INSTALLATION GUIDE

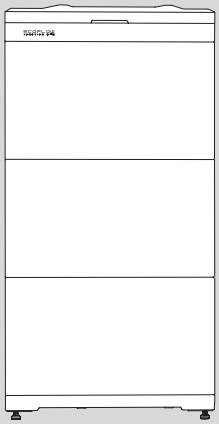
For EF HD-P3-6K0-S1, EF HD-P3-8K0-S1, EF HD-P3-10K-S1, EF HD-P3-12K-S1

V1.1

Issue Date: 2025-11-18

ECOFLOW POWEROCEAN HYBRID INVERTER

Home Solar Battery Solution



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

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

IMPORTANT

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

CONTENTS

Safety Instructions

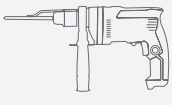
Symbol	Description
DANGER	Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
CAUTION	Caution, risk of electric shock.
WARNING	Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
CAUTION	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.

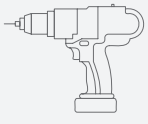
DANGER

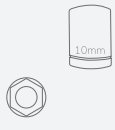
- Before installing, operating, and maintaining the equipment, read and follow up Installation Guide and Safety Instructions.
- Personnel who plan to install or maintain EcoFlow equipment must receive thorough training, understand all necessary safety precautions, and be able to correctly perform all 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
(PH3)


Cable cutter


Crimping tool

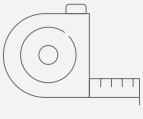

Wire strippers


RJ45 Crimping tool

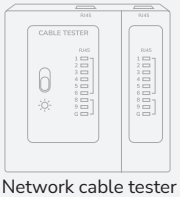

Crimping tool
(for tubular terminal)


Wrench (14mm)


Marker


Steel measuring tape


Cable tie



Network cable tester


Heat gun

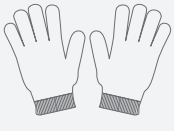

Heat-shrink tubing

• 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:

- Always be aware of the weight of the inverter.
- When moving the inverter by hand, wear protective gloves to prevent injuries.
- Avoid falling or mechanical impact.
- 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.
- 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.
- Move the inverter by one or two people or by using a proper transport tool.
- Do not release the equipment unless it has been firmly secured.

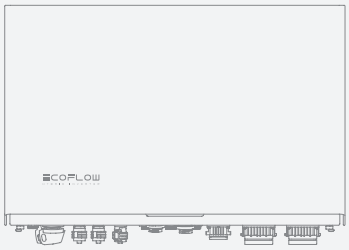
What's In The Box

NOTICE

- Before unpacking , check the outer packing for damage, such as holes and cracks, and check the equipment model. If any damage is found , do not unpack the package and contact the supplier as soon as possible.
- After unpacking, check that the deliverables are intact and complete. If any item is missing or damaged, contact the supplier.
- It is recommended to keep the original package for further needs.

• ECOFLOW POWEROCEAN HYBRID INVERTER BOX

A1 ×1

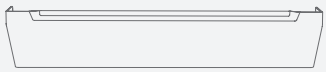


EcoFlow PowerOcean Hybrid Inverter

A2 ×1

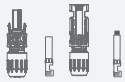
Mounting bracket

A3 ×1



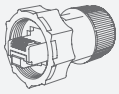
Trim cover

A5 ×2



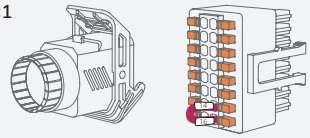
PV terminals

A6 ×1



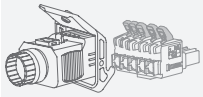
Communication terminal

A7 ×1



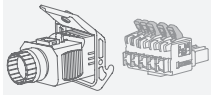
COM connector with shorting wire

A8 ×1



Grid connector

A9 ×1



Backup connector

A10 ×4

Expansion bolt(M6*60)

A11 ×2

Screws(M5*12)

A12 ×2

Disassembly and Assembly Tool

A13 ×2

OT terminal

A14 ×10

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

A15 ×5

Tubular Terminal
(For wire gauge 22AWG/0.5mm²)

A16 ×6

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

A17 ×3

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

A18 ×1

Marking-off template for inverter

A19 ×1

EcoFlow IOT Dongle ESS

A20 ×1

METER port connector (RS485)

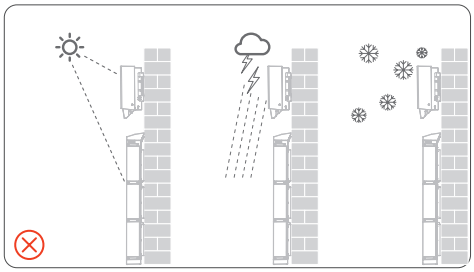
System Installation

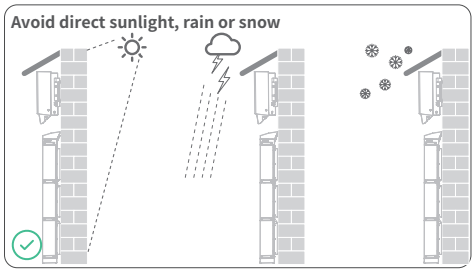
Installation Environment Requirements

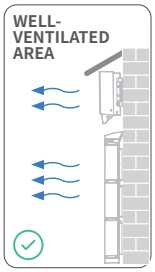
⚠ WARNING

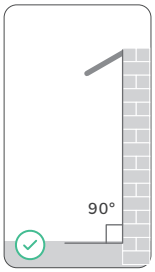
NOTICE

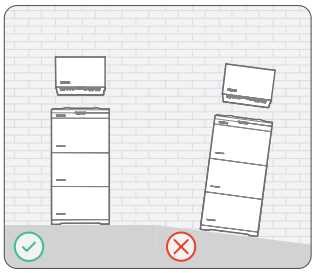
- The installation and use environment must meet relevant international, national, and local standards for lithium batteries, and are in accordance with the local laws and regulations.
- When installing the equipment in a garage, keep it away from the drive way.
- The mounting structure where the equipment 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.

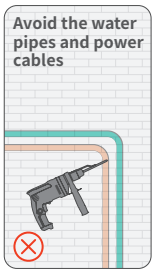


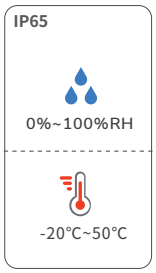


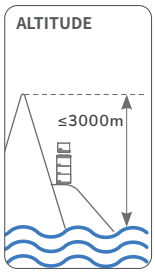


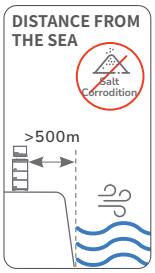


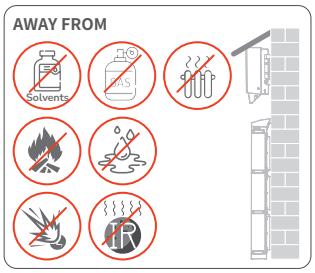


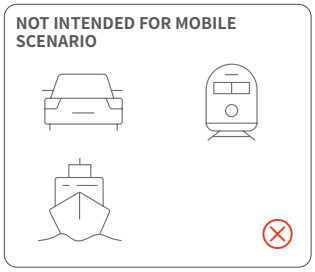


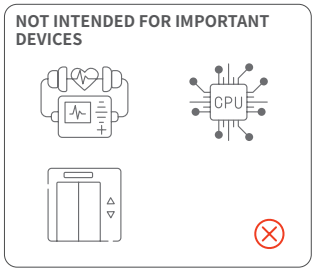


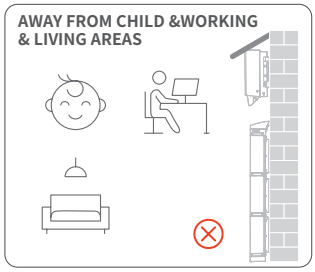












Installation Space Requirements

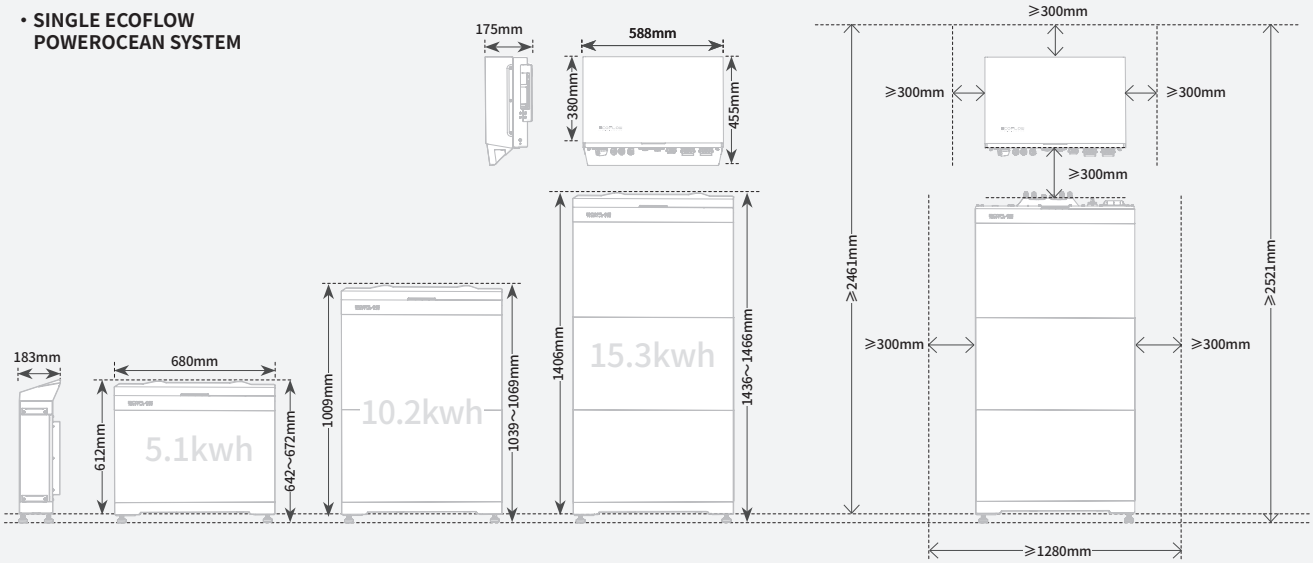
WARNING

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

NOTICE

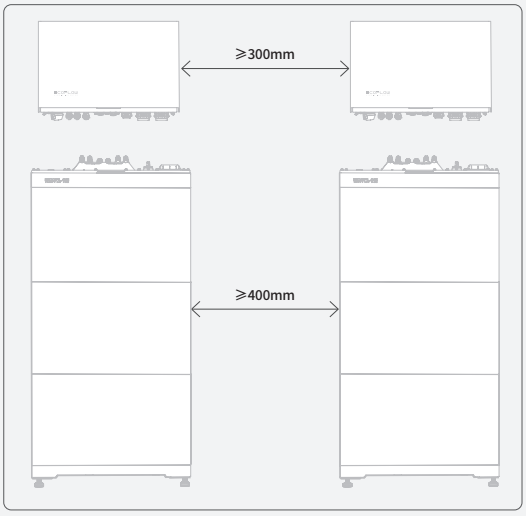
- Ensure there is enough space on both sides of the battery to facilitate the locking operation of the screws on the side of the battery.
- When installing two sets of batteries (number of battery packs ≥ 4), ensure that the minimum clearance between the two sets of batteries is 400mm, while greater 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.

• **SINGLE ECOFLOW POWEROCEAN SYSTEM**

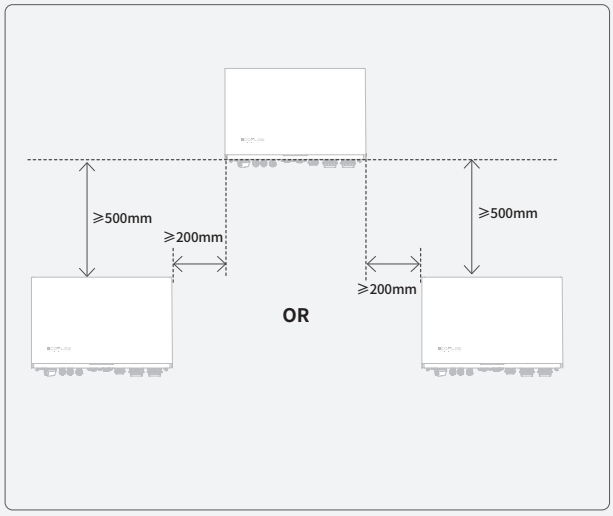


• **ECOFLOW POWEROCEAN SYSTEM CASCADING**

- HORIZONTAL INSTALLATION MODE (PREFERRED)



- SECOND INSTALLATION MODE (RECOMMENDED)



- STACKED INSTALLATION MODE (NOT ALLOWED)

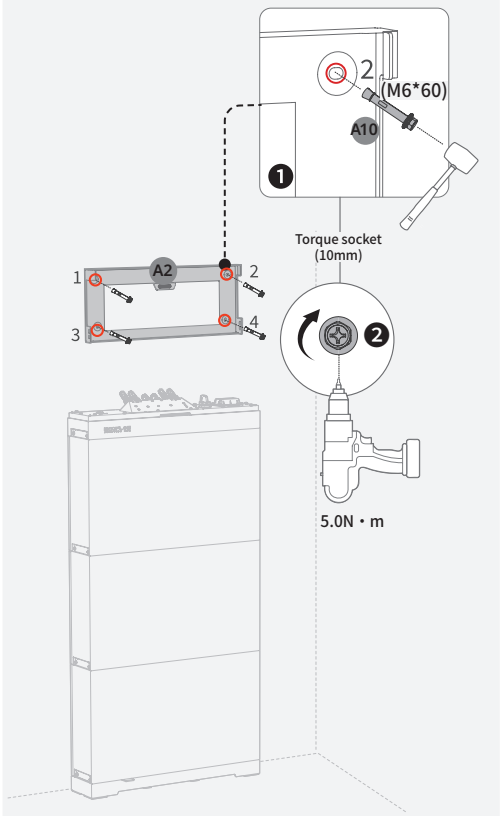
Installing Inverter

NOTICE

- Mount the inverter vertically or tilted back (<30°) to facilitate the heat dissipation of the inverter.
- Compatible battery chemistry for the inverter is LiFePO4

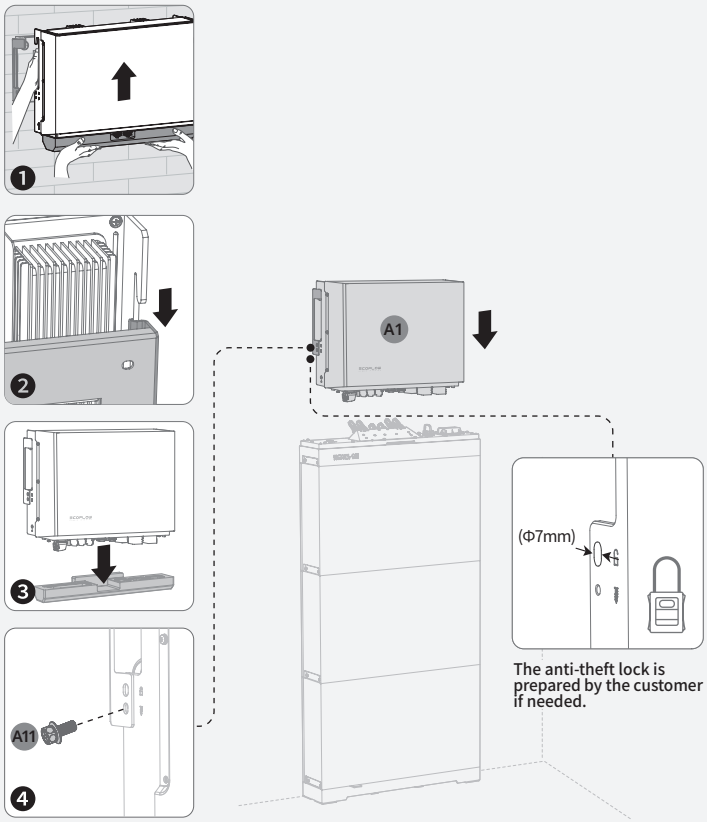
1

A2 ×1 A10 ×4

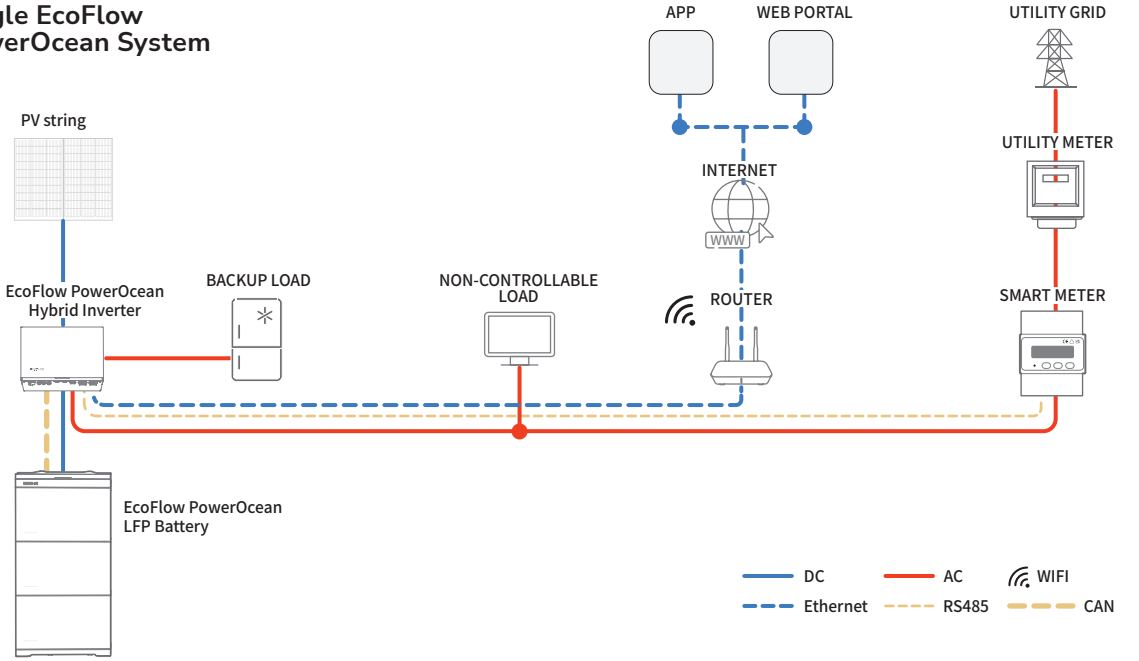


2

A1 ×1 A11 ×2



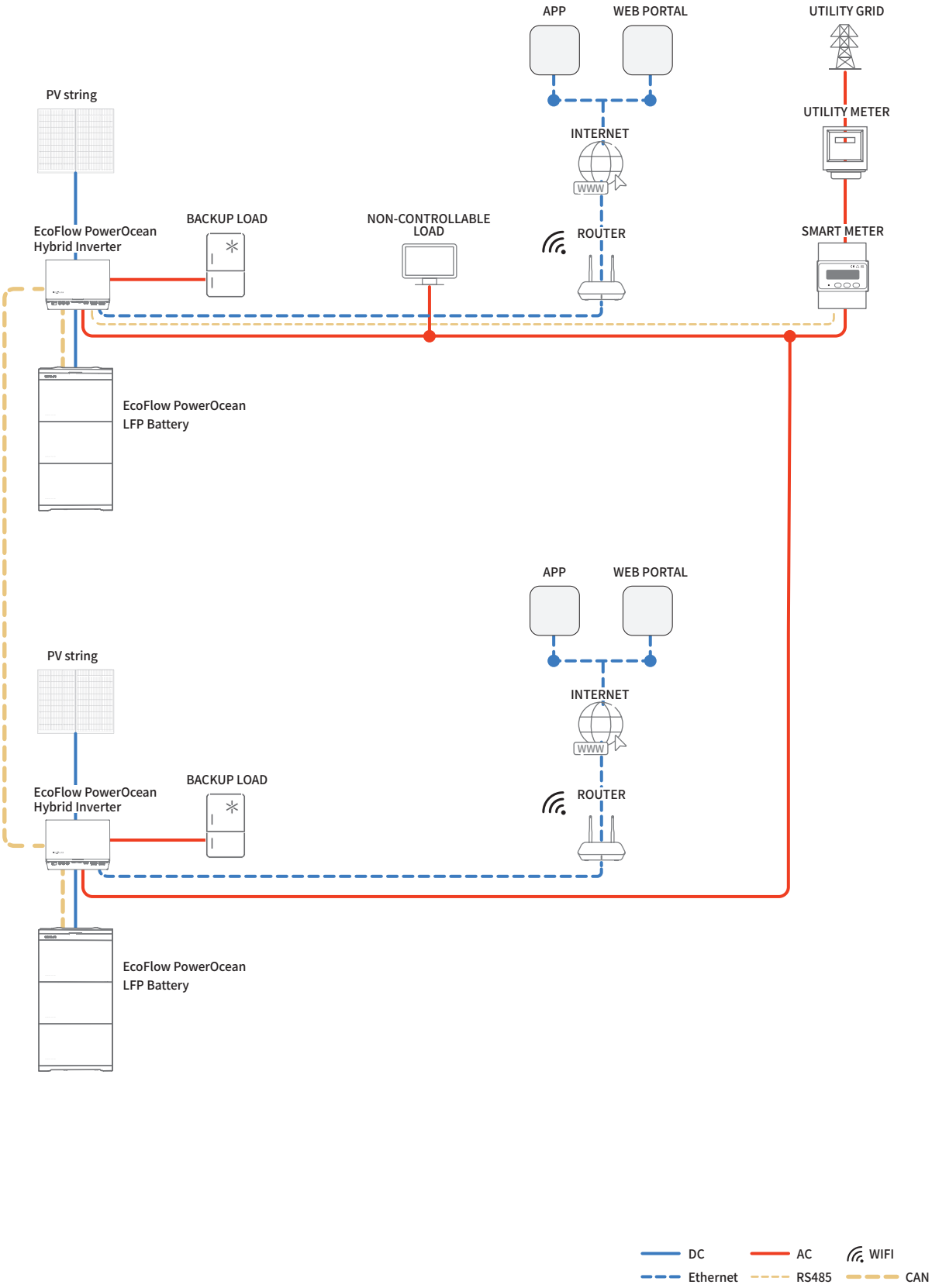
Single EcoFlow PowerOcean System



(Optional) EcoFlow PowerOcean System Cascading

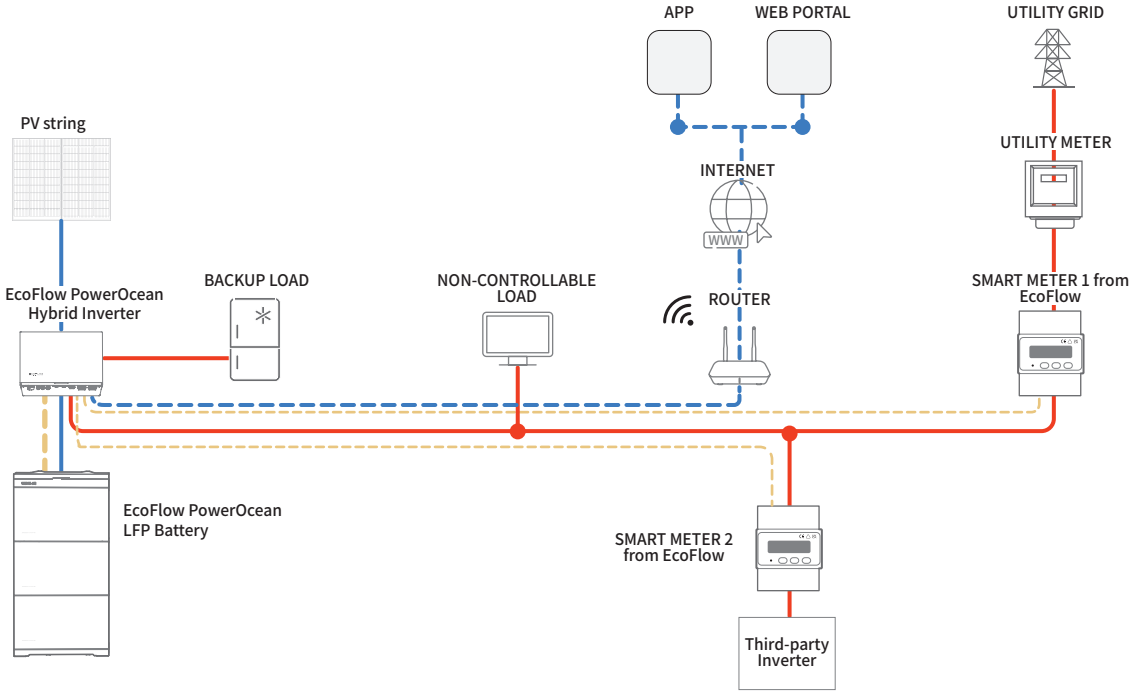
NOTICE

- In the PowerOcean cascading scenario, the primary and secondary inverters are both EF HD-P3-(6K0-12K)-S1, and a maximum of two EF HD-P3-(6K0-12K)-S1 can be cascaded.
- In the PowerOcean cascading scenario, the two EF HD-P3-(6K0-12K)-S1 connected to the power grid must meet the local power grid requirements.



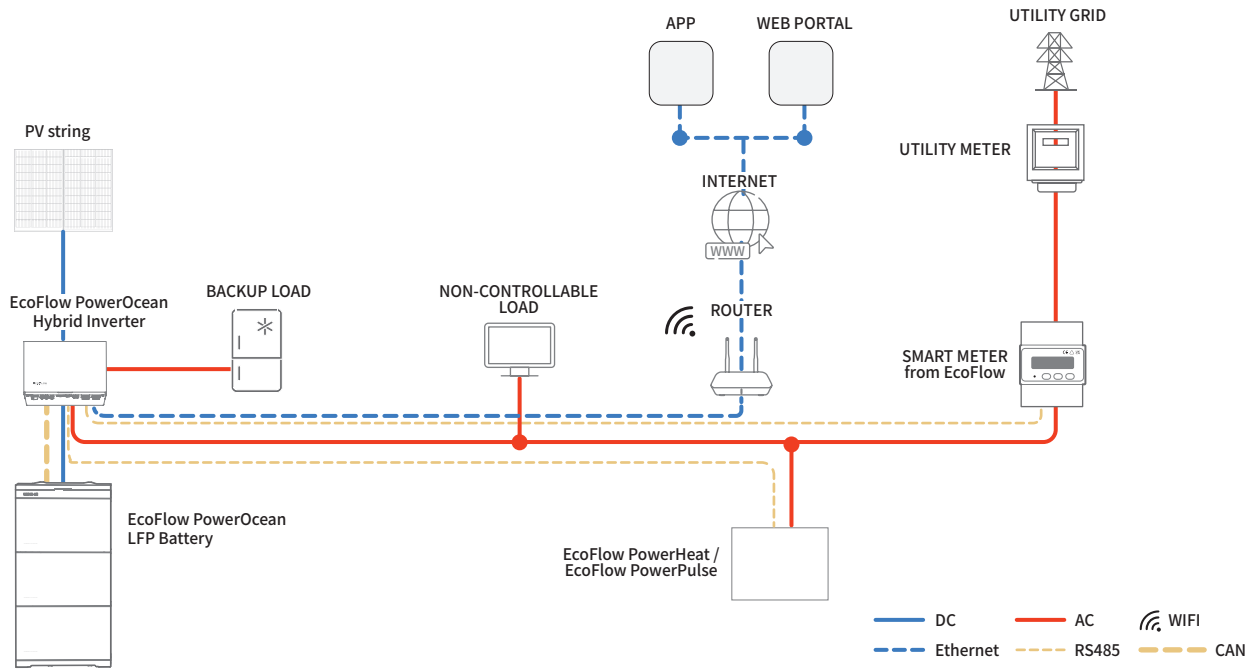
(Optional) Use with Integrating Existing PV System

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 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 will be greatly improved, reducing electricity costs.



(Optional) Use with EcoFlow EV Charger / EcoFlow Heatpump

EcoFlow PowerOcean hybrid inverter is compatible with EcoFlow EV Charger (PowerPulse), or Heatpump (PowerHeat). When connected with the PowerOcean system, the EcoFlow Heatpump or EV Charger will be powered by PV strings, battery and utility grid. With the self-powered mode of the EcoFlow PowerOcean system, the self-consumption rate of the system will be greatly improved, reducing electricity costs.



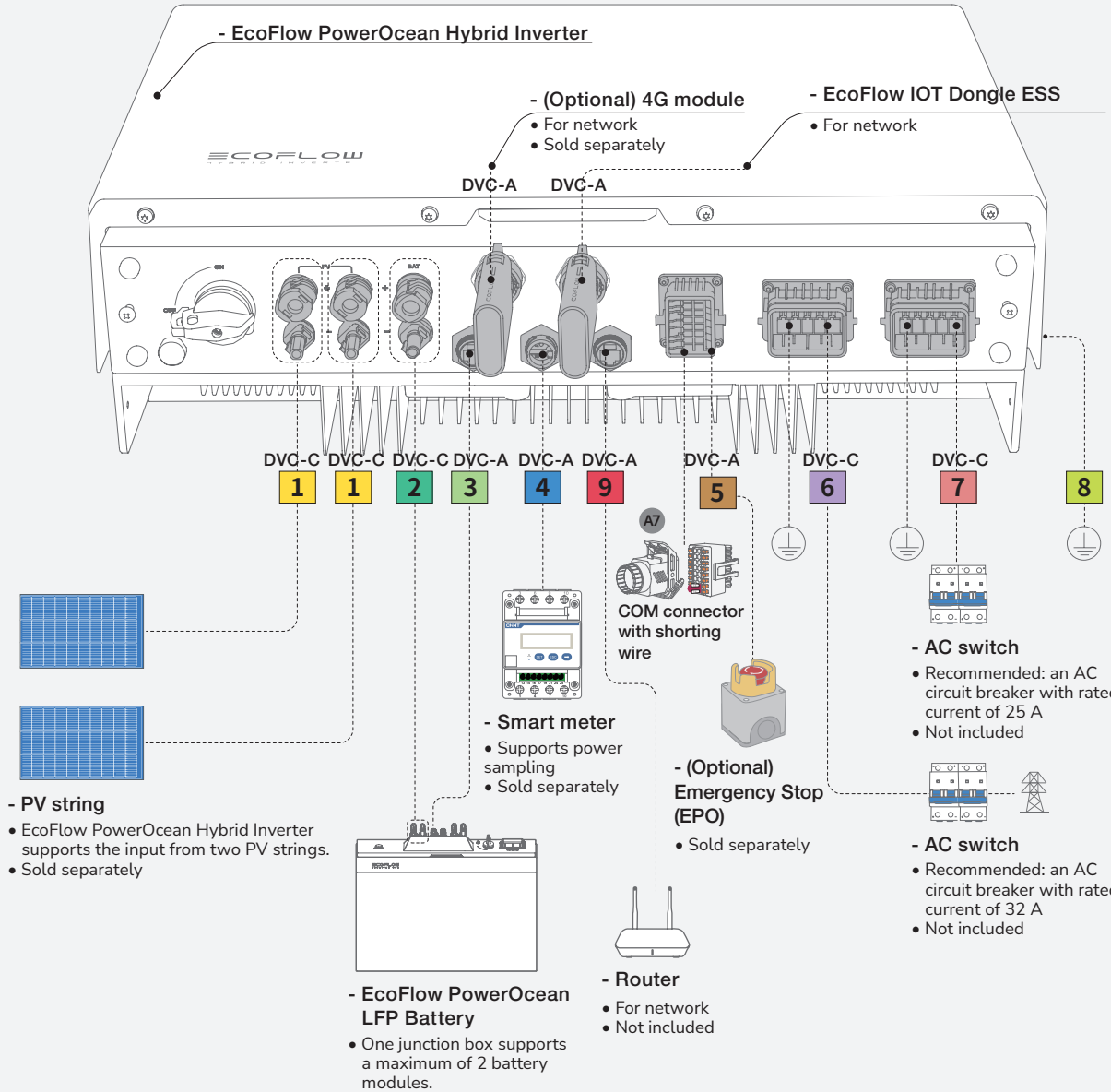
Electrical Connection

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.



LEGEND

1 **PV Input cable**
Conductor cross-sectional area: 4 mm² to 6 mm² with a rated voltage greater than or equal to 1000V DC

2 **Battery power cable**
Conductor cross-sectional area: 4mm² with a rated voltage greater than or equal to 1000V DC

3 **Battery communication cable with shield**
CAT 5E 8*0.2mm²

4 **Smart meter communication cable**
Shielded Twisted Pair 2*0.5mm²

5 **(Optional) COM terminal communication cable-Emergency Stop Button / Inveter cascading**
Shielded Twisted Pair 2*0.5mm²

6 **Grid cable**
4 mm² to 6 mm²

7 **Backup cable**
4 mm² to 6 mm²

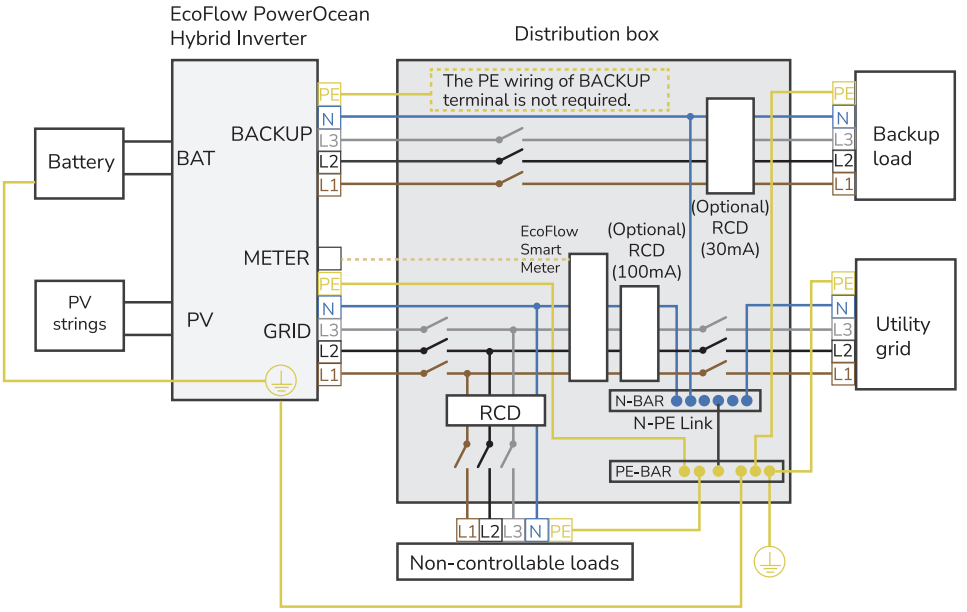
8 **Ground cable**
6mm²

9 **Ethernet cable (optional)**
CAT 5E or higher shielded network cable

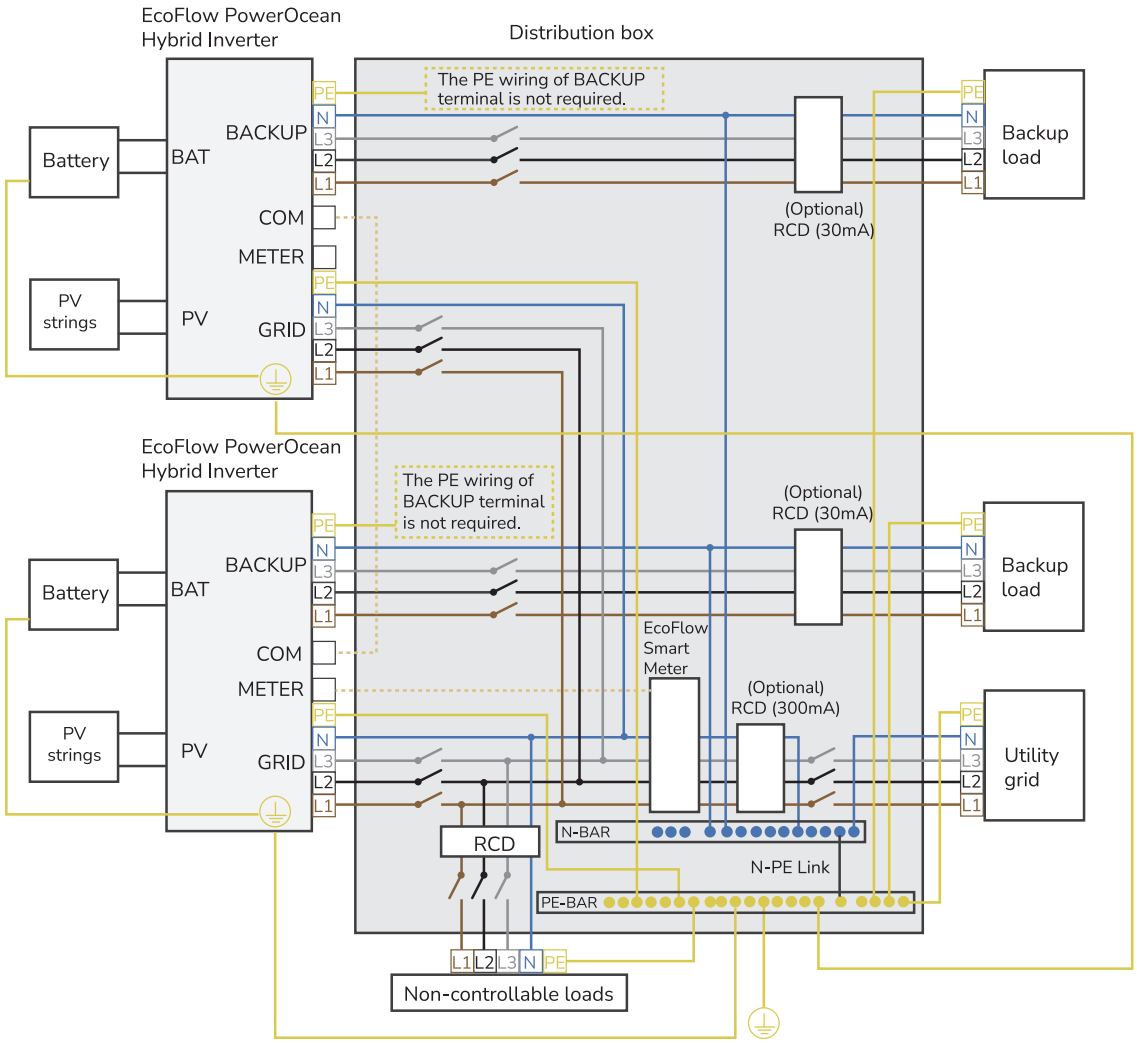
Single EcoFlow PowerOcean Wiring Diagram

NOTICE

- **N** and **PE** wiring via GRID and BACKUP ports of the inverter vary based on the regulation requirements of different regions. Refer to the specific requirements of local regulations.



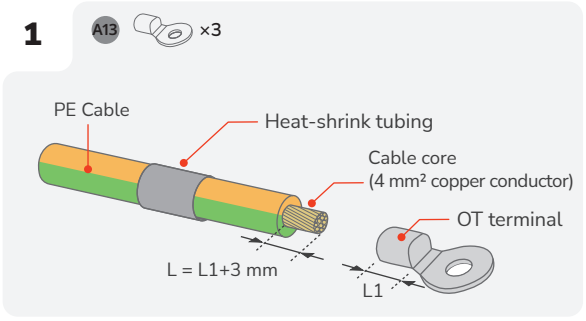
(Optional) EcoFlow PowerOcean Cascading Wiring Diagram

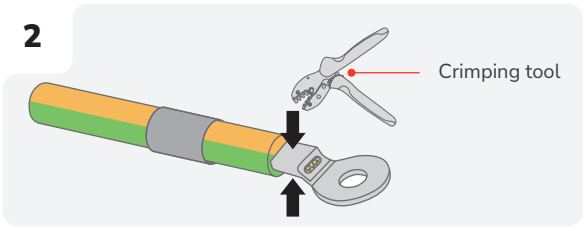


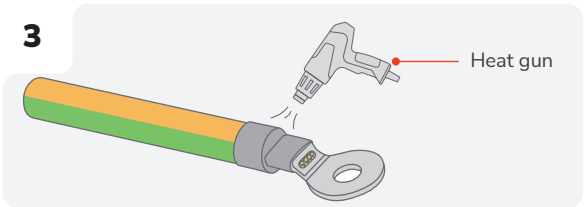
Connecting PE Cables

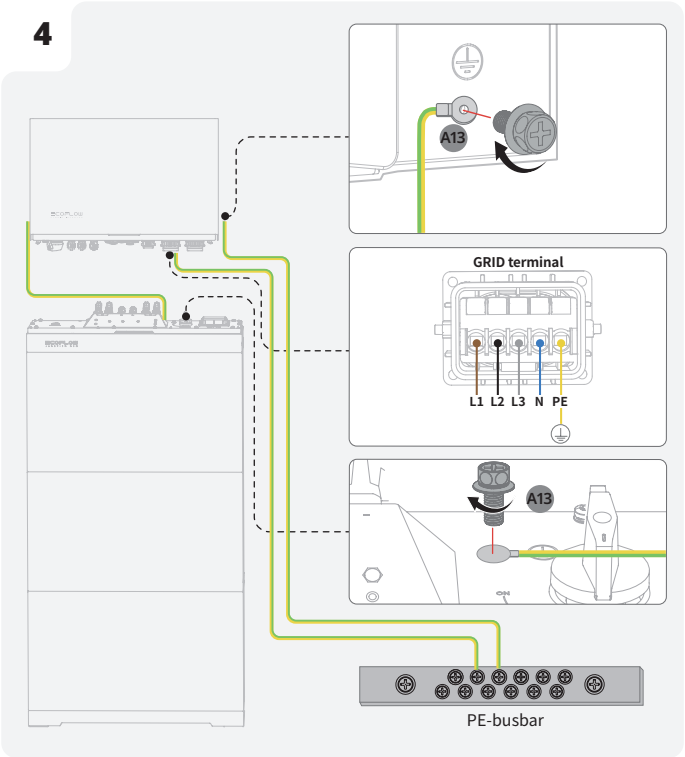
NOTICE

- 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.









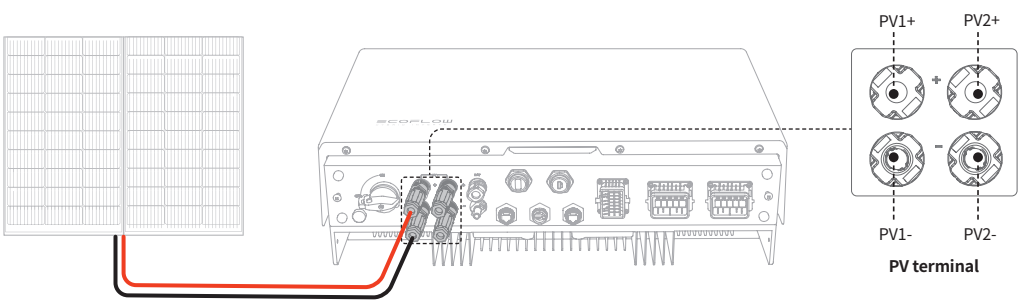
Connecting PV Input Cables

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 the protective cap from the unused PV input terminal. Otherwise, the IP rating of the inverter will be affected.
- 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.

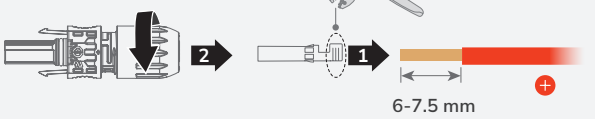
NOTICE

- 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.

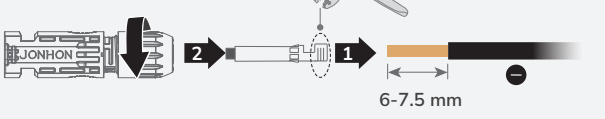


1

A5

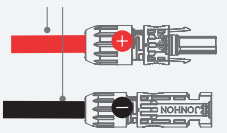


A5



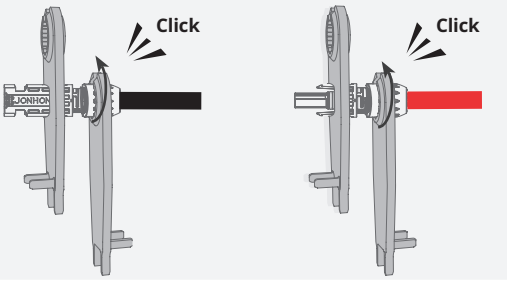
2

DANGER!
Pull back to comfirm the connection is secure



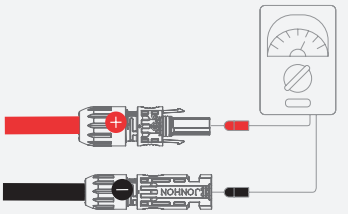
3

A12 ×2

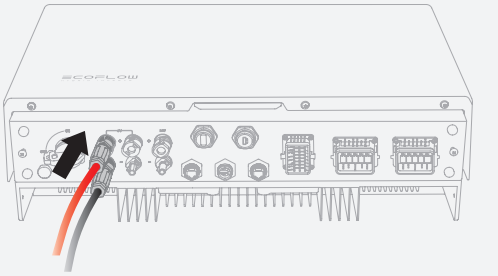


4

Ensure that the cable polarities are correct.



5



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 1000 V, too many PV modules are configured to the same string. Remove some PV modules.

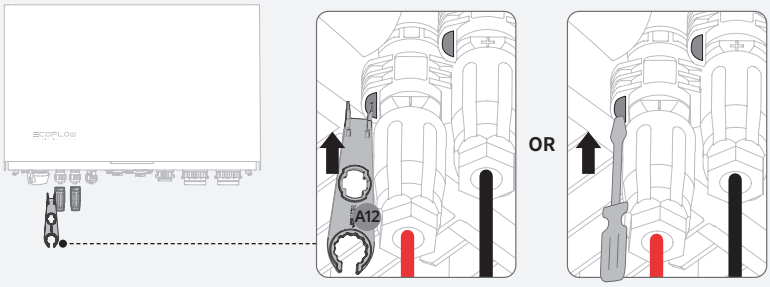
If the PV input cable is reversely connected and the PV SWITCH is set to ON, first set the PV SWITCH to the OFF position, then remove the positive and negative connectors, and correct the polarities of the PV input cables.

REMOVING THE PV TERMINAL

WARNING

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

A12 ×1



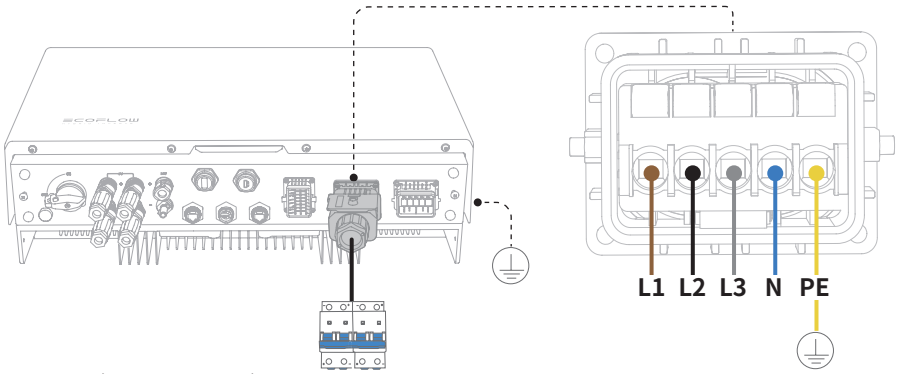
Connecting GRID Cables

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 pole of GRID connector and the equipment enclosure.
- Do not connect the GRID connector to the BACKUP terminal of the inverter.

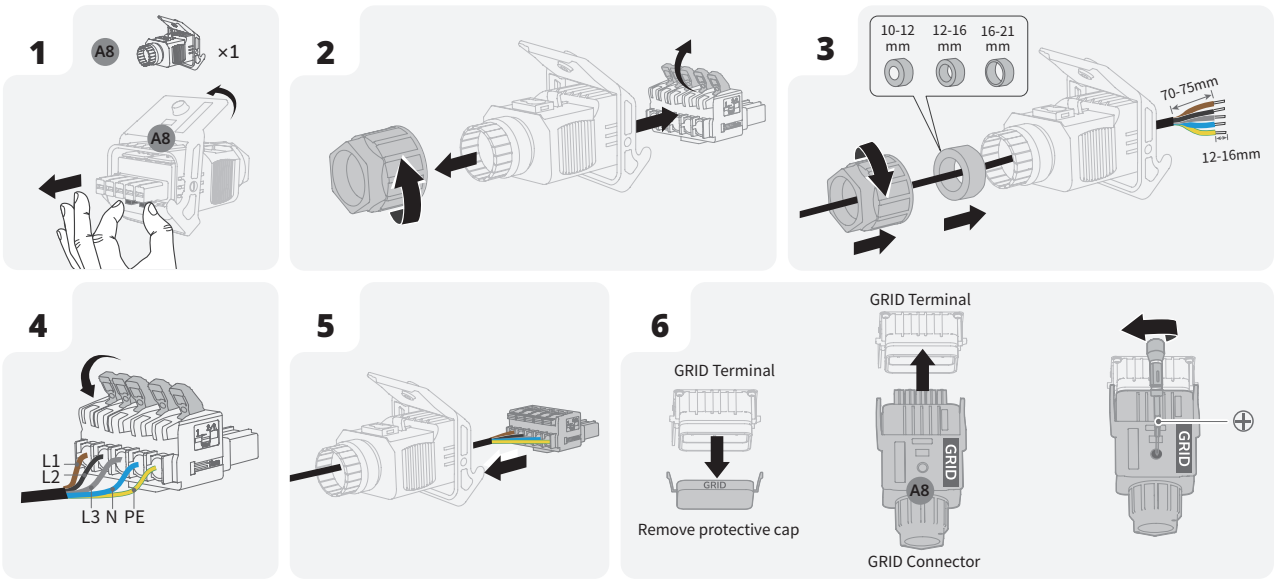
NOTICE

- For single PowerOcean system, RCD (type B) with rated residual operating current of 100 mA (AC-GRID) 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.
- For PowerOcean system cascading, RCD (type B) with rated residual operating current of 300 mA (AC-GRID) would be recommended.



L1 · a-phase line 1
L2 · b-phase line 2
L3 · c-phase line 3
N · Neutral wire
PE · Ground wire

FIVE-CORE WIRE (L1, L2, L3, N, PE)



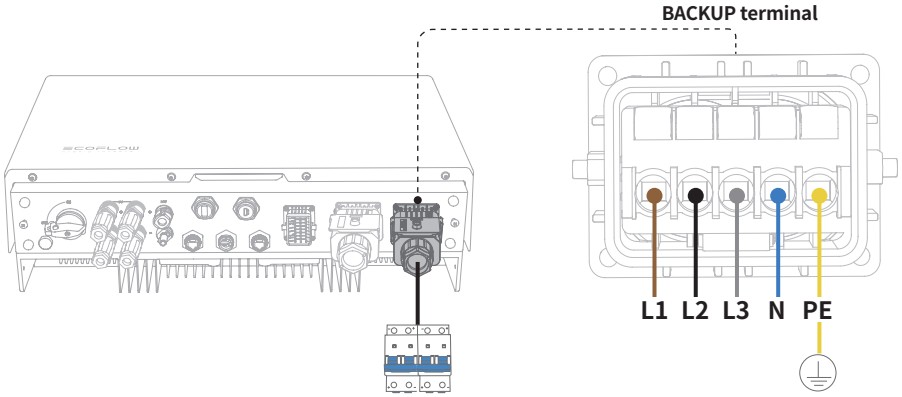
Connecting BACKUP Cables

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.

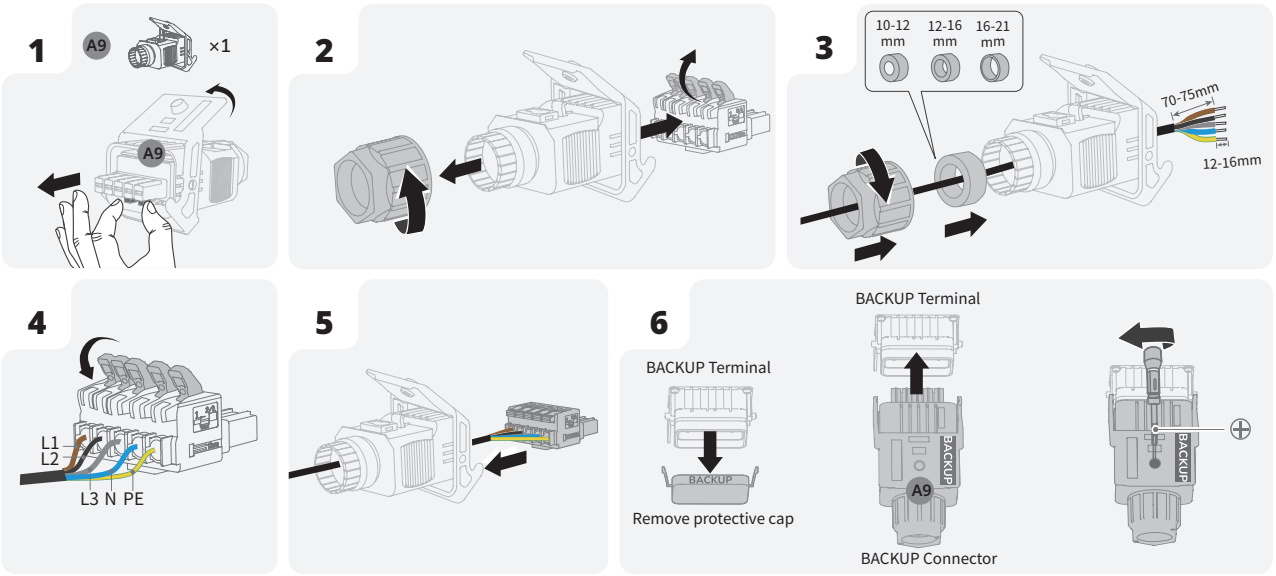
NOTICE

- RCD (type B) with rated residual operating current of 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.



L1 · a-phase line 1
L2 · b-phase line 2
L3 · c-phase line 3
N · Neutral wire
PE · Ground wire

FIVE-CORE WIRE (L1, L2, L3, N, PE)



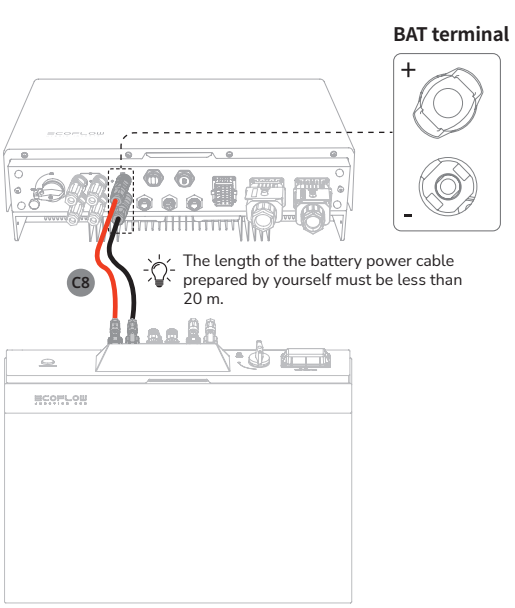
Connecting Battery Power Cables

DANGER

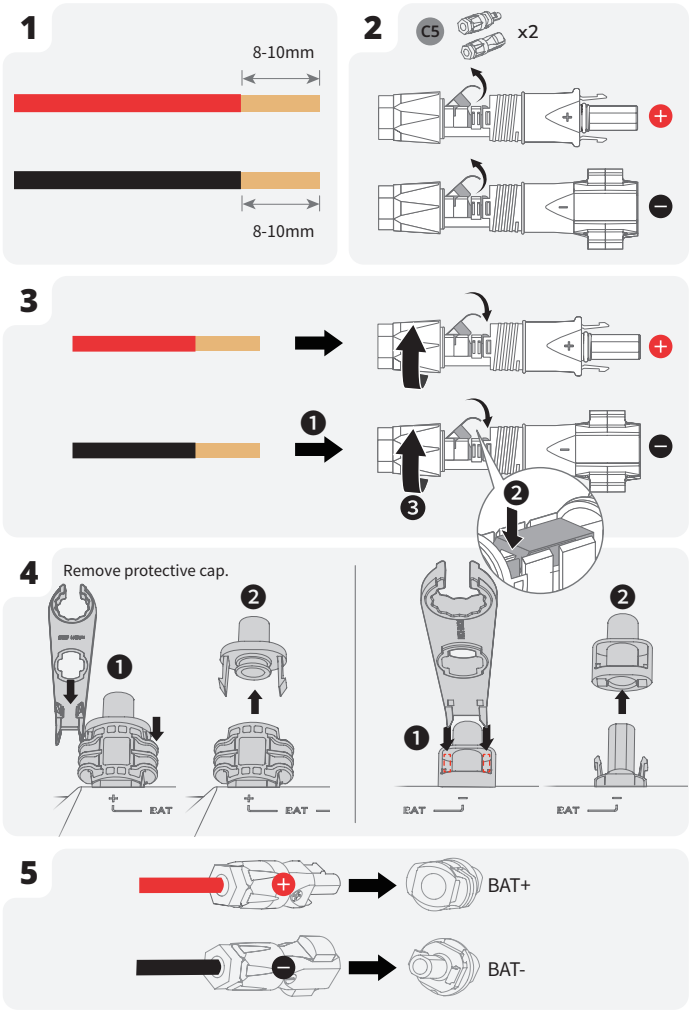
- Before disconnecting the Battery terminals, you MUST set the BATTERY SWITCH on top of the Junction Box to OFF position, then press and hold the BATTERY ON/OFF button on the right side of the junction box for 10 seconds, until the indicator is off.

CAUTION

- Both ends of the positive cable are positive connectors. Both ends of the negative cable are negative connectors.



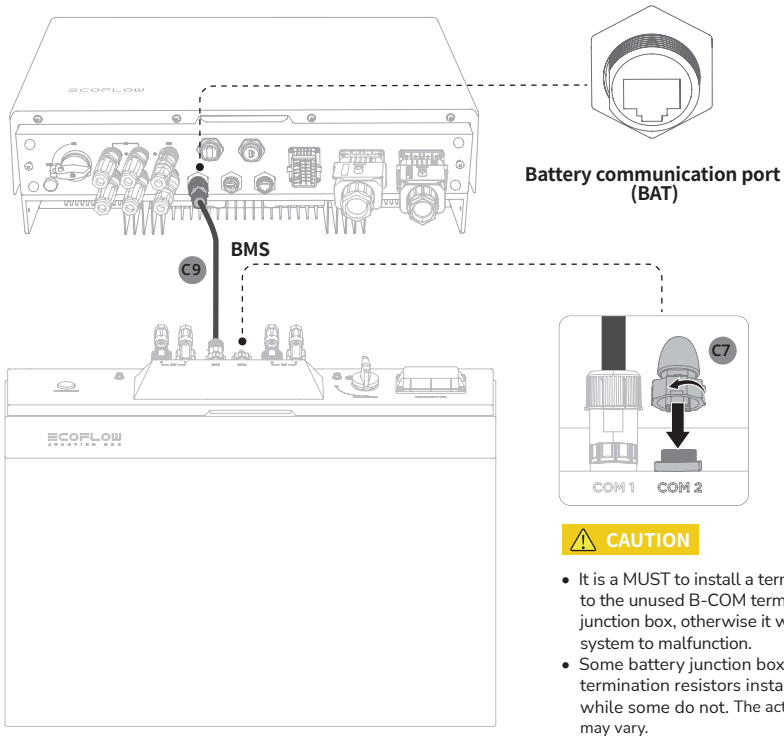
- OPTIONAL



Connecting Battery Communication Cables

NOTICE

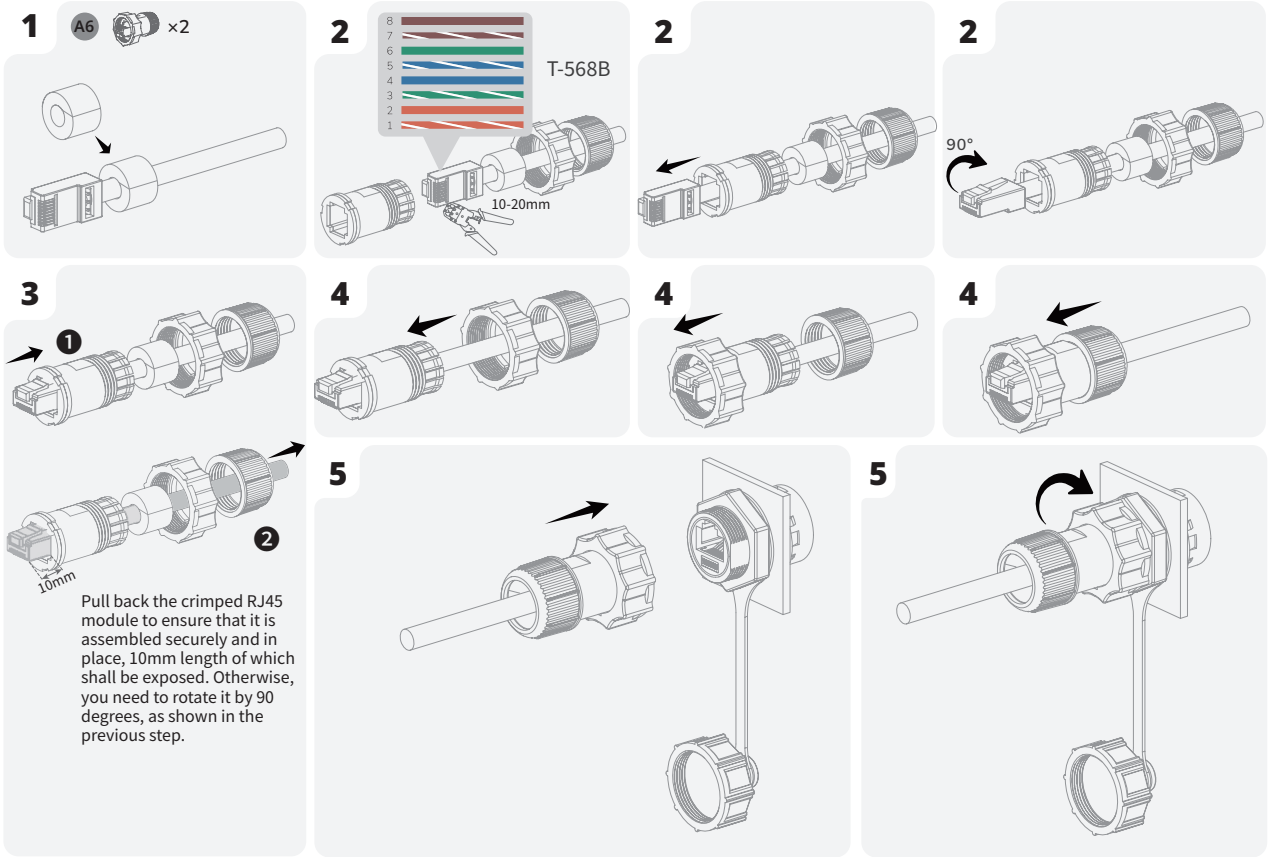
- Connectors are required at both ends of the battery communication cable.
- It is recommended to use COM1 for communication between the inverter and battery, COM2 for battery parallel communication.



⚠ CAUTION

- It is a MUST to install a termination resistor to the unused B-COM terminal of the battery junction box, otherwise it would cause the system to malfunction.
- Some battery junction boxes already have termination resistors installed as delivered, while some do not. The actual deliverables may vary.
- As for battery junction boxes already have termination resistors installed as delivered, remove the termination resistor to use the B-COM terminal.

- OPTIONAL

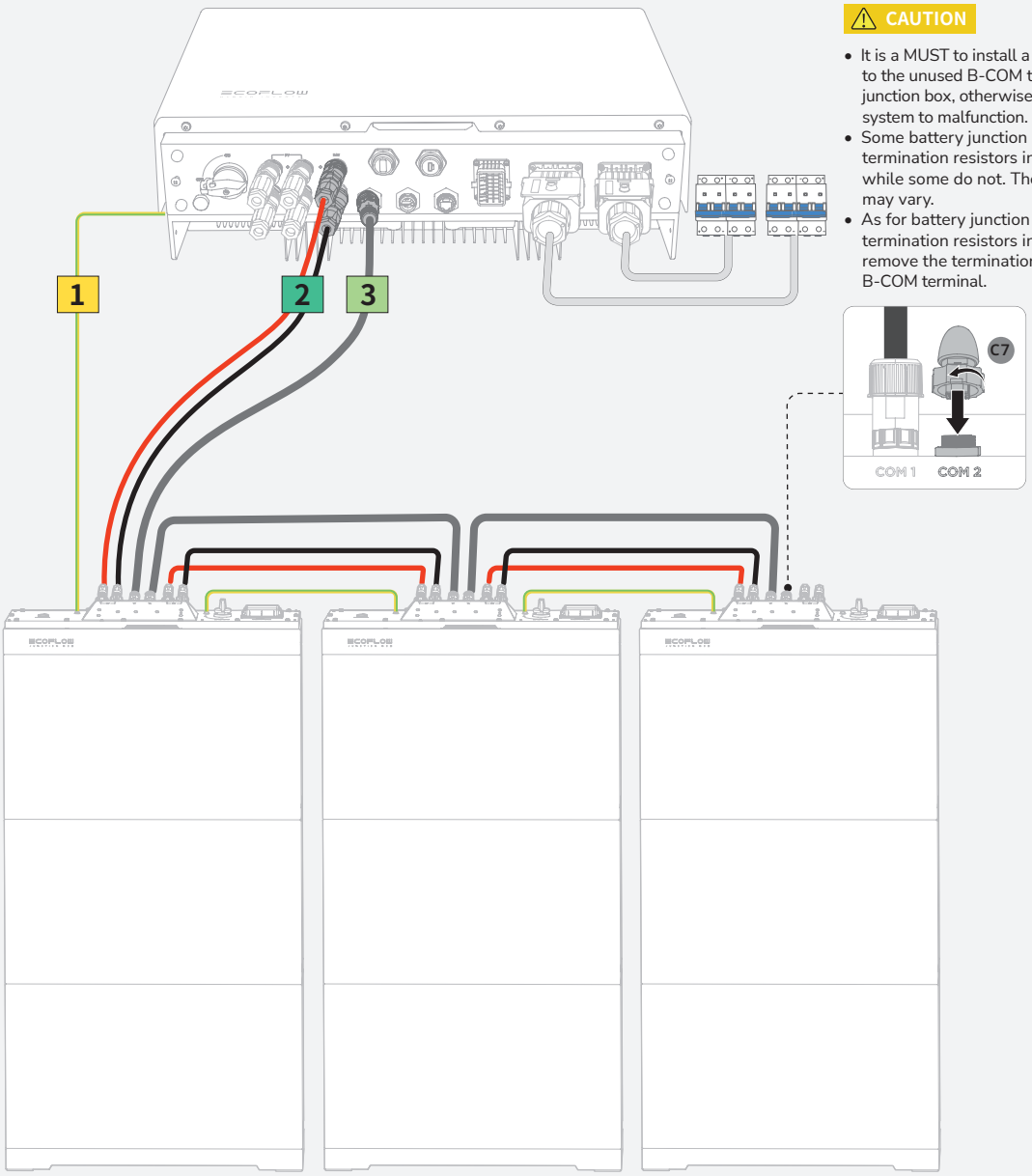


Pull back the crimped RJ45 module to ensure that it is assembled securely and in place, 10mm length of which shall be exposed. Otherwise, you need to rotate it by 90 degrees, as shown in the previous step.

(Optional) Cascading Batteries

NOTICE

- One battery junction box supports a maximum of 3 battery packs.
- Up to 9 battery packs (maximum 45.9 kWh) can be cascaded.
- Do not remove the protective cap of unused DC input terminals. Otherwise, the IP rating of the inverter will be affected.
- When there are two sets of batteries (number of battery packs ≥ 4) installed, please ensure that the minimum clearance between the two sets of batteries is 400mm.



⚠ CAUTION

- It is a MUST to install a termination resistor to the unused B-COM terminal of the battery junction box, otherwise it would cause the system to malfunction.
- Some battery junction boxes already have termination resistors installed as delivered, while some do not. The actual deliverables may vary.
- As for battery junction boxes already have termination resistors installed as delivered, remove the termination resistor to use the B-COM terminal.

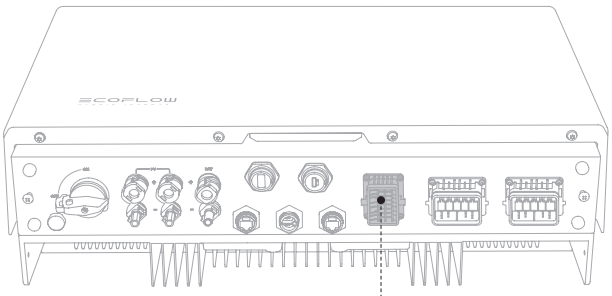
LEGEND

1. For details about connecting grounding terminals between the battery junction boxes, see the section **Connecting PE Cables** in this guide.
2. For details about connecting DC input terminals (BAT+/-) between the battery junction boxes, see the section **Connecting Battery Power Cables** in this guide.
3. For details about connecting battery communication terminals (B-COM) between the battery junction boxes, see the section **Connecting Battery Communication Cables** in this guide.

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.
- The voltage between Pin2 and Pin4, and the voltage between Pin6 and Pin8 of the COM terminal are both less than or equal to 24V.



COM terminal

1 CAN0H

3 CAN0L

5 CAN3H
Inverter cascading communication H (Reserved)

7 CAN3L
Inverter cascading communication L (Reserved)

9 CANH
Inverter cascading communication H

11 CANL
Inverter cascading communication L

13 RS485 A(+)
EcoFlow EV Charger/Heatpump/Smart Meter 2 communication

15 RS485 B(-)
EcoFlow EV Charger/Heatpump/Smart Meter 2 communication

2 DRM0

4 (Reserved)

6 Earth Fault alarm

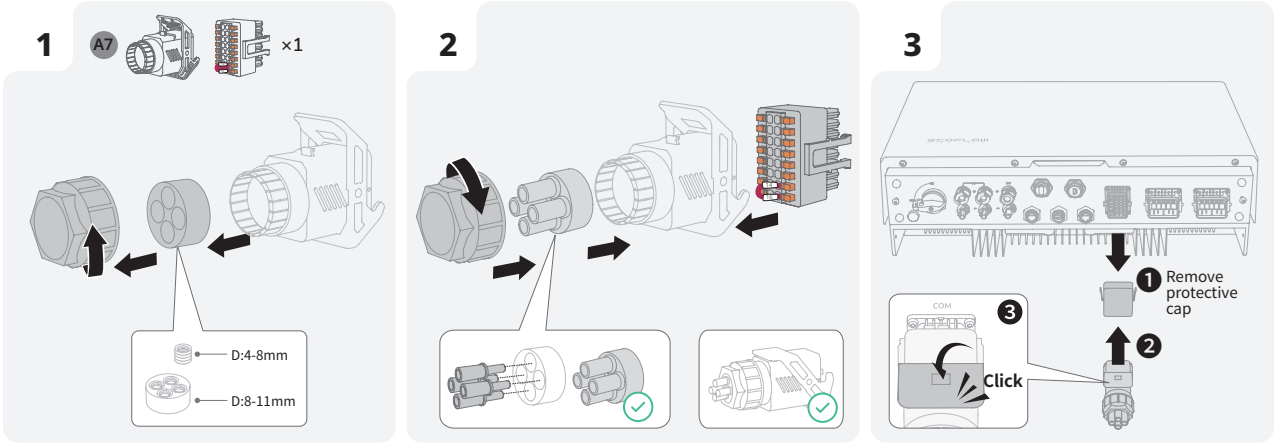
8 Earth Fault alarm

10 AGND1
Inverter cascading sync signal grounding/ DRM signal grounding

12 SYN
Sync signal

14 EPO1_dry1
Emergency Stop Input

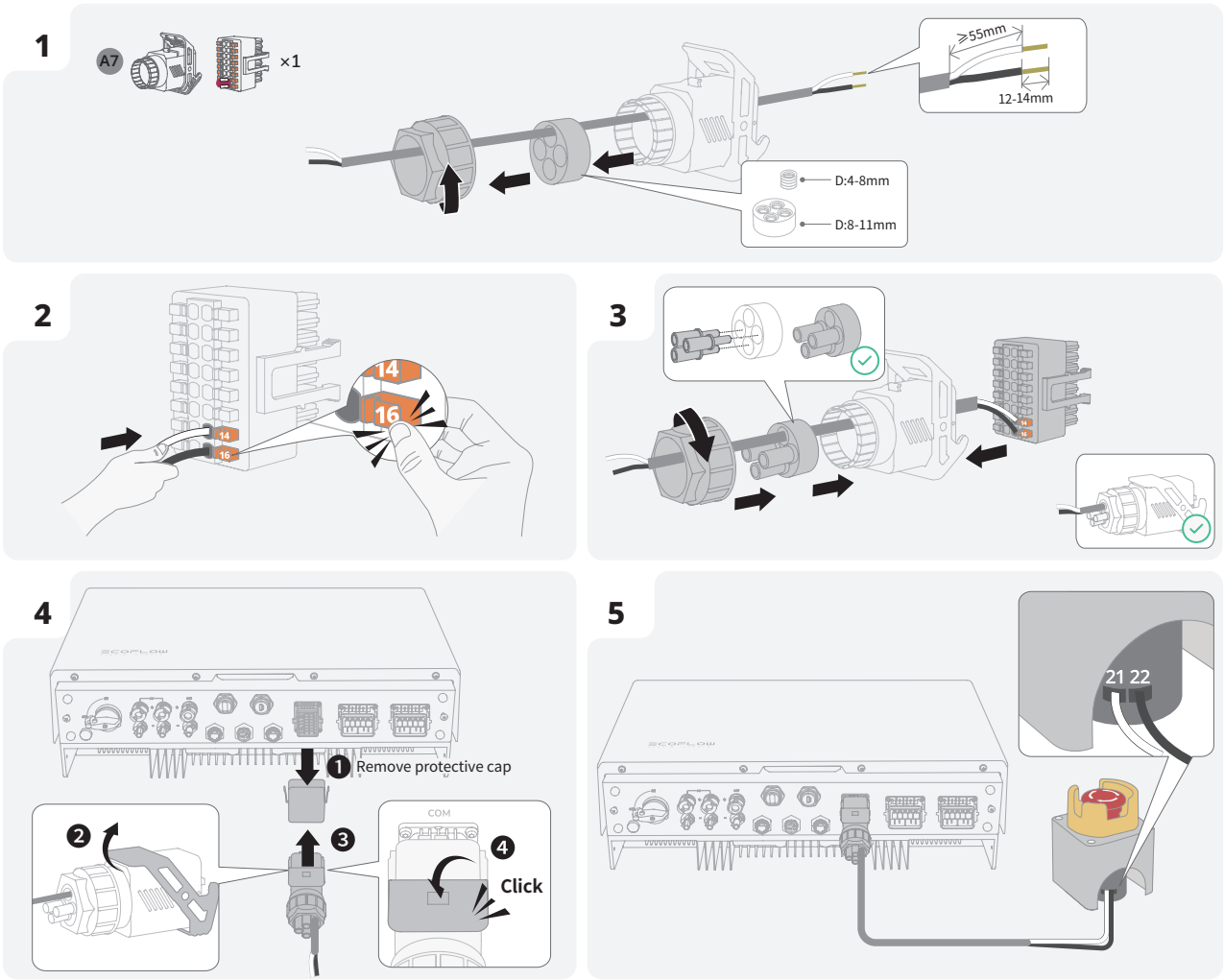
16 AGND1
Emergency Stop Input



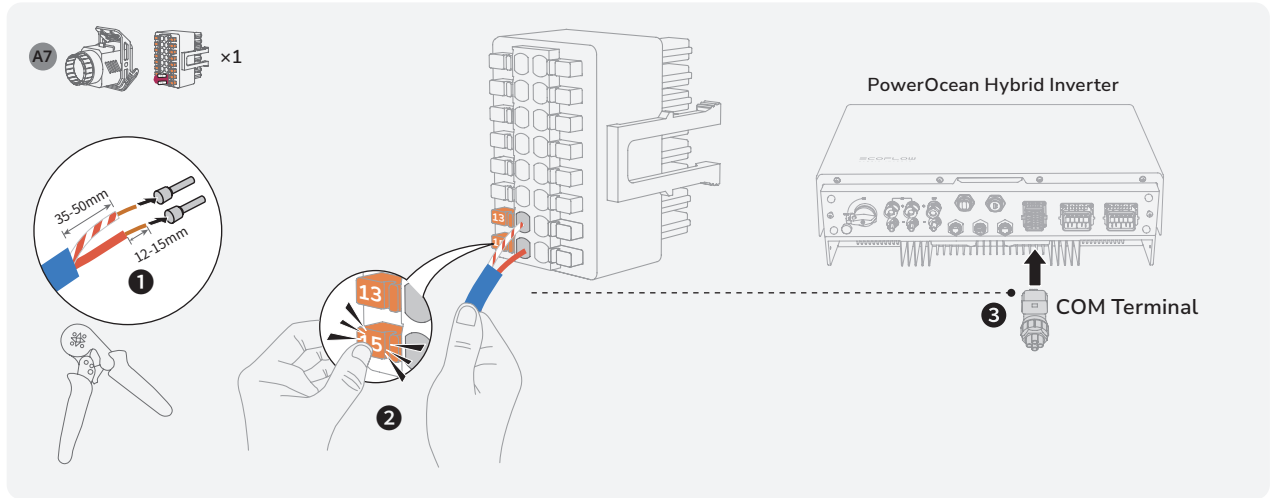
(Optional) Installing Emergency Stop (EPO)

NOTICE

- Before installing EPO, please remove the shorting wire between PIN14 and PIN16.



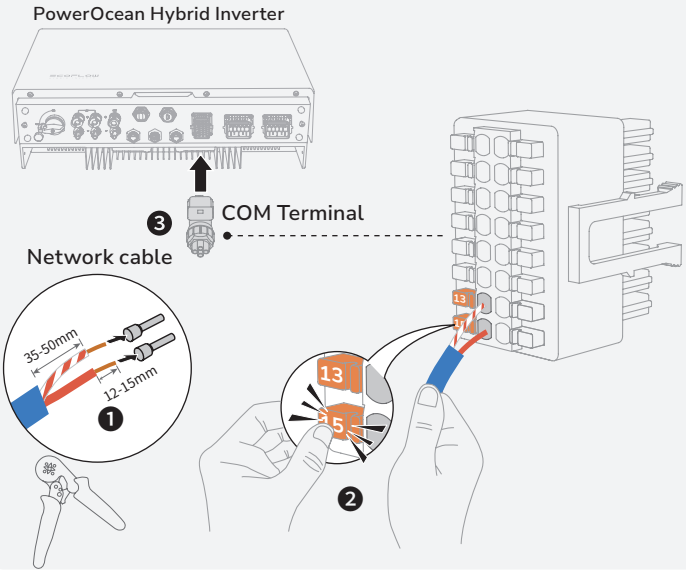
(Optional) Connecting Communication Cable of EcoFlow Smart Meter 2



(Optional) Connecting Communication Cable of EcoFlow PowerHeat/EcoFlow PowerPulse to the PowerOcean System

A7 ×1

Method 1: Wired Connection (RS485)



Method 2: Wireless Connection (Wi-Fi)

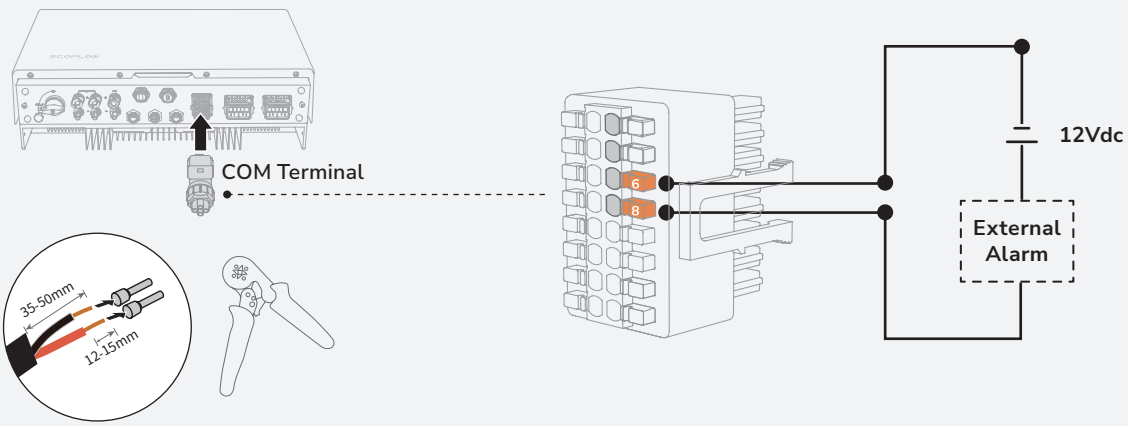
Accessing the same wireless network

- Go to PowerOcean **Device Settings** to add device on system component page. See the **System Commissioning** section.

Installing Earth Fault Alarm

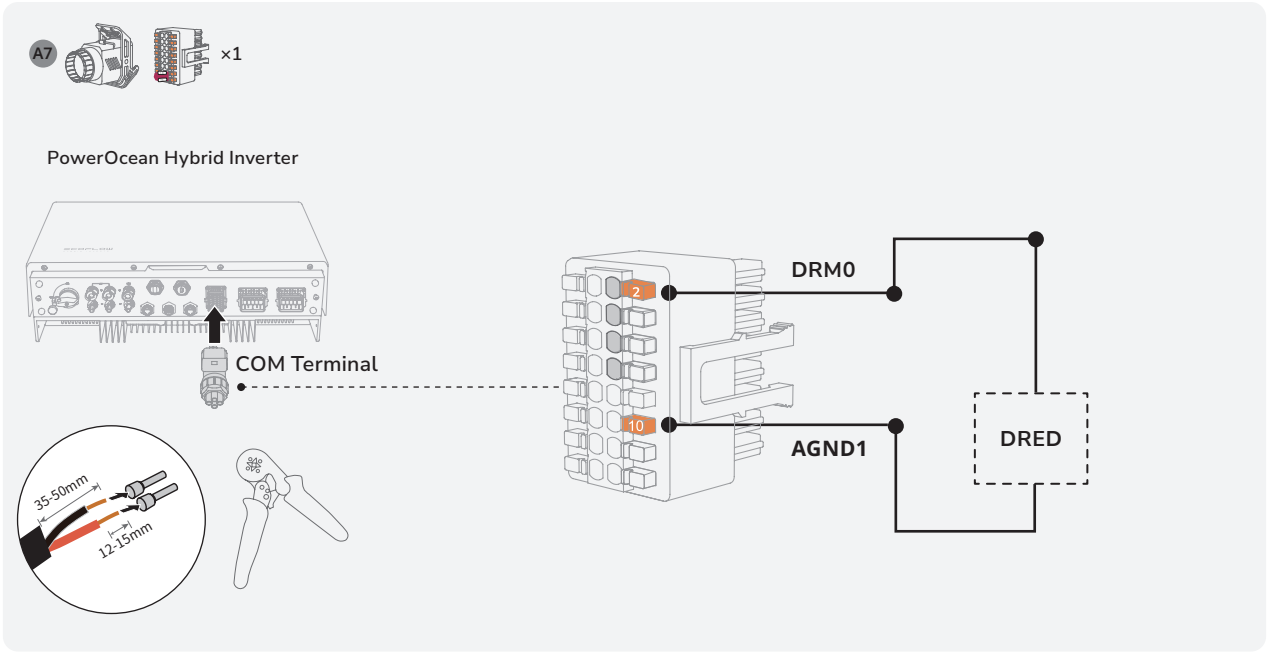
The inverter provides terminals for connecting to an external alarm for earth fault. The additional equipment required is a light indicator and/or a buzzer. The external alarm needs to be powered by an external power supply less than 24V.
If an earth fault occurs,
- the light indicator will blink, or 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.

A7 ×1

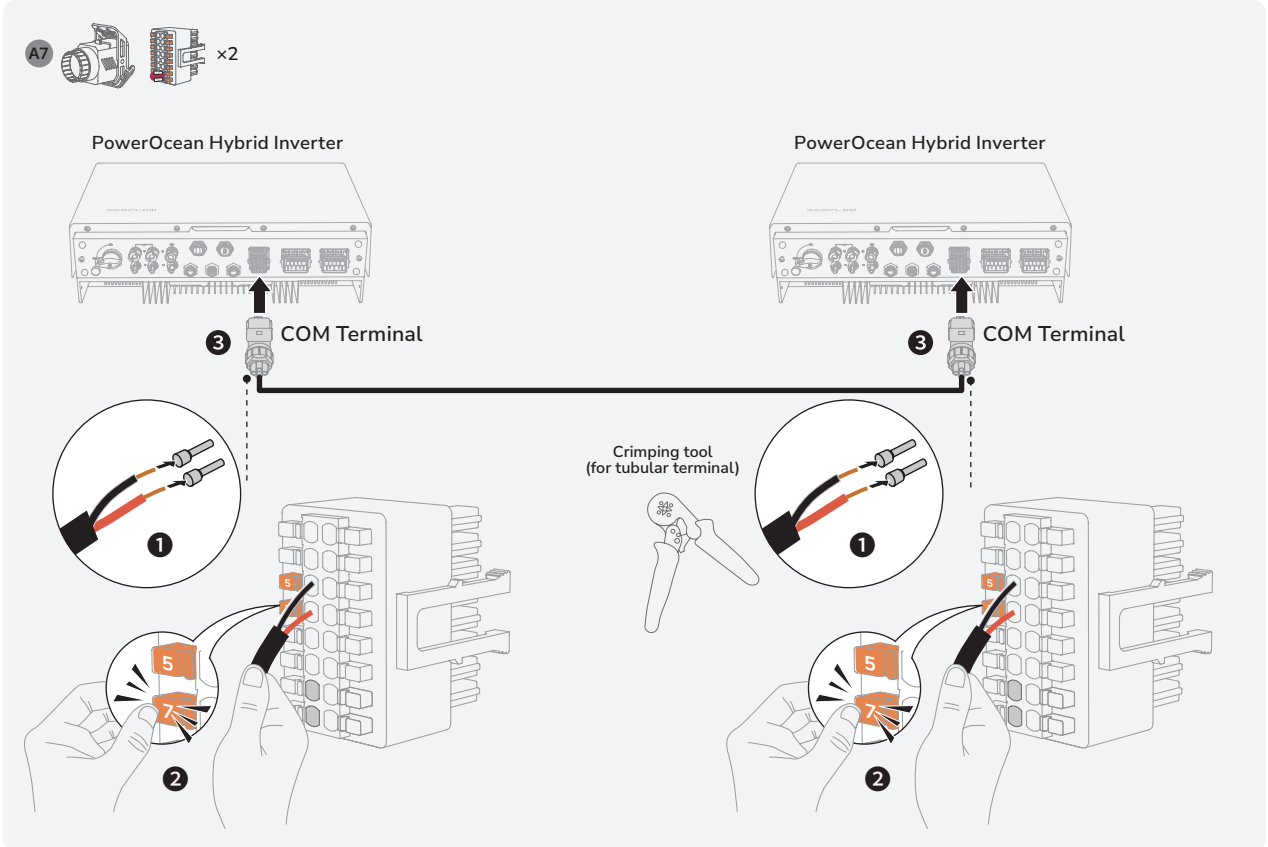


Installing Demand Response Enabling Device (DRED)

The inverter provides terminals for connecting to a Demand Response Enabling Device (DRED). After the connection, the DRED can trigger various demand response modes (DRMs) on the inverter. These DRMs allow the utility grid to control the inverter's operation, potentially limiting power output or even disconnecting the inverter, to manage grid stability and demand. The most common DRM is DRM0, which instructs the inverter to reduce its output to zero.



(Optional) Connecting Communication Cables between the two cascaded EF HD-P3-(6K0-12K)-S1



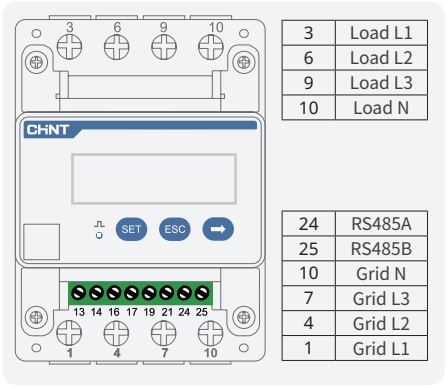
Connecting Smart Meter

NOTICE

- It is recommend to use of CAT5 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.
- The cable colors shown in the figures are for reference only. Select an appropriate cable according to the local standards.
- The inverter can provide export control but will require the use of an external smart meter. The export control functionality has not been tested on AS/NZS 4777.2:2024.

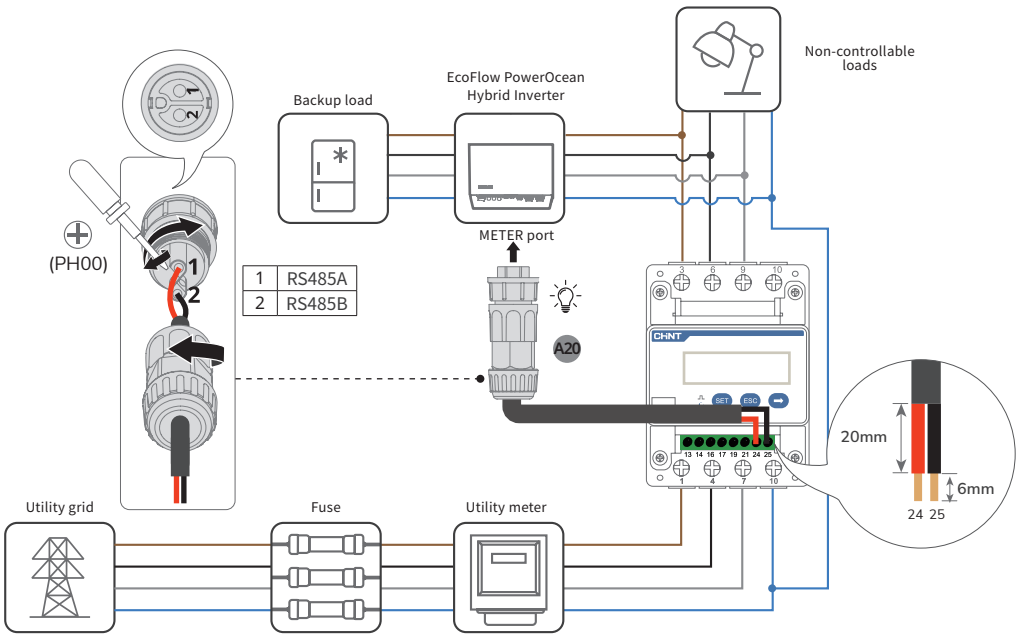
1 METER SAMPLING
Find the home mains and connect the smart meter as shown in the diagram.

2 METER COMMUNICATION
Find communication port 24,25 on the meter and connect them to the meter port of inverter.



3	Load L1
6	Load L2
9	Load L3
10	Load N

24	RS485A
25	RS485B
10	Grid N
7	Grid L3
4	Grid L2
1	Grid L1

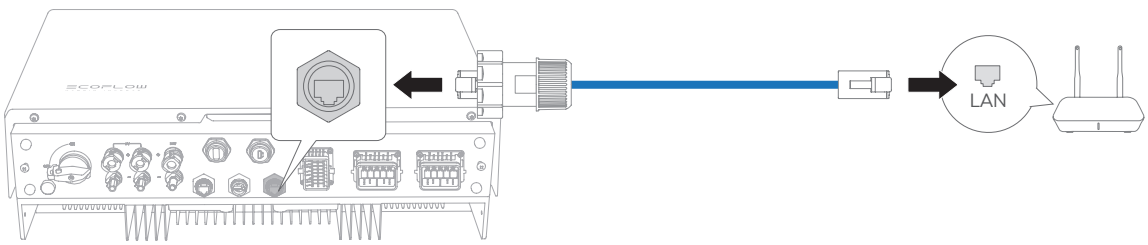


Connecting to Internet

NOTICE

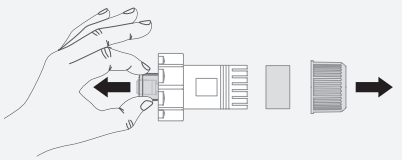
- Use shielded CAT 5 or higher rating network cable for stable connection.

• METHOD 1: VIA A WIRED NETWORK

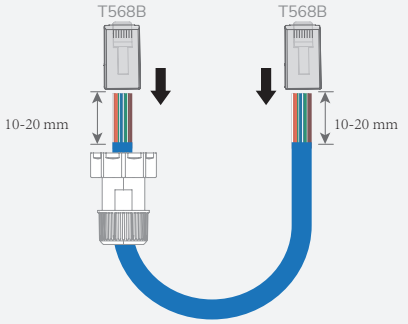


1 A6 ×1

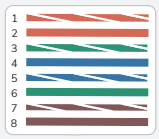
For assembling a communication terminal, see **Connecting Battery Communication Cables** section.

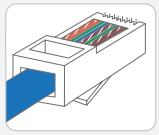


2 Both ends of the network cable use the T568B wiring standard.

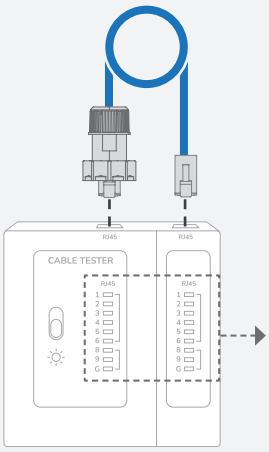


T-568B

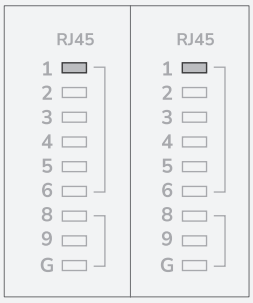




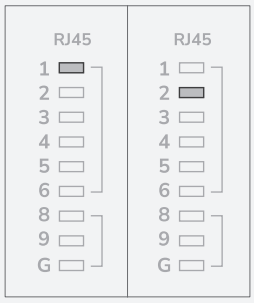
3 Test network cable connection. If the LEDs of the two RJ45 ports light up in sequence, it indicates that the network cable is correctly wired and should be fully operational.



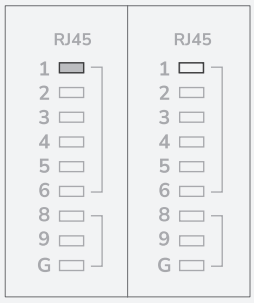
Ethernet Cable Tester



Ideal connection



Incorrect wiring standard



Poor connection

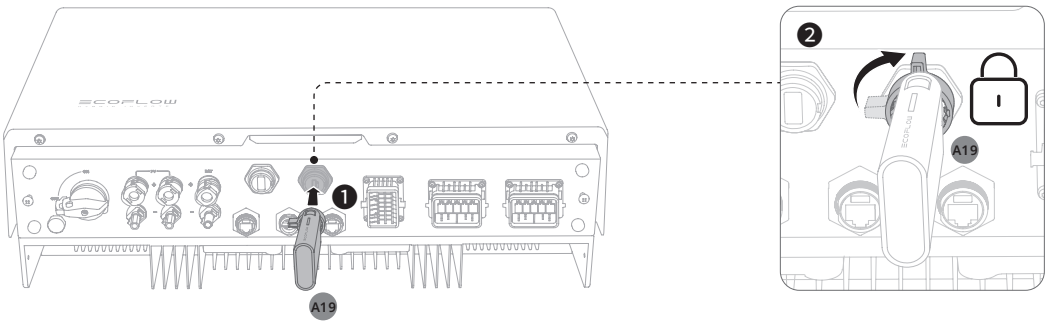
- **METHOD 2: VIA A WIRELESS NETWORK**

Adjust the Wi-Fi antenna, then refer to the System Commissioning section in this guide to connect to a wireless network.

Installing EcoFlow IOT Dongle ESS

NOTICE

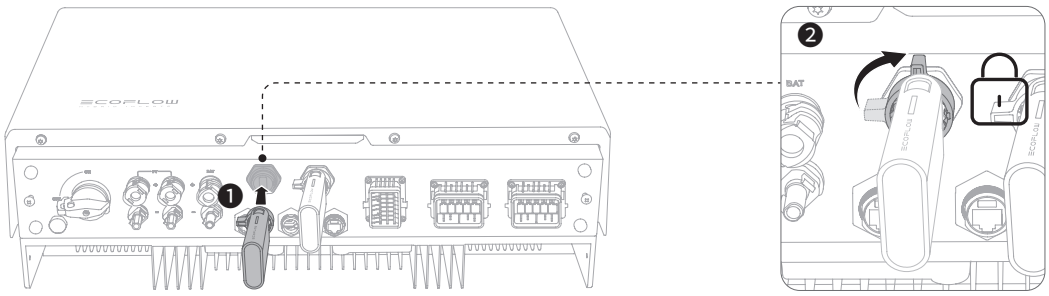
- For more details about EcoFlow IOT Dongle ESS, please please visit following website to access user manual: https://enterprise.ecoflow.com/au/documentation



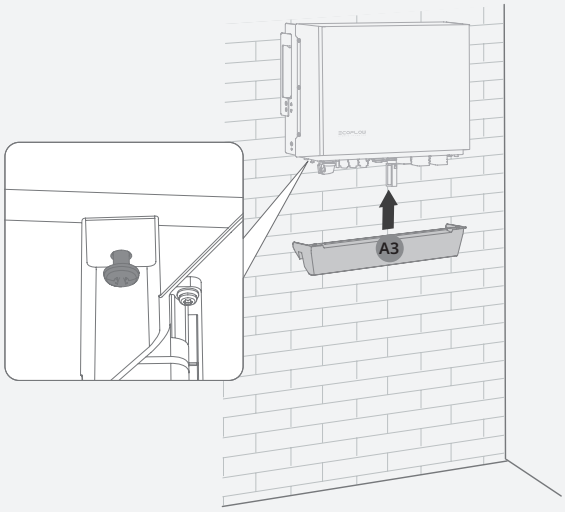
(Optional) Installing EcoFlow 4G Dongle ESS(EU)

NOTICE

- For more details about EcoFlow 4G Dongle ESS(EU), please refer to user manual that comes together with it.



Installing Trim Cover



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. Set the BATTERY SWITCH on top of the Junction Box to ON position.
2. Turn on the AC switch between the inverter and the power grid.
3. Set the PV SWITCH at the bottom 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. Set the BATTERY SWITCH on top of the Junction Box to ON position.
2. Turn on the AC switch between the inverter and the power grid.
3. Set the PV SWITCH at the bottom of the inverter to ON position.
4. After commissioning, press and hold for three seconds the BATTERY ON/OFF button on top of the battery junction box.
5. Observe the LED to check the inverter operating status.

System Power-Off

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

⚠ WARNING

- After the system powers off, the remaining electricity and heat may still cause electric shocks and body burns. Therefore, put on protective gloves and begin operating the equipment five minutes after the power-off.

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 at the bottom of the inverter to OFF position.
4. (Optional)Secure the PV SWITCH with a lock to prevent accidental startup.The lock is prepared by the customer.
5. Set the BATTERY SWITCH on top of the Junction Box to OFF position.
6. (Optional) Secure the BATTERY SWITCH with a lock to prevent accidental startup. The lock is prepared by the customer.
7. Press and hold the BATTERY ON/OFF button of the junction box for 10 seconds, until the indicator is off.
8. Sequentially disconnect GRID cables, PV input cables, battery cables, communication cables and all modules connecting to the system.

LED Indicators

ECOFLOW POWEROCEAN HYBRID INVERTER

Status	Description
on 1s / off 1s	Standby / Startup / Self-check / Over-the-air updates / Alarm, system is still operating
	Operating in grid-tied/backup mode
	EPO shutdown / Fault, system cannot work

ECOFLOW POWEROCEAN BATTERY JUNCTION BOX

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

Discharge 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
	Electrical connection is faulty
	Communication is faulty
	Battery is faulty
	Battery junction box is faulty

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

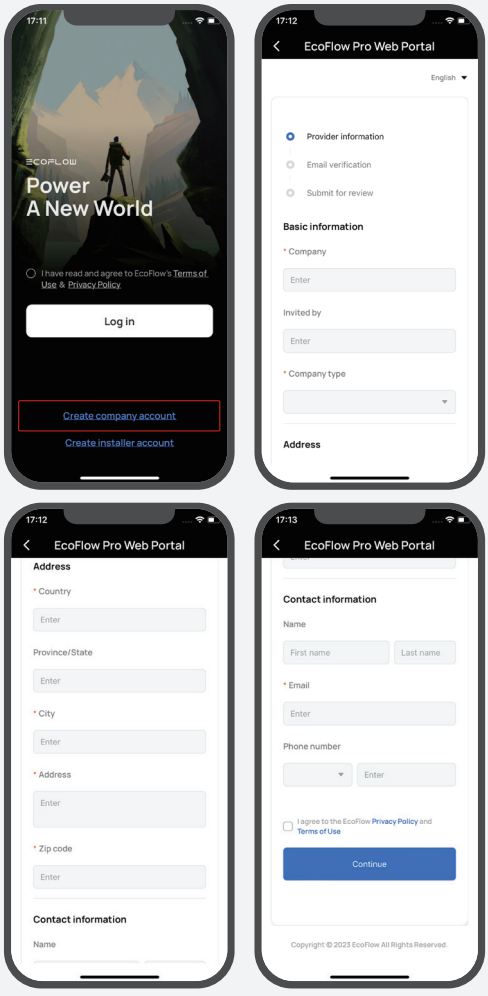
EcoFlow Pro

GET IT ON Google Play

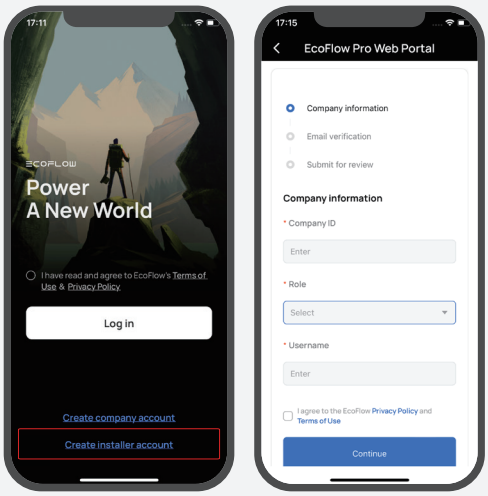
Download on the App Store

2 CREATE ACCOUNT

a. Create company account

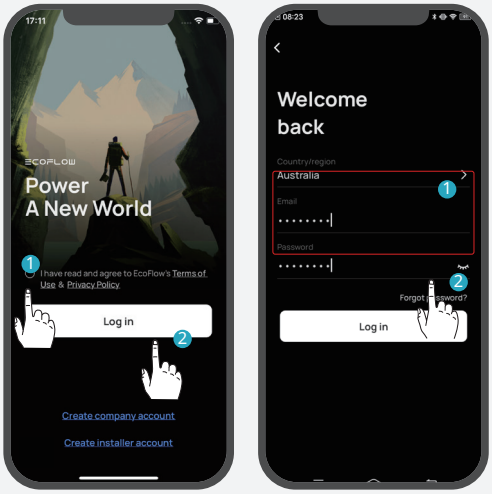


b. Create installer account



3 LOG IN

Enter the country, installer account and password.

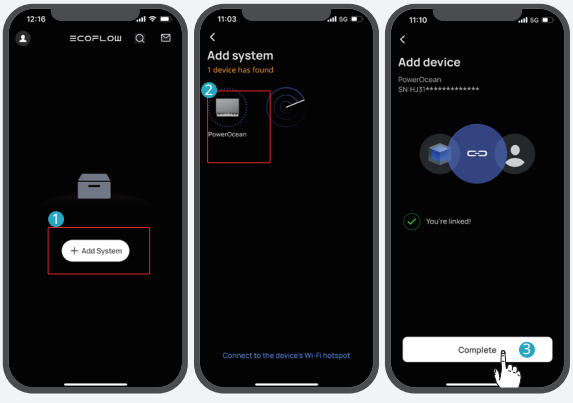


4 ADD DEVICE

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

a. Connect to the system via Bluetooth (recommended).

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



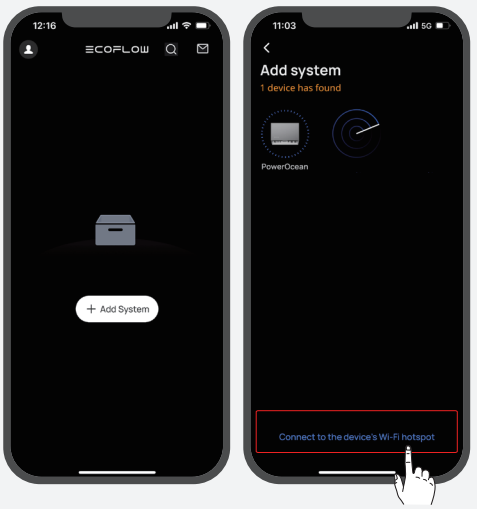
b. Connect to the system via Wi-Fi

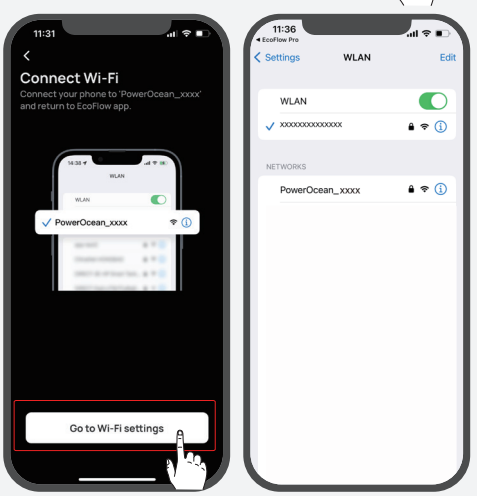
1. Click "Add System" or "+" on the top right corner and then click "Or connect to the system's Wi-Fi" to access to your phone's Wi-Fi settings.

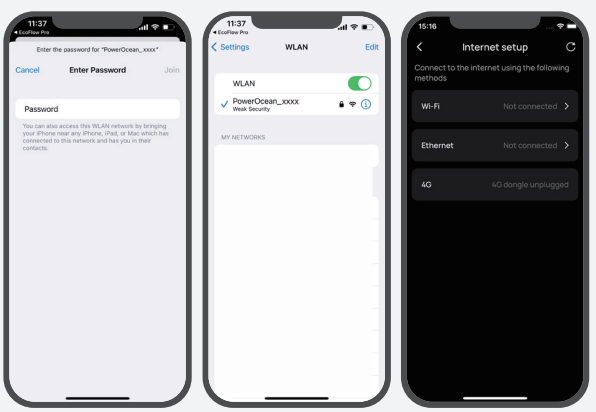
2. Find "PowerOcean_xxxx" and click it to enter the password for the Wifi, then click "Join". The password is the last 8 digits of the serial number of the inverter.

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.







(Optional) Inverter cascading

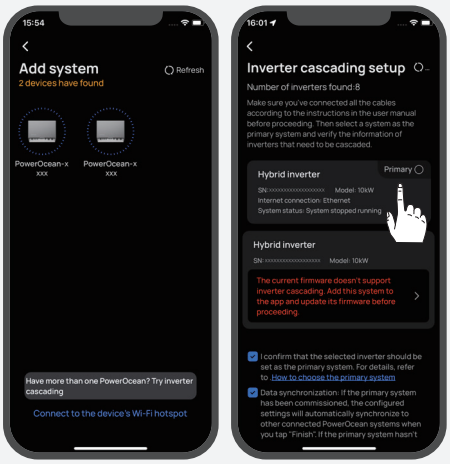
Make sure both systems to be cascaded has been stopped before proceeding.

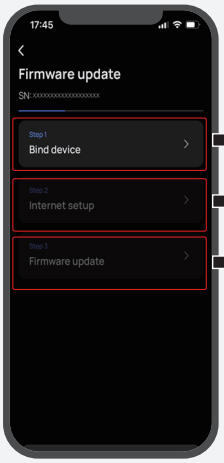
- Press the Emergency Stop button (if there is any) to stop the inverters which are running.
- If no Emergency Stop button is configured, you need to access to the EcoFlow App and select “Device setting”->“Stop running” to stop the systems.

1. Click "**Have more than one PowerOcean? Try inverter cascading**" to setup one of them as the primary inverter, the other one will be the secondary inverter by default. Prefer the inverter as the primary inverter with strong network signal.

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

2. Verify the information of the inverters that need to be cascaded, then click "**Next**" to proceed to commissioning.

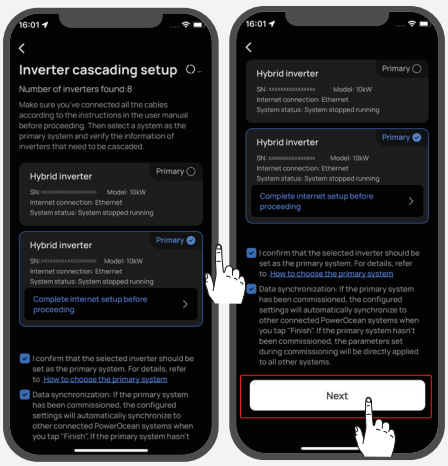




1. See "**Add device**" section of System Commissioning.

2. See "**Internet setup**" section of System Commissioning.

3. See "**Device setting**" section of System Commissioning.



5 COMMISSIONING

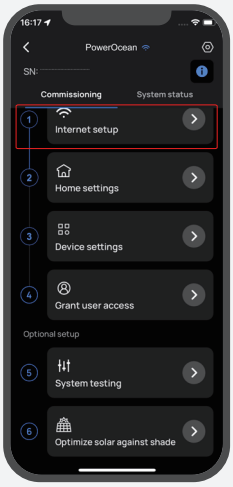
After bound device successfully, the device enters the four-step commissioning process.

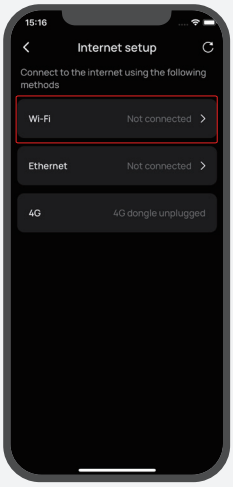
Step1: Internet Setup

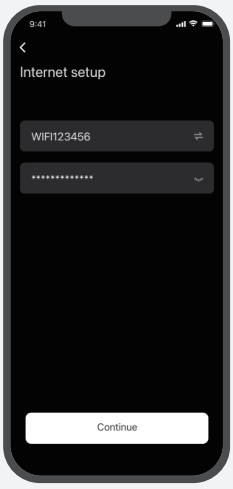
click **Internet Setup** to start the network configuration.

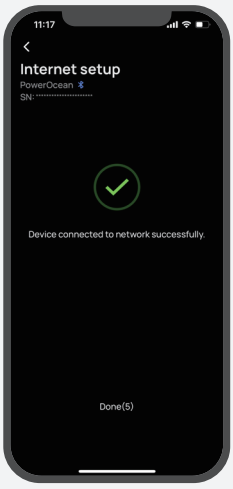
Method 1: Wi-Fi

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





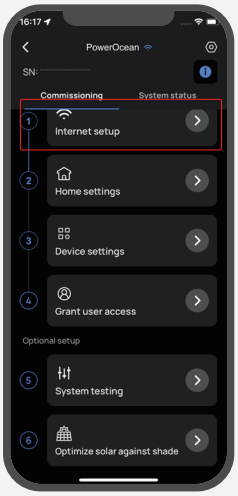


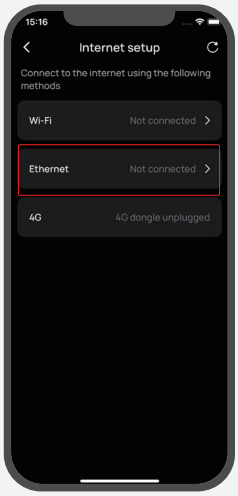


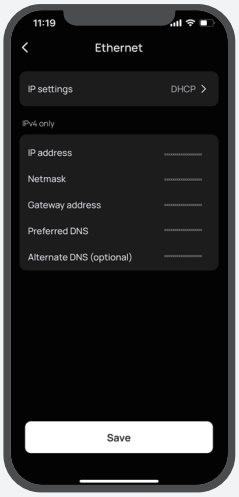
Method 2: Ethernet

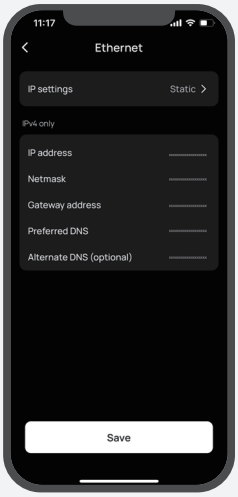
Connect the system to a router using a network cable, wait a minute before proceeding. Then click "Ethernet to set DHCP/Static mode. (Both modes are available)

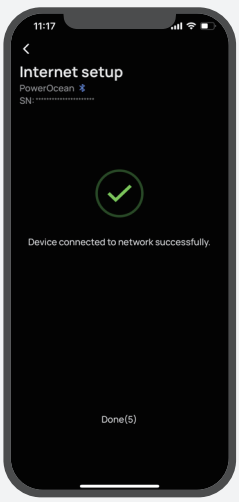
- By default, the IP setting is DHCP mode, which assigns dynamic IP address to the device (recommended).
- Static mode requires manual configuration of the IP address. Please make sure the IP address is not in conflict with other devices, you can visit the router to check the IP addresses of other devices.







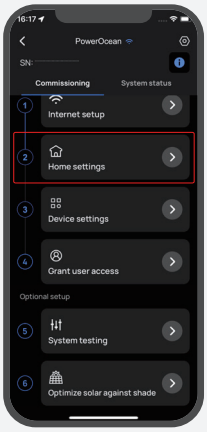


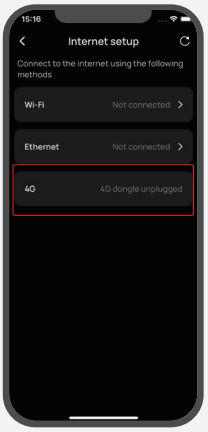


Method 3: 4G

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 the user manual that comes together with.

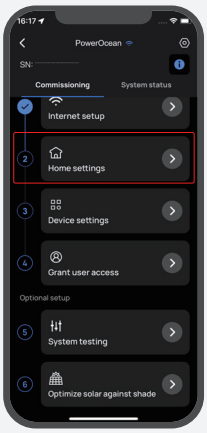


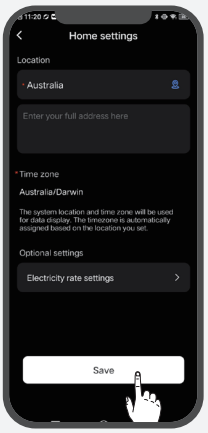


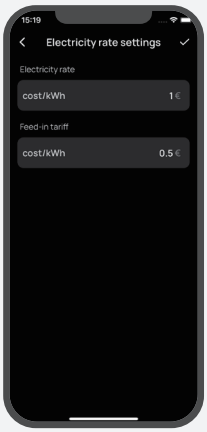
Step2: Home Setting

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

(Optional) Set the electricity rate.





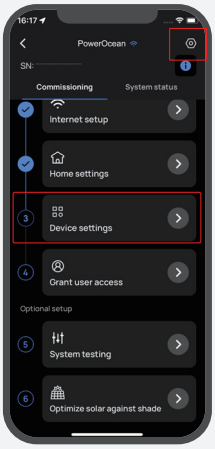


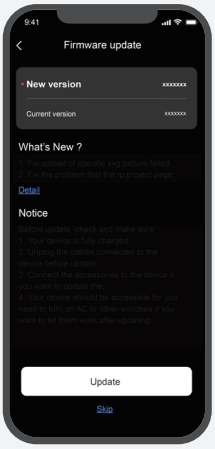
Step3: Device Setting

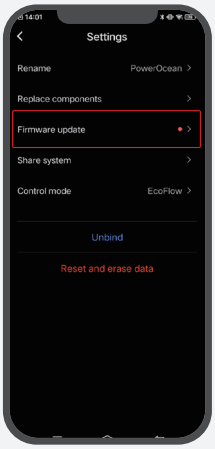
a.Click **Device Setting** to verify that the devices in the device list match the connected devices.

(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. You can also tap ⬡ to access the **Firmware Update** page to view the Firmware version.

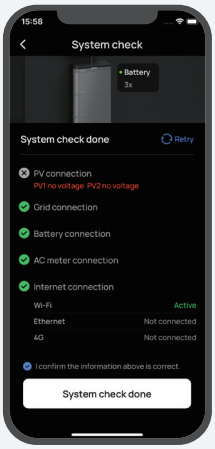




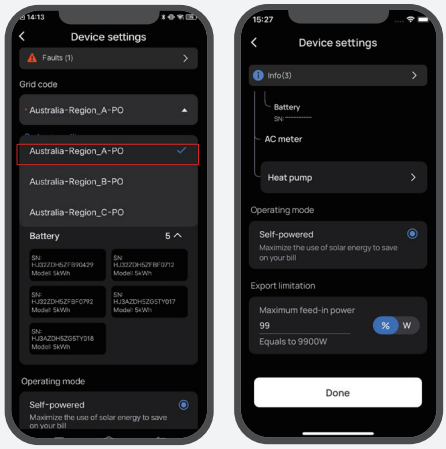


System check before carrying out Device Setting.

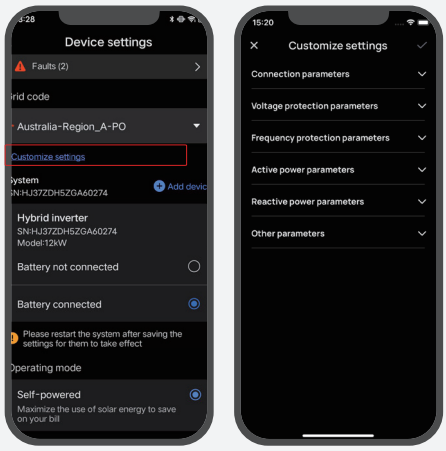
During the initial commissioning, there is a system check available for the EcoFlow PowerOcean system, allowing you to confirm all the system connections are correct.



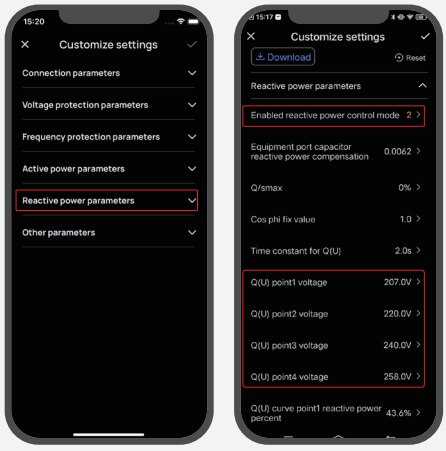
- Set grid code, system work mode and feed-in power limitation.



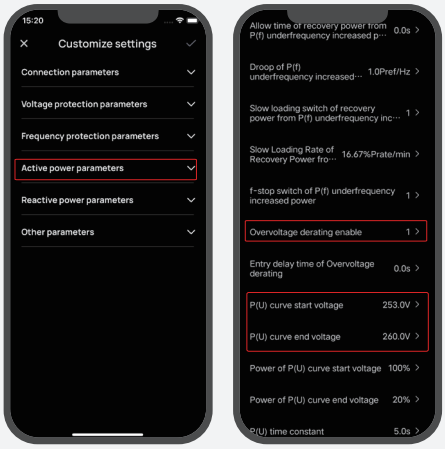
- (Optional) You can also tap **Customize Settings** to set Connection parameters, Voltage Protection parameters, Frequency Protection parameters, Reactive Power parameters and other parameters. (Please follow local regulations, if you need to change any of these parameters, please contact your local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



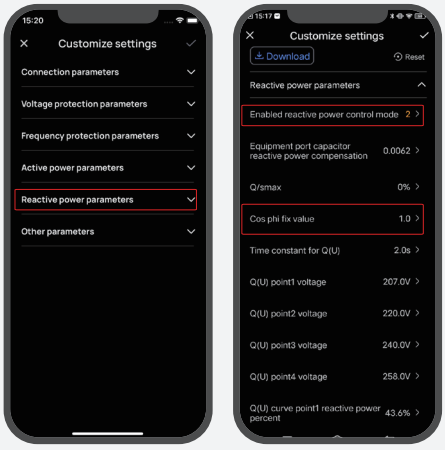
- Set power quality response modes: Volt-var.



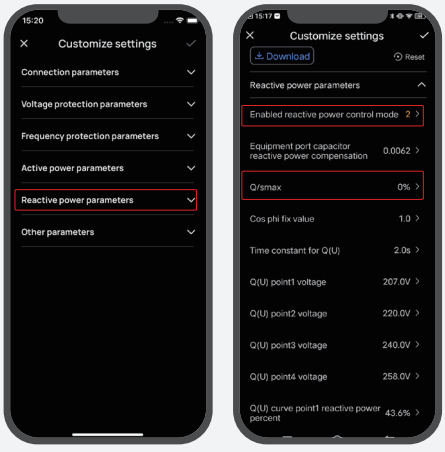
- Set power quality response modes: Volt-watt



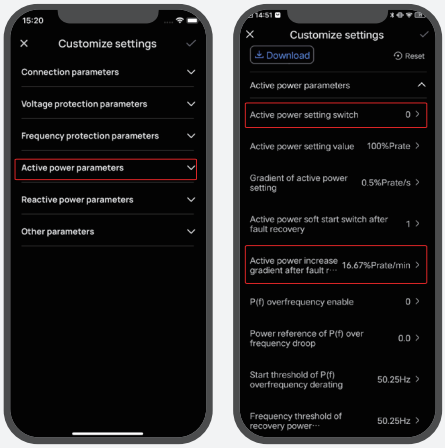
- Set fixed power factor.



- Set reactive power mode.



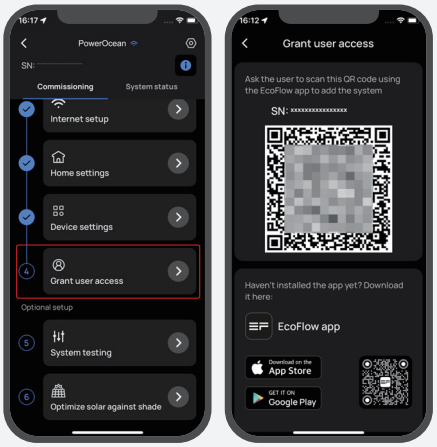
- Set power rate limit.



6 GRANT USER ACCESS

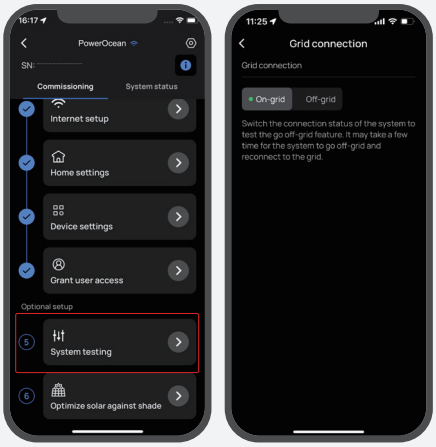
Click **Grant User Access** for a home owner access QR code to allow users to scan it.

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



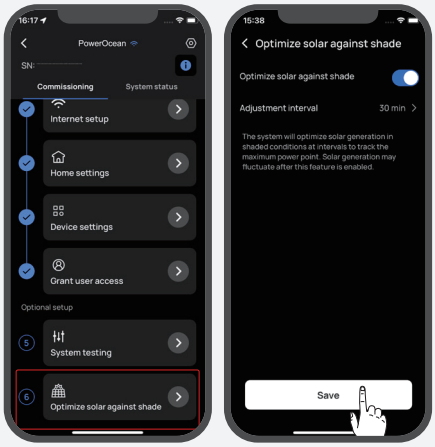
7 (OPTIONAL) SYSTEM TESTING

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



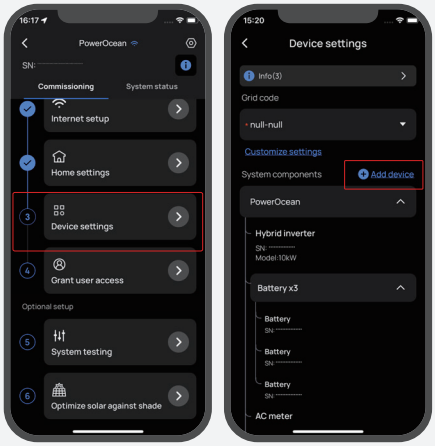
8 (OPTIONAL) OPTIMIZE SOLAR AGAINST SHADE

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 THE SYSTEM

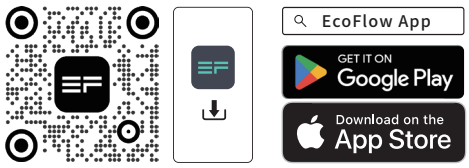
(Optional) Tap "Add Device" to integrate devices into this system, such as SG READY certified Heat Pump or charging pile etc., and setup relevant parameters.



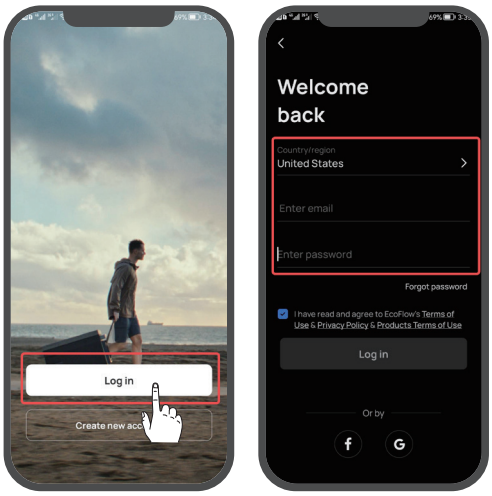
How Users Add Devices

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

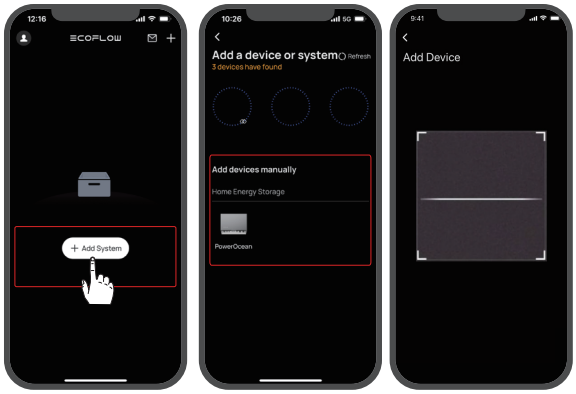
Scan the QR code or download at:
https://download.ecoflow.com/app



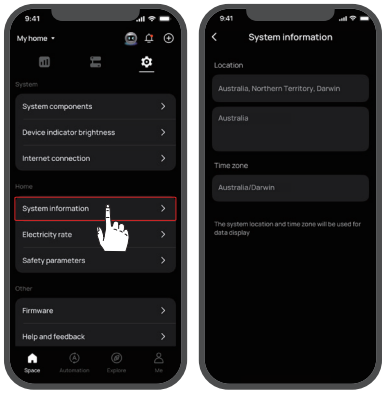
2. CREATE NEW ACCOUNT AND LOG IN.



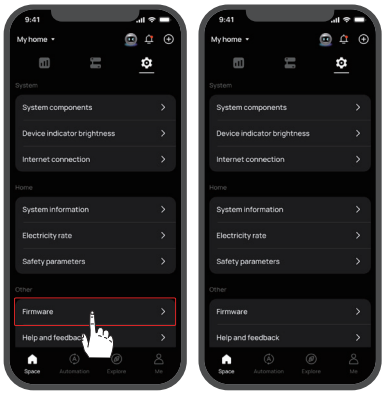
3. ADD DEVICE MANUALLY.



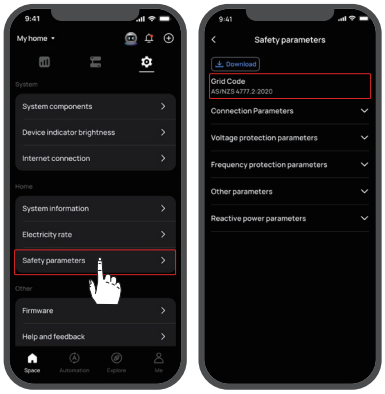
- How to view region settings?



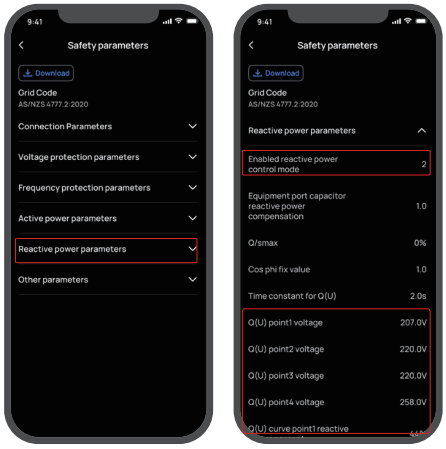
- How to view firmware version?



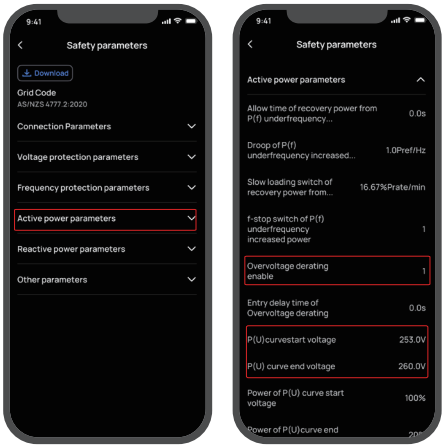
- How to view grid code?



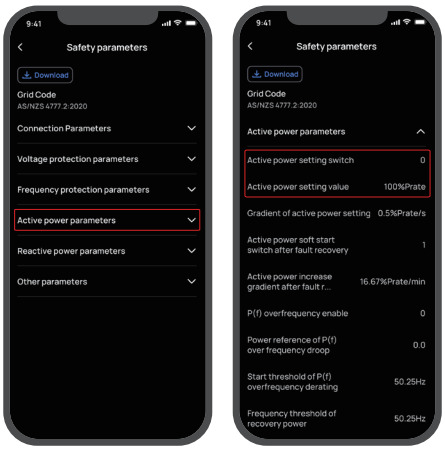
- How to view power quality response modes: Volt-var?



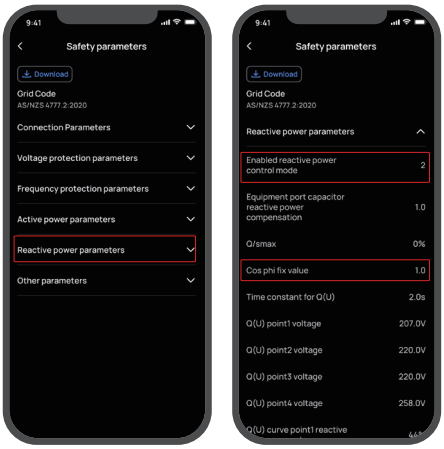
- How to view power quality response modes: Volt-watt?



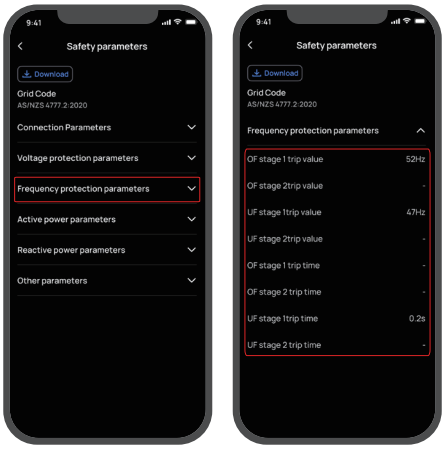
- How to view power rate limit?



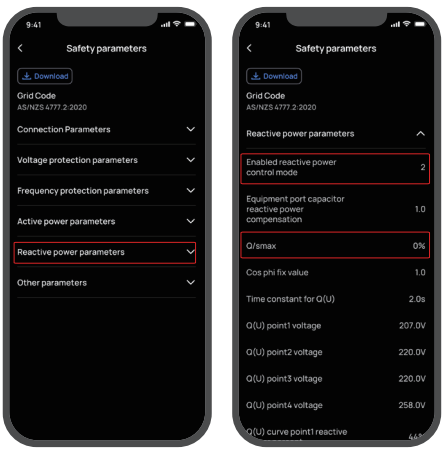
- How to view fixed power factor?



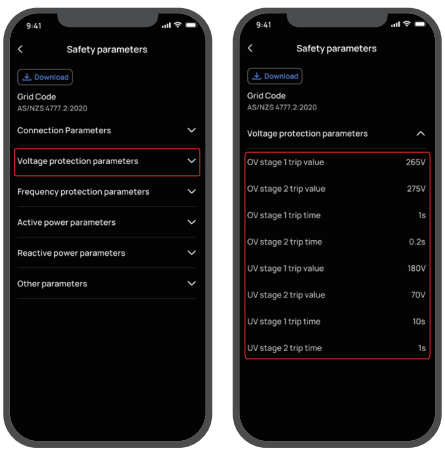
- How to view frequency protection parameters?



- How to view reactive power mode?



- How to view voltage protection parameters?



System Maintenance & Replacement

⚠ WARNING

- Before performing maintenance operations, **power off the system first**. Refer to the **System Power-Off** section for details.
- After the inverter powers off, the remaining electricity and heat may still cause electric shocks and body burns. Therefore, put on protective gloves and begin operating the equipment five minutes after the power-off.

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. Turn off the AC and DC switches of the inverter and the battery junction box when maintaining the electric equipment or power distribution equipment connected the equipment.
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	Recommended Maintenance Interval
System cleanliness	Check periodically that the heat sinks are free from obstacles and dust. If there is any stain/dirt, use a dry, soft cloth to wipe it off and prohibit the use of stain removing powder, any liquid, coarse brush, abrasives or hard objects to clean the equipment. Ensure equipment ventilation and heat dissipation.	Once every 6 months
System running status	Check that the equipment is not damaged or deformed. Check that the equipment operates with no abnormal sound. Check that all equipment parameters are correctly set during operation.	Once every 6 months
Electrical connection	Check that cables are secured. Check that cables are intact.	Once every 6 months
Grounding reliability	Check that ground cables are securely connected.	Once every 6 months
Seal ability	Check that unused terminals, ports, waterproof covers are locked as delivered.	Once every 6 months

TROUBLESHOOTING

⚠ WARNING

- Only professionals with appropriate qualifications are allowed to perform the following activities.
- Wear proper PPE before any operations.

1. Visit and log in to the **EcoFlow Pro** app.
2. Retrieve the error code and in-app instructions.
3. Completely power off the entire system, see the **System Power-Off**.
4. Follow the in-app instructions to fix the issue.

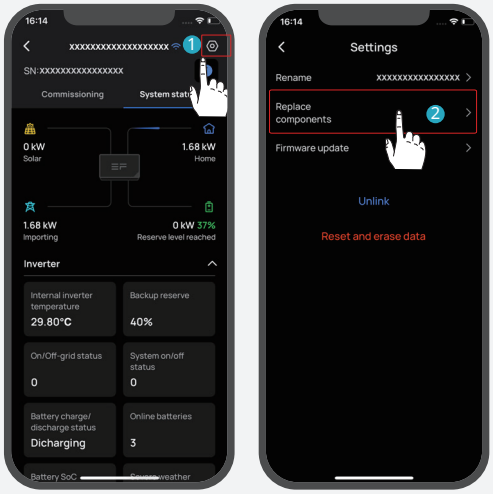
- As end users, you can visit and log in to the **EcoFlow** user app and find the most common FAQ or contact customer support on the **Setting** page -**Help and feedback.**
- If the problem persists, contact the EcoFlow technical support team.

Replacement

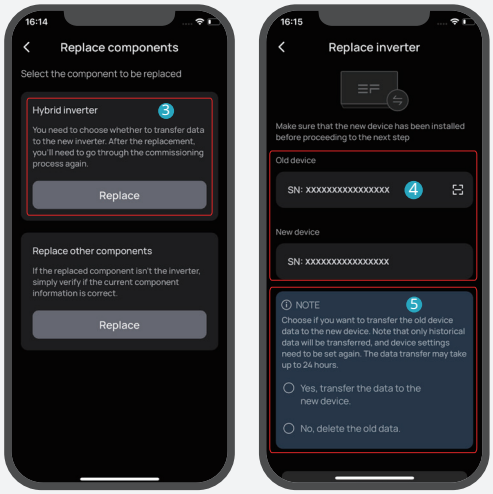
⚠ WARNING

- Only professionals with appropriate qualifications are allowed to perform the following activities.
- Wear proper PPE before any operations.

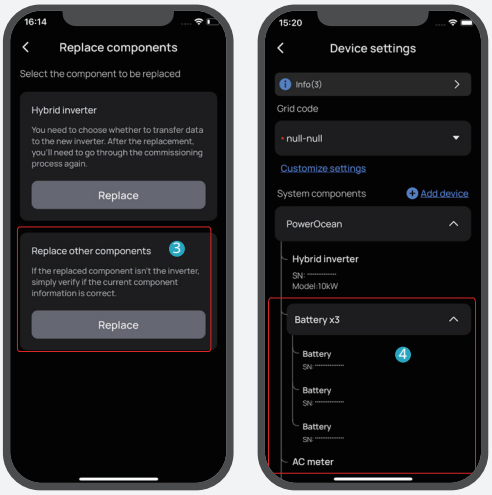
1. Completely power off the entire system, see the **System Power-Off** section.
2. Sequentially disconnect GRID cables, PV input cables, battery cables, communication cables and all modules connecting to the inverter.
3. Remove the old inverter or other components from the mounting bracket.
4. Install a new inverter or other components, see the Installation Guide delivered with the inverter.
5. Power on the system, see the **System Power-On** section.
6. System Commissioning, see the Installation Guide delivered with the inverter.
7. Transfer the old device data to the new device or delete the old data through the **EcoFlow Pro App.**



a. Replace the old inverter.



b. Replace other components.



Inverter Decommissioning

⚠ CAUTION

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

Removing an inverter

1. Sequentially disconnect GRID cables, PV input cables, battery cables, communication cables and all modules connecting to the inverter.
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.

Technical Parameters

Technical parameters		EF HD-P3-6K0-S1	EF HD-P3-8K0-S1	EF HD-P3-10K-S1	EF HD-P3-12K-S1
DC Input (PV)	Maximum PV Power (W)	10000	12000	14000	16000
	Maximum Input Voltage (V)	1000			
	MPPT Operating Voltage Range (V)	200-850			
	Start-Up Voltage (V)	160			
	Nominal Input Voltage (V)	600			
	Maximum Power per MPPT (W)	5000	6000	7000	8000
	Maximum Input Current per MPPT (A)	16			
	Maximum Short Circuit Current per MPPT (A)	24			
	Number of Strings per MPPT	1			
	Number of MPPTs	2			
	Overvoltage Category	II			
DC Input (Battery)	Maximum Charging Power (W)	6000	8000	10000	12000
	Maximum Discharging Power (W)	6000	8000	10000	12000
	Maximum Continuous Charging Current (A)	12.5	12.5	12.5	15
	Maximum Continuous Discharging Current (A)	12.5	12.5	12.5	15
	Rated Voltage (V)	800			
	Maximum Battery Capacity (kWh)	45.9			
	Supported Battery Type	$LiFePO_4$			
AC Input	Connection	3L+N+PE			
	Overvoltage Category	III			
	Nominal Apparent Power from Utility Grid (VA)	12000	16000	16000	16000
	Maximum Apparent Power from Utility Grid (VA)	12000	16000	16000	16000
	Rated Input Voltage (V)	230/400, 3L+N+PE			
	Maximum AC Current from Utility Grid (A)	17.4	23.1	23.1	23.1
	Nominal Frequency (Hz)	50/60			
AC Output (On-grid)	Grid Connection	3L+N+PE			
	Overvoltage Category	III			
	Nominal Apparent Power Output to Utility Grid (VA)	6000	8000	10000	12000
	Maximum Apparent Power Output to Utility Grid (VA)	6000	8000	10000	12000
	Nominal Output Voltage (V)	230/400, 3L+N+PE			
	Nominal Frequency (Hz)	50/60			
	Maximum AC Current Output to Utility Grid (A)	8.7	11.5	14.4	17.4
	Nominal Output Current (A)	8.7	11.5	14.4	17.4
	Current Total Harmonic Distortion (At Rated Power)	<3%			
	Power Factor	-0.8...1...+0.8			
AC Output (Backup)	Nominal Apparent Power (VA)	6000	8000	10000	12000
	Maximum Apparent Power (VA)	7200@1 sec	9600@1 sec	12000@1 sec	14400@1 sec
	Nominal Output Voltage (V)	230/400, 3L+N+PE			
	Nominal Frequency (Hz)	50/60			
	Nominal Output Current (A)	8.7	11.5	14.4	17.4
	Maximum Output Current (A)	10.4@1 sec	13.9@1 sec	17.4@1 sec	20.9@1 sec
	Voltage Total Harmonic Distortion (At Linear Load & Rated Power)	<3%			
Protection	Residual Current Monitoring	Integrated			
	PV Insulation Resistance Detection	Integrated			
	Anti-Islanding Protection	Integrated			
	PV Reverse Polarity Protection	Integrated			
	AC Overcurrent Protection	Integrated			
	Backup Load Short-Circuit Protection	Integrated			
	AC Overvoltage Protection	Integrated			
	DC Switch	Integrated			
	Remote Shutdown	Integrated			
	Protective Class	I			
Efficiency	Maximum Efficiency	97.6%			
	Maximum MPPT Efficiency	99.9%			
Compliance	Certificates	CE/CB/TUV MARK			CE MARK
	Safety Standards	IEC/EN62109-1, IEC/EN62109-2			
	Grid-tied Standards	EN 50549, EN50438, TOR Erzeuger Type A, EEA-NE7- CH, PTPiREE, UTE C 15-712-1, ANRE, O3E-323, G99, G98, CEI0-21, C10/11, VDE-AR-N-4105			
	EMC	EN 62311, EN 301 489-1, EN 301 489-17, EN IEC 61000-6-3, EN IEC 61000-3-2, EN 61000-3-3, EN IEC 61000-6-1, EN 300 328			
General Data	Topology	Non-isolated			
	Operating Temperature Range (°C)	-20 to 50			
	Storage Temperature (°C)	-30 to 60			
	Operating Relative Humidity	0%-100% (Condensing)			
	Noise Emission (dB)	<35			
	Maximum Operating Altitude (m)	3000			
	Weight (kg)	Approximately 29.6			
	Dimensions (W×D×H) (mm)	588×175×380 (±1) (without trim cover), 588×175×455 (±1) (with trim cover)			
	Protection Level	IP65			
	Self-Consumption at night (W)	<25			
	Cooling Method	Natural convection			
	Communication Method	RS485 (for Meter) & CAN (for BMS) & Wi-Fi & Bluetooth & WAN & 4G			
	Wi-Fi Frequency Range (MHz) Maximum Output Power (dBm)	2412-2472 (20) / 2422-2462 (40), 18.54			
	Bluetooth Frequency Range (MHz) Maximum Output Power (dBm)	2402-2480, 7.19			
	Pollution Degree	PD3			
	Environmental Category	Outdoor/Indoor			