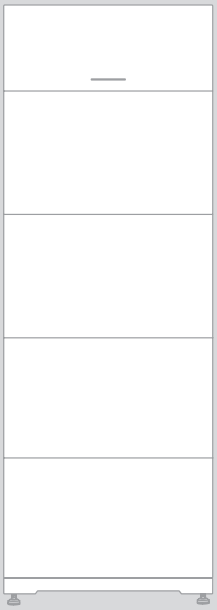
INSTALLATION GUIDE

V1.2

Issue Date
2026-06-05

ECOFLOW POWEROCEAN (SINGLE-PHASE)

Home Solar Battery Solution



For the latest documents, please scan the QR code or visit:

https://homebattery.ecoflow.com/au/documentation

IMPORTANT

- Before installing, operating, and maintaining the equipment, read and follow up Installation Guide and Safety Instructions.

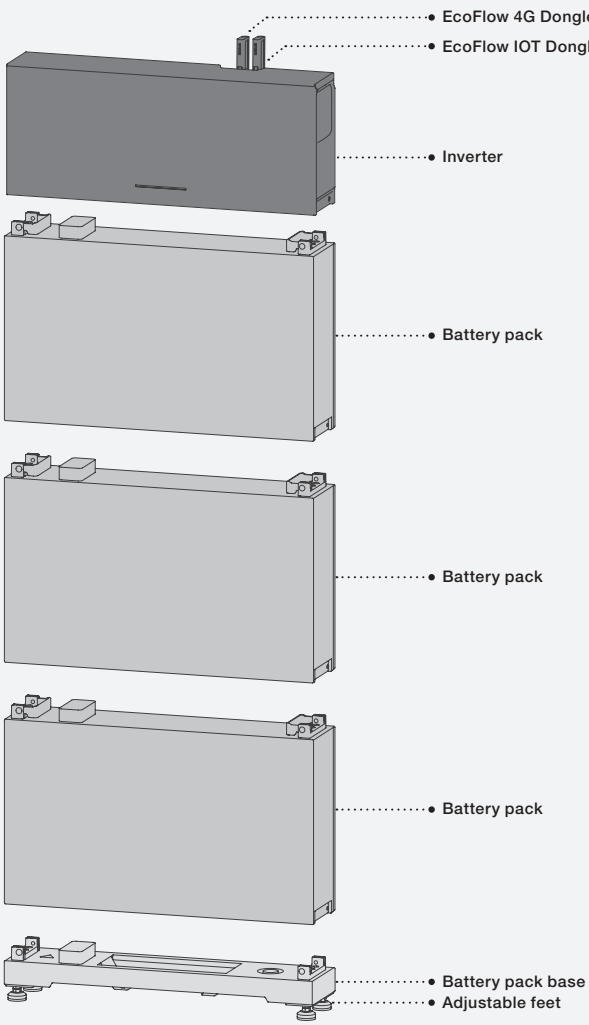
CONTENTS

Safety Instructions

Symbol	Description
DANGER	Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
CAUTION	Caution, risk of electric shock.
WARNING	Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. **NOTICE** is used to address practices not related to personal injury.

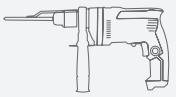
DANGER

- Before installing, operating, and maintaining the equipment, read and follow up Installation Guide and Safety Instructions.
- Personnel who plan to install or maintain EcoFlow equipment must receive thorough training, understand all necessary safety precautions, and be able to correctly perform all operations.
- Personnel who will install, operate, and maintain the equipment, including operators, trained personnel, and professionals, should possess the local national required qualifications in special operations such as high-voltage operations, working at heights, and operations of special equipment.
- Before connecting cables, ensure that the equipment is intact. Otherwise, electric shocks or fire may occur.
- Before installing, operating, and maintaining the equipment, **always disconnect it from all power**.
- Wear proper PPE (Personal protective equipment) before any operations.

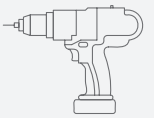


Preparing Tools and Instruments

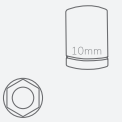
• ESSENTIAL TOOLS



Hammer drill
(with a drill bit of 8mm)

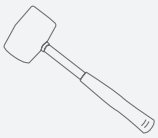


Electrical Screwdriver

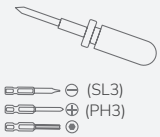


Torque socket of 10mm

Multimeter
(DC voltage measurement range ≥ 1000 V DC)



Mallet

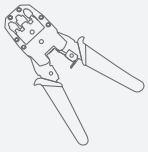


Screwdriver

Cable cutter

Crimping tool

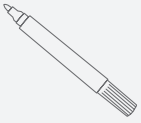
Wire strippers



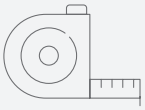
RJ45 Crimping tool

Crimping tool
(for tubular terminal)

Wrench (14mm)

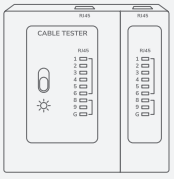


Marker



Steel measuring tape

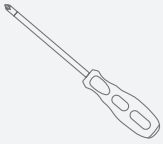
Cable tie



Network cable tester

Heat gun

Heat-shrink tubing



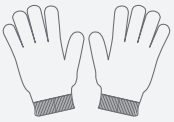
Screwdriver (PH2)

• OPTIONAL TOOLS

Vacuum cleaner

Safety goggles

Safety shoes



Safety gloves

Dust mask

Moving the Inverter

⚠ CAUTION

Before installation, remove the inverter from the packing case and move it to the installation site. Follow the instructions below as you move the inverter:

1. Always be aware of the weight of the inverter.
2. When moving the inverter by hand, wear protective gloves to prevent injuries.
3. Avoid falling or mechanical impact.
4. Do not place the inverter directly on a hard ground, protective materials such as sponge pad or foam cushion are recommended to be placed underneath the inverter, otherwise, it may cause damage to its metal enclosure.
5. Lift the inverter by holding both sides. Do not hold the terminals directly, protective materials such as sponge pad or foam cushion are recommended to be placed underneath the terminals, otherwise, it may cause damage to the terminals.
6. Move the inverter by one or two people or by using a proper transport tool.
7. Do not release the equipment unless it has been firmly secured.

Moving the Battery

⚠ CAUTION

1. Before installation, remove the battery from the packing case and move it to the installation site. Follow the instructions below as you move the battery:
2. Always be aware of the weight of the battery.
3. When moving the battery by hand, wear protective gloves to prevent injuries.
4. Avoid falling or mechanical impact.
5. Do not place the battery directly on a hard ground, protective materials such as sponge pad or foam cushion are recommended to be placed underneath the battery, otherwise, it may cause damage to its metal enclosure.
6. Lift the battery by holding its handles on the top. Do not hold the bottom by hand.
7. Move the battery by two people or using a proper transport tool and lifting tool.
8. Move batteries in the correct direction. Do not place a battery upside down or tilt it.

What's In The Box

NOTICE

- Check if the deliverables are intact and complete. If any item is missing or damaged, contact the supplier.
- Retain the original packaging and documentation for further needs.

• ECOFLOW POWEROCEAN HYBRID INVERTER

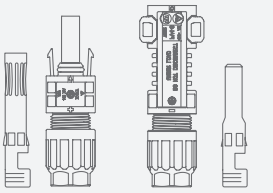
A1 ×1

EcoFlow PowerOcean Hybrid Inverter

A2 ×1

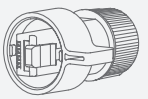
EcoFlow IOT Dongle ESS

A3 ×2



PV terminals

A4 ×1

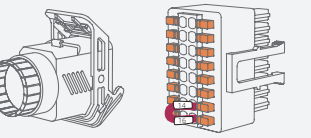


WAN port connector (Ethernet)

A5 ×1

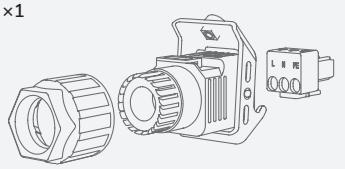
METER port connector (RS485)

A6 ×1



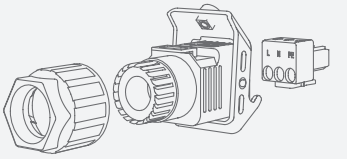
COM connector with shorting wire

A7 ×1



Grid connector

A8 ×1

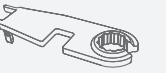


Backup connector

A9 ×5

Screws(M5*12)

A11 ×2



PV Disassembly and Assembly Tool

A12 ×2

OT terminal

A13 ×7

Tubular Terminal
(For wire gauge 10AWG/6mm²)

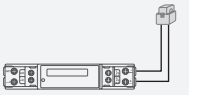
A14 ×5

Tubular Terminal
(For wire gauge 18AWG/1mm²)

A15 ×3

Tubular Terminal
(For wire gauge 26AWG/0.25mm²)

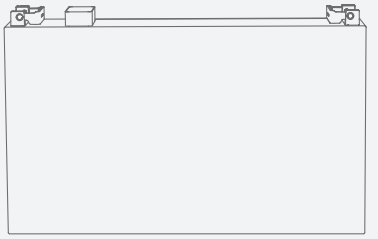
A16 ×1



EcoFlow smart meter
(For UK deliverables only)

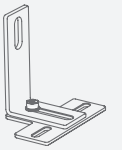
• ECOFLOW POWEROCEAN LFP BATTERY

B1 ×1



EcoFlow PowerOcean LFP Battery

B2 ×2



Battery T-shaped mounting piece(M6)
Battery L-shaped mounting piece

B3 ×8

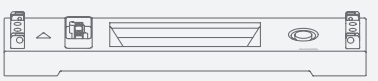
Screws(M5*12)

A10 ×2

Expansion bolt(M6*60)

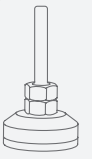
• ECOFLOW POWEROCEAN LFP BATTERY BASE

C1 ×1



Battery base

C2 ×4



Adjustable feet

C3 ×2

Expansion bolt(M6*60)

C4 ×1

Marking-off template for battery

System Installation

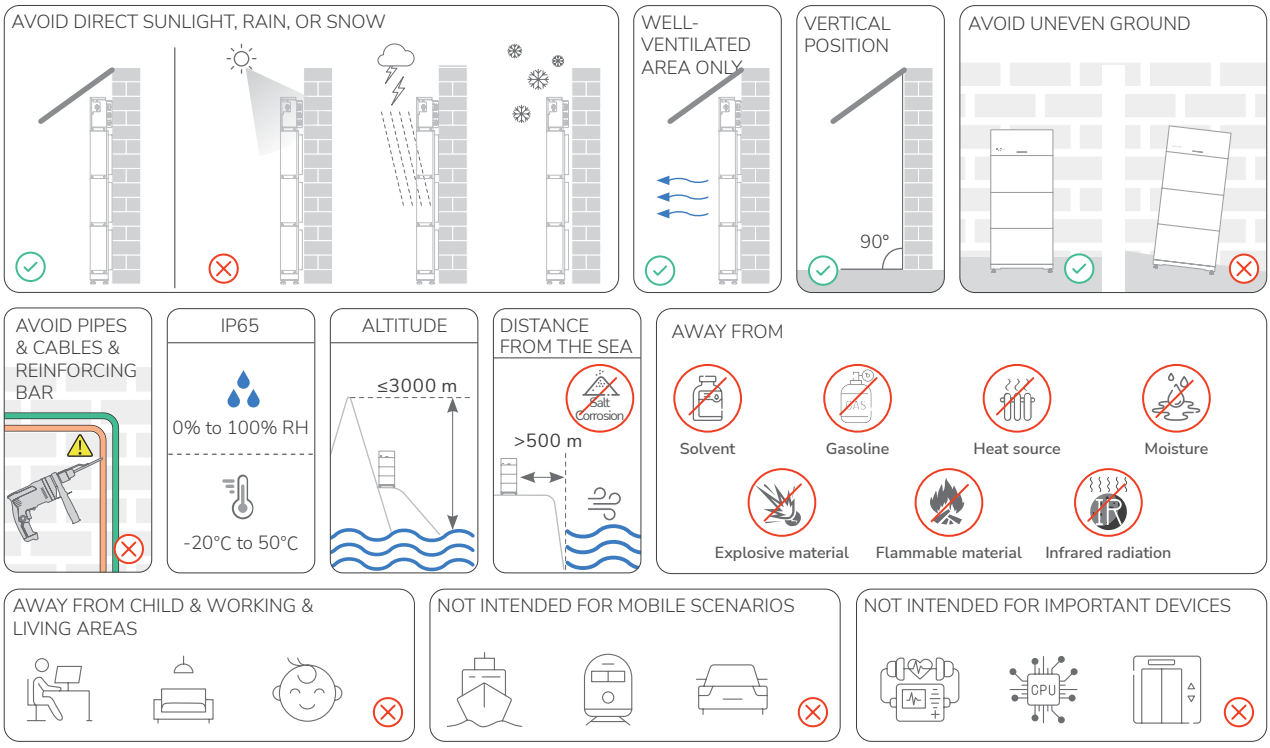
Installation Environment Requirements

WARNING

- The installation and use environment must meet relevant international, national, and local standards for lithium batteries, and are in accordance with the local laws and regulations.

NOTICE

- When installing the equipment in a garage, keep it away from the drive way.
- The mounting structure where the equipment is installed must be fire resistant. Do not install the equipment on flammable building materials.
- Ensure that the installation surface is solid enough to bear the weight of the equipment.
- This product can be installed both indoors and outdoors. For indoor installation, ensure adequate ventilation.



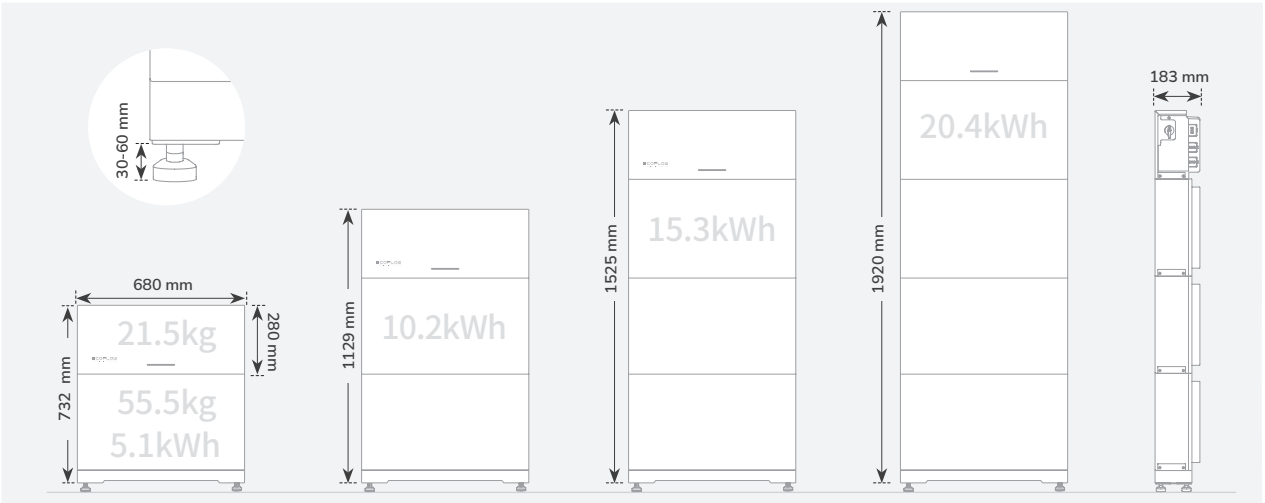
Installation Space Requirements

WARNING

- Reserve enough clearance around equipments to ensure sufficient space for installation and heat dissipation.

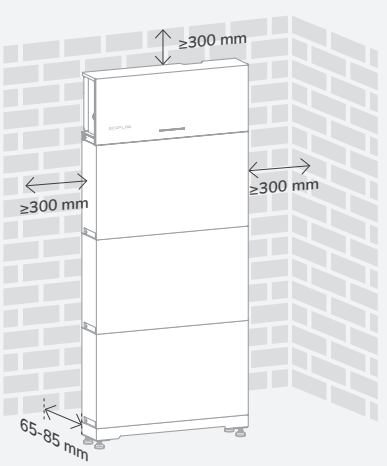
NOTICE

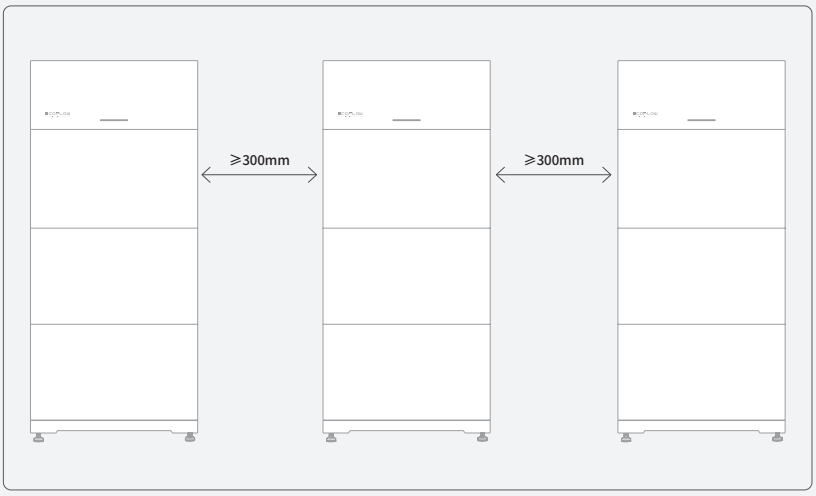
- When installing two sets of batteries (number of battery packs ≥ 4), ensure that the minimum clearance between the two sets of batteries is 300mm, while greater clearance is also permitted if it is required by the specific local electrical codes.
- When installing multiple inverters, install them in horizontal mode if sufficient space is available and install them in triangle mode if no sufficient space is available. Stacked installation is not allowed.
- The inverter has not been tested to AS/NZS 4777.2:2020 for multiple inverter combinations and/or multiple phase inverter combinations so combinations should not be used.



• **ECOFLOW POWEROCEAN SYSTEM CASCADING**

- **HORIZONTAL INSTALLATION MODE (RECOMMENDED)**





Installing Battery

DANGER

- When drilling holes, avoid the water pipes and power cables buried in the wall and under the floor.
- When drilling holes, protect the battery base from shavings or dust.
- Before installing the battery, make sure that the click-on terminals on the top and bottom of the battery are free of foreign objects or any liquid.

CAUTION

- Assign enough personnel (two or more) to move battery to avoid personal injury and battery damage.
- When moving battery, hold handles on top of the battery module.

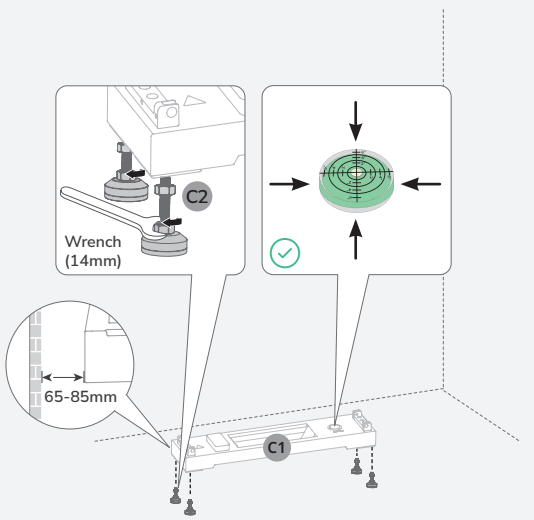
NOTICE

- Sealant is applied underneath the battery base to ensure its resistance against water.
- There will be a gap between the battery junction box and the battery pack before the screws are tightened. This gap is caused by the mechanical design to meet the IP rating, and will normalize after the screws are tightened.
- **(Optional) Install the provided adjustable feet to the base if needed.** Then you can adjust the feet and check the level on the base to ensure that the base is placed horizontally, screw the nuts of the four feet to the top to lock.
- This inverter is only compatible with the EF BD-XX-S1 battery series.

Method 1: Floor Mounted

• **WITH ADJUSTABLE FEET**

1



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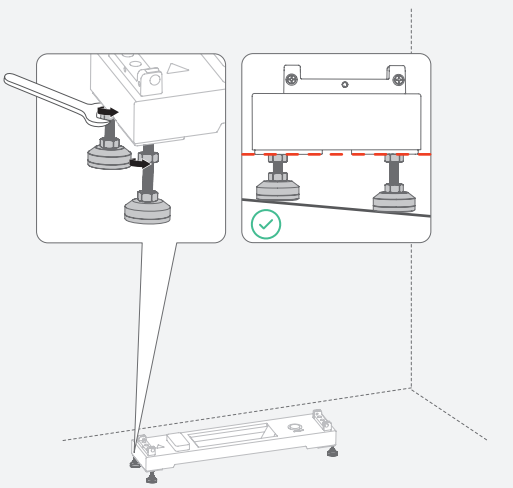
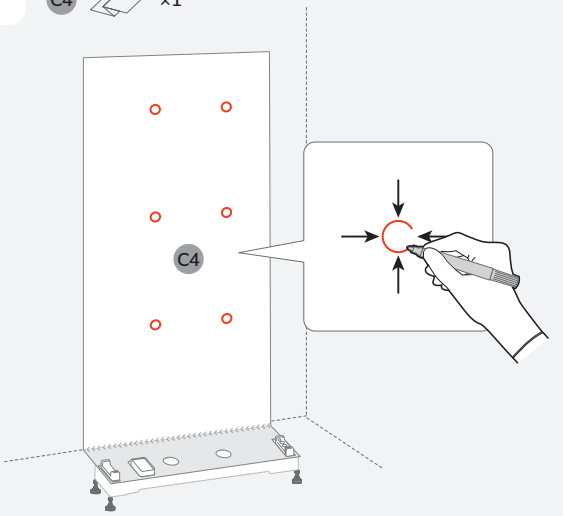


3

C4 ×1



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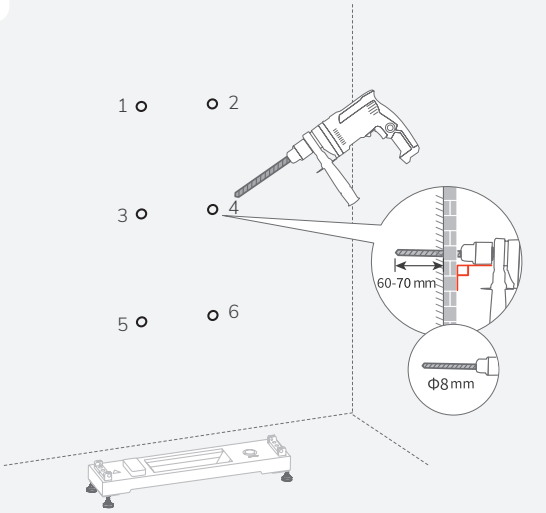
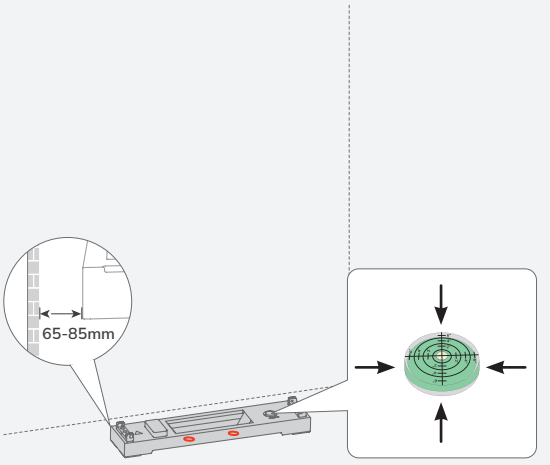


• **WITHOUT ADJUSTABLE FEET**

1

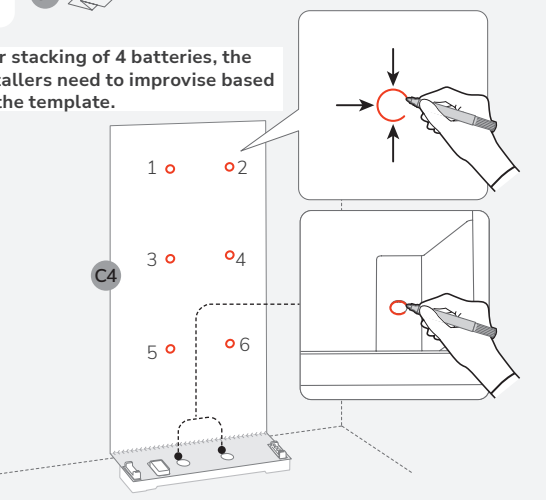
C1



2

C4 ×1

***For stacking of 4 batteries, the installers need to improvise based on the template.**



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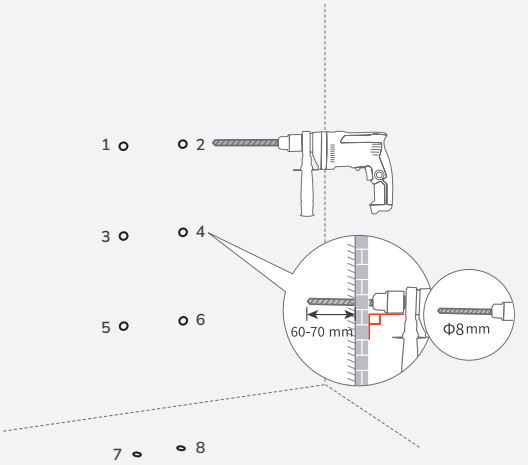
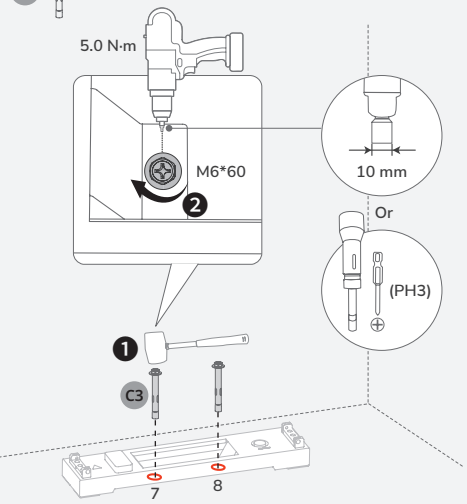


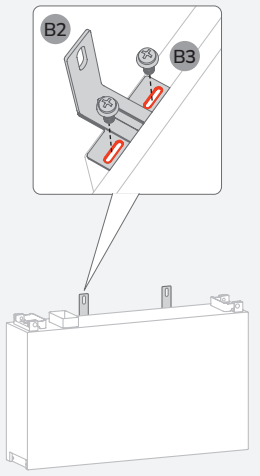
4

C3 ×2



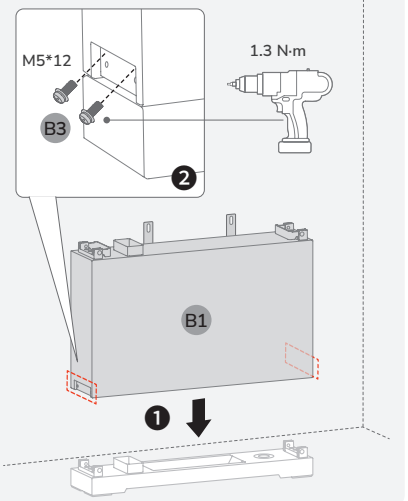
5

B1 ×1 B2 ×2 B3 ×4



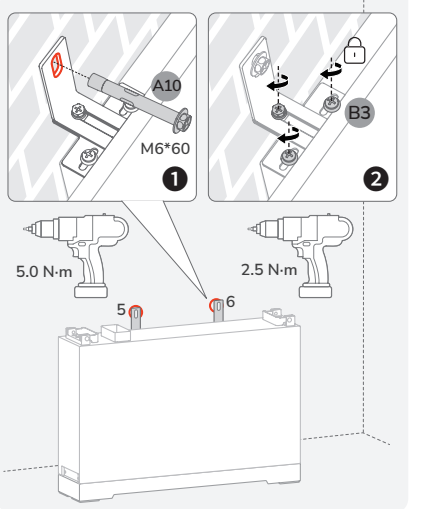
6

B3 ×4



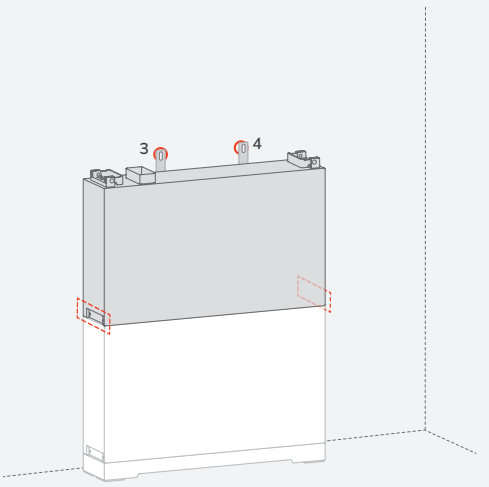
7

A10 ×2



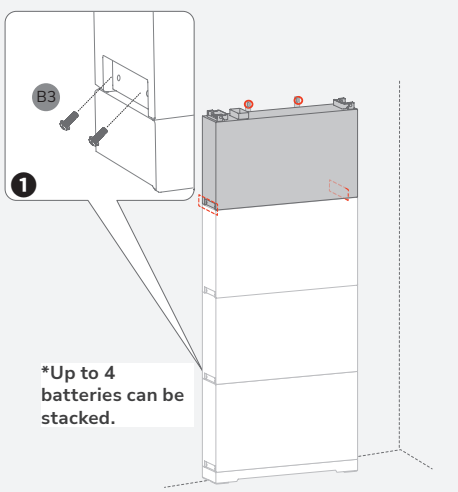
8

B1 ×1 B2 ×2 B3 ×4 A10 ×2

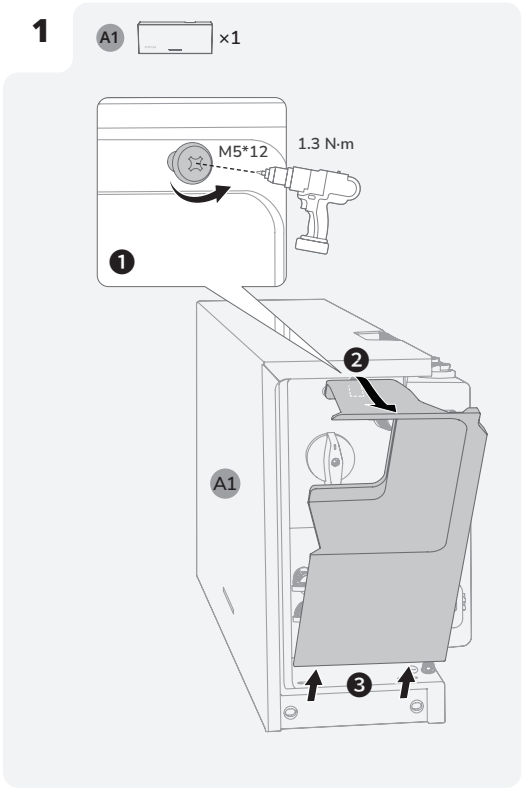


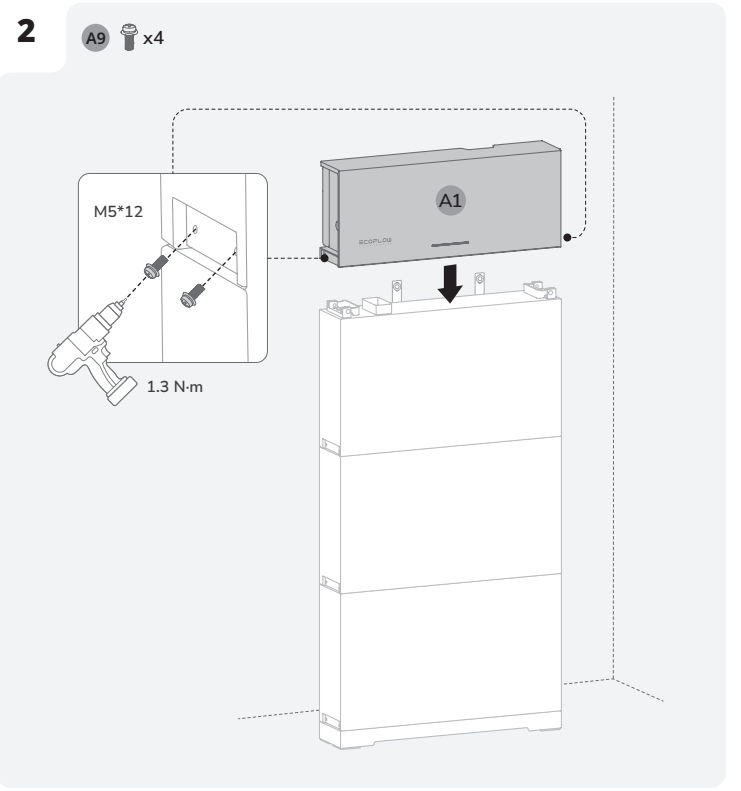
9

B1 ×1 B2 ×2 B3 ×4 A10 ×2



*Up to 4 batteries can be stacked.

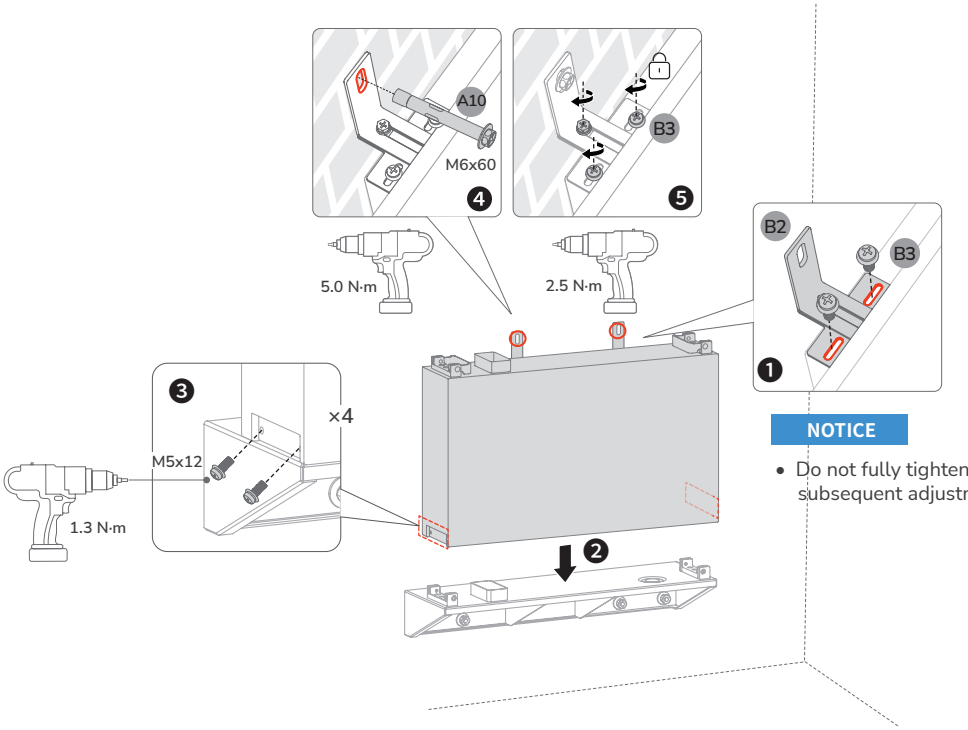




Method 2: (Optional) Wall Mounted

NOTICE

- For details about wall mounted installation, see the installation guide that comes together with the EcoFlow PowerOcean Wall-Mounted Battery Base.

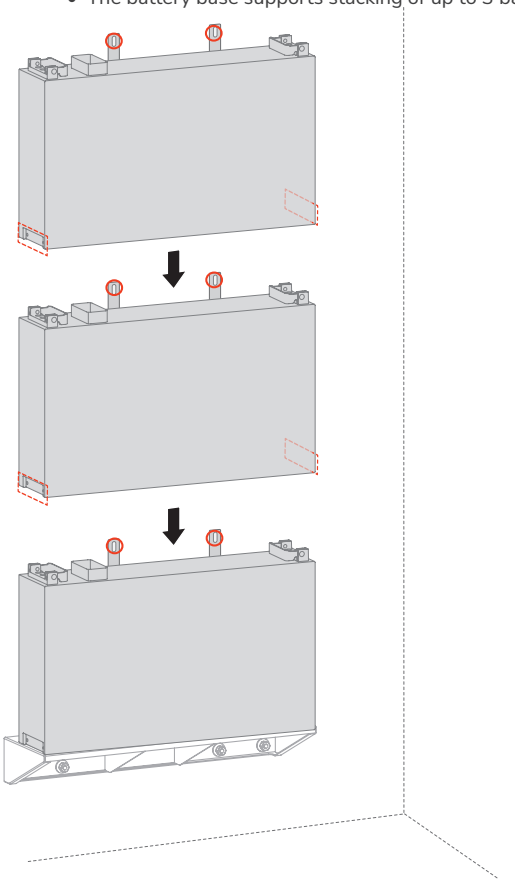


NOTICE

- Do not fully tighten to allow for subsequent adjustments

NOTICE

- Install the remaining batteries and the inverter as shown in the method 1.
- The battery base supports stacking of up to 3 batteries.



Electrical Connection

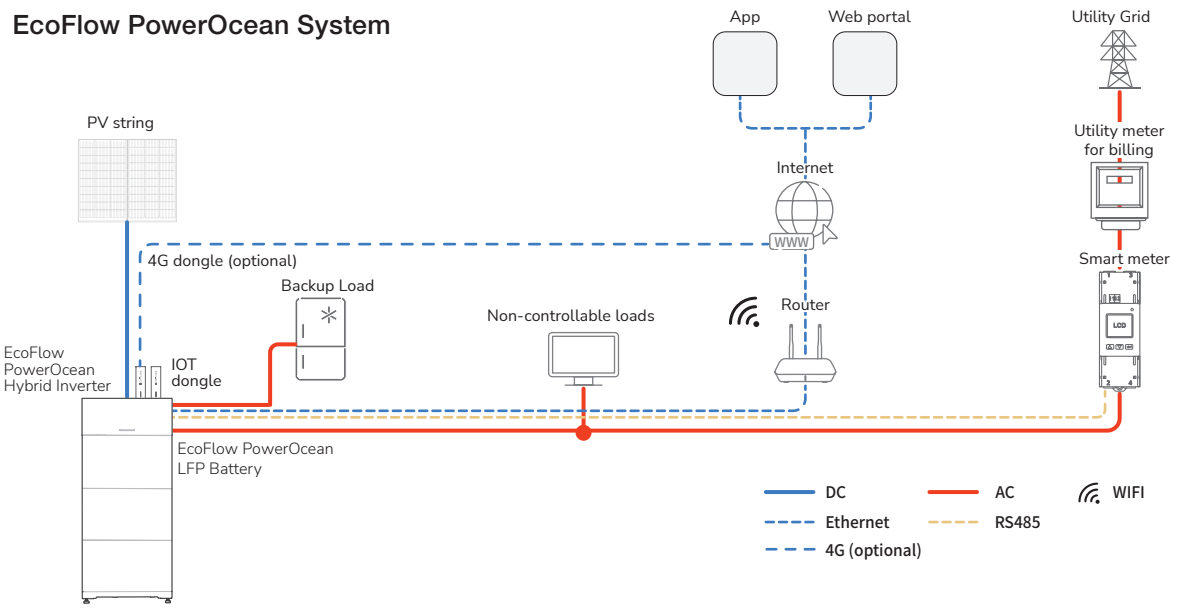
⚠ CAUTION

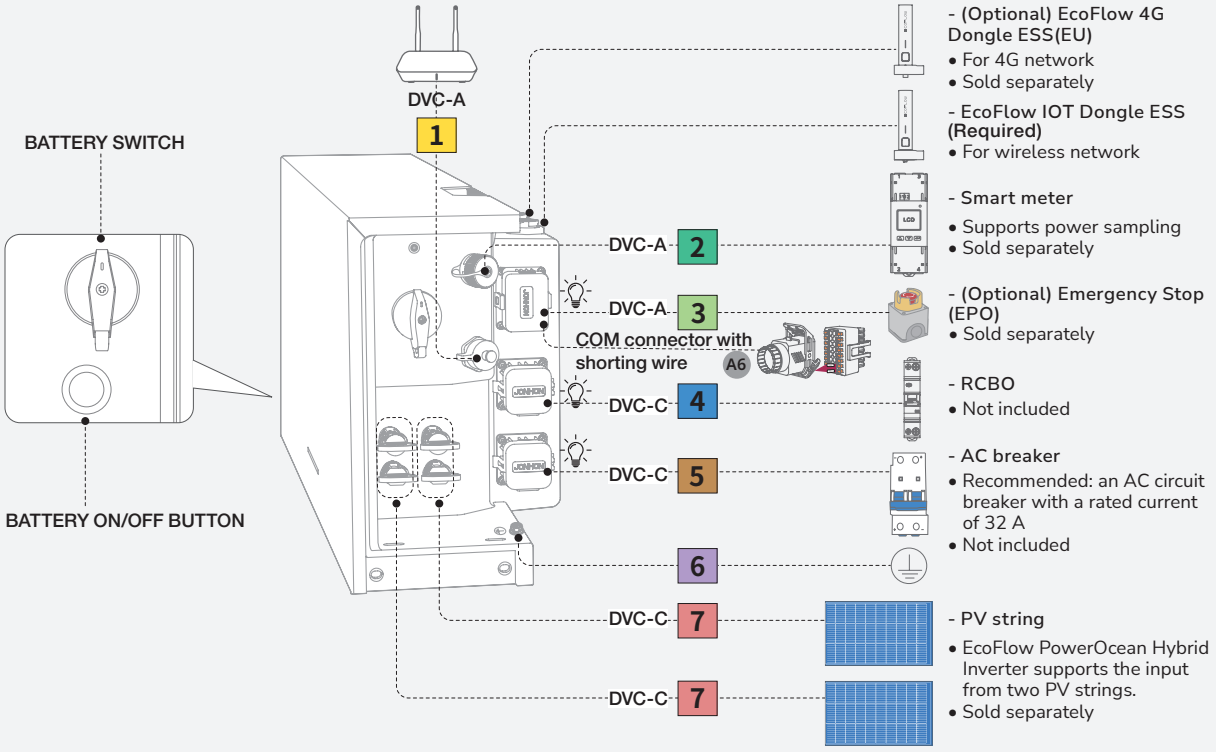
- All electrical connections must be carried out by a professionally trained and certified electrician.

NOTICE

- Please purchase cables that meet local certification standards.
- Do not remove the protective cap of unused terminals. Otherwise, the IP rating of the inverter will be affected.
- The cable colors shown in the figures are for reference only. Select an appropriate cable according to the local standards.
- Inverter has generation/export control capabilities but are not tested to AS/NZS 4777.2:2020.

EcoFlow PowerOcean System





1 **Ethernet cable (optional)**
CAT 5e or higher shielded network cable

2 **Smart meter communication cable**
CAT 5e 8*0.51mm²

3 **COM terminal communication cable-EPO (optional)**
Twisted Pair 2*0.5mm²

4 **Backup cable**
6 mm² to 8 mm²

5 **Grid cable**
6 mm² to 8 mm²

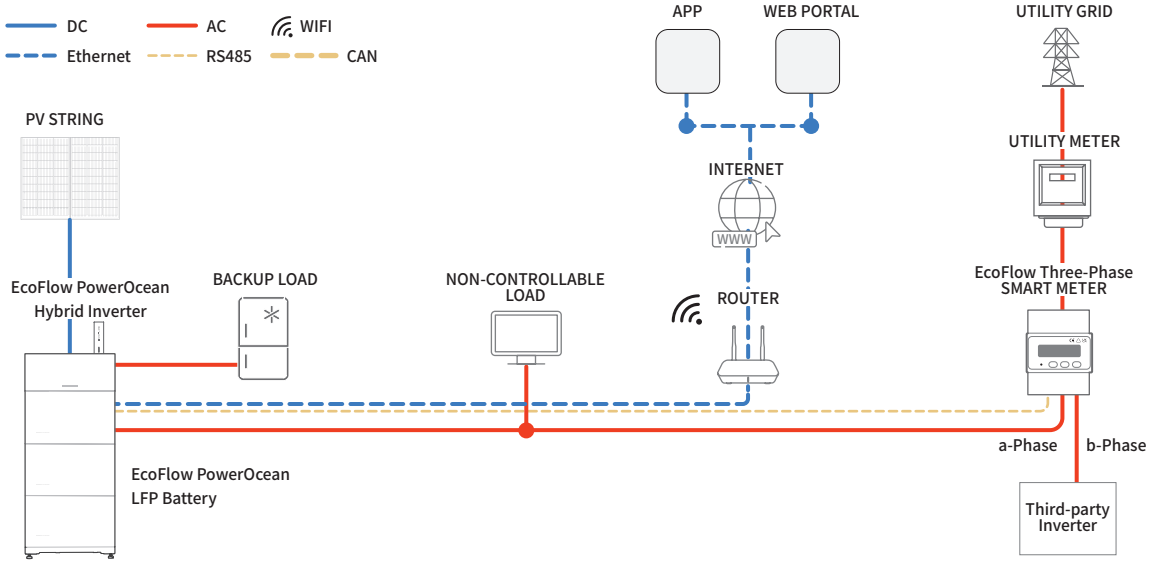
6 **PE cable**
6 mm² to 8 mm²

7 **PV Input cable**
Conductor cross-sectional area: 4 mm² to 6 mm² with a rated voltage greater than or equal to 600V DC

Connectors with JONHON trademark supplied by Avic Jonhon Optronic Technology Co., Ltd.

(Optional) Integrating Existing PV System to the EcoFlow PowerOcean System

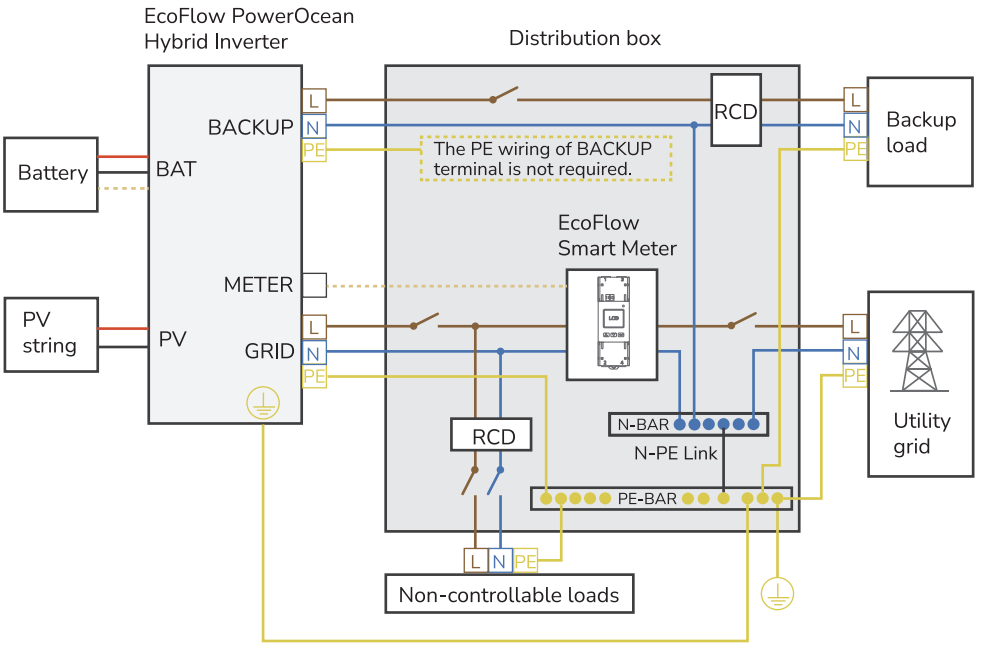
EcoFlow PowerOcean system is compatible with any single/three-phase PV grid-tied system. An existing PV system can be integrated to be a PV Energy Storage System (ESS) by connecting to the GRID terminal of the PowerOcean hybrid inverter. The power generation from the existing PV inverter will be firstly provided to the loads and then charge the battery. When the feeding power of third-party inverter is less than about 200W, it will not charge the battery. With the self-powered mode of the EcoFlow PowerOcean system, the self-consumption rate of the new system, and the self-sufficiency rate of residential energy will be greatly improved, reducing electricity costs.



EcoFlow PowerOcean System Wiring Diagram

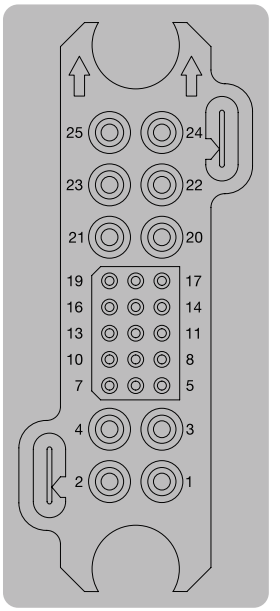
NOTICE

- N and PE cables should be separately wired in the Main Panel.
- A double-pole double-throw switch (DPDT for short) is recommended to be configured on the BACK-UP side for convenient maintenance.



Description of Inverter and Battery Stacking Interfaces

Both the inverter and battery adopt integrated stackable designs, eliminating the need for external wiring between them. The pin definitions for their stacking interfaces are as follows.



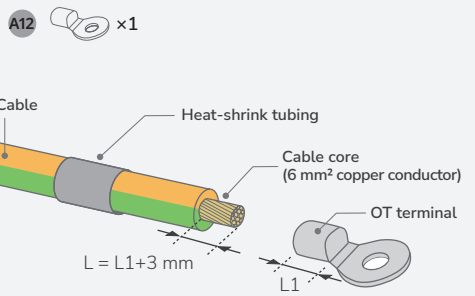
PIN	Description
1	Ground
5-10	Battery Communication
14-19	Battery Button Control Signals and Link Check
22-23	Battery Output

Connecting PE Cables

NOTICE

- Ensure that the PE cable is connected securely.
- Wrap the wire crimping area with heat shrink tubing or insulation tape. The heat shrink tubing is used as an example.
- When using a heat gun, protect the equipment from being scorched.
- It is recommended that silica gel or paint be used around the ground terminal after the PE cable is connected.

1



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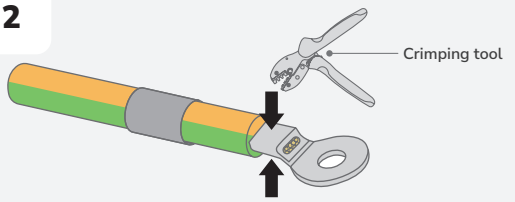

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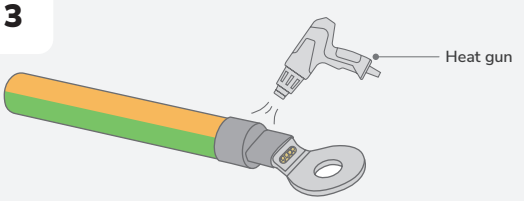

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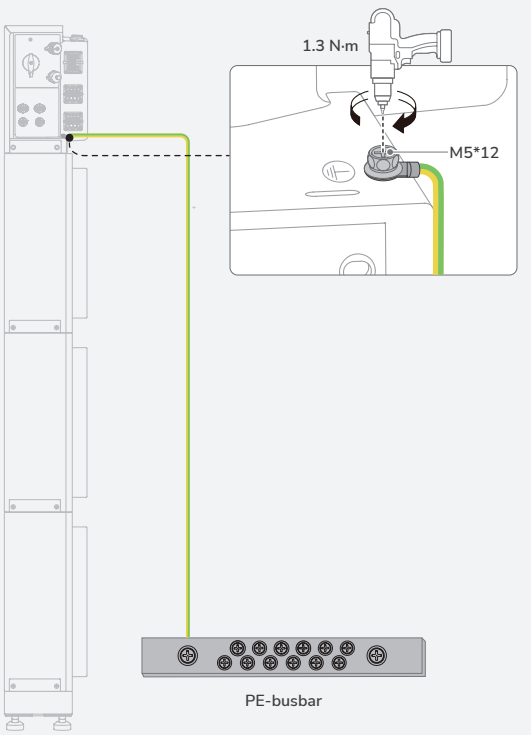


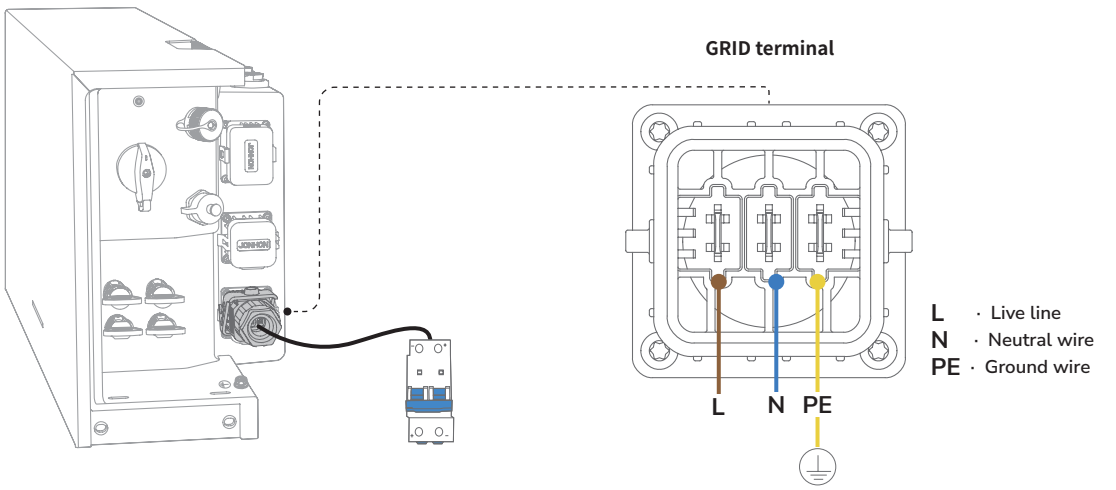
Connecting GRID Cables

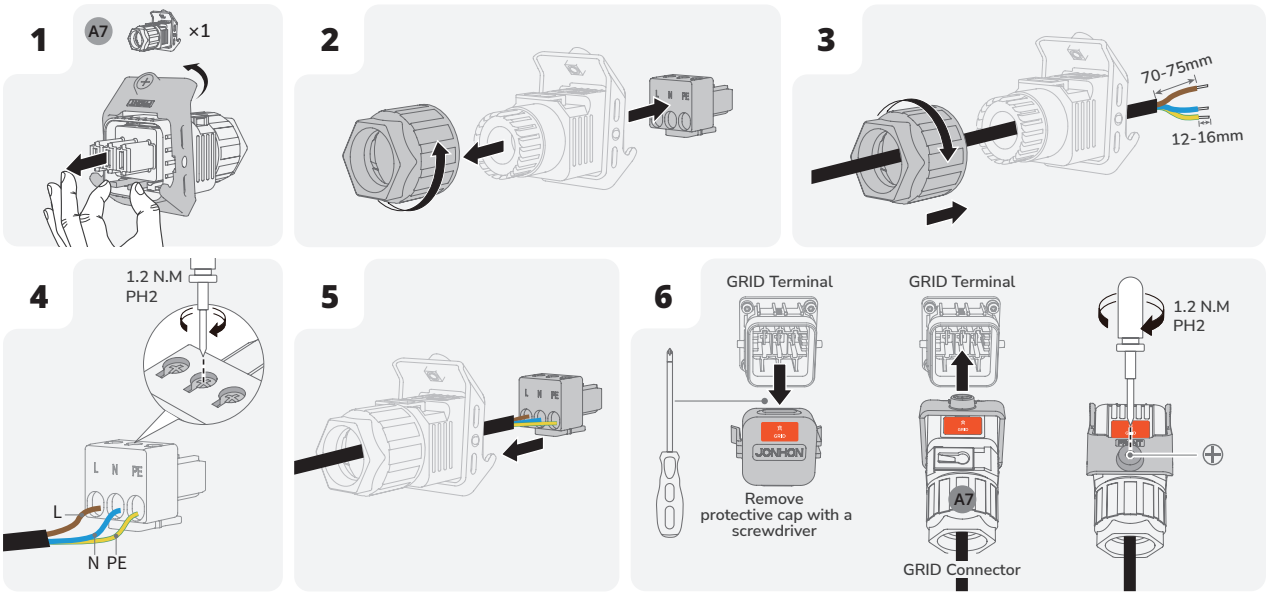
CAUTION

- Before installing, operating, and maintaining the equipment, always disconnect it from all power.
- Do not connect loads between the inverter and the AC switch that directly connects to the inverter.
- Ground the PE hole of GRID connector and the equipment enclosure.
- Do not connect the GRID connector to the BACKUP terminal of the inverter.

NOTICE

- RCD (type A) with rated residual operating current of 100 mA (AC-GRID) and 30mA (AC-BACKUP) would be recommended if there is additional protection by RCD shall be provided for local electrical installation, while the use of an RCD with lower rated residual operating current is also permitted if it is required by the specific local electrical codes.
- In the PowerOcean cascading scenario, each cascaded EF HD-P1-(3K/5K/6K)-S1-A needs to be connected to an RCD alone. Do not connect all cascaded EF HD-P1-(3K/5K/6K)-S1-A to the same RCD of higher rated current.





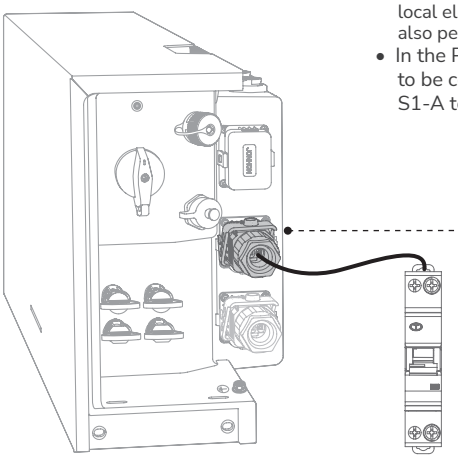
Connecting BACKUP Cables

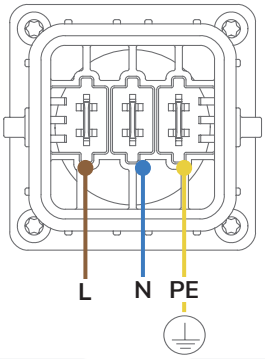
CAUTION

- Before installing, operating, and maintaining the equipment, always disconnect it from all power.
- Do not connect the BACKUP connector to the GRID terminal of the inverter.
- It is not recommended to connect loads with high starting power to BACKUP terminal, such as vacuum cleaner, air conditioner, etc.

NOTICE

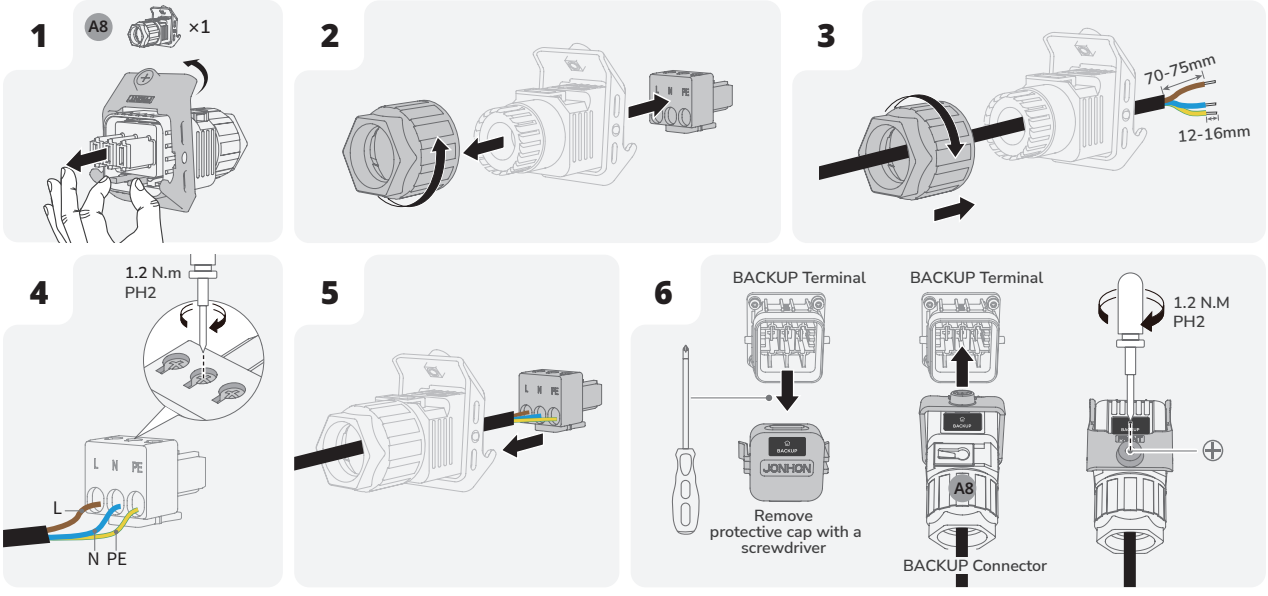
- RCD (type A) with rated residual operating current of 100 mA (AC-GRID) and 30mA (AC-BACKUP) would be recommended if there is additional protection by RCD shall be provided for local electrical installation, while the use of an RCD with lower rated residual operating current is also permitted if it is required by the specific local electrical codes.
- In the PowerOcean cascading scenario, each cascaded EF HD-P1-(3K/5K/6K)-S1-A needs to be connected to an RCD alone. Do not connect all cascaded EF HD-P1-(3K/5K/6K)-S1-A to the same RCD of higher rated current.





BACKUP terminal

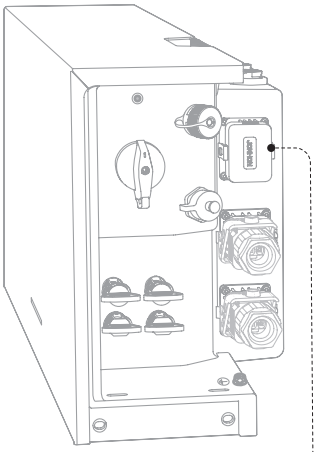
L · Live line
N · Neutral wire
PE · Ground wire



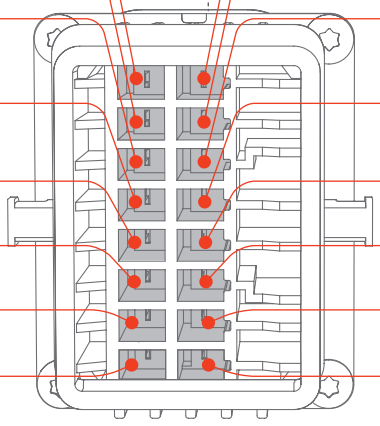
Installing COM Connector With Shorting Wire

NOTICE

- COM terminal supports logic interface connection. Logic interface is required by some local regulations that can be operated by a simple switch or contactor.
- When the switch is closed, the inverter can operate normally.When the switch is opened, the inverter will reduce its active power to zero within 5s.
- Pin14 and Pin16 of COM terminal is used for the logic interface conneaction.
- If no additional EPO is configured, PIN 14 and PIN 16 must be connected using a wire.
- Relay Contact rating of SG_Ready poles: 30V/2A. The recommended load should be rated ≤24V/2A for safe operation.



COM terminal



1 CAN0H

3 CAN0L

5 CAN3H
Inverter cascading communication H
(Reserved)

7 CAN3L
Inverter cascading communication L
(Reserved)

9 CAN0H
Inverter cascading communication H

11 CAN0L
Inverter cascading communication L

13 CAN3H
Inverter cascading communication H

15 CAN3L
Inverter cascading communication L

2 Earth Fault alarm

4 Earth Fault alarm

6 DO

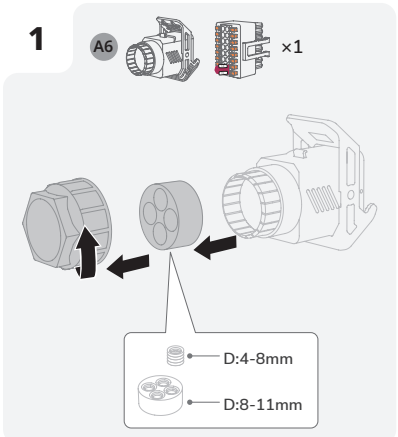
8 DO

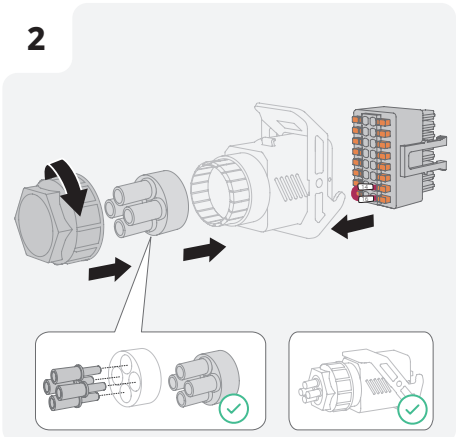
10 AGND1
Inverter cascading sync signal grounding

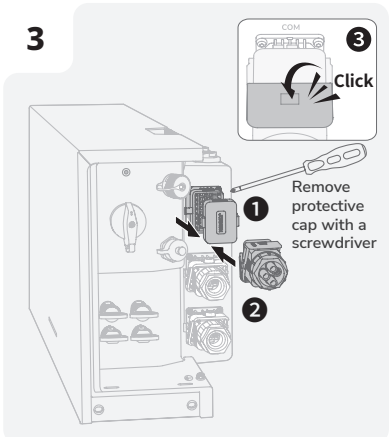
12 SYN / DRM0

14 EPO1_dry1
Emergency Stop Input

16 AGND1
Emergency Stop Input





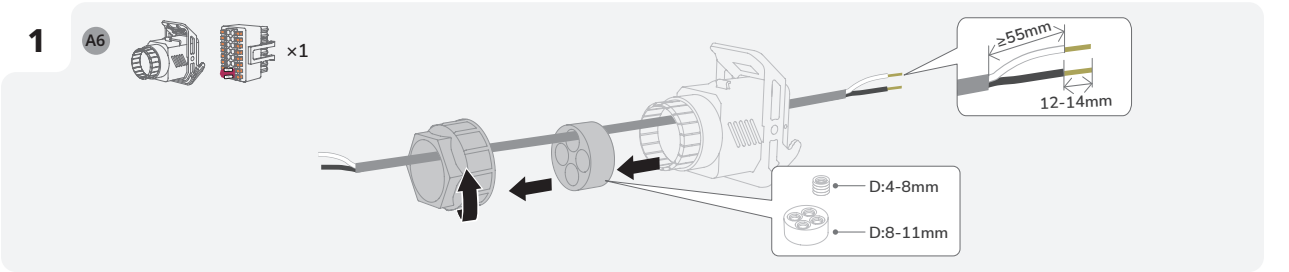


(Optional) Installing Emergency Stop (EPO)

NOTICE

- Before installing EPO, please remove the shorting wire between PIN14 and PIN16.
- For more details about Emergency Stop, please refer to the user manual that comes together with it.

1



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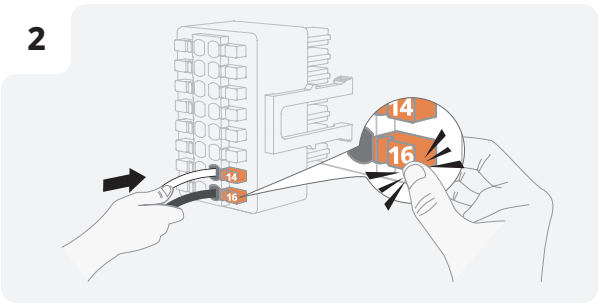

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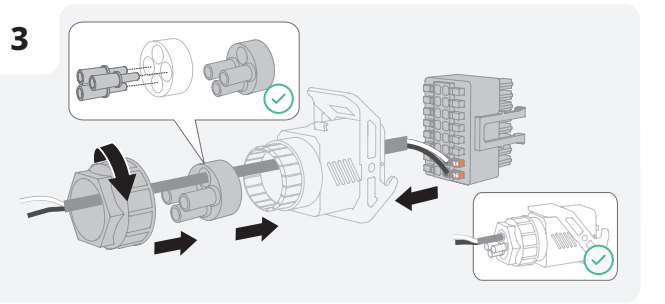

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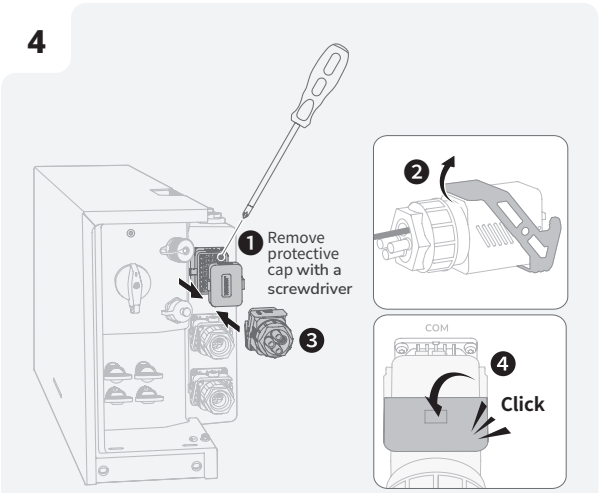

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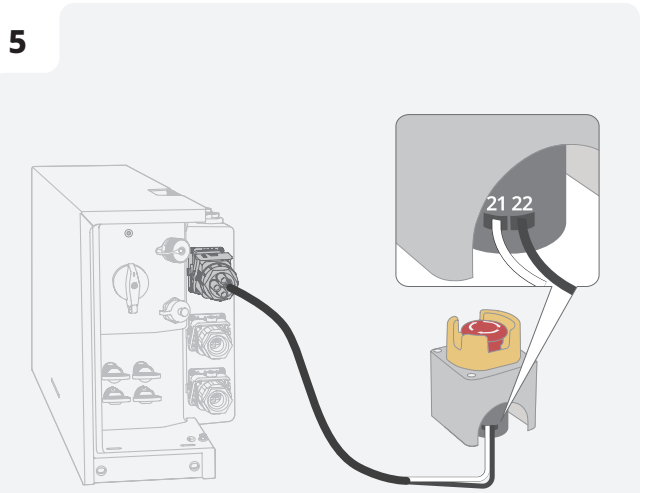
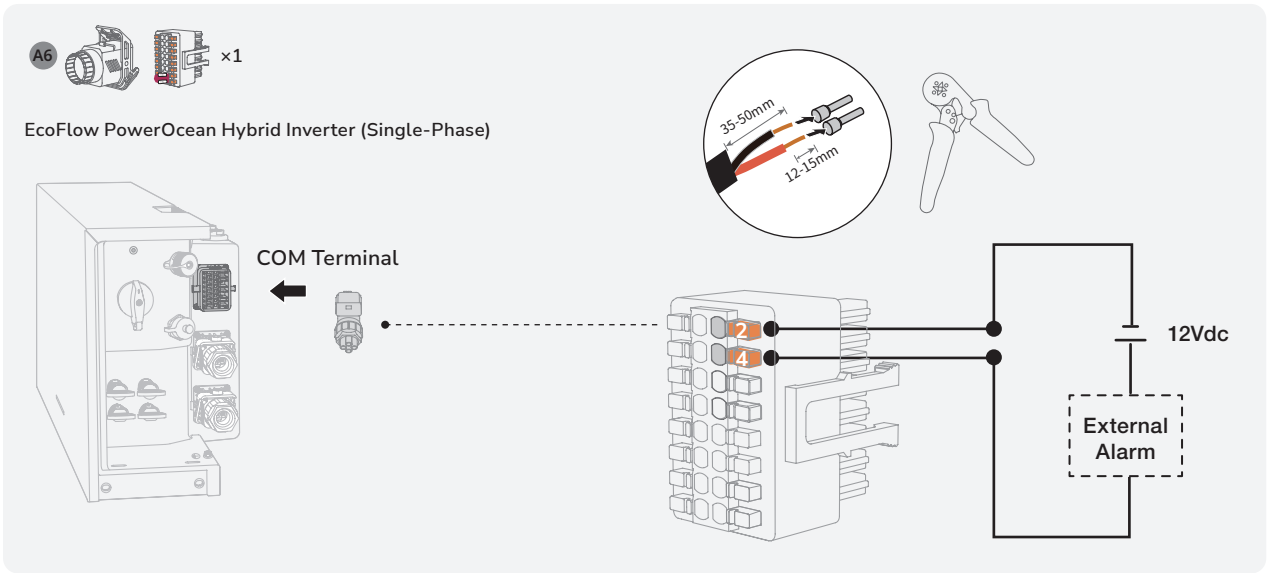


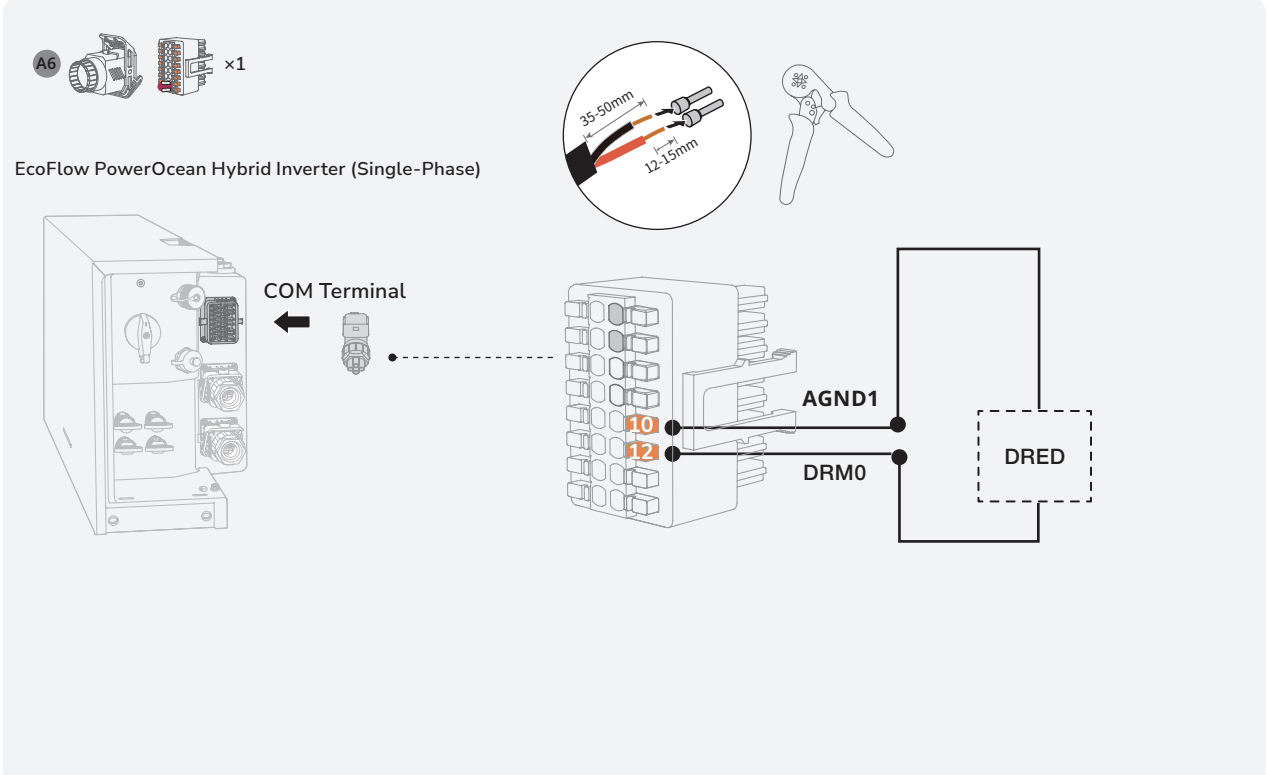
(Required) Installing Earth Fault Alarm

The inverter provides terminals for connecting to an external alarm for earth fault. The additional equipment required is a light indicator and/or a buzzer. The external alarm needs to be powered by an external power supply less than 24V.
If an earth fault occurs,
- the light indicator will blink, or the buzzer will beep;
- the corresponding fault codes will pop up on the EcoFlow App. Visit the EcoFlow App to retrieve the error code for troubleshooting.

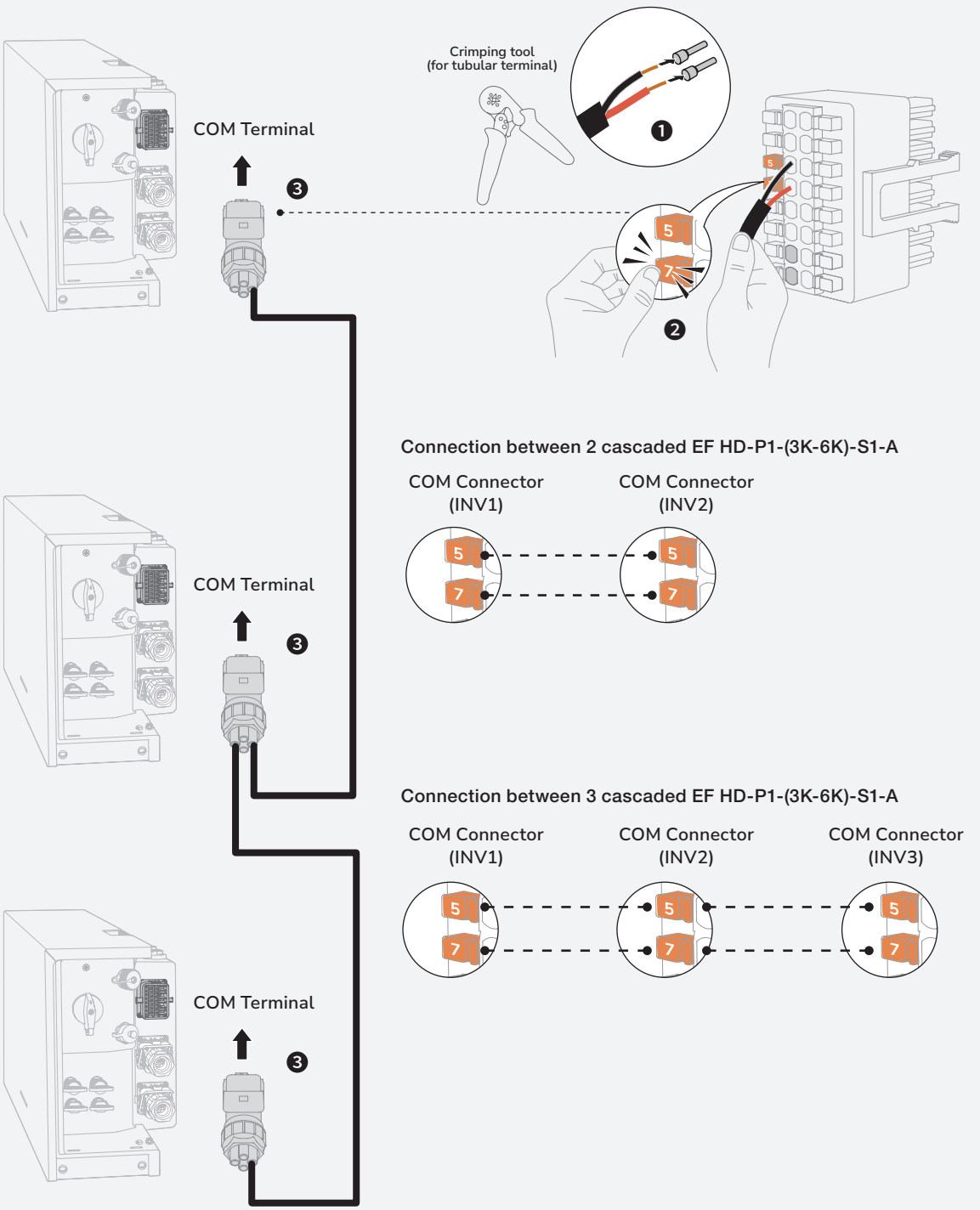


Installing Demand Response Enabling Device (DRED)

The inverter provides terminals for connecting to a Demand Response Enabling Device (DRED). After the connection, the DRED can trigger demand response mode (DRM0) on the inverter, which instructs the inverter to reduce its output to zero.



(Optional) Connecting Communication Cables between the cascaded EF HD-P1-(3K-6K)-S1-A



Connection between 2 cascaded EF HD-P1-(3K-6K)-S1-A

Connection between 3 cascaded EF HD-P1-(3K-6K)-S1-A

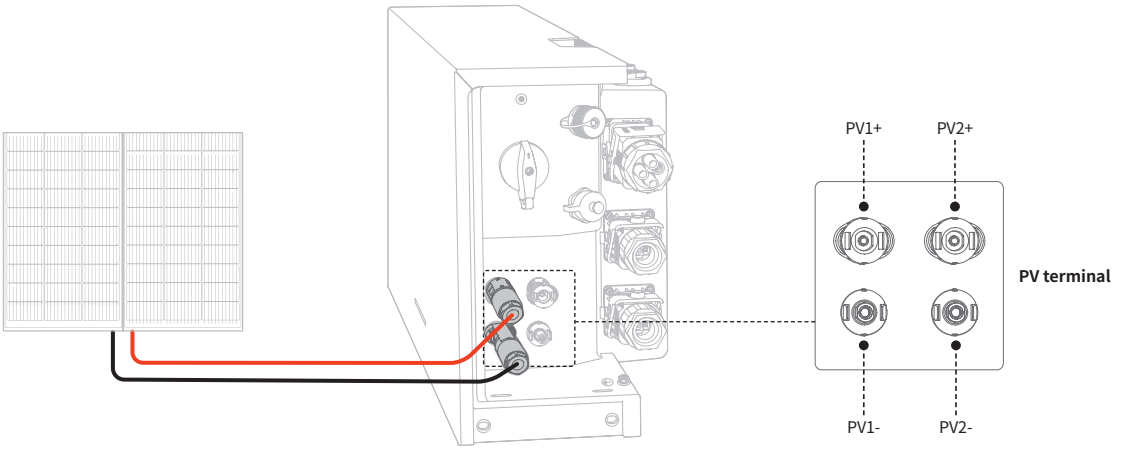
Connecting PV Input Cables

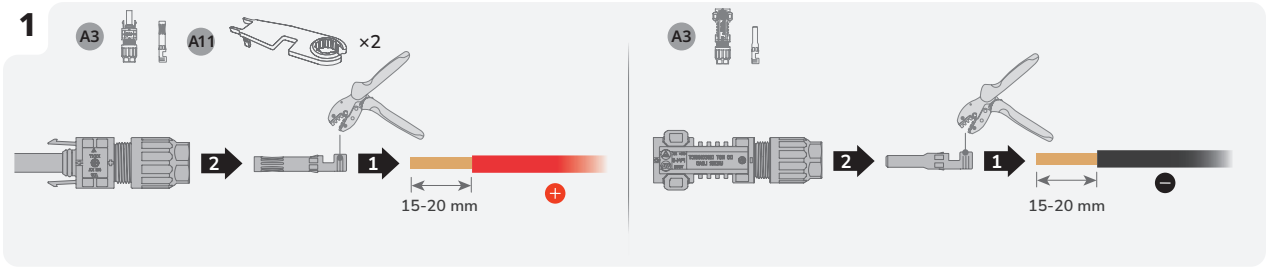
DANGER

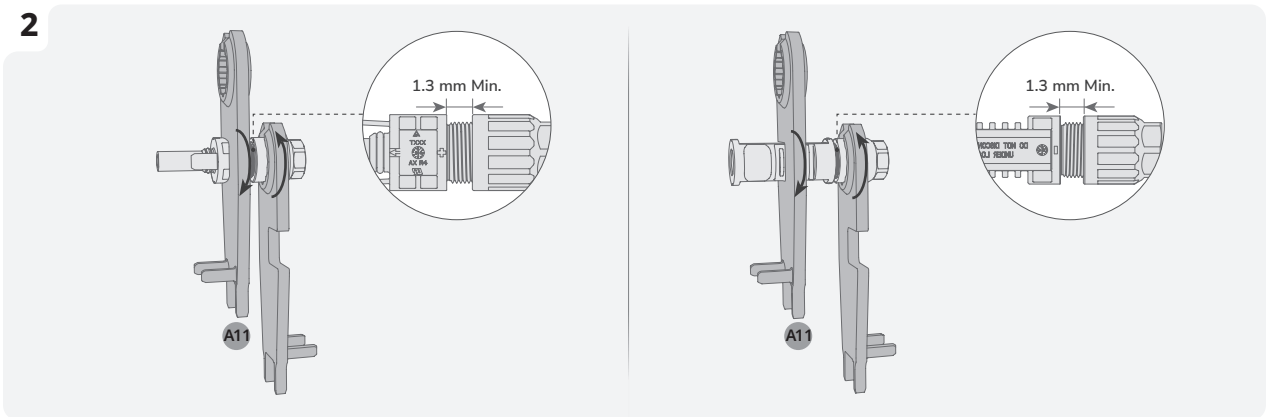
- Before connecting the PV input cables, ensure AC switch connected to the inverter and the PV SWITCH on the inverter are OFF. Failing to do so may result in electric shocks.
- The PV string will generate lethal high voltage when exposed to sunlight. Disconnect the PV cable of PV string before connecting DC power.
- Before connection, ensure the polarity of the output of the PV array matches "PV+"/"PV-" symbols.
- Before connecting the PV input cables, ensure that the impedance between the positive/ negative terminals of the PV string and earth are larger than 1 MΩ. Do not ground the PV array positive/negative hole.
- When the inverter is running, it is not allowed to work on the PV input cables, such as connecting or disconnecting a PV string or a PV module in a PV string. Failing to do so may cause electric shocks.
- Do not remove Solarlok SAFE-TE Connectors of unused PV input terminal. Failing to do so may result in electric shocks.
- Ensure that the maximum DC voltage and the maximum short-circuit current of any string do not exceed the allowed range specified in the "Technical Parameters" of the User Manual.

NOTICE

- In order to avoid malfunction, please do not connect any PV modules that have a risk of leakage current to the inverter.
- In order to avoid lightning damage to the inverter, it is recommended to add a surge protection switch at the PV junction box.
- After the positive and negative connectors snap into place, slightly pull the PV input cables back to ensure that they are connected securely.
- It is not recommended that connect different brands or models of PV modules to one MPPT circuit, or connect PV modules of different orientation or angles to one PV string.

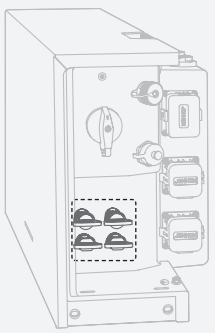


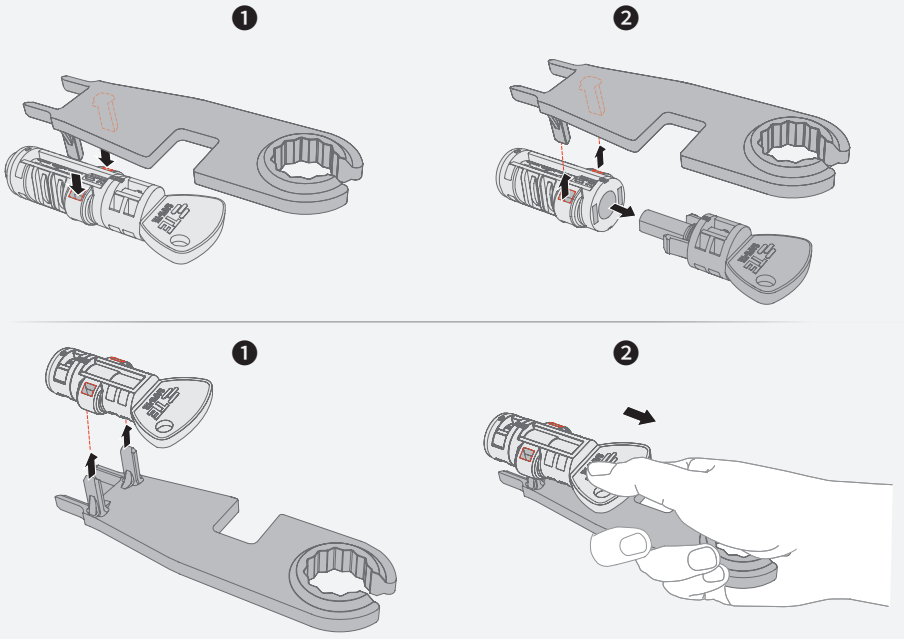




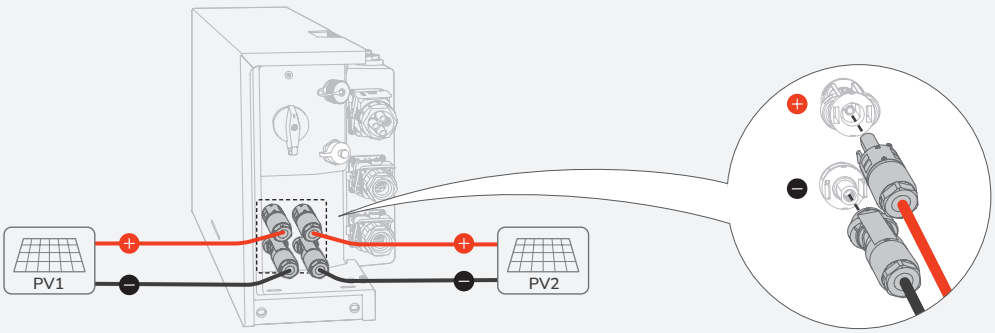
REMOVE SOLARLOK SAFE-TE CONNECTORS

A11  ×1





CONNECT TO THE INVERTER.

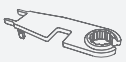


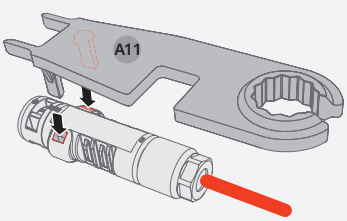
Set the multimeter to DC gear to measure the voltage at the DC position. If the voltage is a negative value, the PV input polarity is incorrect and needs correction. If the voltage is greater than 600 V, too many PV modules are configured to the same string. Remove some PV modules.

If the PV input cable is reversely connected and the PV SWITCH is set to ON, first set the PV SWITCH to the OFF position, then remove the positive and negative connectors, and correct the polarities of the PV input cables.

REMOVING THE PV TERMINAL

WARNING • Before removing the positive and negative connectors, ensure that the PV SWITCH is OFF.

A11  ×1



NOTICE

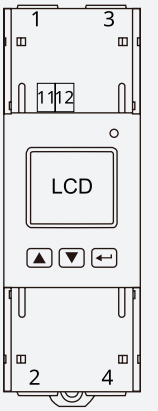
- It is recommend to use of CAT5e or higher rating network cable.
- Smart meter is sold separately, which has been preset parameters before delivered. Do not modify the relevant parameters.
- The compatibility of this product with smart meters may vary by regions and versions. For detailed instructions on the installation and wiring scheme of the smart meter for this product, please refer to the guide that comes together with the meter.
- As a result of the design change, there are two versions of the METER port of delivered inverters. The actual delivery may vary.

Version 1

SMART METER INSTALLATION

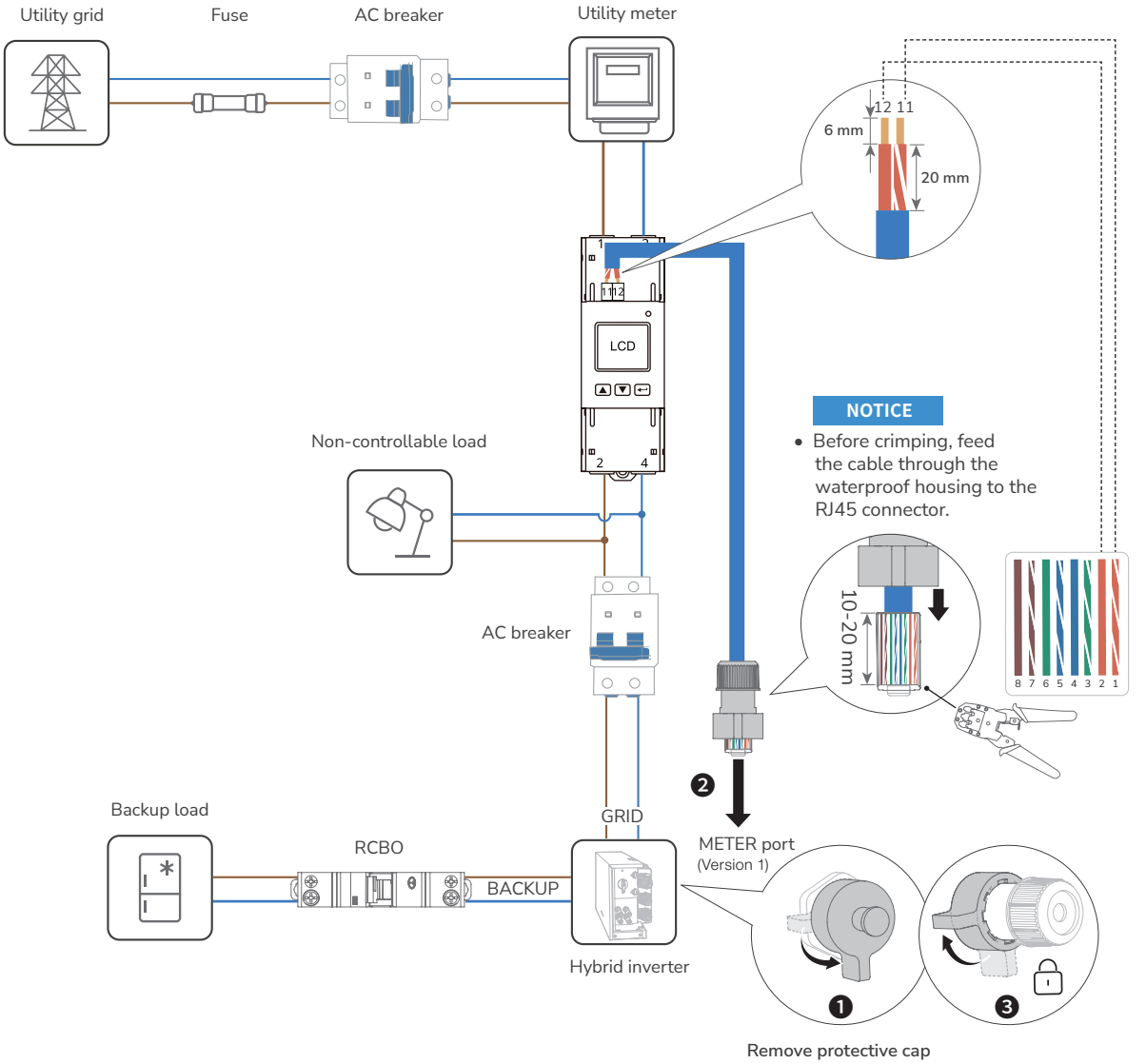
1 **METER SAMPLING**
Access the home mains and connect the smart meter as shown in the diagram.

2 **METER COMMUNICATION**
Connect communication port 11, 12 on the meter to the METER port of inverter.



1	Grid L
3	Grid N
11	RS485 A
12	RS485 B

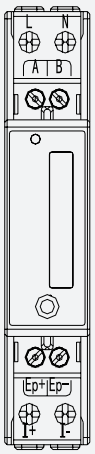
2	Load L
4	Load N



SMART METER (WITH EXTERNAL CT) INSTALLATION

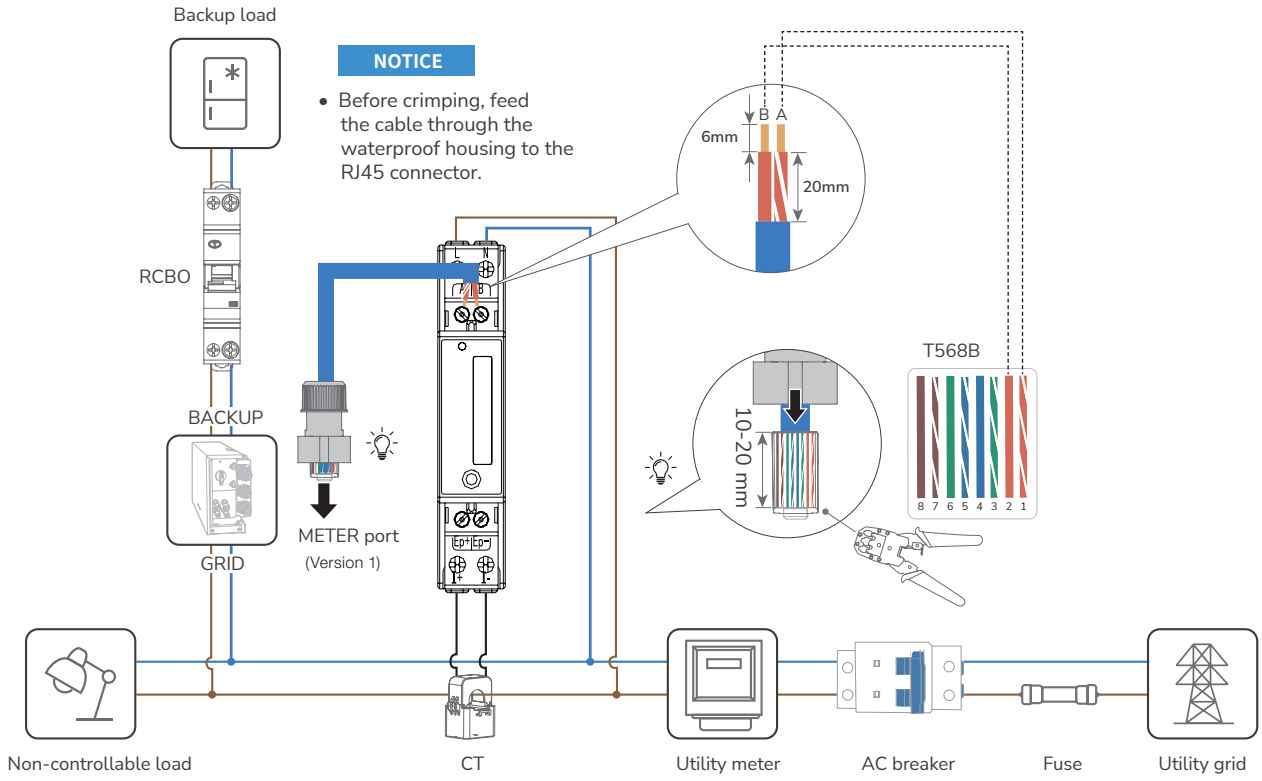
1 **METER SAMPLING**
Access the home mains and connect the smart meter as shown in the diagram.

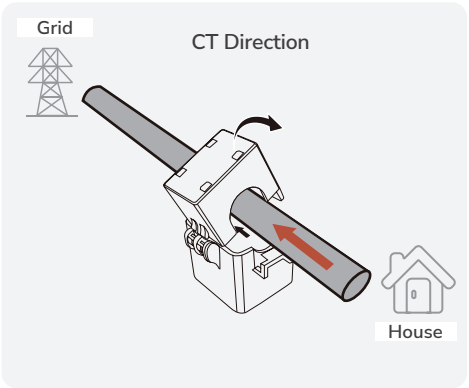
2 **METER COMMUNICATION**
Connect communication port A, B on the meter to the METER port of inverter.



L	Grid L
N	Grid N
A	RS485 A
B	RS485 B

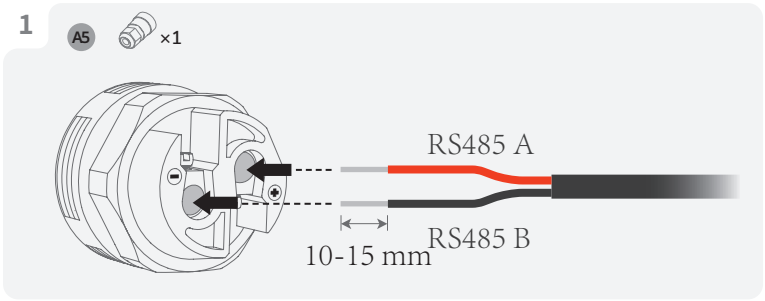
I+	Grid L CT
I-	

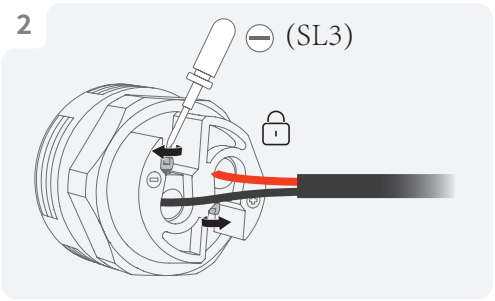


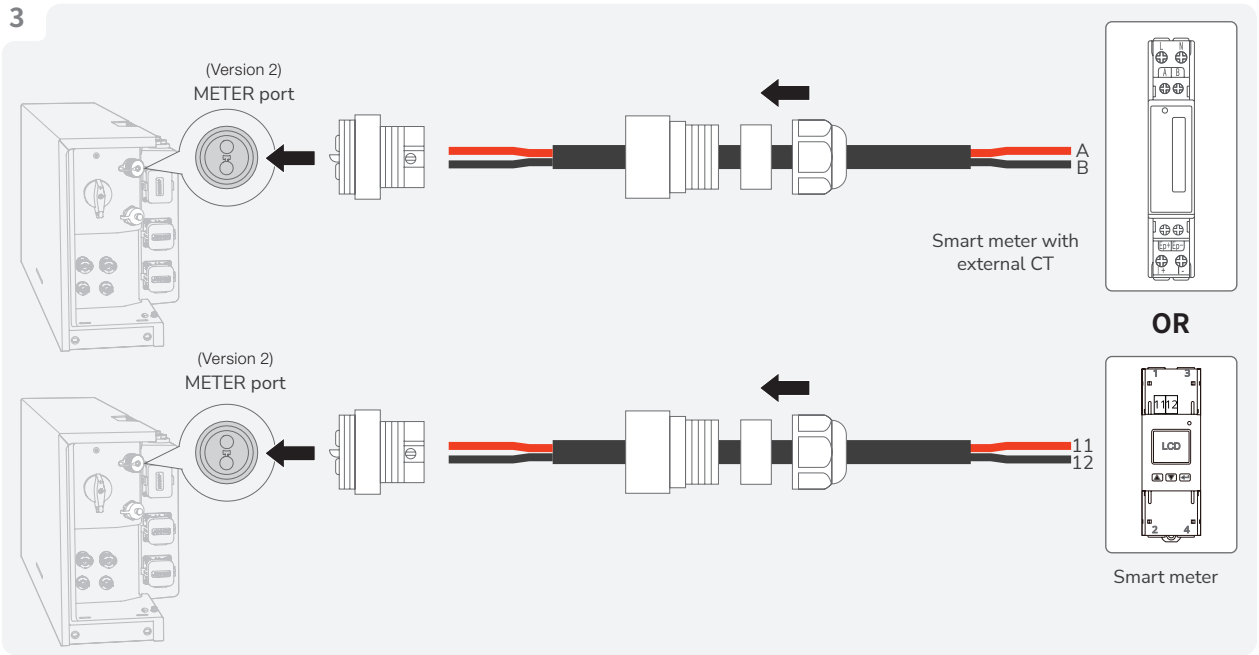


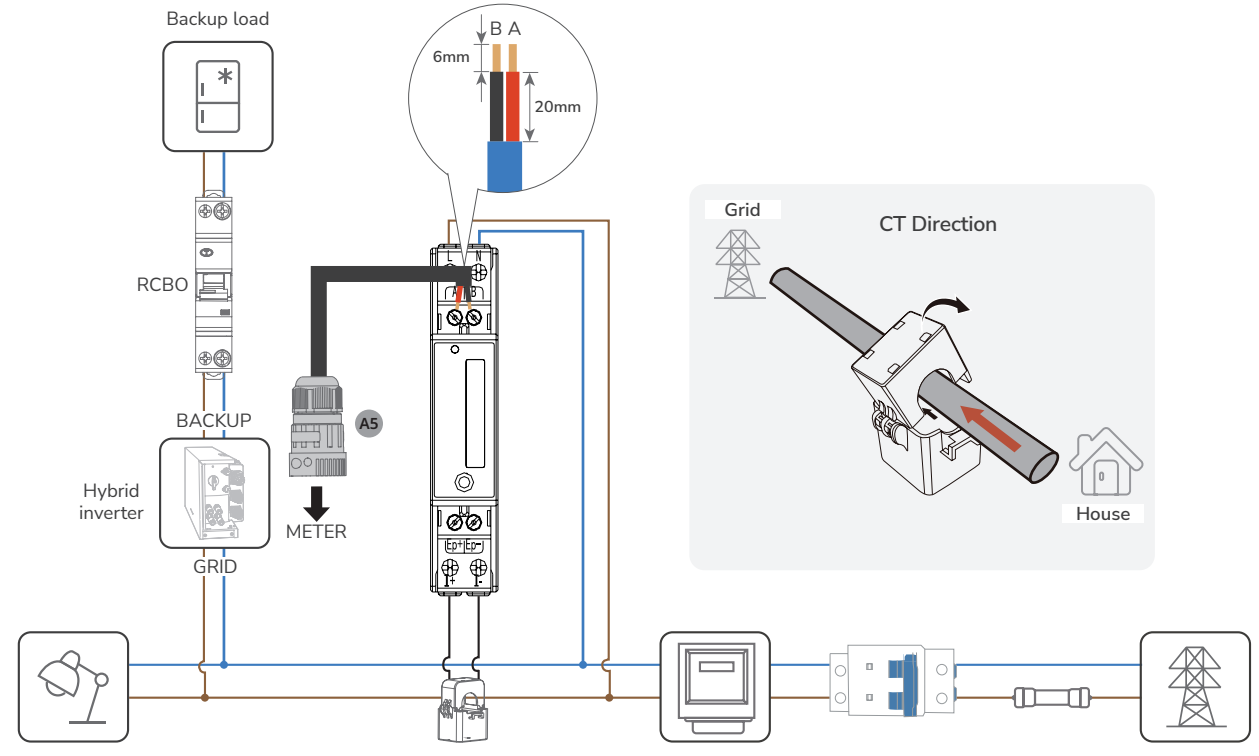
Version 2

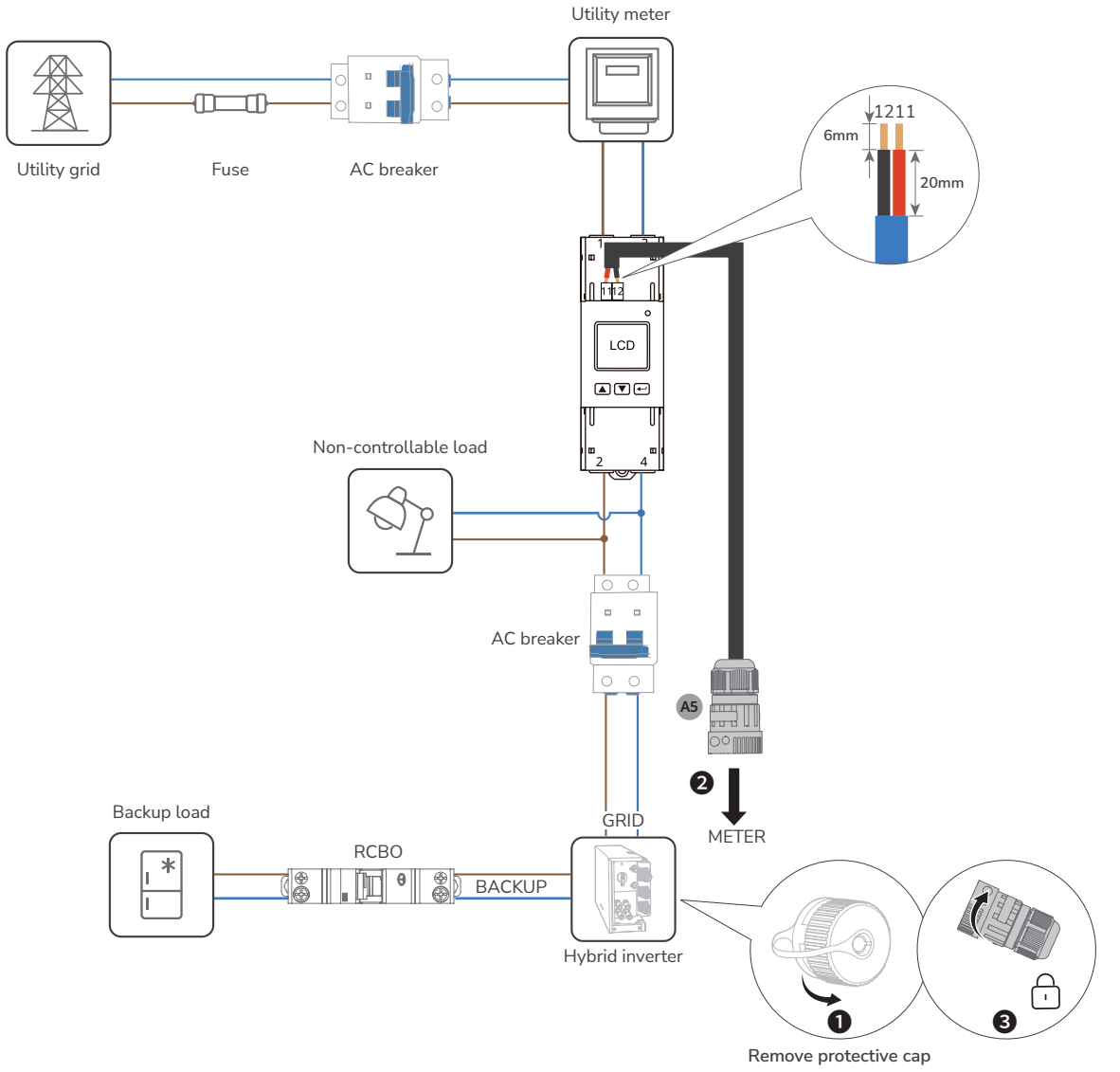
ASSEMBLING A METER PORT CONNECTOR (RS485)







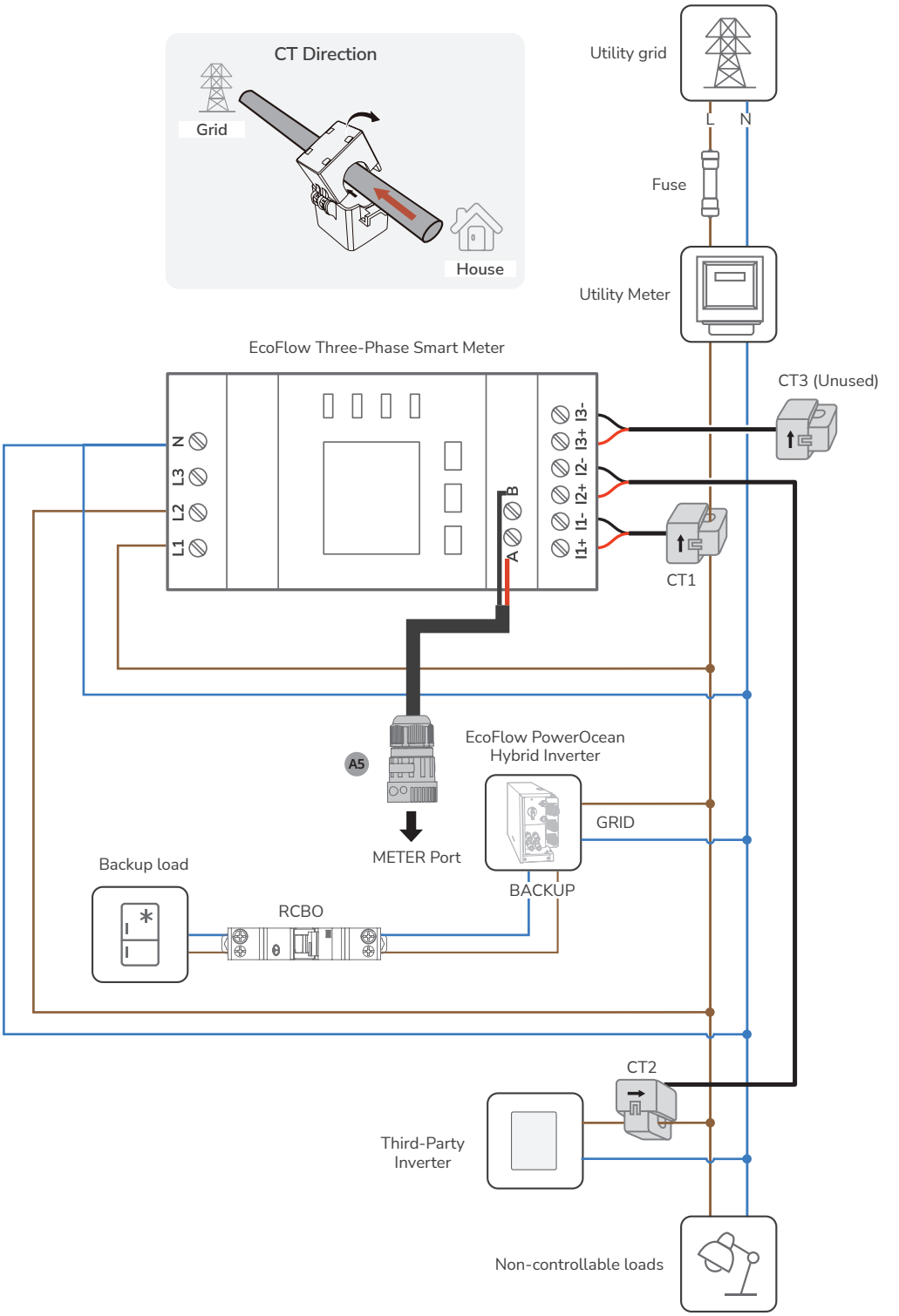



Utility meter
Utility grid
Fuse
AC breaker
1211
6mm
20mm
LCD
Non-controllable load
AC breaker
A5
METER
Backup load
RCBO
BACKUP
GRID
Hybrid inverter
Remove protective cap

(Optional) Energy Metering Installation for System with Third-Party PV Integration

NOTICE

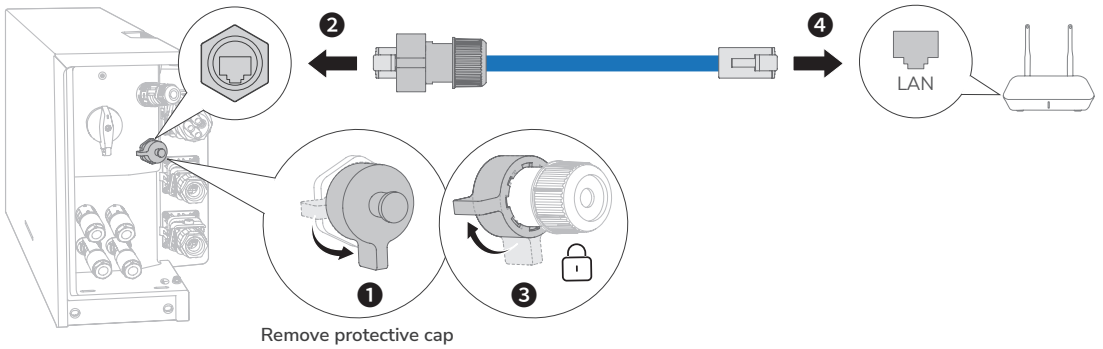
- It is recommend to use of CAT5e or higher rating network cable.
- Smart meter is sold separately, which has been preset parameters before delivered. Do not modify the relevant parameters.
- The compatibility of this product with smart meters may vary by regions and versions. For detailed instructions on the installation and wiring scheme of the smart meter for this product, please refer to the guide that comes together with the meter.
- As a result of the design change, there are two versions of the METER port of delivered inverters. The actual deliverables may vary.



NOTICE

- Use shielded CAT 5e or higher rating network cable for stable connection.

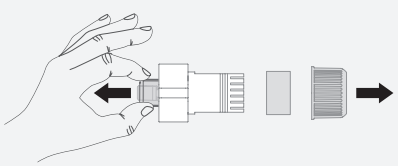
• METHOD 1: VIA A WIRED NETWORK



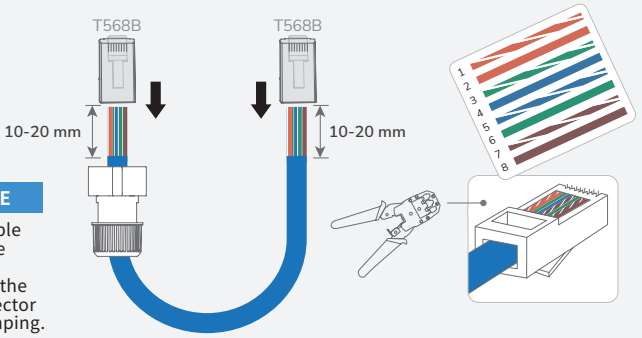
Remove protective cap

1

A4 ×1



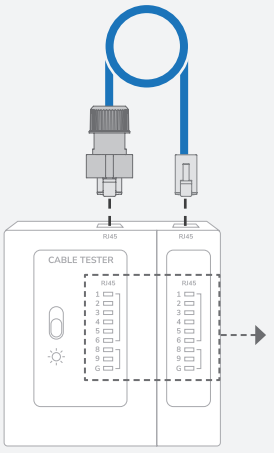
2 Both ends of the network cable use the T568B wiring standard.



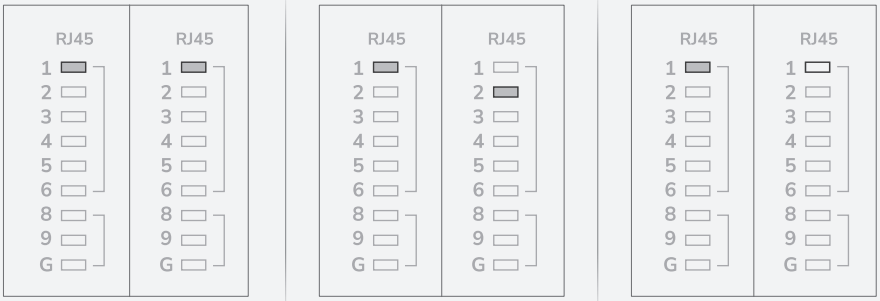
NOTICE

Run the cable through the waterproof housing to the RJ45 connector before crimping.

3 Test network cable connection. If the LEDs of the two RJ45 ports light up in sequence, it indicates that the network cable is correctly wired and should be fully operational.



Ethernet Cable Tester



Ideal connection

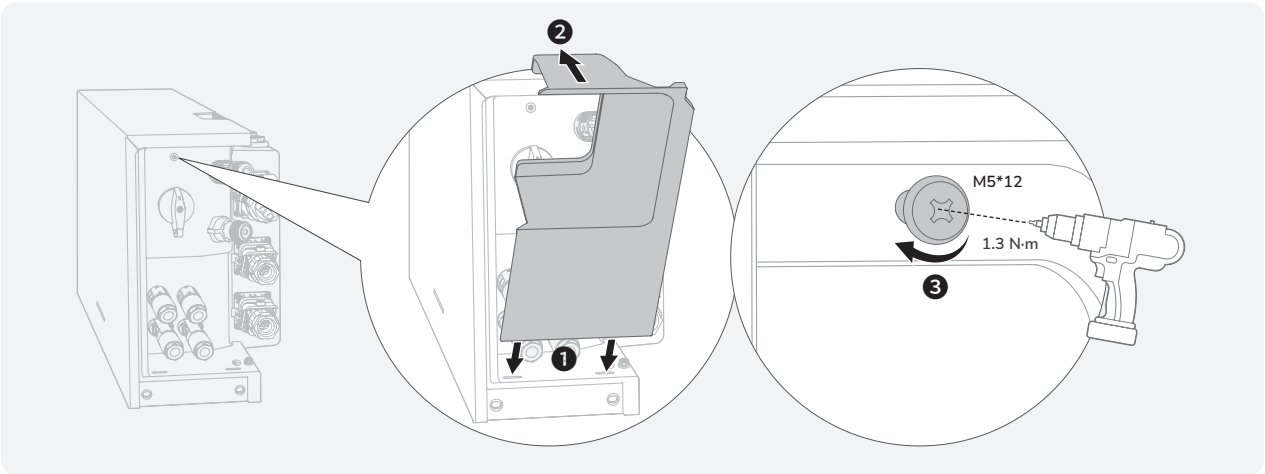
Incorrect wiring standard

Poor connection

• METHOD 2: VIA A WIRELESS NETWORK

Refer to the System Commissioning section in this guide to connect to a wireless network.

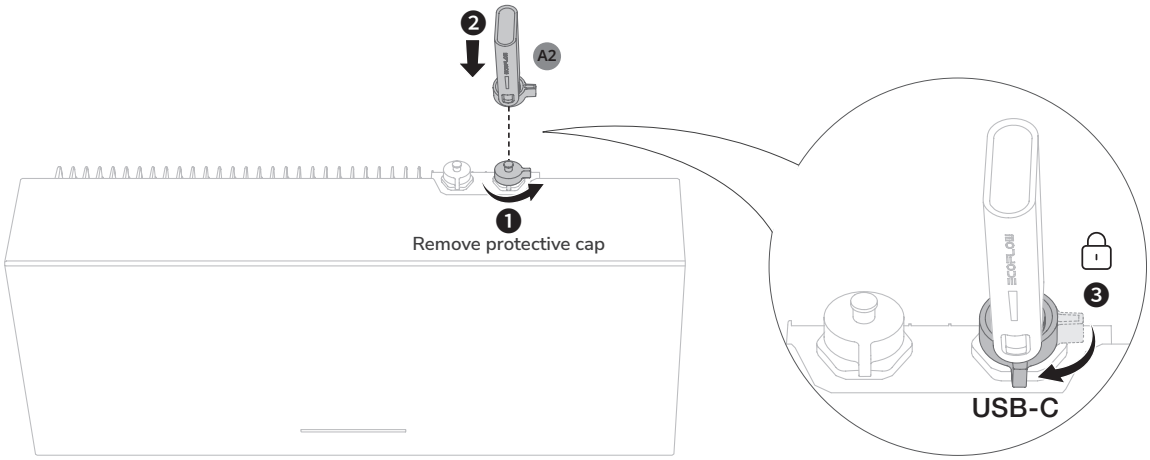
Installing trim cover



Installing EcoFlow IOT Dongle ESS (Must be configured)

NOTICE

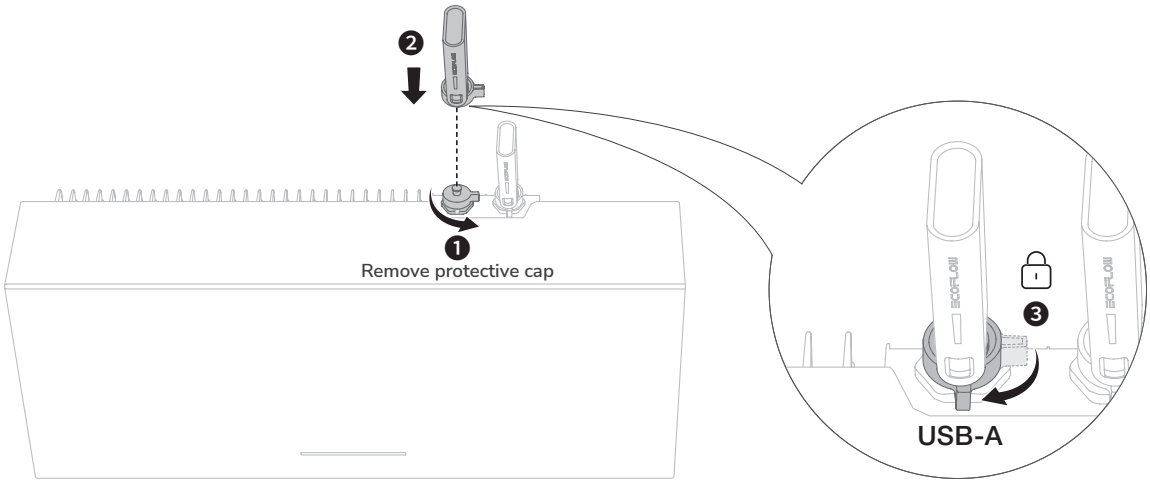
- For more details about EcoFlow IOT Dongle ESS, please please visit following website to access user manual: https://enterprise.ecoflow.com/au/documentation



(Optional) Installing EcoFlow 4G Dongle ESS(EU)

NOTICE

- For more details about EcoFlow 4G Dongle ESS(EU), please refer to the user manual.



System Commissioning

Checking before Power-On

Check Item	Acceptance criteria
Equipments	Equipments are installed correctly and securely.
Cables routing	Cables are routed properly as required by the customer.
Cable tie	Cable ties are evenly distributed and no burr exists.
Grounding	The PE cable is connected correctly, securely, and reliably.
Switch	All the switches connecting to the system are OFF.
Cable connection	The AC/DC power cable, battery cable, and communication cable are connected correctly, securely, and reliably.
Unused terminal and port	Unused terminals and ports are locked by watertight covers.
Installation environment	The installation space is proper, and the installation environment is clean and tidy.

System Power-On

PROCEDURE (ON-GRID AND PV MODULE CONFIGURED)

1. Turn on the AC switch between the inverter and the power grid.
2. Set BATTERY SWITCHs on the the batteries to ON position.
3. Set the PV SWITCH on the side of the inverter to ON position.
4. Observe the LED to check the inverter operating status.

PROCEDURE (OFF-GRID AND NO PV MODULE CONFIGURED)

1. Turn on the AC switch between the inverter and the power grid.
2. Set BATTERY SWITCHs on the the batteries to ON position.
3. Set the PV SWITCH on the side of the inverter to ON position.
4. After commissioning, press and hold for 5 seconds the BATTERY ON/OFF button of the inverter.
5. Observe the LED to check the inverter operating status.

System Power-Off

⚠ WARNING

Before installing, operating, and maintaining the equipment, always disconnect it from all power.

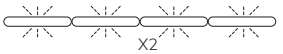
1. Send a shutdown command on the App.
2. Turn off the AC switch between the inverter and the power grid.
3. Set the PV SWITCH on the side of the inverter to OFF position.
4. Secure the PV SWITCH with a lock to prevent accidental startup. The lock is prepared by the customer.

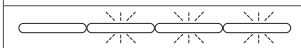
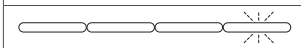
Locking Operation:
1. Reveal lock hole: Press the button on the switch to expose the lock hole.
2. Apply lock: Use customer-provided lock to secure the switch through the exposed lock hole.

5. Set BATTERY SWITCHs on the the batteries to OFF position.
6. Press and hold the BATTERY ON/OFF button of the inverter for 10 seconds, until the indicator is off.
7. Sequentially disconnect GRID cables, BACKUP cables, PV input cables, communication cables and all modules connecting to the system.

LED Indicators

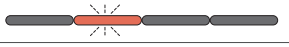
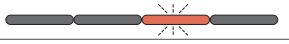
LED Indicator	Symbol Conventions	
ON		Steady White
		Blinking White
		Carousel White
		Steady Orange
		Blinking Orange
OFF		OFF

Power On/Off Status	Description
 X2	System startup
	System shutdown

Charge Status	Description
	0-25%
	25-50%
	50-75%
	75-99%
	100%

Discharge/Standby Status	Description
	<5%
	5-25%
	25-50%
	50-75%
	75-100%

Over-the-air Updates Status	Description
	Over-the-air update is in progress

Faulty Status	Description
	Abnormal electrical connection. Check if all equipment is installed correctly and securely.
	Abnormal smart meter communication.
	Abnormal IoT communication.
	Battery is faulty.
	Abnormal battery communication.
	Converter is faulty.
	Abnormal converter communication.

NOTICE

- If the LED indicates a faulty status, visit the EcoFlow Pro app to retrieve the error code for troubleshooting.

Monitoring VIA EcoFlow APP

THE ECOFLOW APP CAN ESTABLISH COMMUNICATION CONNECTION TO THE INVERTER VIA THE WLAN, PROVIDING REMOTE MONITORING, DATA LOGGING AND NEAR-END MAINTENANCE ON THE INVERTER. USERS CAN ALSO VIEW INVERTER INFORMATION AND SET PARAMETERS THROUGH THE APP.

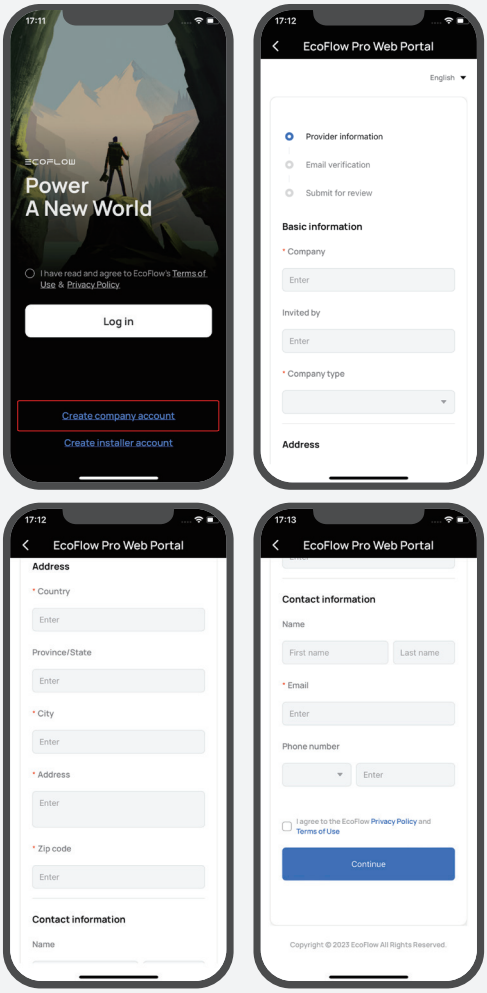
1 DOWNLOAD AND INSTALL ECOFLOW PRO APP (FOR INSTALLER ONLY)

Scan the QR code or download at:
https: //download.ecoflow.com/ecoflowproapp

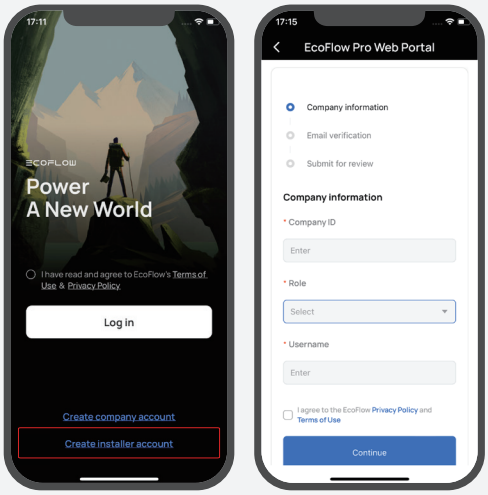
EcoFlow Pro
GET IT ON Google Play
Download on the App Store

2 CREATE ACCOUNT

a. Create company account

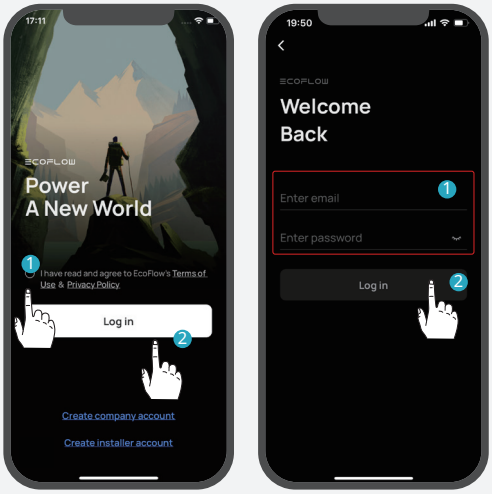


b. Create installer account



3 LOG IN

Enter the installer account and password.

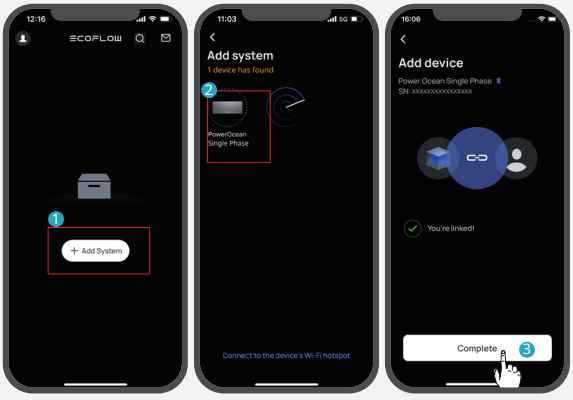


4 ADD DEVICE

You can connect to the system via Bluetooth or Wi-Fi.

a. Connect to the system via Bluetooth.

Click **Add System** to automatically search for bluetooth devices nearby, and click **EcoFlow PowerOcean Single Phase** to connect, then click **Complete** to proceed.



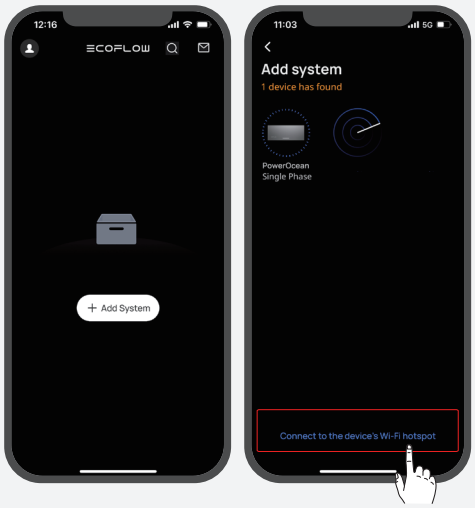
b. Connect to the system via Wi-Fi

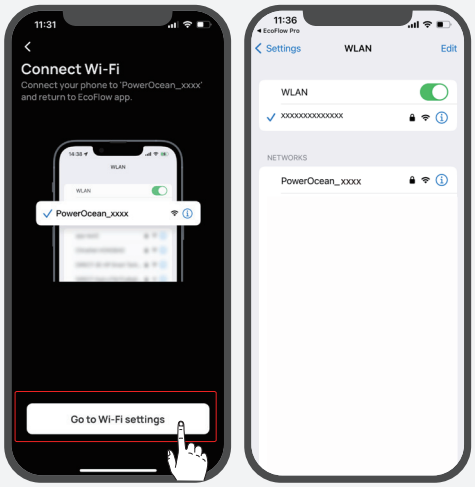
1. Click "Add System" and then click "Or connect to the system's Wi-Fi" to access to your phone's Wi-Fi settings.

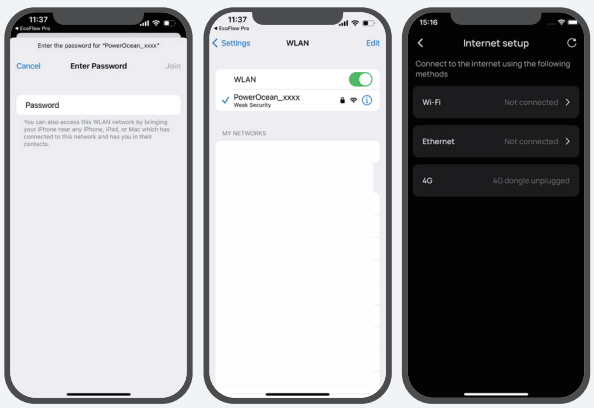
2. Find "PowerOcean_xxxx" and click it to enter the password for the Wifi, then click "Join". The password is the last 8 digits of the serial number of the inverter.

You can find the serial number (S/N) in the product nameplate.

3. After successfully connected your phone to "PowerOcean_xxxx", tap the "EcoFlow Pro" on the top left of your phone's Wi-Fi setting page to shift back and proceed to commissioning.







5 COMMISSIONING

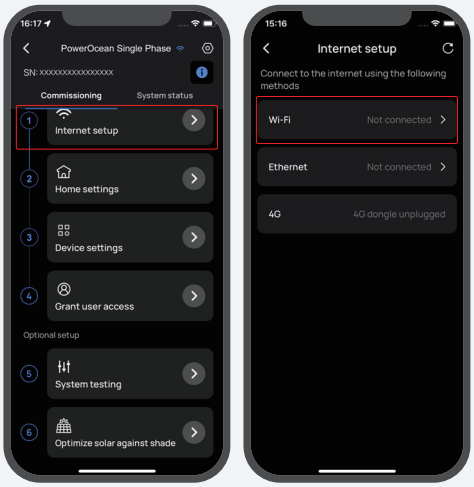
After bound device successfully, the device enters the four-step commissioning process.

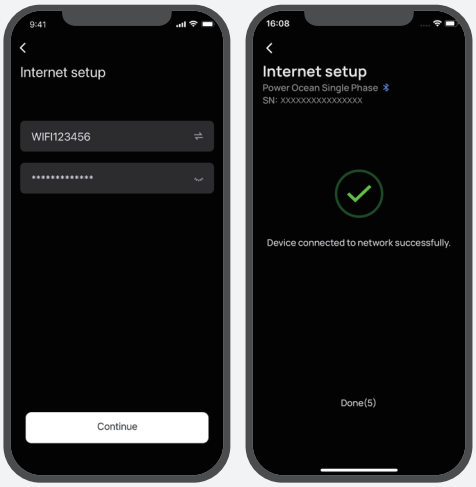
Step1: Internet Setup

click **Internet Setup** to start the network configuration.

Method 1: Wi-Fi

Click **WiFi**，select the appropriate WiFi name and enter the password and click **continue**.

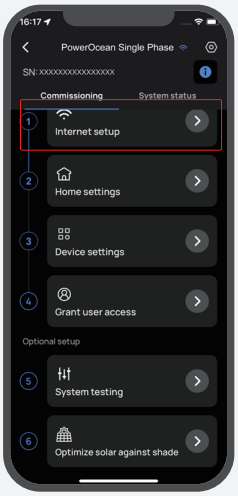


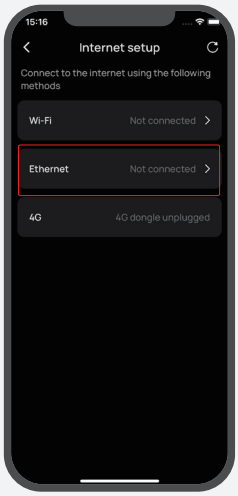


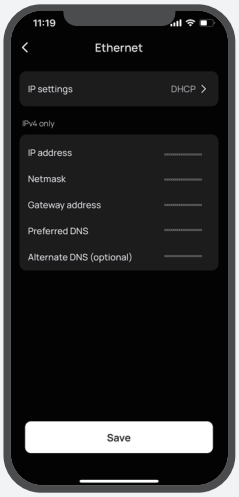
Method 2: Ethernet

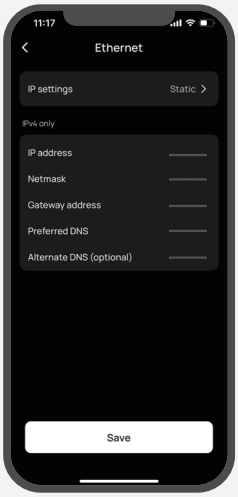
Connect the system to a router using a network cable, wait a minute before proceeding. Then click "Ethernet to set DHCP/Static mode. (Both modes are available)

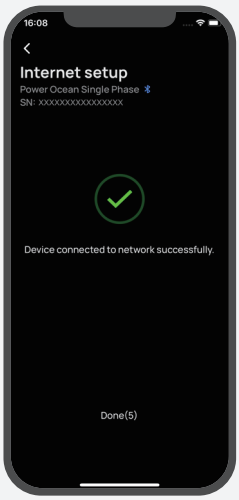
- By default, the IP setting is DHCP mode, which assigns dynamic IP address to the device (recommended).
- Static mode requires manual configuration of the IP address. Please make sure the IP address is not in conflict with other devices, you can visit the router to check the IP addresses of other devices.







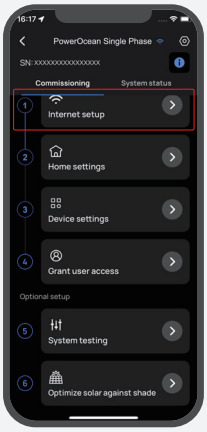


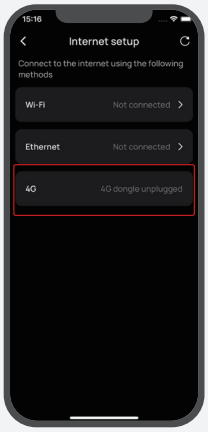


Method 3: 4G

1. Install a nano SIM card to the EcoFlow 4G Dongle ESS(EU).
2. Install the dongle onto the USB port (4G) of the inverter.
3. Activate your SIM card through App.

For more details about EcoFlow 4G Dongle ESS(EU), please refer to its user manual.

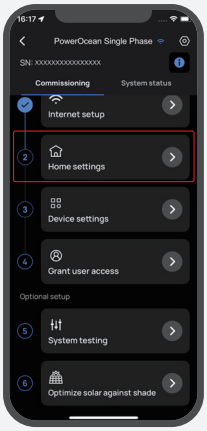


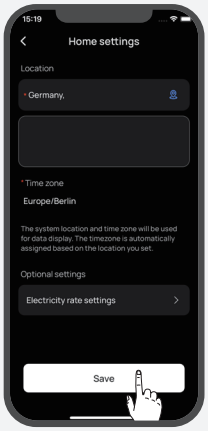


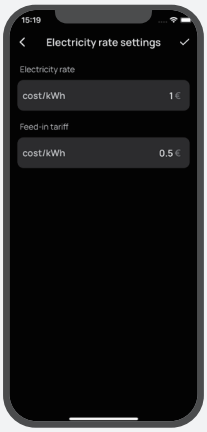
Step2: Home Setting

Click **Home Setting** to enter the corresponding house address.

(Optional) Set the electricity rate.





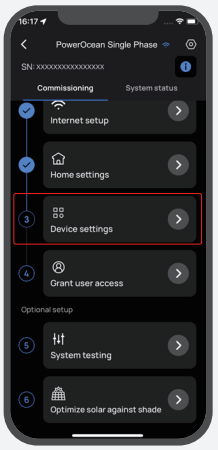


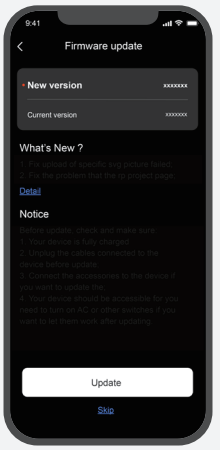
Step3: Device Setting

a.Click **Device Setting** to verify that the devices in the device list match the connected devices.

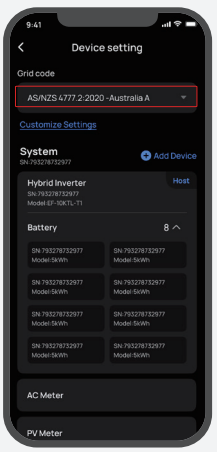
(Optional) Update firmware before carrying out Device Setting.

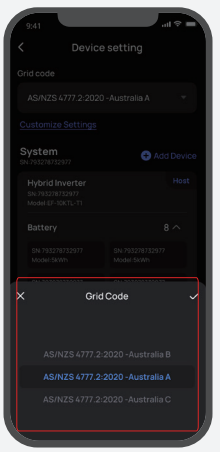
If there is a firmware update available for the EcoFlow PowerOcean system, the update page will pop up to notify you when proceeding this step. The "Skip" button is available for some update that is not urgent. It is highly recommended that you upgrade your PowerOcean firmware for seamless experience immediately.





b.Set grid code, system work mode and feed-in power limitation.

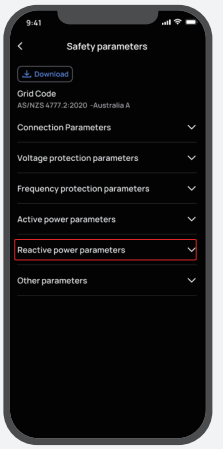


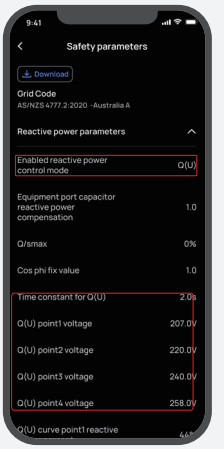


c.(Optional) You can also tap **Customize Settings** to set Connection parameters, Voltage Protection parameters, Frequency Protection parameters, Reactive Power parameters and other parameters. (Please follow local regulations, if you need to change any of these parameters, please contact your local power organization first.)

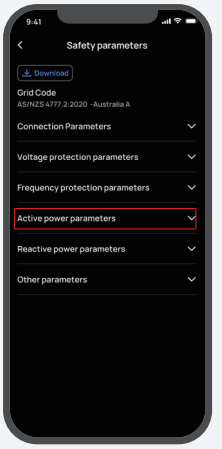
d.Click **Done** to finish the commissioning.

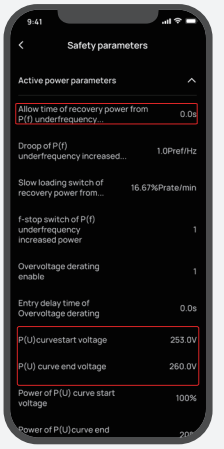
- Set power quality response modes: Volt-var.



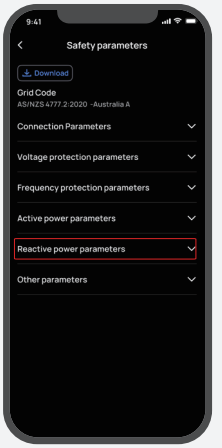


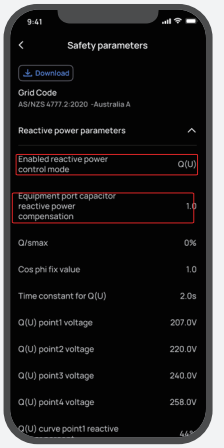
- Set power quality response modes: Volt-watt



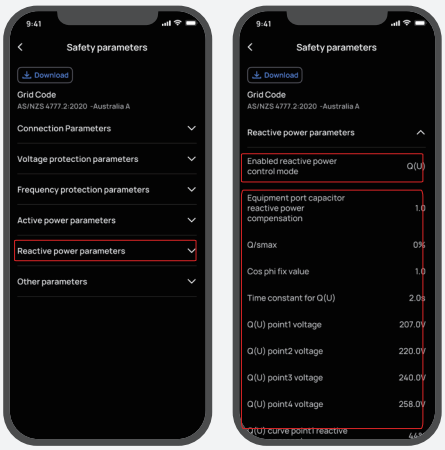


- Set fixed power factor.

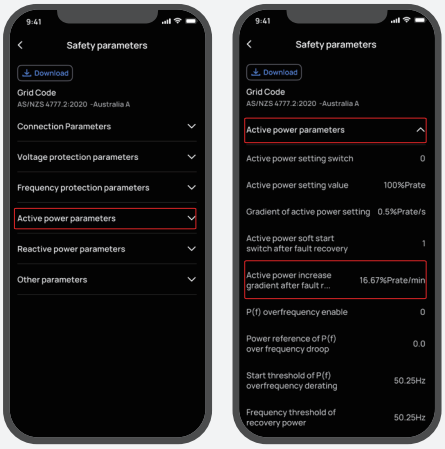




• Set reactive power mode.



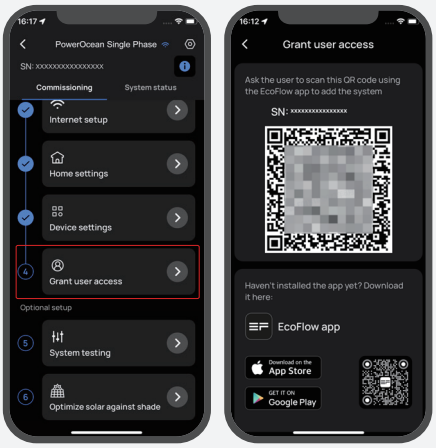
• Set power rate limit.



6 GRANT USER ACCESS

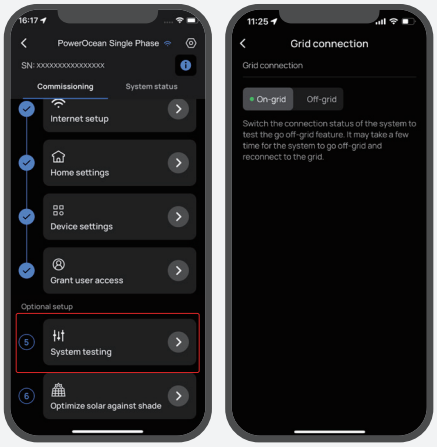
Click **Grant User Access** for a home owner access QR code to allow users to scan it.

• After manually adding device **EcoFlow PowerOcean** using the EcoFlow User App, users scan the home owner access QR code to bind it.



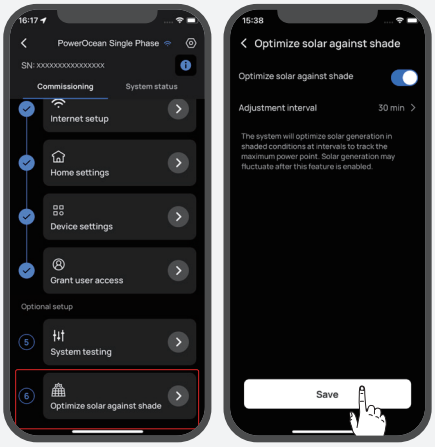
7 (OPTIONAL) SYSTEM TESTING

To test the go off-grid feature, you can toggle the button to switch the connection status of the system.



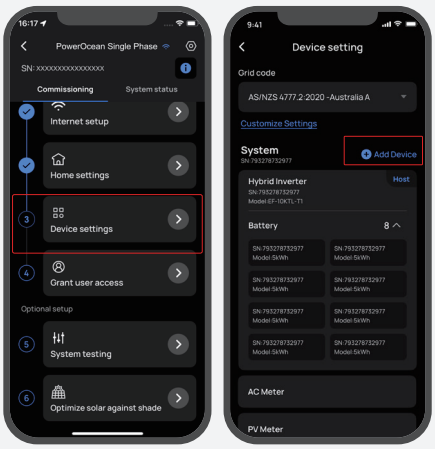
8 (OPTIONAL) OPTIMIZE SOLAR AGAINST SHADE

If this feature is enabled, the system will optimize solar generation in shaded conditions at your setup intervals to track the maximum power point. Solar generation may fluctuate.



(OPTIONAL) ADD DEVICE TO POWEROCEAN SYSTEM

After correctly wiring power cables and communication cables with PowerOcean system, tap "Device setting"->"Add Device" to add devices to EcoFlow Pro App, such as third-party PV inverter, PowerHeat, etc., and then make some relevant settings.

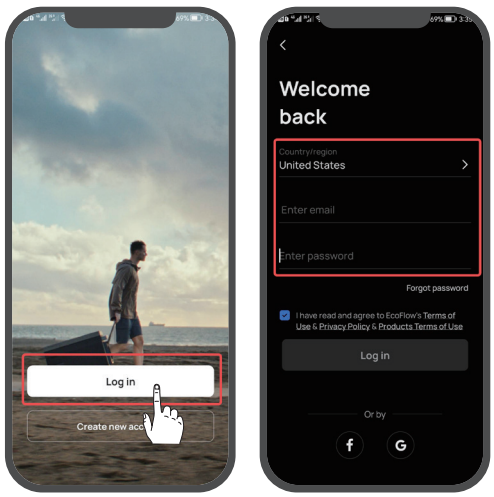


How Users Add Devices

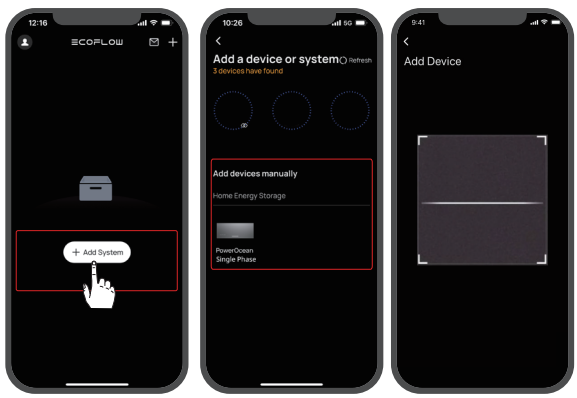
1. DOWN AND INSTALL ECOFLOW USER APP (FOR USER ONLY)

Scan the QR code or download at:
https://download.ecoflow.com/app

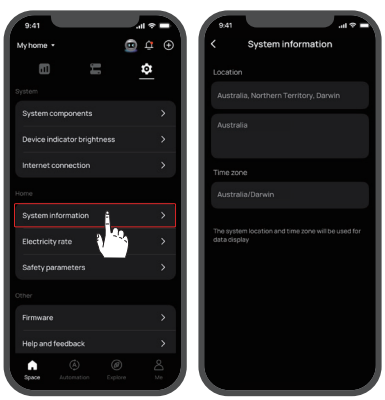
2. CREATE NEW ACCOUNT AND LOG IN.



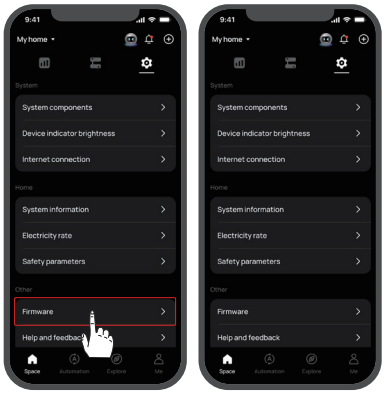
3. ADD DEVICE MANUALLY.



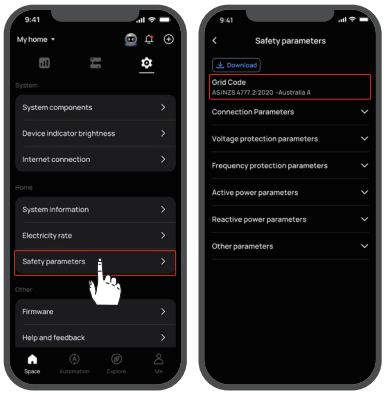
- How to view region settings?



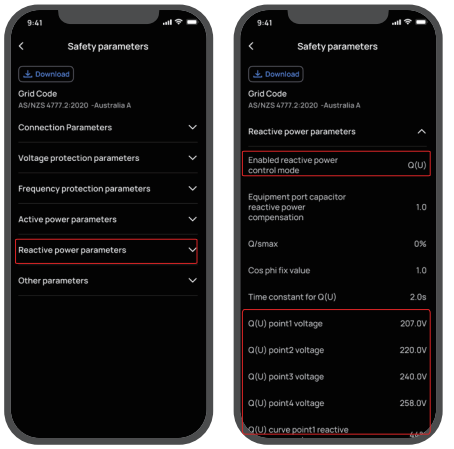
- How to view firmware version?



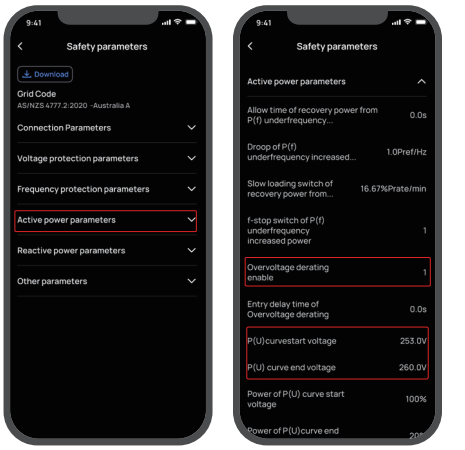
- How to view grid code?



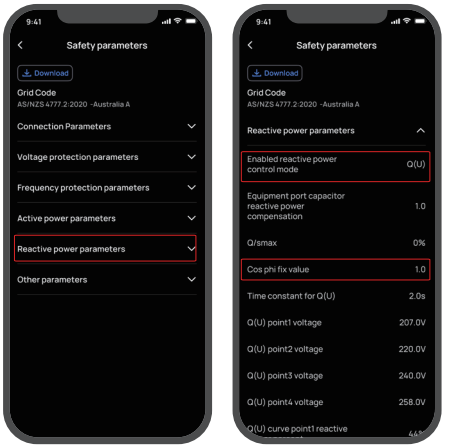
- How to view power quality response modes: Volt-var?



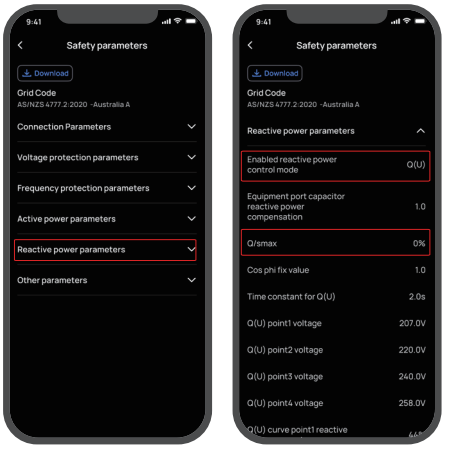
- How to view power quality response modes: Volt-watt?



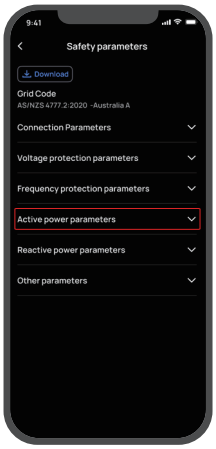
- How to view fixed power factor?

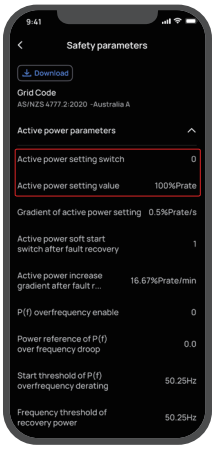


- How to view reactive power mode?

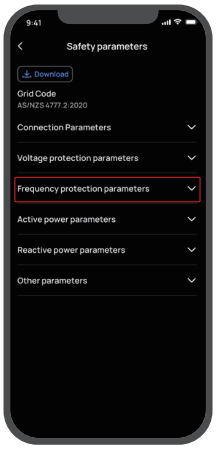


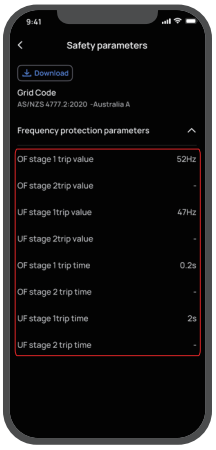
• How to view power rate limit?



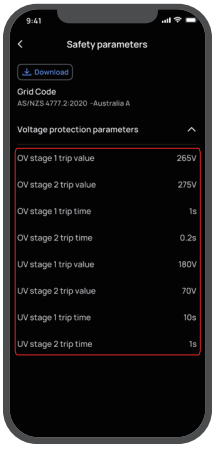


• How to view frequency protection parameters?





• How to view voltage protection parameters?



(Optional) Inverter Cascading

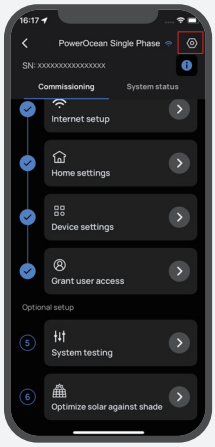
1

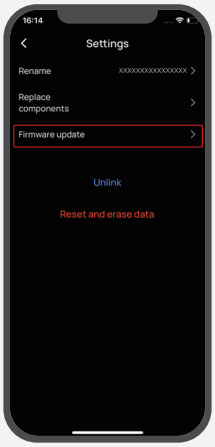
FOLLOW THE INSTRUCTIONS IN THE SECTION "SYSTEM COMMISSIONING" ABOVE TO CARRY OUT COMMISSIONING FOR EACH INVERTER TO BE CASCADED.

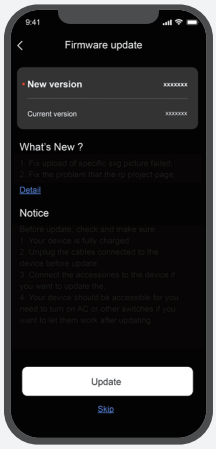
2

FIRMWARE UPDATE

If the current firmware of inverters to be cascaded don't support cascading, you need to add them to the EcoFlow App /Pro App and update firmwares before proceeding.



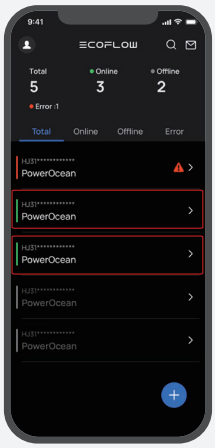


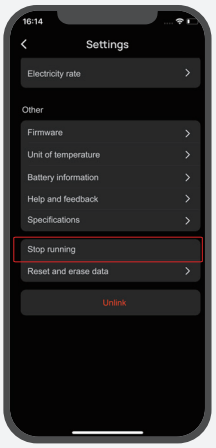


3

SYSTEM STOP

- Prefer to press the Emergency Stop button (if there is any) to stop the inverters which are running.
- If no Emergency Stop button is configured, you need to access to the EcoFlow App and select “Device setting”->“Stop running” to stop the systems.



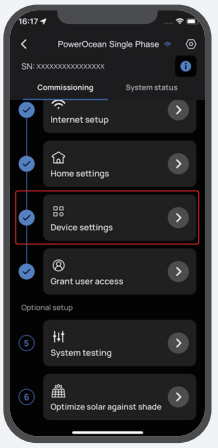


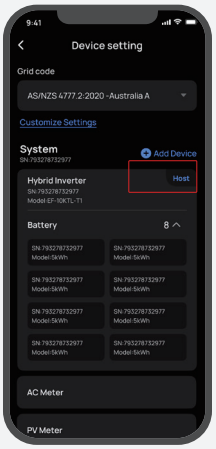
4 **CONNECT INVERTER CASCADING CABLE CORRECTLY. SEE THE SECTION "(OPTIONAL) CONNECTING COMMUNICATION CABLES BETWEEN THE CASCADED EF HD-P1-(3K-6K)-S1".**

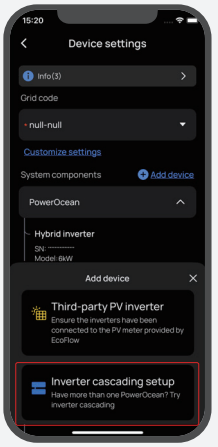
5 INVERTER CASCADING SETUP

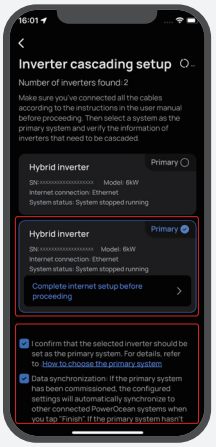
Tap the inverter with meter connected on the device list page, then select “Device setting”->“Add device” -> “Inverter cascading setup” to set the inverter with meter connected as the primary inverter, the others will be the secondary inverters by default. Follow the in-App instructions to complete the cascading setup.

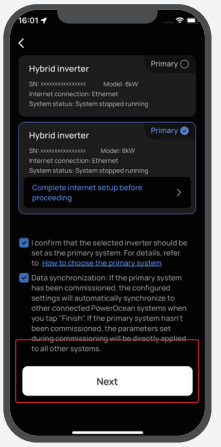
The inverter to which the meter is connected must be set as the primary inverter.





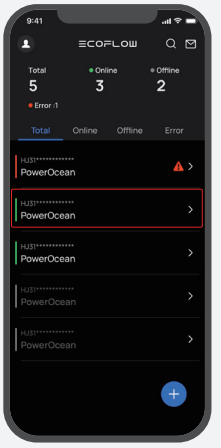


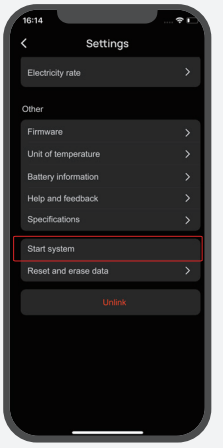




6 START SYSTEM

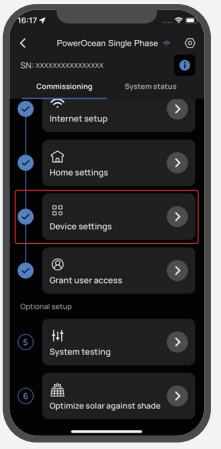
- Prefer to twist realease the Emergency Stop button (if there is any) to start the systems.
- If no Emergency Stop button is configured, you need to access to the EcoFlow App and select “Device setting”->“Start system” to start the systems.

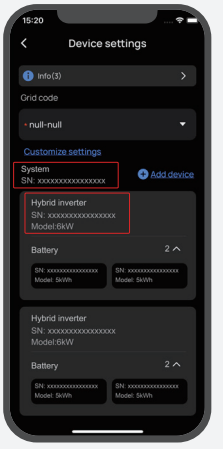


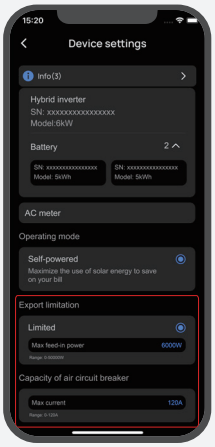


7 SET CAPACITY OF AIR CIRCUIT BREAKER AND EXPORT LIMITATION FOR THE CASCADING SYSTEM

Access to the EcoFlow Pro App, then select “Device setting” to set the capacity of air circuit breaker (0-120A) based on user's home actual current of air circuit breaker, and set export limitation (0-50kW) for the cascading system.







System Maintenance

System Power-Off

⚠ WARNING

- Before installing, operating, and maintaining the equipment, always disconnect it from all power.

1. Send a shutdown command on the App.
2. Turn off the AC switch between the inverter and the power grid.
3. Set the PV SWITCH on the side of the inverter to OFF position.
4. Secure the PV SWITCH with a lock to prevent accidental startup. The lock is prepared by the customer.

Locking Operation:
1. Reveal lock hole: Press the button on the switch to expose the lock hole.
2. Apply lock: Use customer-provided lock to secure the switch through the exposed lock hole.

5. Set BATTERY SWITCHs on the the batteries to OFF position.
6. Press and hold the BATTERY ON/OFF button of the inverter for 10 seconds, until the indicator is off.
7. Sequentially disconnect GRID cables, BACKUP cables, PV input cables, communication cables and all modules connecting to the system.

Routine Maintenance

⚠ WARNING

- Power off the inverter and follow the instructions on the delayed discharge label to ensure that the inverter is powered off.
- Wear proper PPE before any operations.

1. Ensure that the PV SWITCH of the inverter and the AC switch between the inverter and the power grid are OFF.
2. Place temporary warning signs or erect fences to prevent unauthorized access to the maintenance site.
3. If the equipment is faulty, contact your dealer.
4. The equipment can be powered on only after all faults are rectified. Failing to do so may escalate faults or damage the equipment.

Check Item	Check Method	Power off or not	Maintenance Cycle
System cleanliness	• Periodically check that the heat sinks are free of dust and obstructions, and ensure proper ventilation and heat dissipation for the equipment. • Clean the equipment surface with a dry, soft cloth if there is dust or dirt. Do not use liquids, abrasive materials, or hard objects for cleaning.	Yes	Once every 6 months
System running status	• Check that the equipment is not damaged or de-formed. • Check that the equipment operates with no abnormal sound. • Check that all equip-ment parameters are correctly set during operation. • Check for abnormal noise from the fan during operation and ensure that there are no objects obstructing the fan. If foreign objects are found, remove them.	No	Once every 6 months
Electrical connection	Check that all cables are properly secured and undamaged.	Yes	Check once every 6 months after creating new systems and once every 6 to 12 months thereafter
Grounding reliability	Check that ground cables are securely connected.	Yes	
Seal ability	Check that all unused terminals and ports are properly sealed with waterproof cov-ers as supplied.	Yes	

Removing an inverter

⚠ CAUTION

- Before removing a inverter, power it off . For details, see **System Power-Off.**

PROCEDURE

1. Sequentially disconnect GRID cables, BACKUP cables, PV input cables, communication cables and all modules connecting to the system..
2. Remove the inverter from the mounting bracket.
3. Remove the mounting bracket.
4. Pack and store the inverter properly.

Disposing an inverter

If the inverter cannot work anymore, dispose of it according to the local disposal rules for electrical equipment waste. The inverter cannot be disposed of together with household waste.

Battery Storage and Recharge

BATTERY STORAGE REQUIREMENTS

FOR INSTALLER

- Place batteries according to the signs on the packing case during storage. Do not put batteries upside down or sidelong.
- Stack battery packing cases by complying with the stacking requirements on the external package.
- Handle batteries with caution to avoid damage.
- The storage environment requirements are as follows:
  - Ambient temperature: -20°C-55°C; recommended storage temperature: 0°C-35°C
  - Relative humidity: 5% to 80%
  - Place batteries in a dry and clean place with good ventilation.
  - Place batteries in a place that is away from corrosive organic solvents and gases.
  - Keep batteries away from direct sunlight.
  - Keep batteries at least 3 meters away from heat sources and vibration source.
- The batteries in storage must be disconnected from external devices. The indicators on the battery junction box should be off.
- If a dropped battery has obvious deformation, leakage or damage and no abnormal odor, smoke, or fire occurs, contact the professionals to transfer the battery to an open and safe place, or contact a recycling company for disposal.

FOR END USER

- If the battery is not used for a long period of time, it is recommended to be stored intact in a semi-charged state (60% SOC). The battery is recommended to be discharged to 30% and then recharged to 60% every three months.
- If the power level of the battery is lower than 1% after use, recharge it to 30%-60% before storage. If the battery has been idle for a long time when the power is seriously insufficient, it will cause irreversible damage to the cells and shorten the service life of the battery.
- If the battery has been idle for a long time and the power level is severely low, it will enter a deep sleep protection mode. In such a case, recharge the battery before using it again.

BATTERY RECHARGE

⚠ WARNING

- Battery recharge operations should be carried out by EcoFlow only. Please contact the EcoFlow technical support team for battery recharge service.

Technical Parameters

EcoFlow PowerOcean Hybrid Inverter (Single-Phase)

Technical parameters		EF HD-P1-3K-S1-A	EF HD-P1-5K-S1-A	EF HD-P1-6K-S1-A
DC Input (PV)	Maximum PV Power (kW)	9	11	12
	Maximum Input Voltage (V)	600		
	Mppt Voltage Range (V)	90-520		
	Maximum Input Current per MPPT (A)	18 (single PV input), 16 (dual PV input)		
	Maximum Short Circuit Current per MPPT (A)	20		
	Backfeed Current to the PV Array (A)	0		
	Number of MPPTs	2		
	Overvoltage Category	II		
DC Input (Battery)	Rated Voltage (V)	790		
	Maximum Voltage (V)	800		
	Rated Current (A)	7.6		
	Maximum Current (A)	7.6	7.6	8.4
	Maximum Battery Capacity (kWh)	20.4		
	Overvoltage Category	II		
AC Input	Grid Connection	L+N+PE		
	Overvoltage Category	III		
	Rated Input Power (W)	3000	5000	6000
	Maximum Apparent Power (VA)	3000	5000	6000
	Rated Input Voltage (V)	220/230/240, L+N+PE		
	Maximum Input Current (A)	16	26.7	32
	Nominal Frequency (Hz)	50/60		
AC Output (On-grid)	Grid Connection	L+N+PE		
	Overvoltage Category	III		
	Rated Output Power (W)	3000	5000	6000
	Maximum Apparent Power (VA)	3000	5000	6000
	Rated Output Voltage (V)	220/230/240, L+N+PE		
	Rated Output Current (A)	13.1	21.7	26.1
	Maximum Output Current (A)	15	25	30
	Nominal Frequency (Hz)	50/60		
	Total Harmonic Distortion (At Rated Power)	≤5%	≤3%	≤3%
	Power Factor	-0.8...1...+0.8		
AC Output (Backup load)	Maximum Output Power (VA)	3000	5000	6000
	Nominal Output Voltage (V)	220/230/240, L+N+PE		
	Nominal Frequency (Hz)	50/60		
	Maximum Output Current (A)	16	26.7	32
	Rated Output Current (A)	13.1	21.7	26.1
	Overvoltage Category	III		
Efficiency	Maximum Efficiency	>96%	>96.5%	>96.5%
	European Weighted Efficiency	>95%	>96%	>96%
Protection	GFCI	Integrated		
	AFCI	Integrated		
	Insulation Resistance Detection	Integrated		
	Anti-Islanding Protection	Slip mode Frequency Shift		
	PV Reverse Polarity Protection	Integrated		
	AC Overcurrent Protection	Integrated		
	AC Short-Circuit Protection	Integrated		
	AC Overvoltage Protection	Integrated		
	Protective Class	I		
Compliance	Certificates	CE/CB/DEKRA MARK		
	Safety Standard	IEC/EN62109-1, IEC/EN62109-2		
	Grid-Tied Standards	G98, G99, G100, VDE-AR-N 4105, CEI 0-21, UTE C15-712-1, VDE 0126-1-1, EN 50549-1, C10/11, NTS631, UNE 217001, UNE 217002, PPDS, PTPiREE, PSE, NC RfG, ORDINANCE No.140, NRS 097-2-1, AS 4777.2		
	EMC	EN/IEC 61000-6-1/2/3/4, IEC 61000-4-16/18/29, IEC 61000-2-2, EN 300328, EN 301489-1, EN 301489-17, EN IEC 62311		

General	Cascading	Up to 60kWh battery capacity*
	Topology	Non-isolated
	Ingress Protection Rating	IP65
	Operating Temperature Range (°C)	–20 to 50 (derating when the temperature is above 40 or below 0)
	Storage Temperature Range (°C)	–30 to 60
	Operating Humidity	0%-100% (Condensing)
	Maximum Operating Altitude (m)	3000 (derating above 2000)
	Weight (kg)	21.5
	Dimensions (W×D×H) (mm)	679.6×182.7×280 (without IOT & Wi-Fi module)
	Noise Emission (dB)	40
	Self-Consumption at Night (W)	<30
	Cooling Method	Natural convection
	Communication Method	RS485 & CAN & Wi-Fi & Bluetooth & WAN & 4G
	Wi-Fi Frequency Range, Maximum Output Power	2400 MHz-2483.5 MHz, 17 dBm
	Bluetooth Frequency Range, Maximum Output Power	2400 MHz-2483.5 MHz, 8 dBm
	Pollution Degree	PD3
	Environmental Category	Outdoor/Indoor
	Manufacture	Made in China

- *For a total battery capacity of 60kWh, 3 hybrid inverters are required. One hybrid inverter can support a maximum of 20kWh.
- Please be advised that EcoFlow reserves the right to modify the design, components, and specifications of its products at any time without prior notice or obligation. The actual product details and final design may vary from those shown or described in this document.

EcoFlow PowerOcean LFP Battery

Number of Battery Packs		**EF BD-5.1-S1 EF BD-B-S1**	**EF BD-10.2-S1 EF BD-B-S1**	**EF BD-15.3-S1 EF BD-B-S1**	**EF BD-20.4-S1 EF BD-B-S1**
Performance	Battery Nominal Capacity (kWh)	5.1	10.2	15.3	20.4
	Battery Usable Capacity (kWh)* (100% Depth of Discharge)	5.1	10.2	15.3	20.4
	Max. Discharge Power (W)	3300	6600	9900	13200
	Max. Charge Power (W)	2500	5000	7500	10000
	Nominal Voltage (V)	800			
	Operating Voltage Range (V)	720-960			
	Battery Short Circuit current (A)	200A for 300 us	400A for 300 us	600A for 300 us	800A for 300 us
	Battery Maximum Discharge Current (A)	4.4	8.8	13.2	17.6
	Battery Maximum Charge Current (A)	3.3	6.6	9.9	13.2
	Rated DC Power (kW)	Discharge: 3.3 Charge: 2.5	Discharge: 6.6 Charge: 5.0	Discharge: 9.9 Charge: 7.5	Discharge: 13.2 Charge: 10
	Battery Cell Type	LiFePO4			
Compliance	Certificates	RCM MARK			
	Safety Standard	IEC 62619, IEC 62040-1, IEC 62477-1, ISO13849			
	Delivery Standard	UN38.3			
	EMC	IEC 61000-6-1/3			
General	Dimension (mm) (inverter-included)	680×183×732 (±1)	680×183×1129 (±1)	680×183×1525 (±1)	680×183×1920 (±1)
		680×183×424 (±1) (EF BD-5.1-S1 x 1)			
	Weight (kg) (inverter-included)	80.7	136.2	191.7	247.2
		55.5 (EF BD-5.1-S1 x 1)			
	Installation	Floor Stand/Wall Mounting			
	Operating Temperature (°C)	-20 to 50			
	Max. Operating Altitude (m)	3000			
	Communication Method	CAN			
	Cooling Method	Natural Convection			
	Noise Emission (dB)	≤35			
	Relative Humidity	0%-100% (Condensing)			
	Active Aerosol Fire Prevention Module	Integrated			
	Protection Level	IP65			
	Protective Class	I			

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