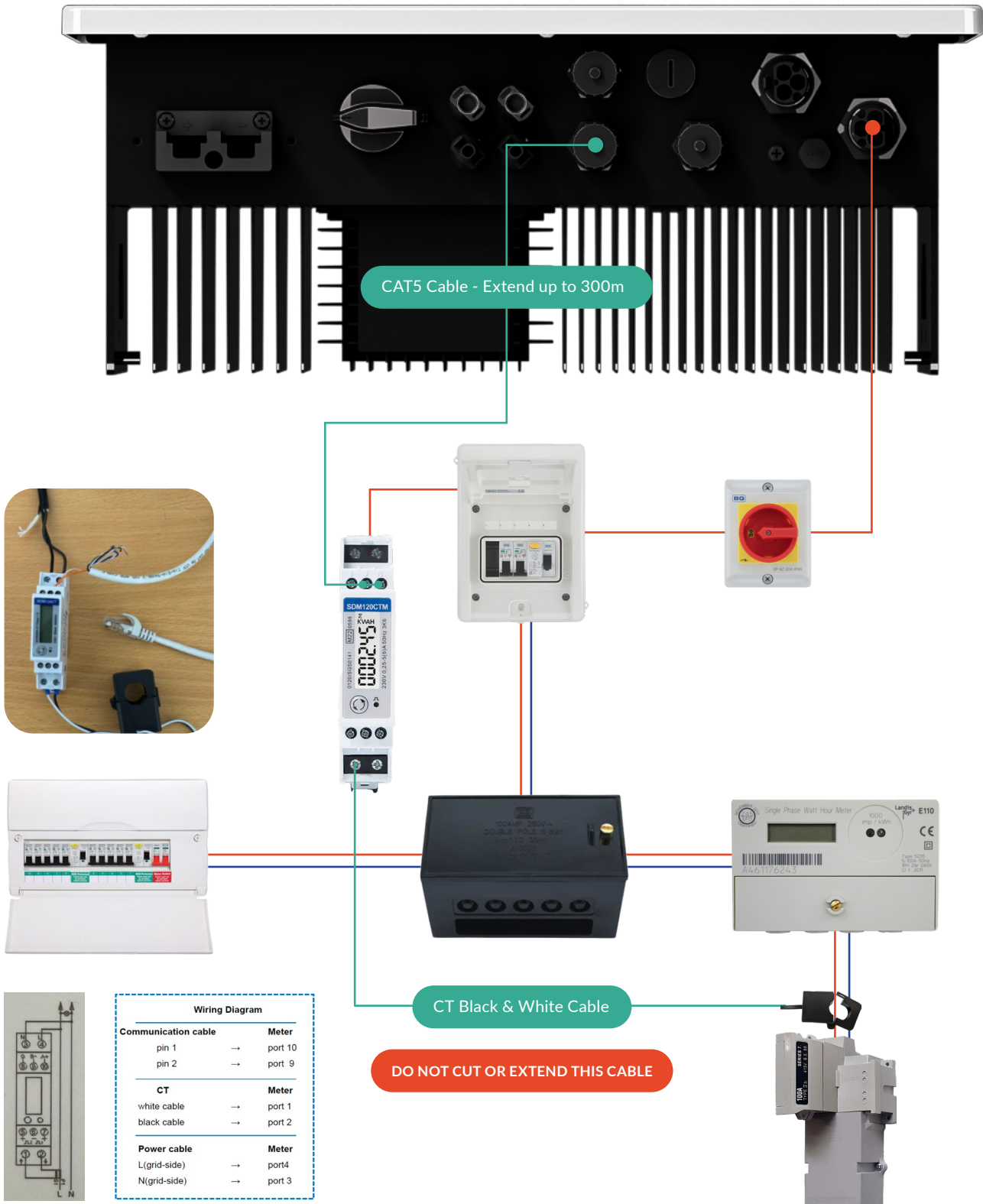




Comms Cable to Eastron Meter



Comms Cable to CT Meter



Pairing Hanchu Dongles & Creating An End User Account

STEP 1

Must be connected to the customer's WIFI first and have the password ready

STEP 2

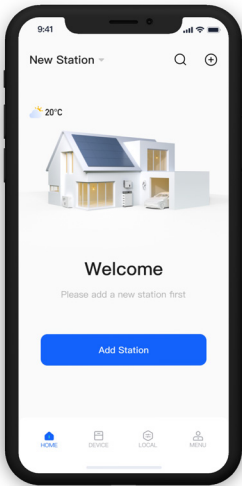
Plug in the Hanchu Dongle to the controller or battery(s)

STEP 3

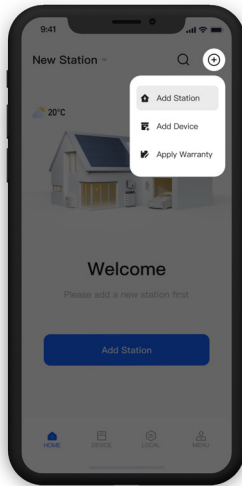
Download the HANCHU iESS application from your App store

STEP 4

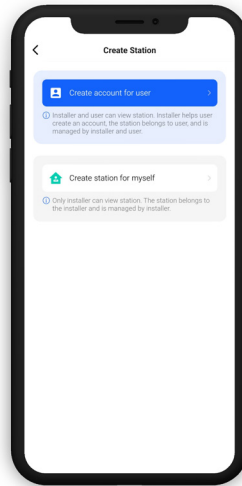
Open the HANCHU iESS & click "Add Station"



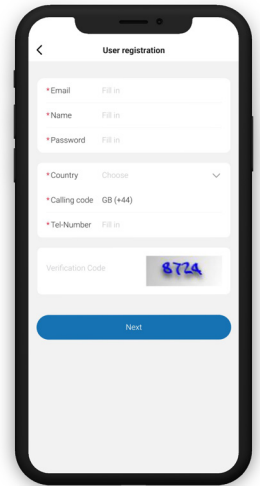
Home Page



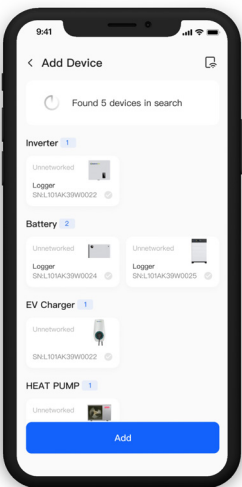
Press the + button to get started



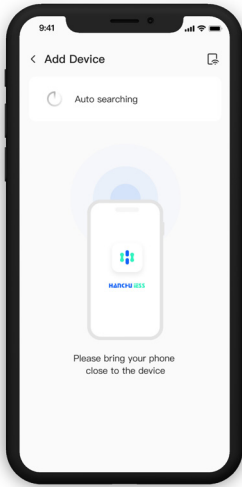
Create for User selection



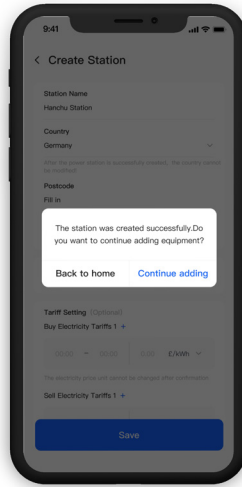
Create username and password



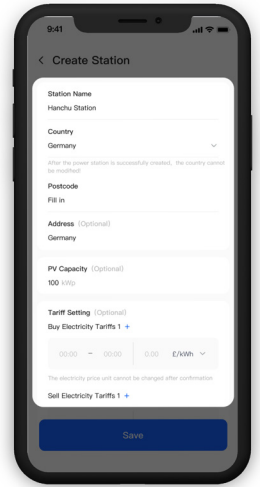
List of Devices available for connection



Searching in Process



Press Continue Adding



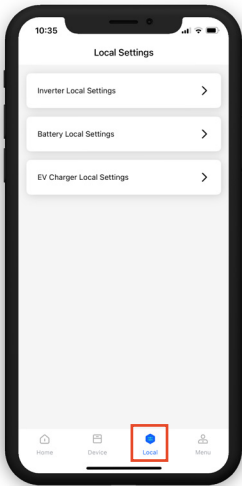
Save Details

Resetting Hanchu WiFi Dongle

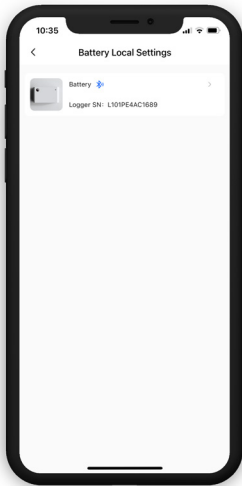
**STEP 1**  
Ensure the Hanchu Dongle is connected to the controller or battery(s)

**STEP 2**  
Ensure Bluetooth is enabled and your mobile phone is connected to the customers WIFI

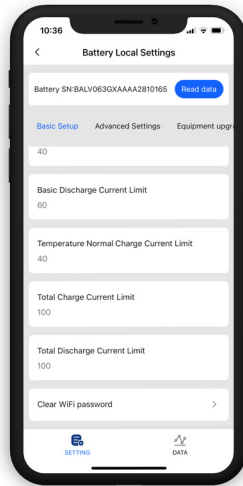
**STEP 3**  
Follow the steps below



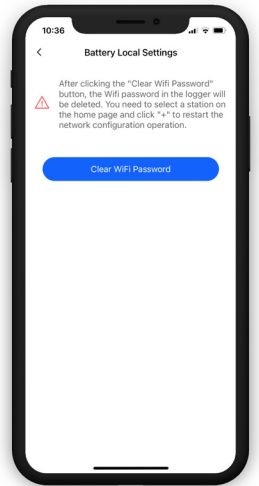
Select "Battery Local Settings"



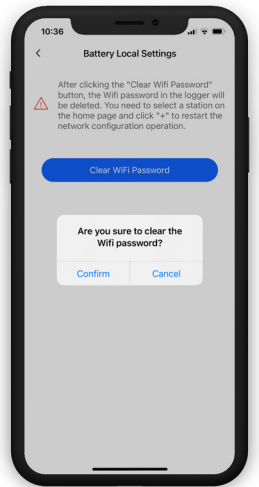
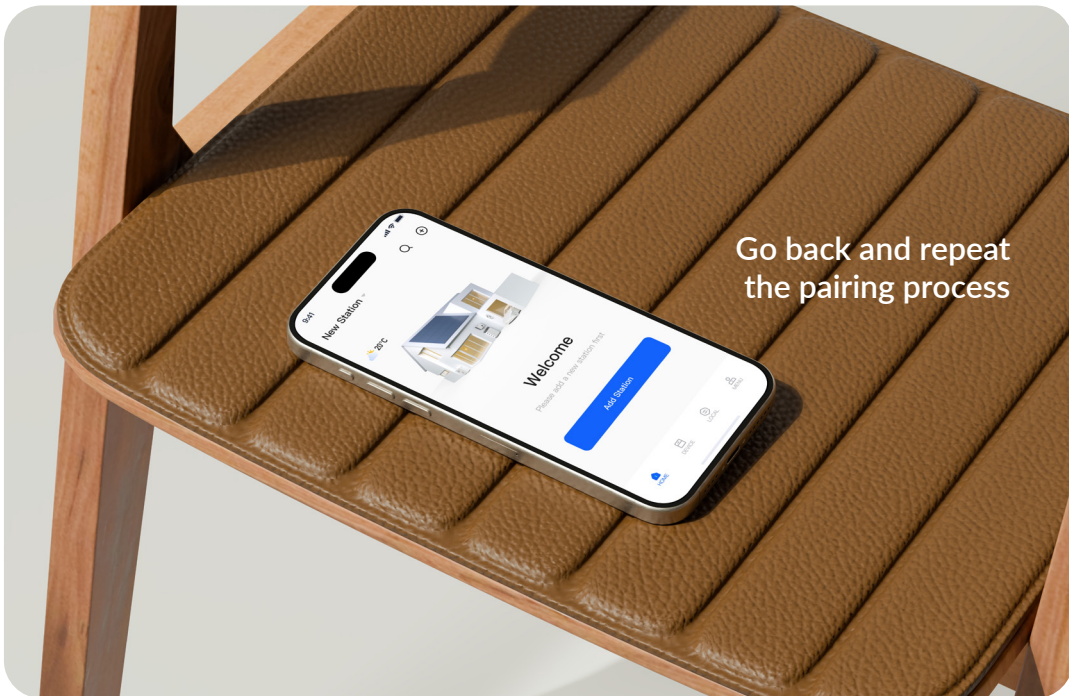
Select the Logger



Select Clear Wi-Fi Password



Select Clear Wi-Fi Password



Confirm to clear WIFI Password

**Commissioning Checklist**

After installing a Hanchu solar battery storage system, it's important to perform a series of commissioning tests to ensure the system is functioning properly and safely. Here are the key tests to consider:

**1. WIFI Connection**

Connect all Hanchu dongles (Inverter & Batteries) to the customers WIFI and create a customer account on the Hanchu Ess Cloud3 App – You will need to refer to the App when carrying out certain commissioning tests, also this will give Infinity Innovations technical team the ability to remote dial into the system should you need any form of technical support.

**2. Visual Inspection**

Connections: Verify that all electrical connections, including those between the solar panels, inverter, battery, EPS and grid, are securely fastened and properly insulated.

**\* Take Pictures as evidence**

**3. Continuity and Insulation Resistance Testing**

Continuity Testing: Ensure there are no open circuits in the system by checking the wiring from the inverter to the battery, as well as the solar panels.

Insulation Resistance Testing: This helps confirm that the system's insulation is intact, reducing the risk of electrical shorts or fires.

**\* Take Pictures of your multi-meter as evidence**

**4. Voltage and Polarity Test**

Battery Voltage Test: Measure the battery voltage to ensure it is within the manufacturer's specifications.

Polarity Test: Confirm that the polarity (positive and negative connections) is correct to avoid potential damage to the battery or inverter.

**\* Take Pictures of your multi-meter as evidence**

**5. Inverter and Battery Communication Check**

Ensure the inverter and battery management system (BMS) are communicating properly. This is crucial for charging and discharging control, as well as for safety monitoring.

**\* Take Picture of the cable in the Inverter and battery as evidence**

## 6. Functional Testing of System Components

**Battery Charging and Discharging:** Check that the battery charges from the solar panels and Grid and discharges when needed. This test can include setting specific load conditions to verify the charge/discharge behaviour. – This can all be documented on the Hanchu ESS App.

**Inverter Operation:** Test the inverter to ensure it correctly converts DC power from the solar panels or battery to AC power for home use or export to the grid.

**\*Take Pictures or screenshots of the monitoring as evidence**

## 7. CT Clamp Placement (If installing a Hanchu CT Meter or AC CT Kit)

**Location:** The CT clamp should always be installed on the main incoming live cable to the property. This allows the system to accurately measure the total energy consumption of the home, accounting for both grid import (electricity drawn from the grid) and grid export (excess solar energy sent back to the grid).

**Purpose of Correct Placement:**

- **Grid Import and Export Monitoring:** Installing the CT clamp on the main incoming live cable ensures that the system can monitor how much energy is being imported from the grid versus how much is being exported back when the solar generation exceeds household consumption.
- **Battery Charging and Discharging Management:** Accurate CT clamp placement helps the system determine when to charge the battery from excess solar production and when to discharge the battery to supply the home, particularly when solar production is low or there's an outage.
- **Load Balancing:** The CT clamp on the main incoming cable allows for better load balancing, enabling the system to adjust output to meet the property's demands effectively.

### Installation Tips:

Ensure the clamp is oriented correctly, as marked by the manufacturer (often with an arrow pointing toward the load), to ensure accurate readings.

Verify that the CT clamp is securely fastened and has proper contact around the main live cable without gaps. During commissioning, after placing the CT clamp, conduct a calibration test by comparing the system's real-time readings with a known load. This helps verify that the clamp is properly installed and providing accurate data to the monitoring system.

**\*Take Pictures of the CT location as evidence**



## 8. Backup Power Testing (if applicable)

If the system is designed to provide backup power during grid outages, simulate a grid failure to ensure that the system transitions to battery power seamlessly. Remember The Hanchu Inverter EPS outlet is always live when grid is present, by simulating a power cut, the EPS load should always stay live.

**\* Take Pictures or screenshots of the monitoring as evidence**

## 9. System Performance Monitoring

**Monitoring System Setup:** Set up and test the system's monitoring platform, which should give real-time data on battery charge levels, solar generation, and energy usage.

**Alerts and Notifications:** Check that any notifications, such as fault or performance alerts, are set up and functioning properly. - Should you encounter any issues, alerts or errors please contact Infinity innovations technical support.

**\* Take Pictures or screenshots of the monitoring showing any settings you may have set for the customer as evidence**

## 10. Final Load Test

Connect a variety of loads to the system and monitor the performance to ensure that it can handle typical household demands, both during solar production and when relying on stored battery energy.

By performing these tests, you ensure that the solar battery storage system is operating safely, efficiently, and in accordance with local regulations.

**\* Take Pictures or screenshots of the monitoring showing Charge and discharge according to your load increase & decrease tests as evidence**

By taking images and screenshots evidences that you have done the installation correctly to which you can demonstrate to both your employer and to the customer. Should any issues arise after you have left site you will have images to refer back to when speaking to Infinity Innovations technical support who will ask for these images.

How to Check Charge & Discharge

STEP 1

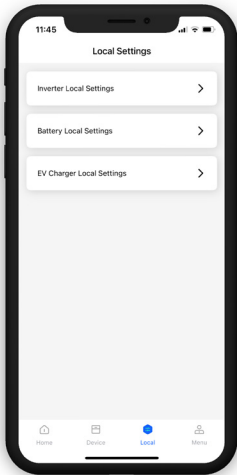
Ensure you are next to the Inverter

STEP 2

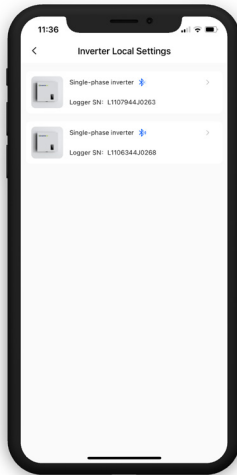
Ensure Bluetooth is enabled and your mobile phone is connected to the customers WIFI

STEP 3

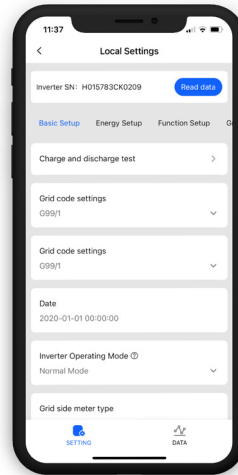
Open the Hanchu iEss App on your phone and select "Local"



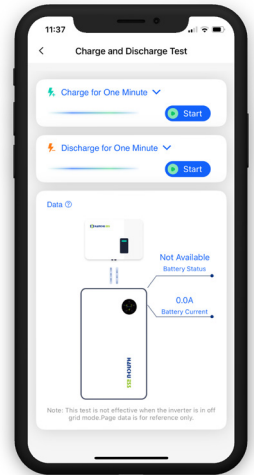
Select "Local" at the bottom of the App > Then Select "Inverter Local Setting"



Select the Inverter



Select "Basic Setup" then select "Charge & Discharge Test"



Select "Start" for Charge & "Start for Discharge"

If Charge & Discharge does not work correctly please check the following:

- All DC Breakers are turned on
- Ensure all Cables are connected correctly
- Ensure all AC Isolators and breakers are turned on

If the system still does not work after these checks, Please contact Infinity Innovations Technical support on **01274 447114**



How to Turn On AC Functionality

AC Charge Functionality is enabled when turning a Hybrid into an AC controller. If you are monitoring a secondary Solar PV system, you need to make sure you have installed the "Hanchu AC CT Kit"

**STEP 1**

Ensure you are next to the Inverter

**STEP 2**

Ensure Bluetooth is enabled and your mobile phone is connected to the customers WIFI

**STEP 3**

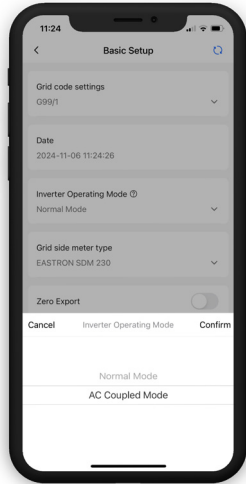
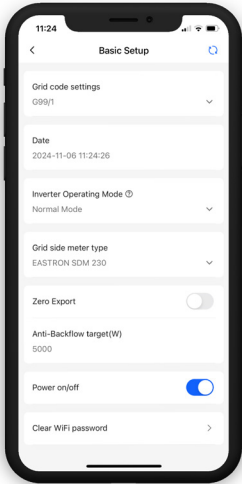
Open the Hanchu iEss App on your phone and select "Set"

**STEP 4**

Once you have selected "Set" then select "Basic Setup"

**STEP 5**

Follow the steps below



Select "Basic" at the top of the App > Then Select "Inverter Operating Mode"

Select AC Coupled Mode

# Join Hanchu ESS

Today and Build a Perfect Partnership



## Infinity Innovations Limited

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