

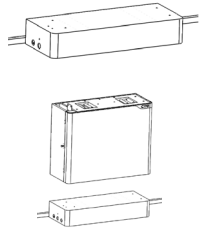
CYG

All-in-One Residential Energy Storage System

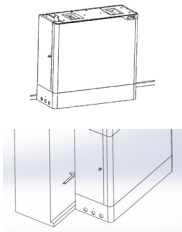
Powermate A3.68/A4.6/A5/A6

1 Installation

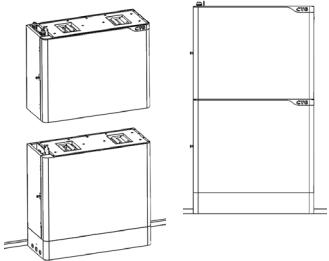
1. Place the base against the wall and keep the base is aclinic. Place the first battery pack on top of the base. The four positioning holes at the bottom of the first battery pack should be aligned with the positioning pins, as shown below:



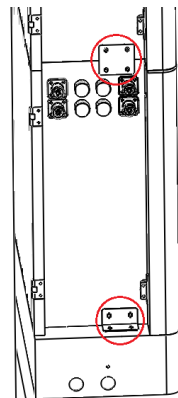
2. Move the pack to keep the distance between the back of the pack and the wall is 38mm, You can use the tools we provide for measurement, as shown below:



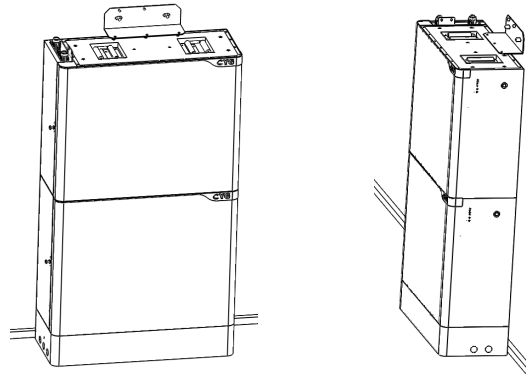
3. Install 4 pins on the upper cover of the first pack as shown in the figure below. The four positioning holes at the bottom of the second battery pack should be aligned with the positioning pins:



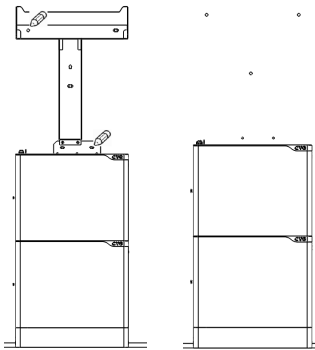
4. Connect the first battery to the second battery and the battery to the base with a I-shaped bracket and a L-shaped bracket.



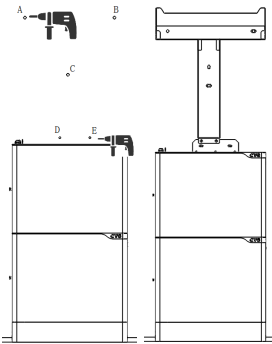
5. Install the L-shaped bracket and keep the bracket attach to the wall, as shown below:



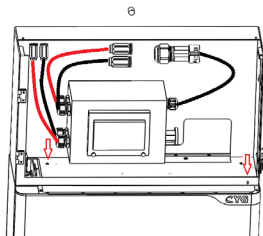
6. Install the T-shaped bracket, mark the following five holes that we will drill with a marker and then remove the T & L shaped brackets.



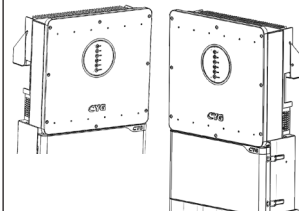
7. Use a 14φ drill bit to drill the hole A, B and C. Use a 12φ drill bit to drill the hole D and E. Install the 5 expansion screws of the T & L shaped bracket.



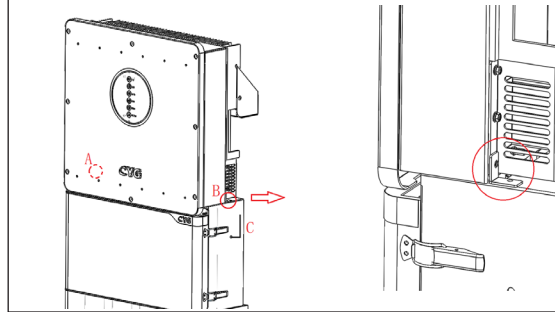
8. Install the system box and lock the system box to the pack with 4 pieces of M5×10 screws, as shown in the figure below:



9. Install the inverter according to the method shown in the figure below. Keep the front panel of the inverter flush with the system box below.



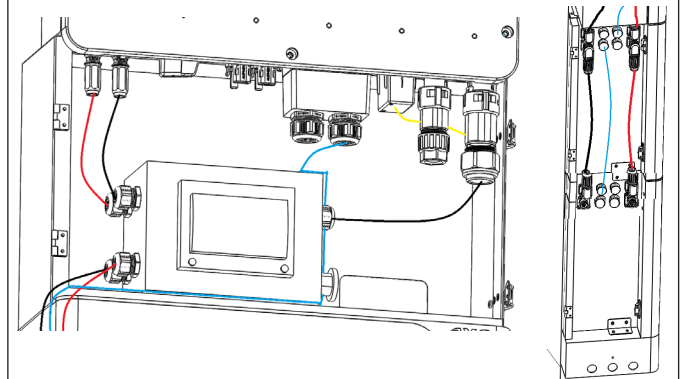
10. Connect and fix the L-shaped brackets at position A and B of the inverter to the system box. Install the WIFI antenna. As shown below:



2 Electrical Connection

Battery/BMS/GRID/WIFI Connection

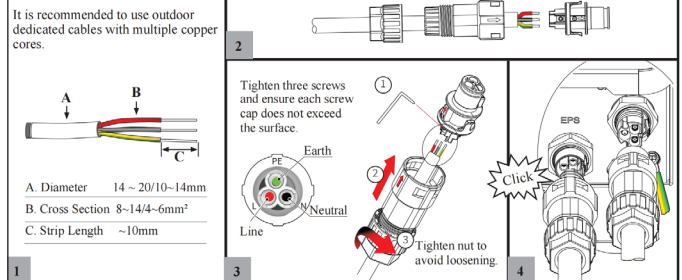
1. Connect the terminals that come with the system box:



Grid/EPS Connection

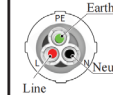
2. Before connecting the GRID/EPS terminal, ensure that both the AC terminal and the DC terminal are powered off and the PV switch is OFF. Otherwise there is a risk of high voltage shock.

It is recommended to use outdoor dedicated cables with multiple copper cores.

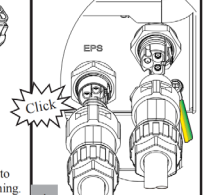


- A. Diameter 14 ~ 20/10~14mm
- B. Cross Section 8~14/4~6mm²
- C. Strip Length ~10mm

Tighten three screws and ensure each screw cap does not exceed the surface



1 Tighten nut to avoid loosening.



Battery Connection

1 Dimensions:
 A Diameter 10~12mm
 B Cross Section 25mm²
 C Strip Length ~10mm

2 Hydraulic Pressure Crimper

3 DC Breaker 150A

It is recommended that the battery cable be less than or equal to 3 m.
 This product is not equipped with DC breakers.

4 Warning! Polarity reverse will damage the inverter!

5 + Red Cable
 - Black Cable

PV Connection (N/A for AC Couple Inverter)

3. For the PV connection please refer to below.

1. Photovoltaic arrays exposed to sunlight will generate dangerous voltages!
 2. Before connecting the PV terminal, ensure that both the AC terminal and the DC terminal are powered off and the PV switch is OFF. Otherwise there is a risk of high voltage shock.

4mm Diameter
 4mm Limit buckle
 Positive Connector
 Negative Connector

Using crimping tool to stitch. Limit buckle can't be crimped.

Tighten the waterproof nuts on each connector with a wrench to avoid loosening.
 Test string voltage and confirm string polarity.
 Ensure that the PV switch is OFF.

Note: DC cable should be dedicated PV cable (suggest using 4~6mm² PV1-F cable).

GPRS/WIFI/LAN Module Installation (Optional)

For details, please refer to the corresponding Module Installation Guide in the packing. The appearance of modules may be slightly different. The figure shown here is only for illustration.

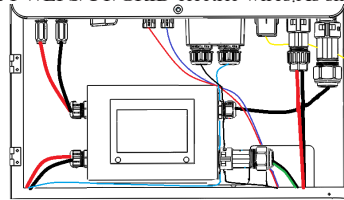
1. Loosen two screws and move the cover.

2. Insert GPRS/WIFI/LAN module into the port, and ensure that it does not fall off.

3. Install/secure the module.
 Proper strength to avoid damage to the module. 2 x M4 screws, 0.8N·m
 0.2~0.3N·m

Connect the rest of the wires

4. Connect the PV/EPS/CT/GRID electric wires. As shown below:



Communication Cable(s) Connection (CT/Meter and BMS)

1 Unscrew the waterproof cover and loosen the rubber nut on waterproof cover.

2 Make the RJ45 terminal according to each Pin definition. Lead the communication cable(s) through the rubber nut, seal and waterproof cover in turn.

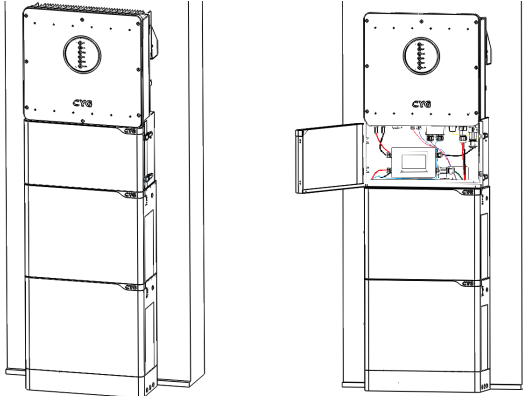
3 Insert RJ45 terminals into corresponding ports. Screw the waterproof cover back to inverter firmly with 4 x M4 screws (1.2N·m). Install the seal into the threaded sleeve, fasten the rubber nut.

Don't cut off any communication cables. Press the communications cables in the seal via the side incisions.

BMS
 Pin1: RS485_A
 Pin2: RS485_B
 Pin3: GND_S
 Pin4: GND_S
 Pin5: GND_S
 Pin6: GND_S
 Pin7: CAN_L
 Pin8: CAN_H

Meter
 Inverter Meter
 Pin1 or Pin3(RS485_A) Pin24
 Pin2 or Pin4(RS485_B) Pin25
 or-CT Pin22(RS485_B) Pin22(RS485_B)
 Inverter CT
 Pin5 (CT-) Black
 Pin6 (CT+) Red

The All-in-one Inverter after installation and connection is shown in the following figures:



Startup/Shutdown Procedure

Inspection

- The inverter is firmly installed.
- There is enough heat dissipation space, no external objects or parts left on the inverter.
- It is convenient for operation and maintenance.
- The wiring of the system is correct and firm.
- Check whether the DC and AC connections are correct with a multimeter, and whether there is a short circuit, break, or wrong connection.
- Check whether the waterproof nuts of each part are tightened.
- The vacant ports have been sealed, all gaps at the cable inlet and outlet holes have been plugged with fireproof/waterproof materials such as fireproof mud.
- All safety labels and warning labels on the inverter are complete and without occlusion or alteration.

After the inverter is powered off, the remaining electricity and heat may still cause electric shock and body burns. If need to disconnect the inverter cables, please wait at least 10 minutes before touching these parts of inverter.

Startup Procedure

- Go to APP (Quick Setup)
- DC Switch ON
- Battery Circuit Breaker ON
- Go to APP (Quick Setup)
- AC Circuit Breaker ON
- EPS Circuit Breaker ON

Shutdown Procedure

- Go to APP (Quick Setup)
- DC Switch OFF
- Battery Circuit Breaker OFF
- Go to APP (Quick Setup)
- AC Circuit Breaker OFF
- EPS Circuit Breaker OFF

Quick Setup

A Preparation

- Download the APP.
 • Scan the QR code on the inverter to download the APP.
 • Download the APP from the App Store or Google Play.
 Note: The APP should access some permissions such as the device's location. You need to grant all access rights in all pop-up windows when installing the APP or setting your phone.
- Power on the inverter.

B Connecting the Inverter

- Open the Bluetooth on your own phone, then open the APP.
- Then follow the instructions below.

C Quick Setup

Step1-1. Click these items to choose the SSID and enter the WIFI password.

Step1-2. Click this button.

Step2. Set parameters for the inverter to connect to the power grid.

Step3. Set parameters for the inverter to connect to the power grid.

Step4. Set parameters for the inverter to connect to the power grid.

Display

LED	Status	Description	LED	Status	Description
PV	On	PV input is normal.	COM	Blink	Data are communicating.
	Blink	PV input is abnormal.		Off	No data transmission.
	Off	PV is unavailable.		EPS	On
BAT	On	Battery is charging.	Blink		EPS output is abnormal.
	Blink	Battery is discharging.	Off		EPS power is unavailable.
	Off	Battery is abnormal.	ALARM	On	Fault has occurred and inverter shuts down.
Off	Battery is unavailable.	Blink		Alarms has occurred but inverter doesn't shut down.	
GRID	On	GRID is available and normal.		Off	No fault.
	Blink	GRID is available and abnormal.			
	Off	GRID is unavailable.			



Cloud setting

When using the WiFi or LAN module, you need a cloud account for inverter's networking monitoring. And bind the inverter to the cloud account. The inverter's operational data will be uploaded to the cloud account after it is grid-tied. You can skip the registration step when you have registered a cloud account before.

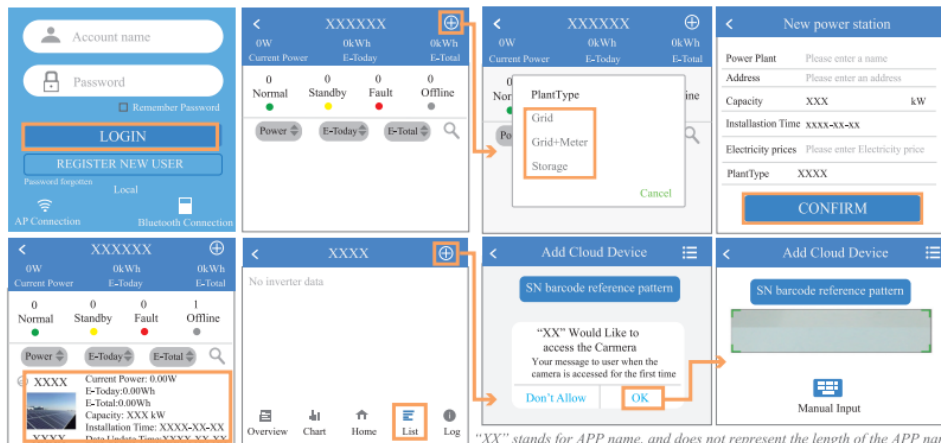
1. Register a cloud account

- Click Register New user.
- Click each item to enter the corresponding informations then click GET.
- You will receive the registration mail. Enter the verification code from the mail. Then click REGISTER to activate your account and finish the registration process.



2. Add inverter to cloud account

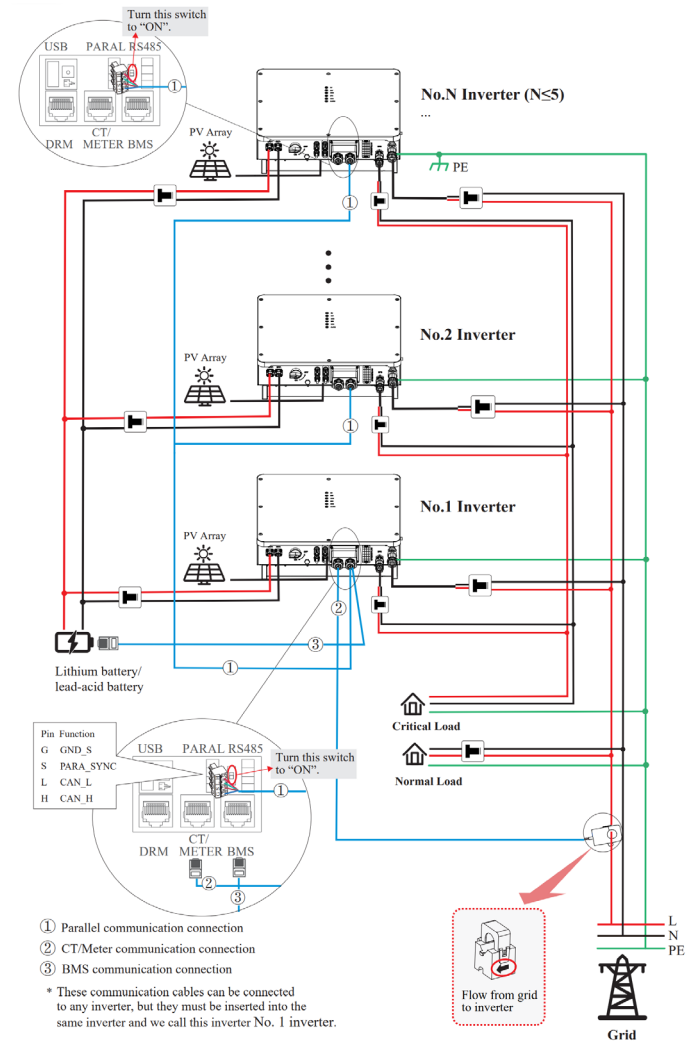
- Login App with your cloud account. Click "+" and select a PlantType to add the power station.
- Enter power station information then click CONFIRM.
- Select the power station you added, go to List page, and click "+" to scan the serial number barcode at the safety label on the machine to add inverter.



"XX" stands for APP name, and does not represent the length of the APP name.

Wiring System

Single phase parallel connection mode-Scheme (N≤5)



- Parallel communication connection
- CT/Meter communication connection
- BMS communication connection

* These communication cables can be connected to any inverter, but they must be inserted into the same inverter and we call this inverter No. 1 inverter.

Note:

- PV related contents are N/A for AC Couple inverter.
- BMS communication connection is only for lithium battery.
- It is necessary to turn the matched resistance switch of No. 1 inverter and No. N inverter to "ON" in parallel connection mode.
- With parallel connection mode, it is necessary to connect APP to one of inverters and then go to [Console > Other Setting](#) page to enable [Parallel mode](#) on APP.

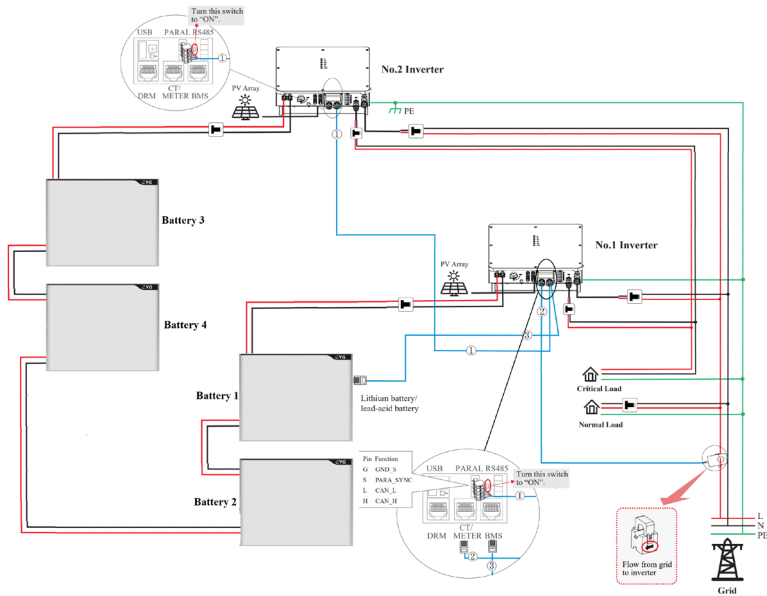


DANGER

Ensure that the inverter and all cables to be installed have been completely powered off during the whole process of installation and connection. Otherwise, fatal injury could be caused by the high voltage.

Wiring System

Single phase parallel connection mode-Scheme (N=2)



Wiring System

Single phase connection mode (Battery≥3)

