

# INSTALLATION GUIDE

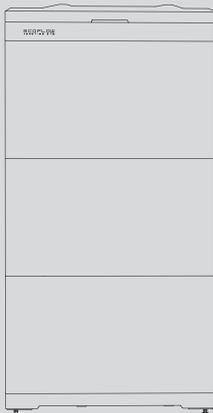
For EF HD-P3-29K9-S1, EF HD-P3-25K0-S1, EF HD-P3-20K0-S1, EF HD-P3-15K0-S1

For EF BD-5.1-S1, EF BD-10.2-S1, EF BD-15.3-S1, EF BD-20.4-S1

V1.0

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## ECOFLOW POWEROCEAN PLUS 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.

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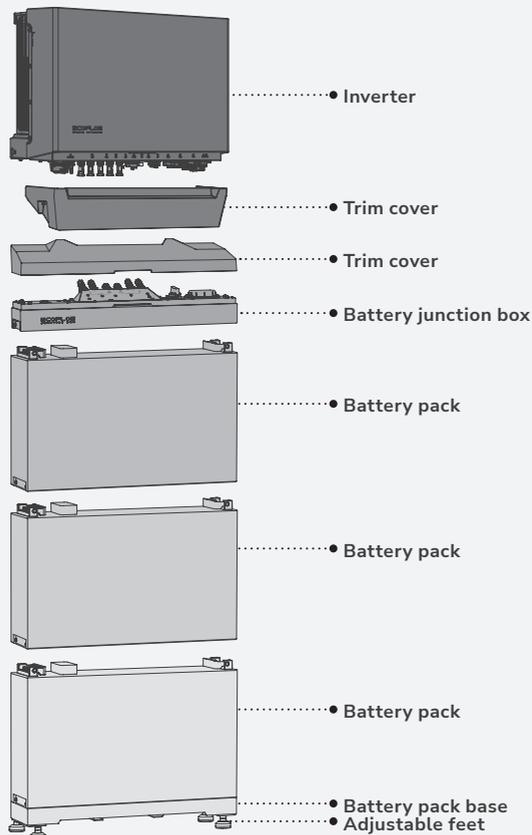
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# Safety Instructions

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

 **DANGER**

- Before installing, operating, and maintaining the equipment, read and follow up the product documents.
- 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

 <b>Hammer drill</b> (with a drill bit of 8mm)	 <b>Electrical screwdriver</b>	 <b>Torque socket of 10mm</b>	 <b>Multimeter</b> (DC voltage measurement range $\geq 1000$ V DC)	 <b>Mallet</b>	 <b>Screwdriver (PH3)</b>
 <b>Cable cutter</b>	 <b>Open barrel crimping tool</b> (for PV terminals)	 <b>Wire strippers</b>	 <b>RJ45 crimping tool</b>	 <b>Square crimping tool</b> (for tubular terminals 0.5, 10 or 16 mm <sup>2</sup> )	 <b>Wrench (14 mm)</b>
 <b>Marker</b>	 <b>Steel measuring tape</b>	 <b>Cable tie</b>	 <b>Feed-through terminal blocks 6-8 pcs</b>	 <b>Heat gun</b>	 <b>Heat-shrink tubing</b>

## • OPTIONAL TOOLS

 <b>Level</b>	 <b>Vacuum cleaner</b>	 <b>Safety goggles</b>	 <b>Safety shoes</b>	 <b>Safety gloves</b>	 <b>Dust mask</b>
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## • CABLES

 <b>10 mm<sup>2</sup> grounding cable</b> (copper conductor)	 <b>4-6 mm<sup>2</sup> PV input cable</b> (black, red)	 <b>10 or 16 mm<sup>2</sup> UL10269 power cable</b> (black, brown, blue, grey)	 <b>Cat 5e or higher shielded network cable</b>	 <b>2*0.5 mm<sup>2</sup> twist pair cable</b>
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## 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

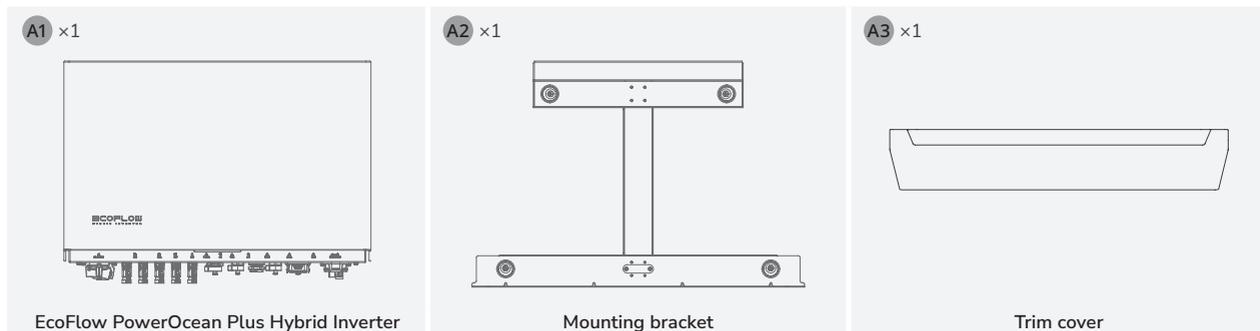
1. Before installation, remove the battery from the packing case and move it to the installation site. Follow the instructions below as you move the battery:
2. Always be aware of the weight of the battery.
3. When moving the battery by hand, wear protective gloves to prevent injuries.
4. Avoid falling 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.

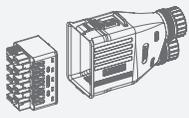
## What's in the Box

### NOTICE

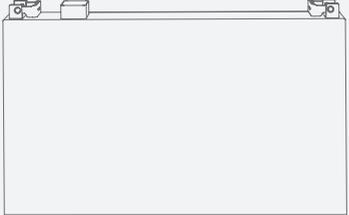
- Before unpacking, check the outer packing for damage, such as holes and cracks, and check the equipment model. If any damage is found, do not unpack the package and contact the supplier as soon as possible.
- After unpacking, check that the deliverables are intact and complete. If any item is missing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

### • ECOFLOW POWEROCEAN HYBRID INVERTER BOX

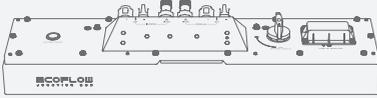
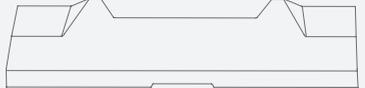
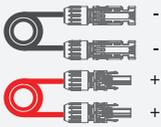
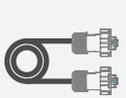
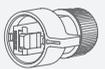


<p><b>A4</b> ×1</p>  <p><b>WIFI module</b> (EF HD-P3-WIFI-S1)</p>	<p><b>A5</b> ×4</p>  <p><b>PV terminal (+)</b></p>	<p><b>A5</b> ×4</p>  <p><b>PV terminal (-)</b></p>	<p><b>A6</b> ×1</p>  <p><b>Inverter cascading cable</b> (3 m)</p>	<p><b>A7</b> ×1</p>  <p><b>COM connector with shorting wire</b></p>	
<p><b>A8</b> ×1</p>  <p><b>Grid and backup connector</b></p>	<p><b>A9</b> ×1</p>  <p><b>Marking-off template for inverter</b></p>	<p><b>A10</b> ×4</p>  <p><b>Expansion bolt</b> (M6*60)</p>	<p><b>A11</b> ×4</p>  <p><b>Screw</b> (M5*10)</p>	<p><b>A12</b> ×2</p>  <p><b>Disassembly and assembly tool</b></p>	<p><b>A13</b> ×2</p>  <p><b>OT terminal</b></p>
<p><b>A14</b> ×12</p>  <p><b>Tubular terminal</b> (for wire gauge 16 mm<sup>2</sup>, EF HD-P3-29K9-S1 and EF HD-P3-25K0-S1)</p>	<p><b>A15</b> ×12</p>  <p><b>Tubular terminal</b> (for wire gauge 0.5mm<sup>2</sup>)</p>	<p><b>A16</b> ×12</p>  <p><b>Tubular terminal</b> (for wire gauge 10 mm<sup>2</sup>, EF HD-P3-20K0-S1 and EF HD-P3-15K0-S1)</p>	<p><b>A17</b> ×1</p>  <p><b>Termination resistor</b> (for inverter cascading)</p>	<p><b>A18</b> ×1</p>  <p><b>Communication terminal</b></p>	

• **ECOFLOW POWEROCEAN LFP BATTERY BOX**

<p><b>B1</b> ×1</p>  <p><b>EcoFlow PowerOcean LFP Battery</b></p>	<p><b>B2</b> ×2</p>  <p><b>Battery T-shaped/L-shaped mounting piece</b></p>
<p><b>A10</b> ×2</p>  <p><b>Expansion bolt</b> (M6*60)</p>	<p><b>B3</b> ×8</p>  <p><b>Screw</b> (M5*12)</p>

• **ECOFLOW POWEROCEAN PLUS BATTERY JUNCTION BOX**

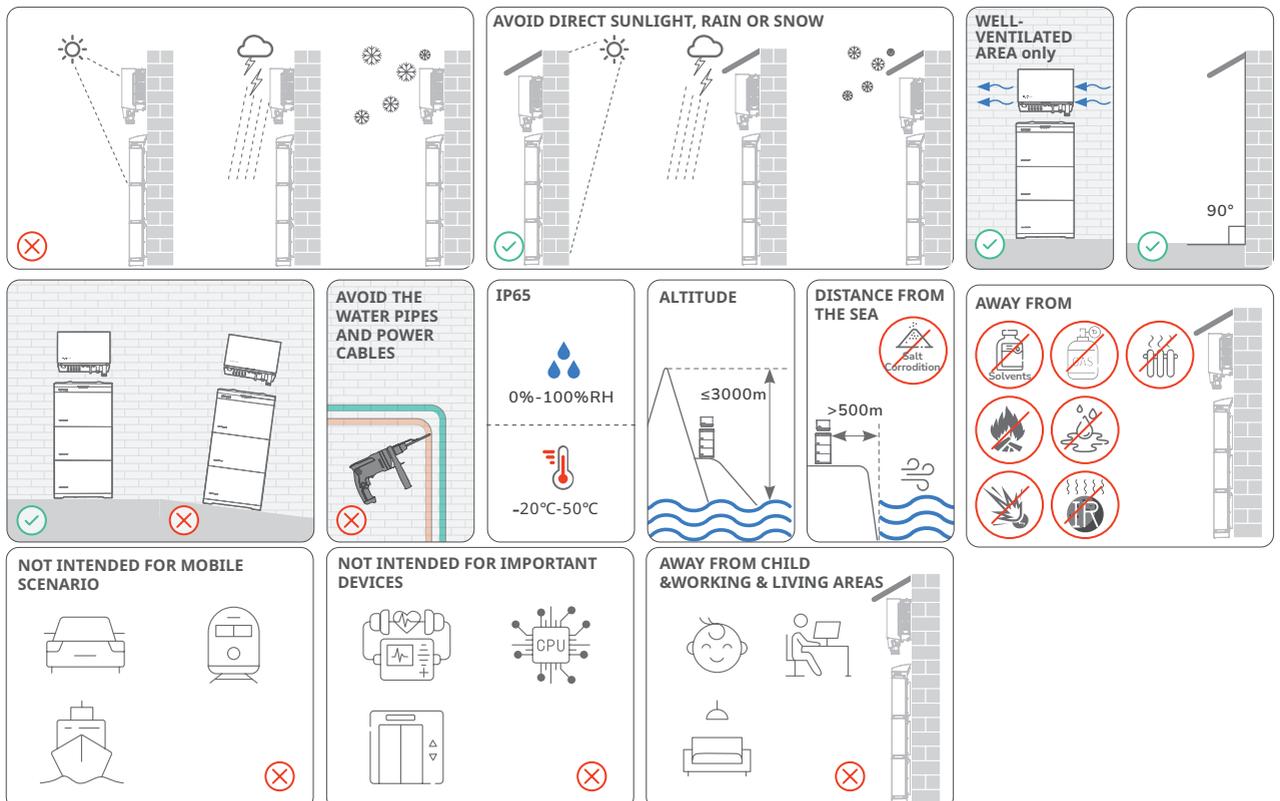
<p><b>C1</b> ×1</p>  <p><b>EcoFlow PowerOcean Plus Battery Junction Box</b> (EF BD-JC-S2)</p>	<p><b>C2</b> ×1</p>  <p><b>Battery base</b></p>	<p><b>C3</b> ×1</p>  <p><b>Trim cover</b></p>			
<p><b>C4</b> ×1</p>  <p><b>Marking-off template for battery</b></p>	<p><b>C5</b> ×4</p>  <p><b>Adjustable feet</b></p>	<p><b>C6</b> ×1</p>  <p><b>Battery power cable</b> (1.5 m)</p>	<p><b>C7</b> ×1</p>  <p><b>Battery communication cable</b> (1.5 m)</p>	<p><b>C8</b> ×2</p>  <p><b>Battery terminal (+)</b></p>	<p><b>C8</b> ×2</p>  <p><b>Battery terminal (-)</b></p>
<p><b>A18</b> ×2</p>  <p><b>Communication terminal</b></p>	<p><b>A10</b> ×2</p>  <p><b>Expansion bolt</b> (M6*60)</p>	<p><b>B3</b> ×4</p>  <p><b>Screw</b> (M5*12)</p>	<p><b>A13</b> ×2</p>  <p><b>OT terminal</b></p>	<p><b>A17</b> ×1</p>  <p><b>Termination resistor</b> (for battery cascading)</p>	

## I Installation Environment Requirements

**WARNING**

**NOTICE**

- The installation and operation environment must meet relevant international, national, and local standards for lithium batteries and the inverter.
- 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. Suitably non-combustible materials are: brick or masonry block, concrete.
- The material shall have no vents or perforations within the zone required to be covered by the barrier.
- Install the inverter to a wall that is sufficiently load-bearing (about 41 kg).
- Ensure that the installation surface is solid enough to bear the weight of the equipment.
- Suitable locations for installation may include garages, storage rooms, a dedicated battery system room and verandas.
- The system shall not be installed:
  - (a) in restricted locations, as defined for switchboards in AS/NZS 3000;
  - (b) within 600 mm of any exit;
  - (c) within 600 mm of any vertical side of a window or building ventilation that ventilates a habitable room;
  - (d) within 600 mm of any hot water unit, air conditioning unit or any other appliance not associated with the pre-assembled integrated BESS;
  - (e) within 900 mm below any of the items included in Items (b), (c) and (d);
  - (f) in ceiling spaces;
  - (g) in wall cavities;
  - (h) on roofs, except where specifically deemed suitable;
  - (i) under stairways;
  - (j) under access walkways;
  - (k) in an evacuation route or escape route.



# I Installation Clearance Requirements

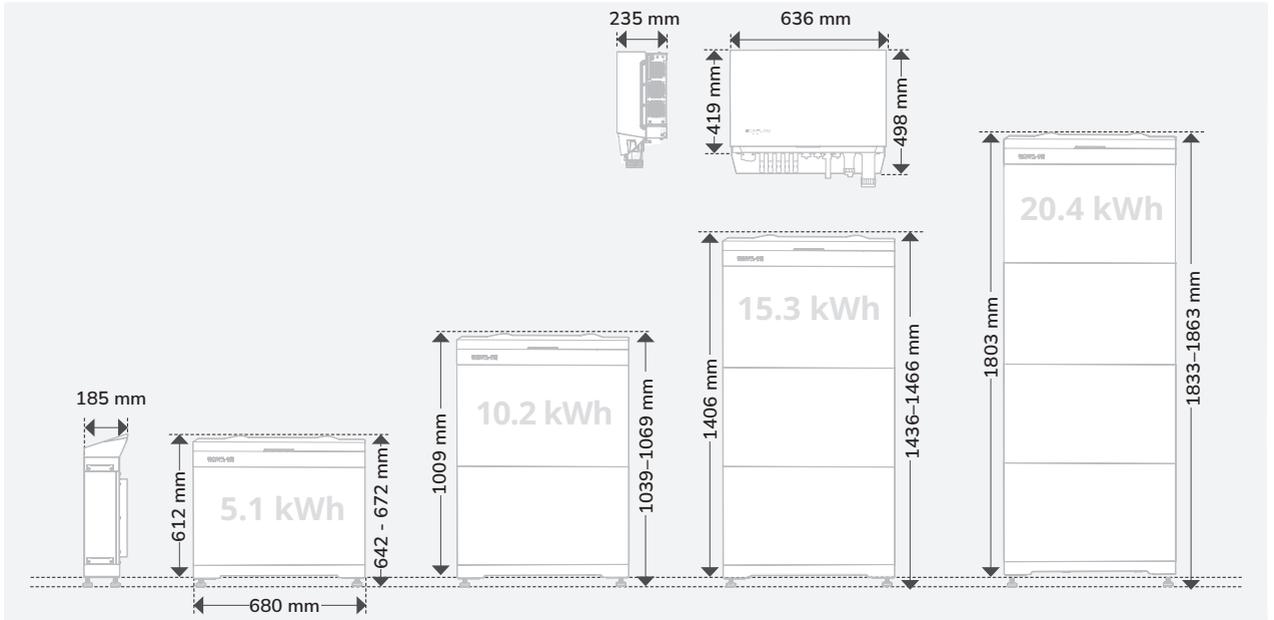
**WARNING**

- 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 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.
- Battery system installed in any corridor, hallway, or lobby shall ensure sufficient clearance from the battery system for safe egress and be no less than 1 m.

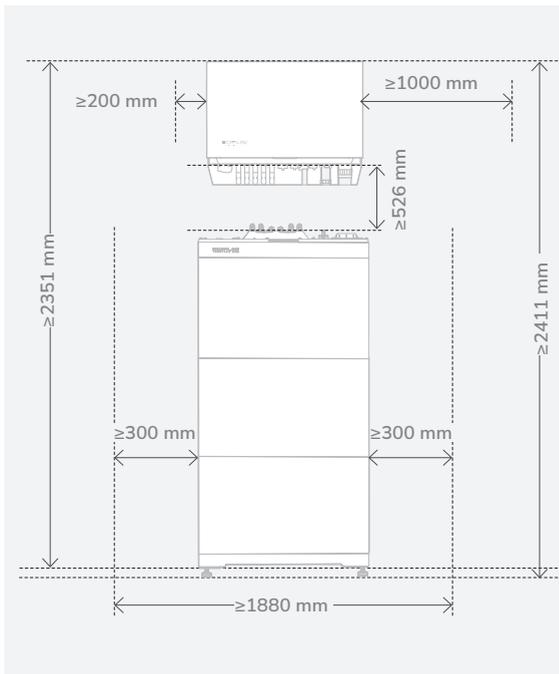
## • DIMENSIONS



## • CLEARANCE

Clearance between the inverter and battery in the figure is for wiring, and can be reduced if the space height is limited (or place the inverter beside batteries).

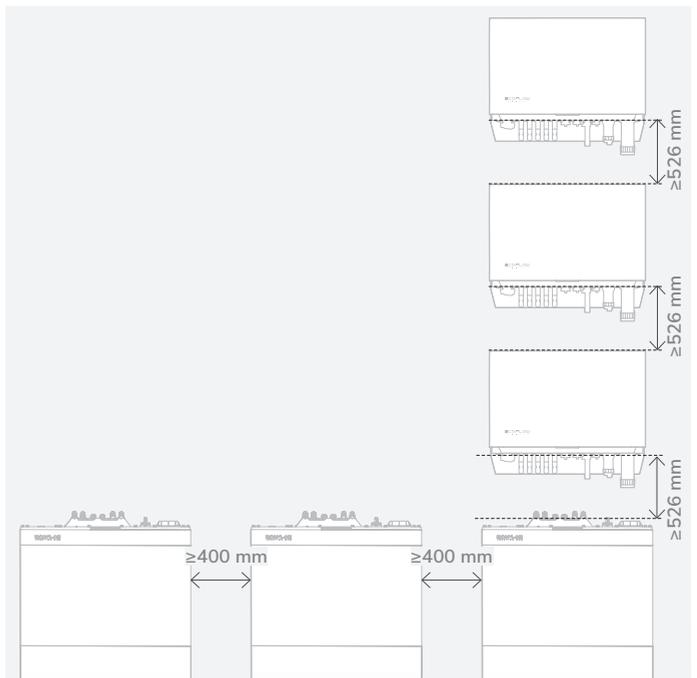
NOTICE: Australian regulations require 900 mm above the system and 600 mm to the sides and front of the battery.



## • CLEARANCE OF CASCADING INSTALLATION

Installing vertically is recommended for well ventilation. You can also install inverters secondly. Reduce the clearance between the inverter and battery if the space height is limited.

Installing horizontally is not recommended.



## I 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**

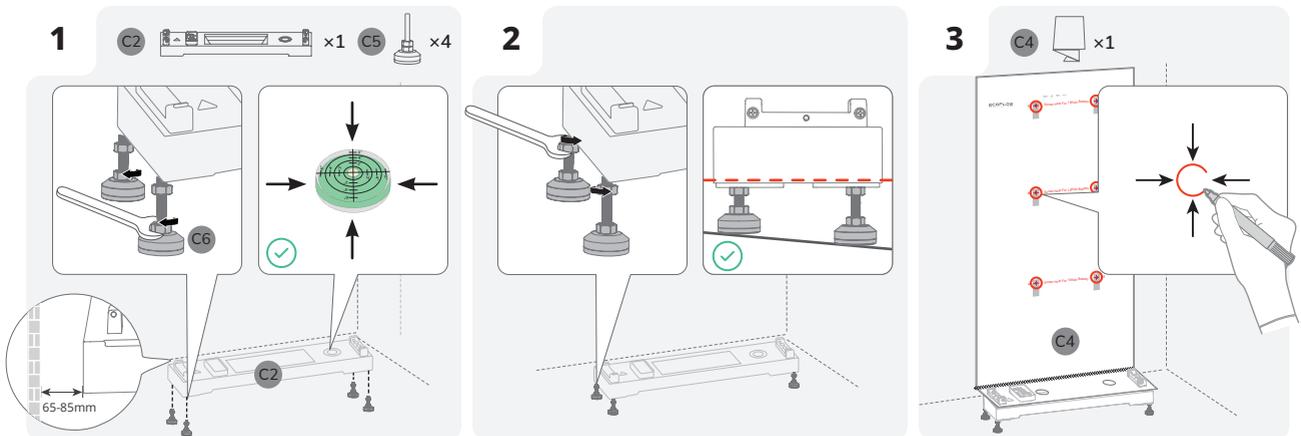
- Ensure the batteries are mounted on the wall to avoid falling over, tipping, or seismicity.
- Assign enough personnel (two or more) to move battery to avoid personal injury and battery damage.
- When moving battery, hold handles on top of the battery module.

### **NOTICE**

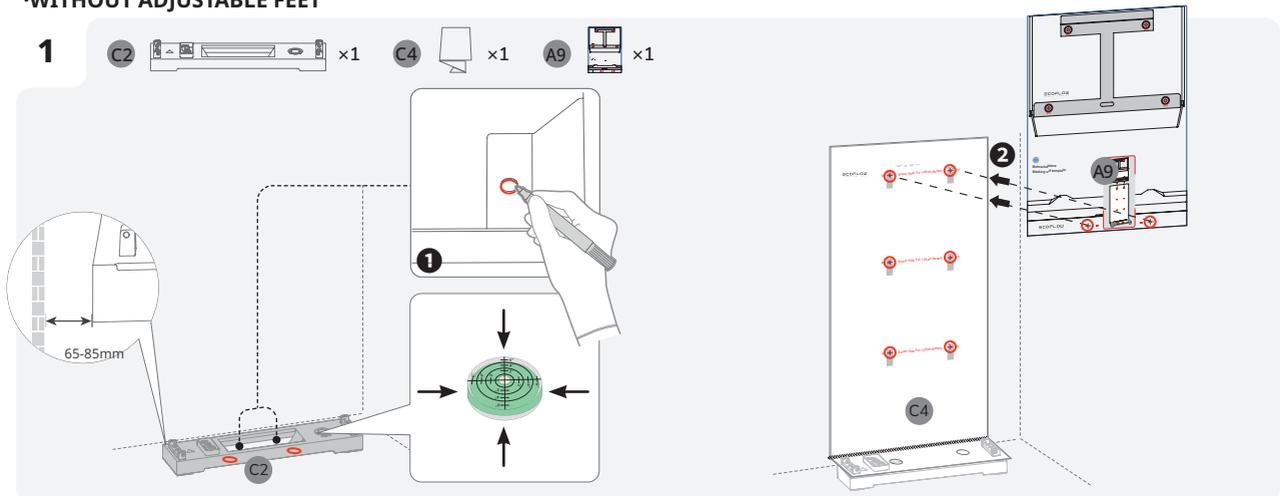
- Sealant is applied underneath the battery base to ensure its resistance against water.
- There will be a gap between the battery junction box and the battery pack before the screws are tightened. This gap is caused by the mechanical design to meet the IP rating, and will normalize after the screws 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.

### METHOD 1: FLOOR MOUNTED

#### • WITH ADJUSTABLE FEET



#### • WITHOUT ADJUSTABLE FEET

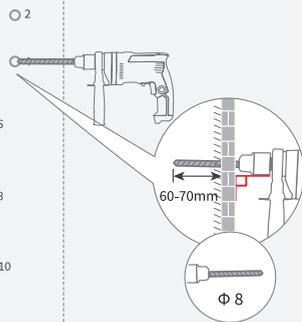
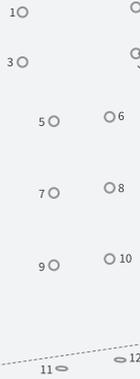
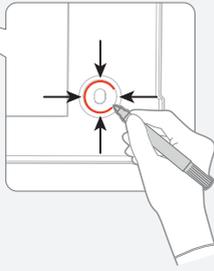
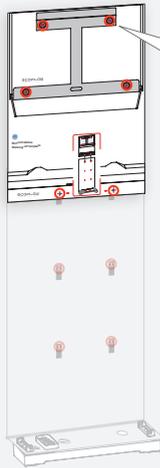


2

A9



x1



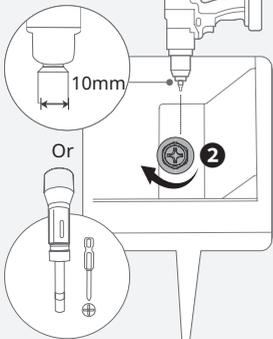
3

A10



x2

5.0N·m



1

A10

11

12

4

B1

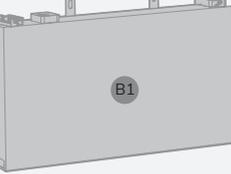
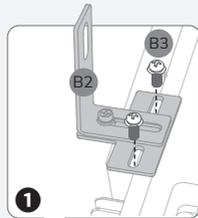
x1

B2

x2

B3

x4



2

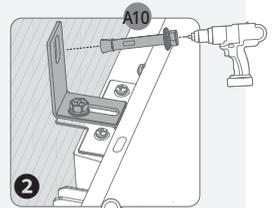
5

A10

x2

B3

x4

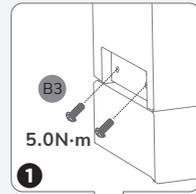


2

2.5N·m

90°

\*Fully tighten it to secure.



5.0N·m

1

B3

9

10

6

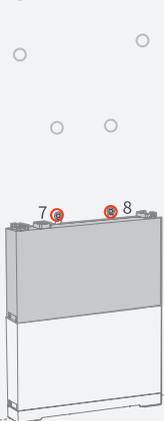
C1



x1

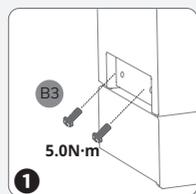
B3

x4



7

8



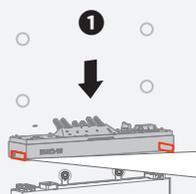
5.0N·m

1

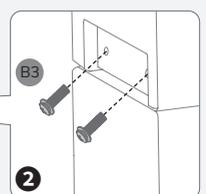
B3

5

6



1

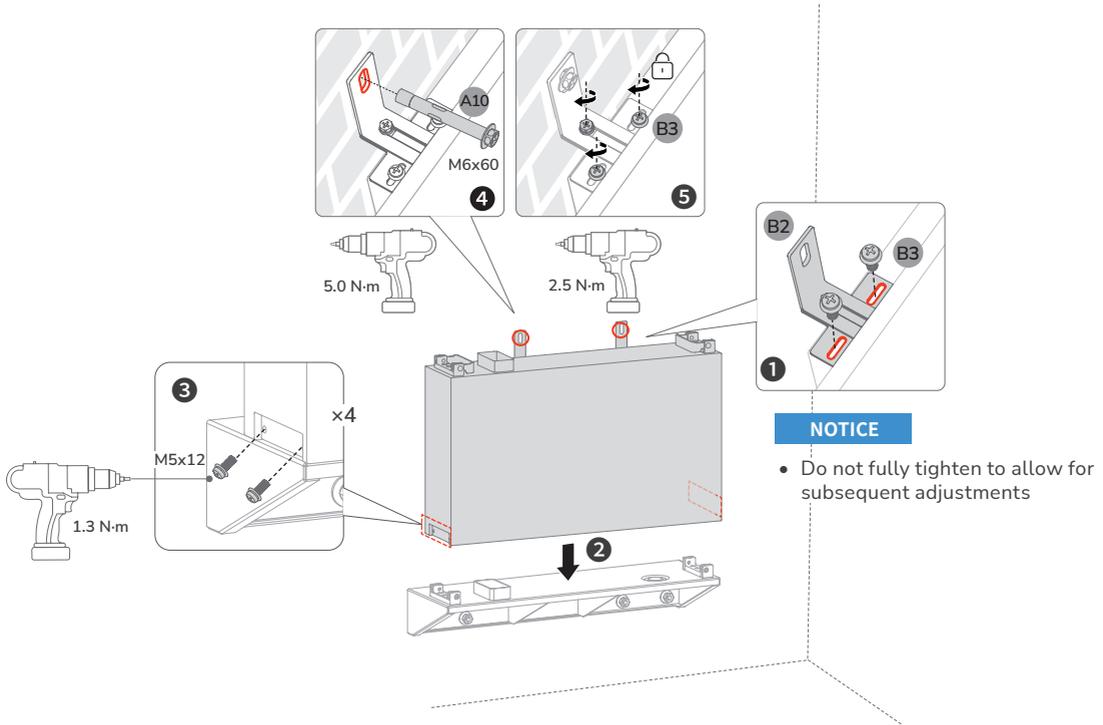


2

## METHOD 2: (OPTIONAL) WALL MOUNTED

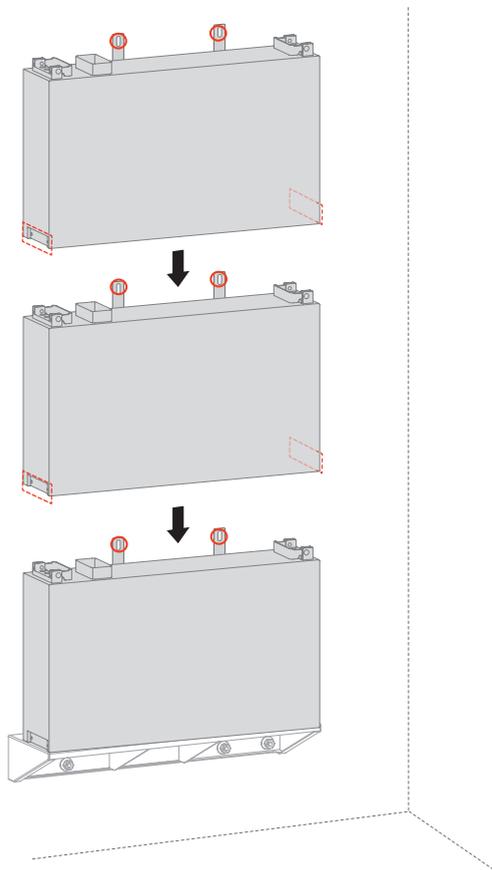
**NOTICE**

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



**NOTICE**

- Install the remaining batteries and the inverter as shown in the method 1.

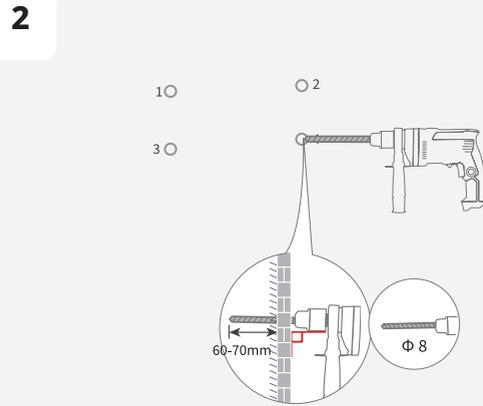
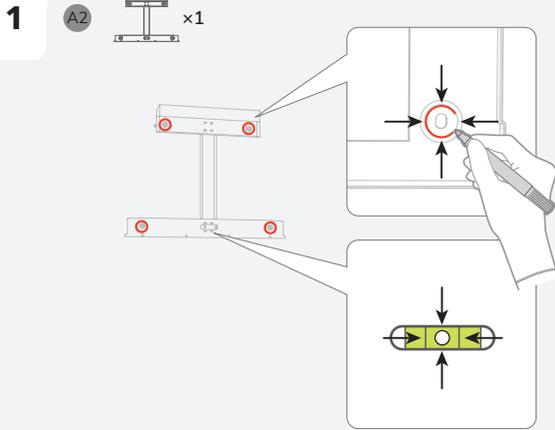


# I Installing Inverter

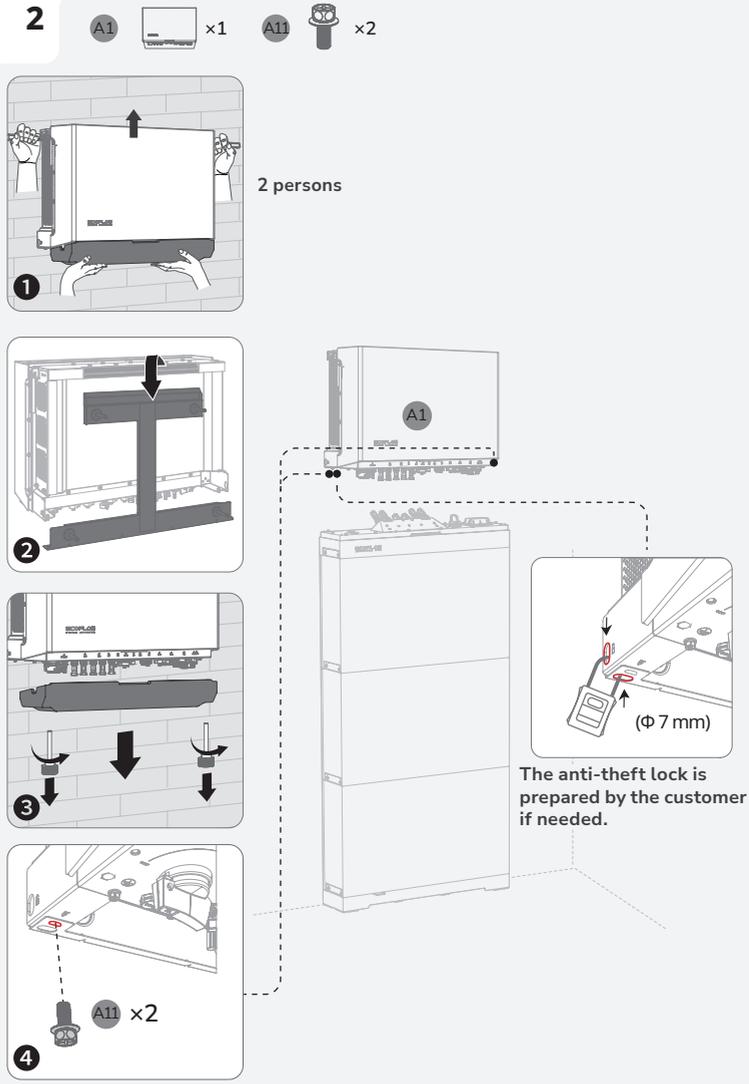
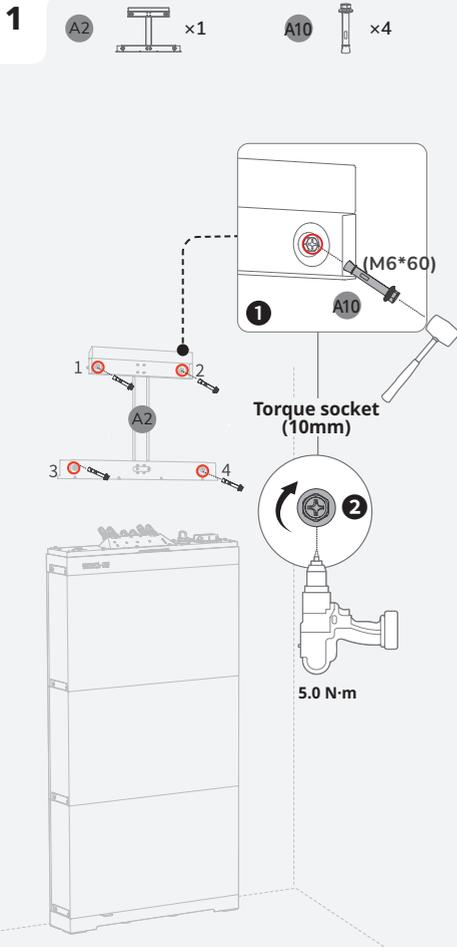
**NOTICE**

- Mount the inverter vertically or tilted back (<math><30^\circ</math>) to facilitate the heat dissipation of the inverter.
- Do not remove the firm foam when taking out the inverter from the box.

**• MOUNTING WITHOUT MARKING-OFF TEMPLATE FOR INVERTER IF INSTALLING THE INVERTER BEFORE BATTERIES**



**• CONTINUE THE BATTERY INSTALLATION STEP**

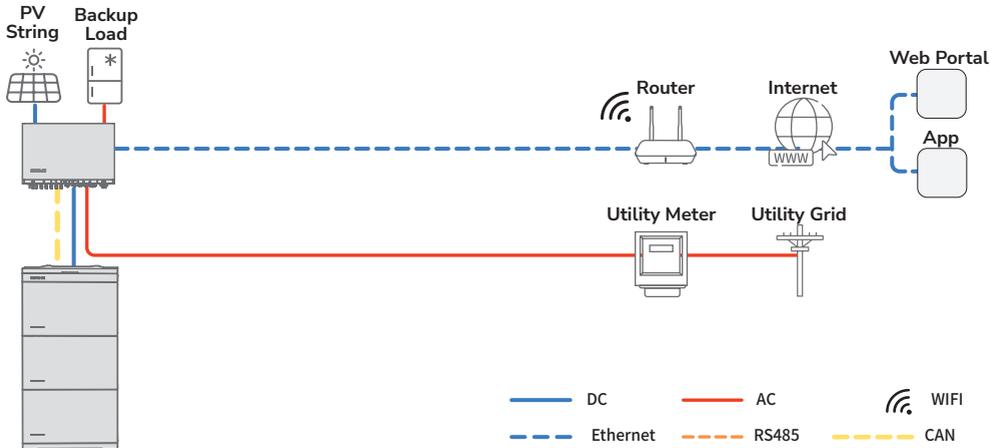


# Application Scenarios

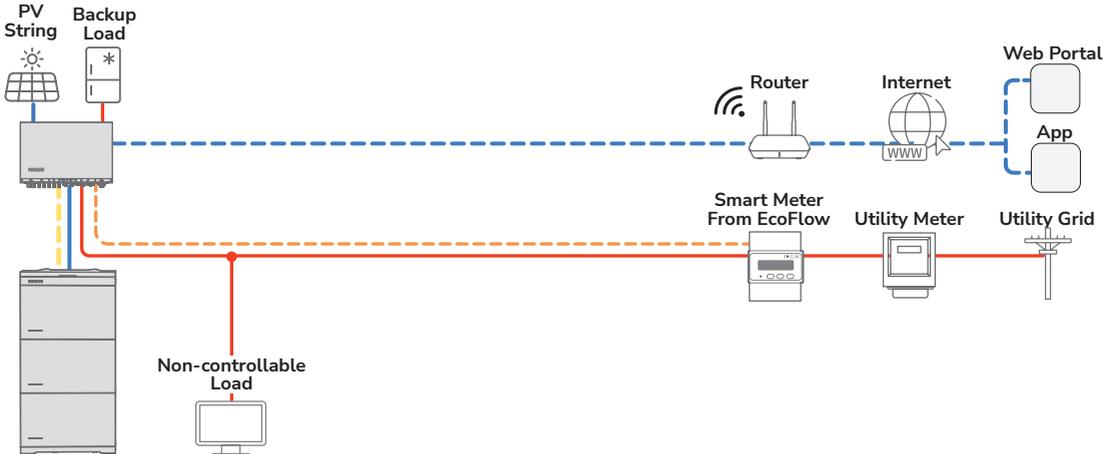
The wiring scheme described in this manual is based on the latest version of the APP software and firmware released in October 2025, which is subject to change with software updates. If you have any questions, please contact your local EcoFlow after-sales service.

## I Single Inverter Setup

### • WHOLE HOME BACKUP SYSTEM



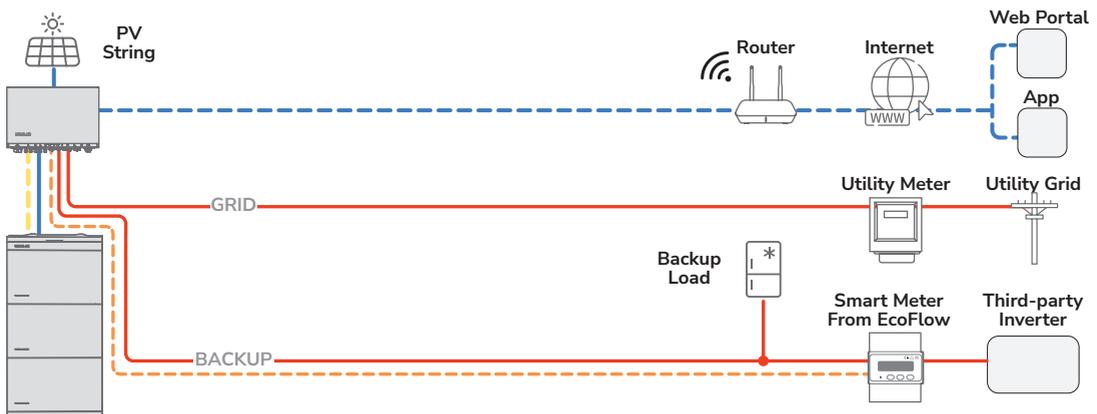
### • PARTIAL HOME BACKUP SYSTEM



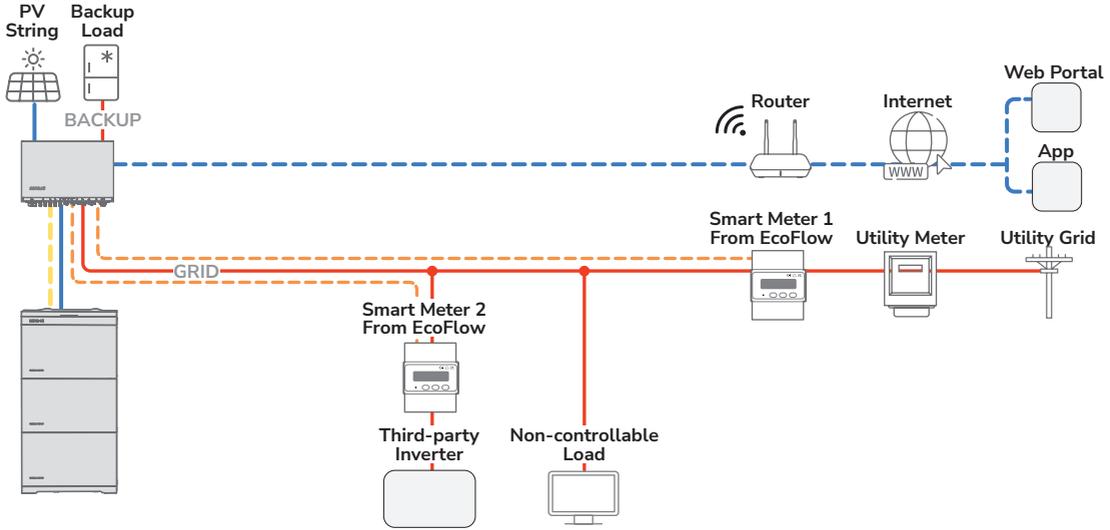
### • INTEGRATING EXISTING PV SYSTEM TO THE ECOFLOW POWEROCEAN PLUS SYSTEM

EcoFlow PowerOcean Plus system is compatible with any single/three-phase PV grid-tied system. For three-phase inverter connection, its rated power shall not exceed the rated power of the BACKUP/GRID port. For single-phase inverter connection, its rated power shall not exceed one-third of the BACKUP/GRID port's rated power. The power generation from the existing PV inverter will be firstly provided to the loads and then charge the battery.

#### CONNECTION WITH Backup PORT (Coming soon)

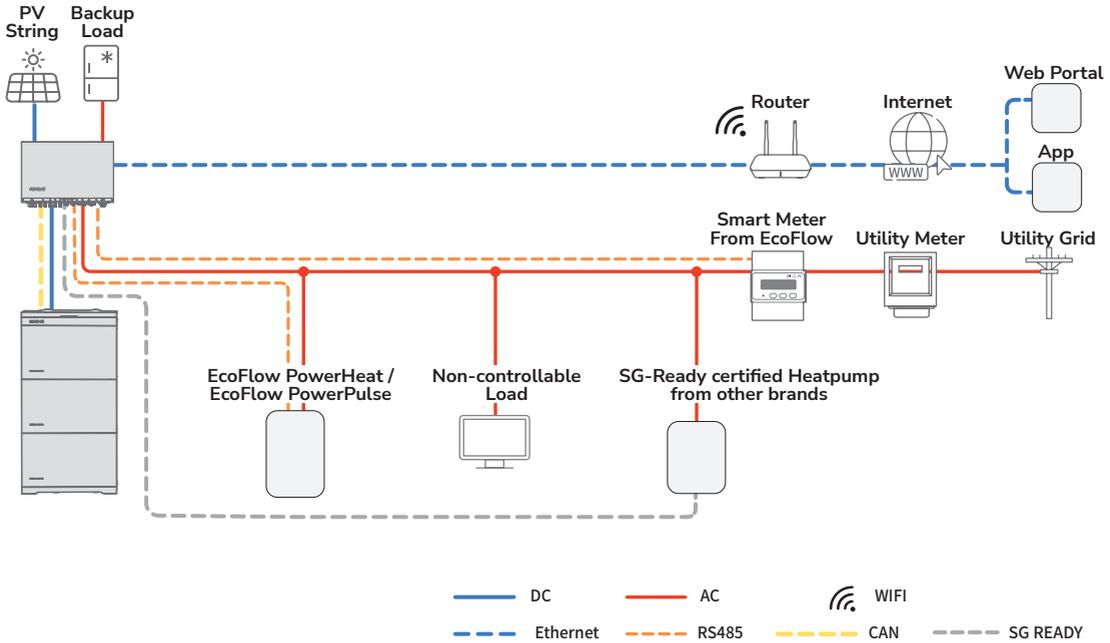


CONNECTION WITH GRID PORT



• INTEGRATING SG-READY CERTIFIED HEATPUMP OR EV CHARGER THE ECOFLOW POWEROCEAN PLUS SYSTEM

EcoFlow PowerOcean Plus system is compatible with EcoFlow EV Charger (PowerPulse), Heatpump (PowerHeat), any other SG-Ready certified Heatpump. When connected with the PowerOcean Plus system, a SG-Ready certified Heatpump or EV Charger will be powered by PV strings, battery and utility grid. With the self-powered mode of the EcoFlow PowerOcean Plus system, the self-consumption rate of the new system, and the self-sufficiency rate of residential energy will be greatly improved, reducing electricity costs.

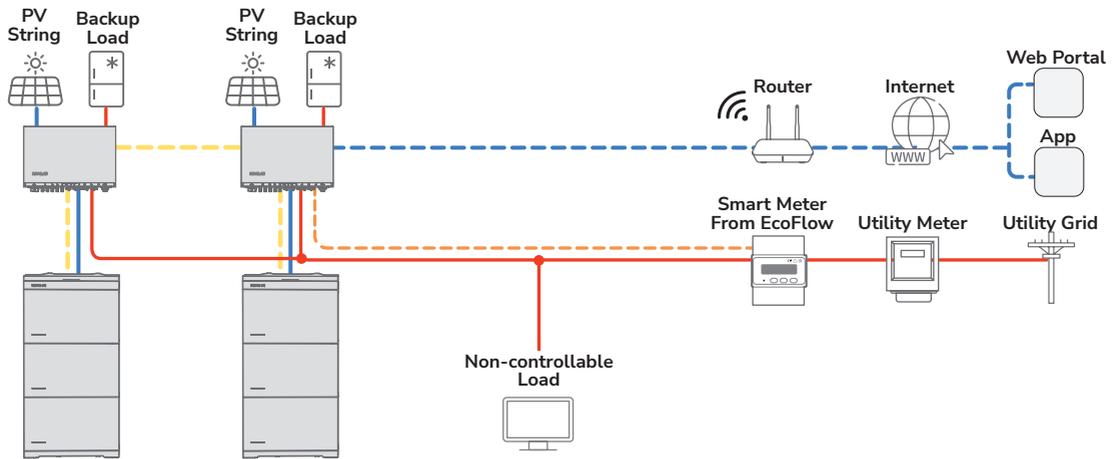


I Multi Inverters Setup

• 2 INVERTERS CASCADING (SEPARATE LOADS)



- Only cascading of inverters of the same model is supported.
- Cascading different PowerOcean products is not supported.
- The BACKUP port remains inactive during off-grid operation of cascaded inverters without battery modules.

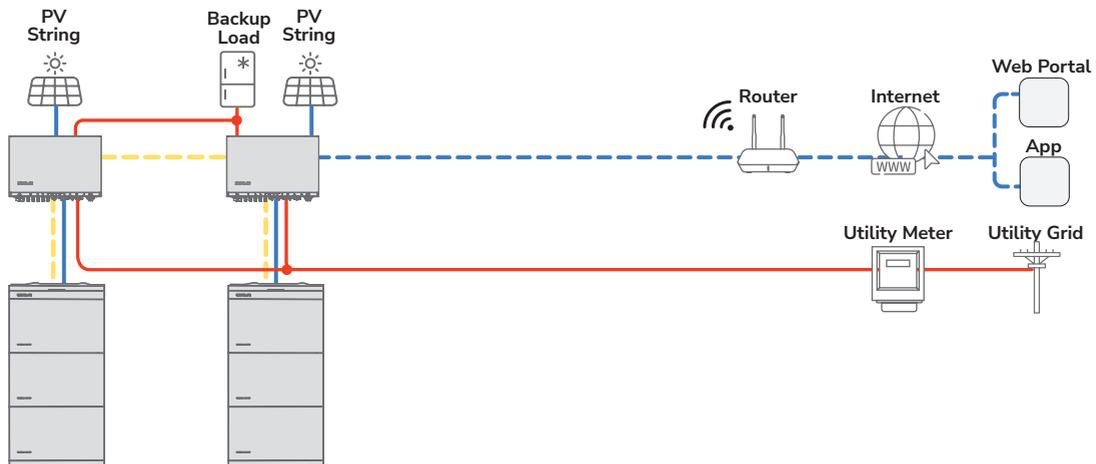


## • 2 INVERTERS CASCADING (SHARING LOADS)



**WARNING**

- Only cascading of inverters of the same model is supported.
- Cascading different PowerOcean products is not supported.
- Both BACKUP ports are required to be connected together even if they are not connected with loads, otherwise, it will cause the system to fail.

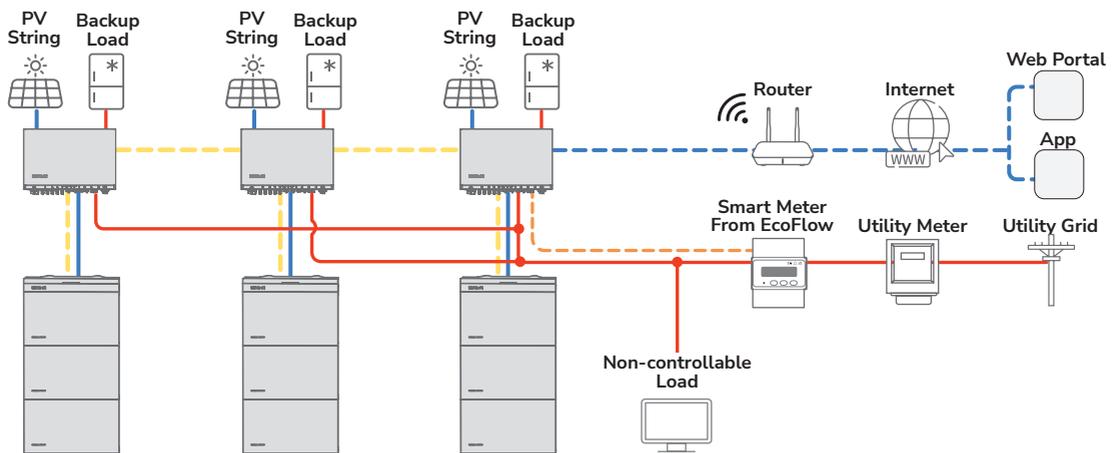


## • 3 INVERTERS CASCADING (SEPARATE LOADS)



**WARNING**

- Only cascading of inverters of the same model is supported.
- Cascading different PowerOcean products is not supported.
- The BACKUP port remains inactive during off-grid operation of cascaded inverters without battery modules.



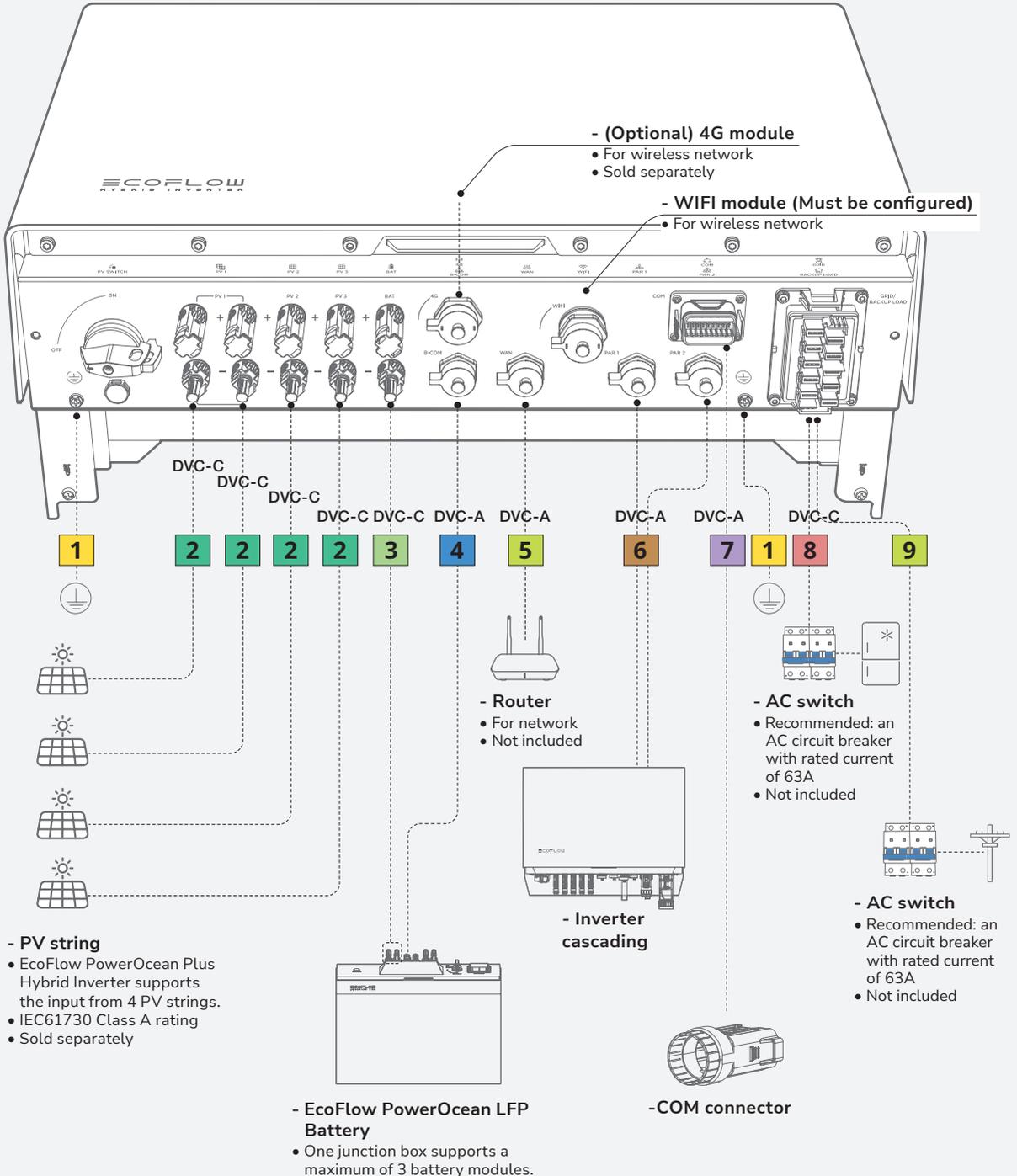
# Electrical Connection

**CAUTION**

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

**NOTICE**

- Prepare 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.
- Based on the installation environment and mechanical performance requirements, rigid cables or flexible cables can be used.



## LEGEND

- |  |   |
|--|---|
| <p><b>1</b> Ground cable<br/>10 mm<sup>2</sup></p> <p><b>2</b> PV input cable<br/>4-6 mm<sup>2</sup> with a rated voltage greater than or equal to 1000V DC</p> <p><b>3</b> Battery power cable<br/>10 mm<sup>2</sup> with a rated voltage greater than or equal to 1000V DC</p> <p><b>4</b> Battery communication cable<br/>8*0.2mm<sup>2</sup> Cat 5e or higher shielded network cable</p> <p><b>5</b> (Optional) Ethernet cable<br/>Cat 5e or higher shielded network cable</p> | <p><b>6</b> Inverter cascading cable<br/>Supplied in the box</p> <p><b>7</b> (Optional) COM terminal communication cable<br/>Shielded twisted pair 2*0.5mm<sup>2</sup></p> <p><b>8</b> Backup load power cable<br/>10-16 mm<sup>2</sup> according to the specification of inverter, installed solar panels, number of batteries and loads.</p> <p><b>9</b> Grid power cable<br/>10-16 mm<sup>2</sup> according to the specification of inverter, installed solar panels, number of batteries and loads.</p> |
|--|---|

## I Wiring Diagram

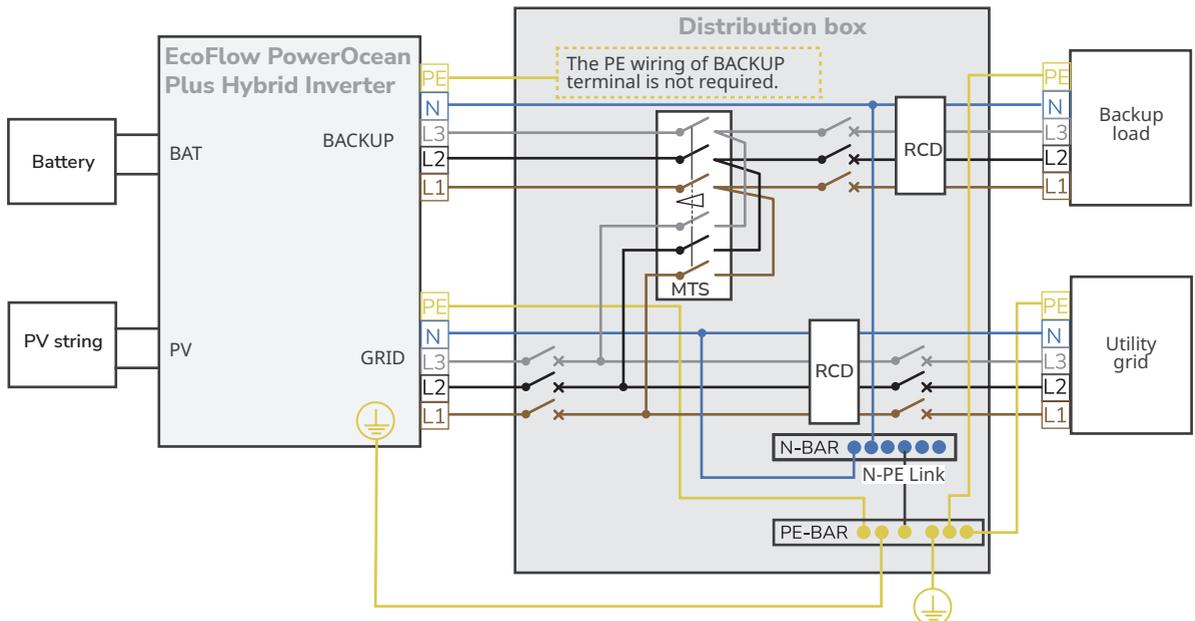
### NOTICE

- N and PE wiring via GRID and BACKUP terminals of the inverter vary based on the regulation requirements of different regions. Refer to the specific requirements of local regulations.
- A 63A Manual Transfer Switch (MTS) is highly recommended for switching the power supply between the grid and the inverter in the whole home backup system.
- Installing surge protective devices (SPD) before connecting the PV strings and before connecting to the power grid are recommended.
- The N-PE connection should be longer than 10 m.
- RCDs (Type A) with a rated residual operating current are recommended to install, 300mA on the AC-GRID side, and 30mA on the AC-BACKUP side, while the use of an RCD with a lower rated residual operating current is also permitted if it is required by the specific local electrical codes.

### NOTICE

- For Australia and New Zealand, the N cable of GRID side and BACK-UP side must be connected together according to the wiring rules AS/NZS\_3000. Otherwise BACK-UP function may be abnormal and risky.

### - Single inverter

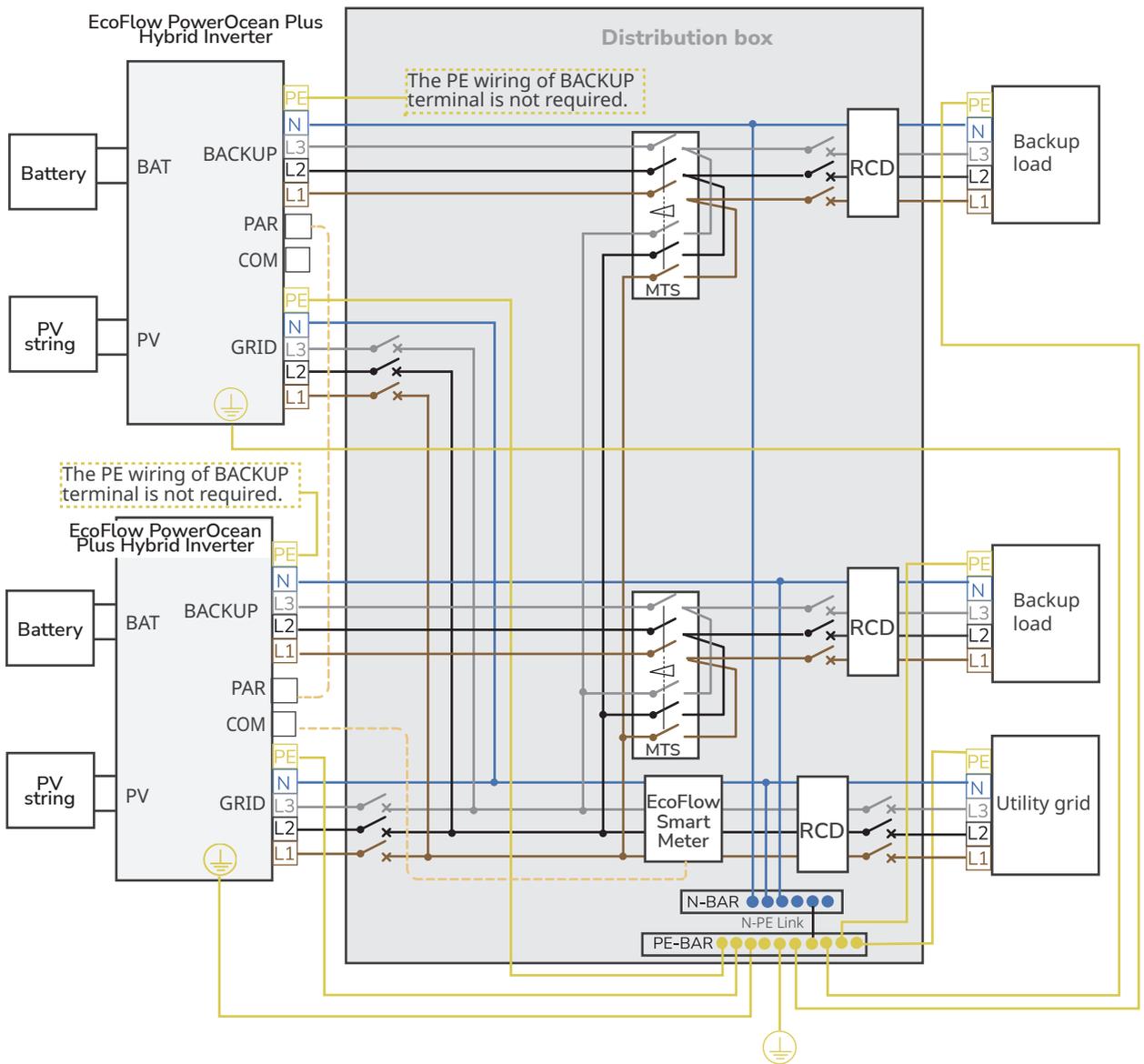


## - 2 Inverters Cascading (separate loads)



**WARNING**

- Turn off the grid power and turn on EPO (if any) before cascading inverters.
- Flip the circuit breakers of loads to the OFF position, otherwise the wiring self-check might be faulty.
- Ensure the firmware version is up to date before performing cascading.

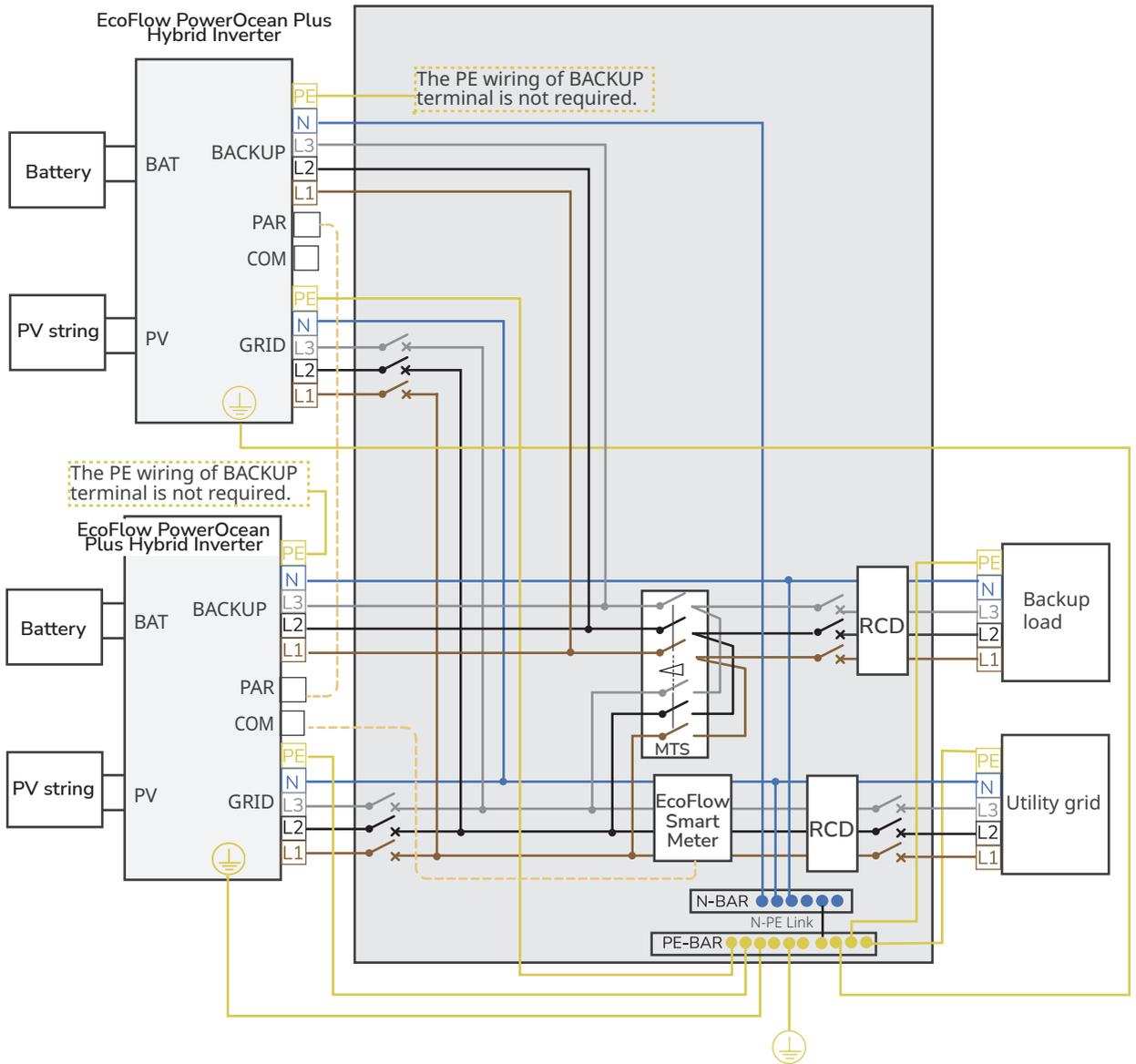


- 2 Inverters Cascading (sharing loads)



**WARNING**

- Turn off the grid power and turn on EPO (if any) before cascading inverters.
- Flip the circuit breakers of loads to the OFF position, otherwise the wiring self-check might be faulty.
- Ensure the firmware version is up to date before performing cascading.

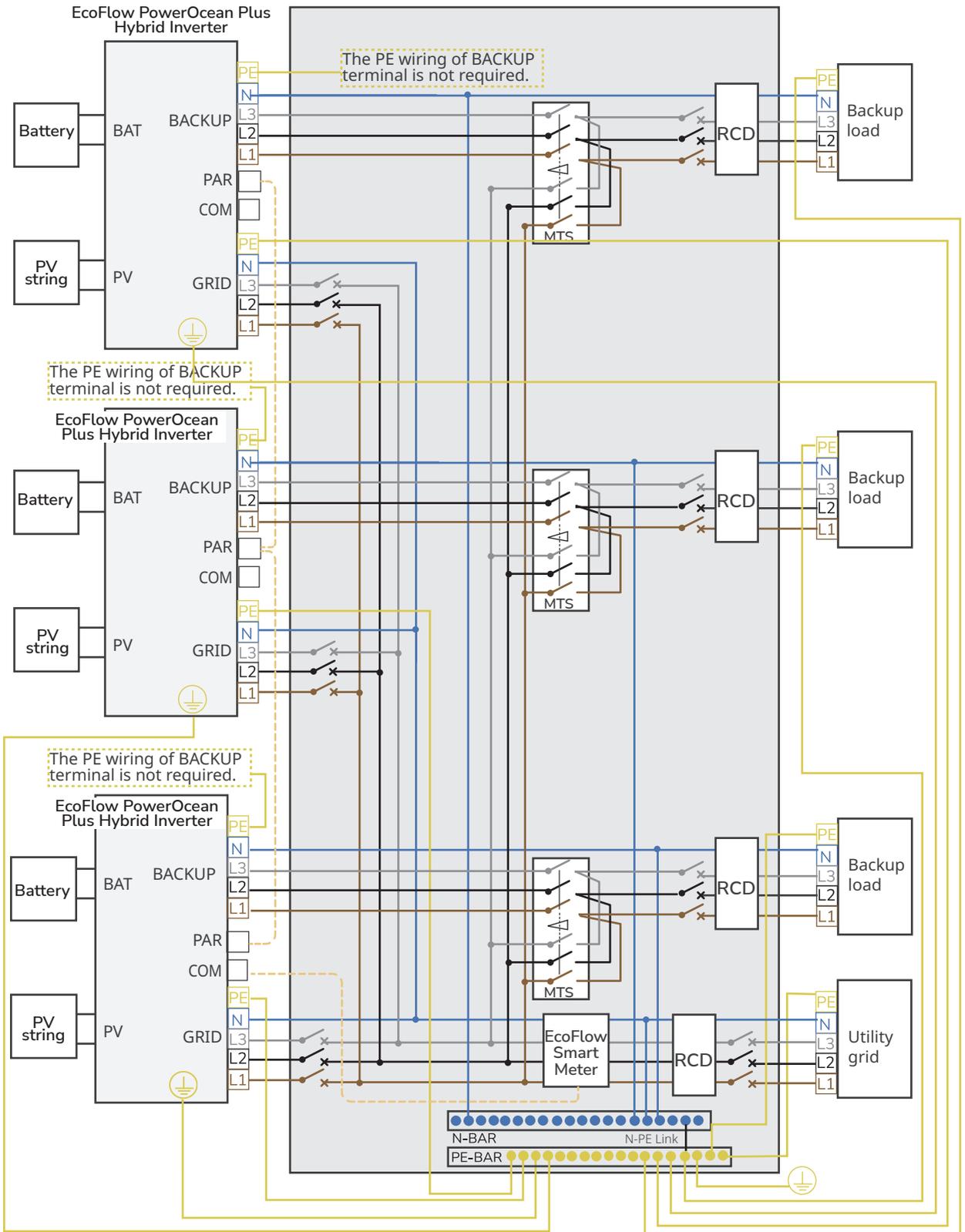


### - 3 Inverters Cascading (separate loads)



#### WARNING

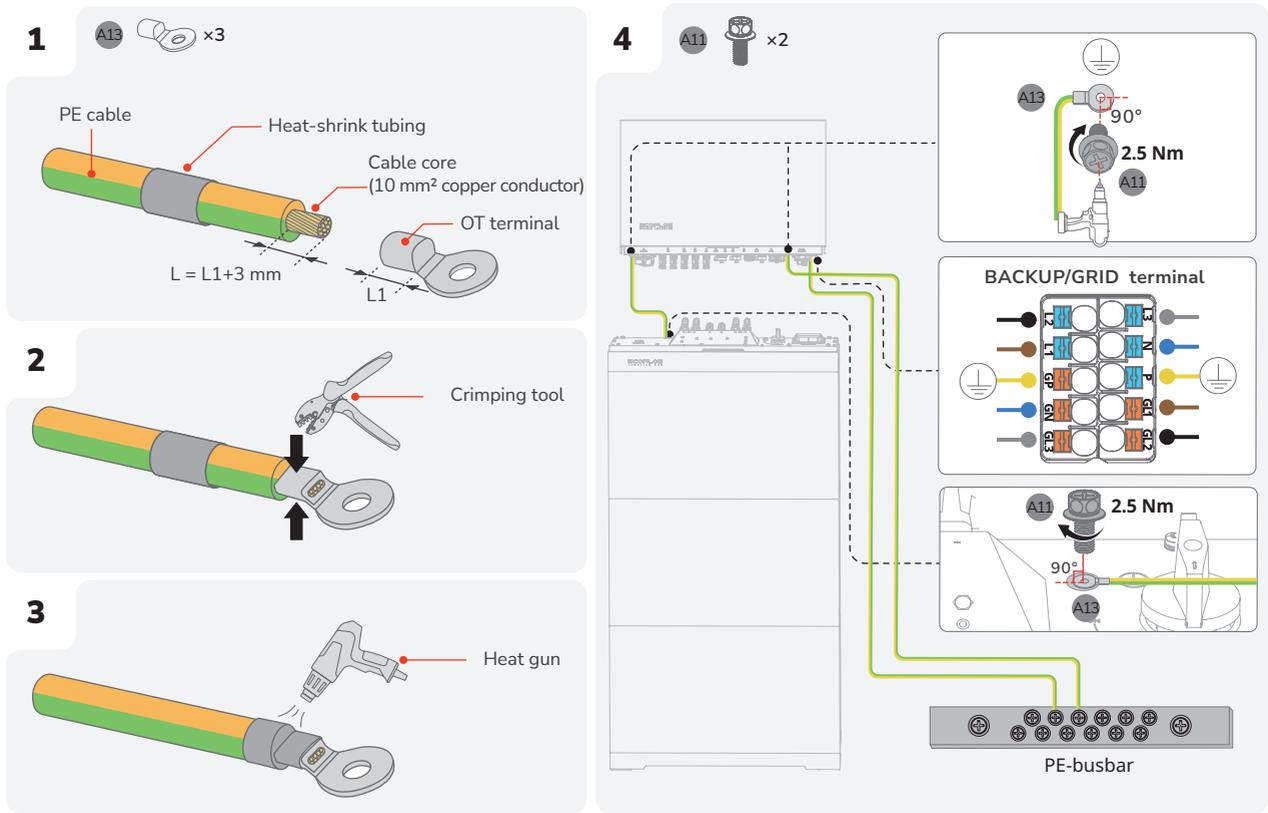
- Turn off the grid power and turn on EPO (if any) before cascading inverters.
- Flip the circuit breakers of loads to the OFF position, otherwise the wiring self-check might be faulty.
- Ensure the firmware version is up to date before performing cascading.



# I 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.



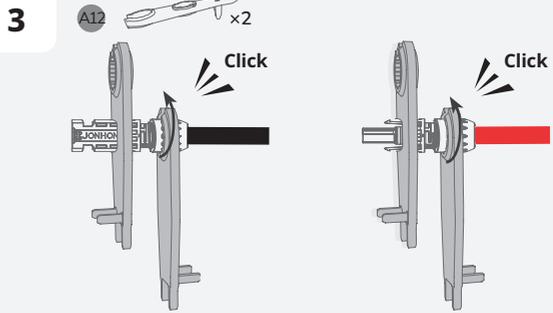
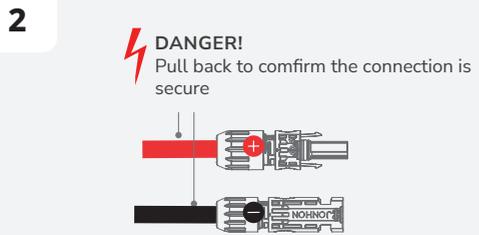
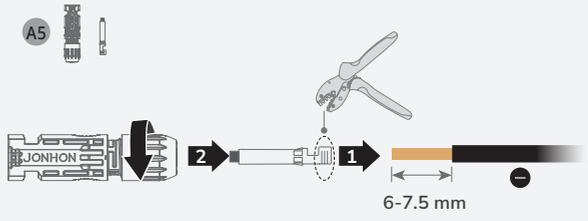
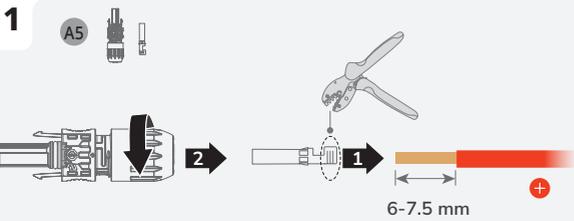
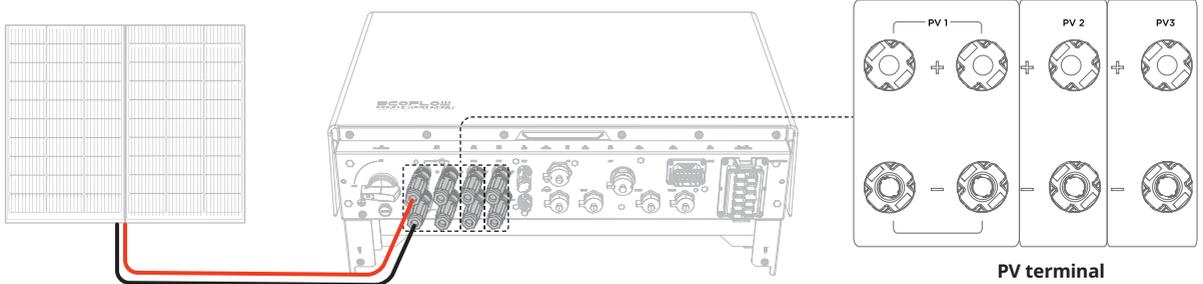
# I Connecting PV Input Cables

**⚠ DANGER**

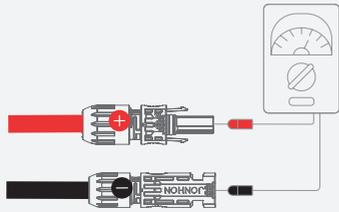
- Before connecting the PV input cables, ensure AC switch connected to the inverter and the PV SWITCH on the inverter are OFF. Failing to do so may result in electric shocks.
- The PV string will generate lethal high voltage when exposed to sunlight. Disconnect the PV cable of PV string before connecting 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**

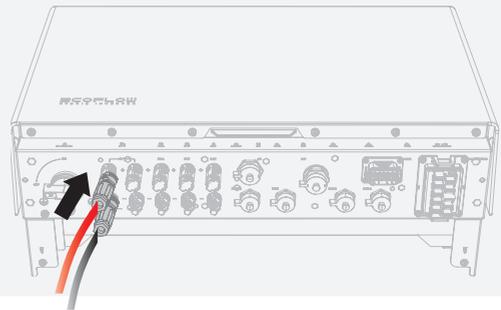
- In order to avoid malfunction, please do not connect any PV modules that have a risk of leakage current to the inverter.
- In order to avoid lightning damage to the inverter, it is recommended to add a surge protection switch at the PV junction box.
- After the positive and negative connectors snap 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.



**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**

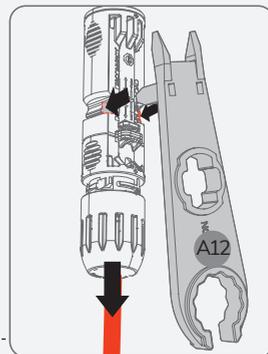
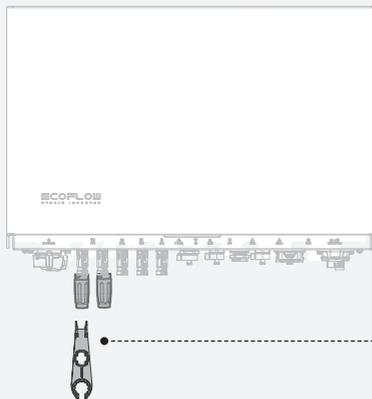
**⚠ WARNING**

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

A12



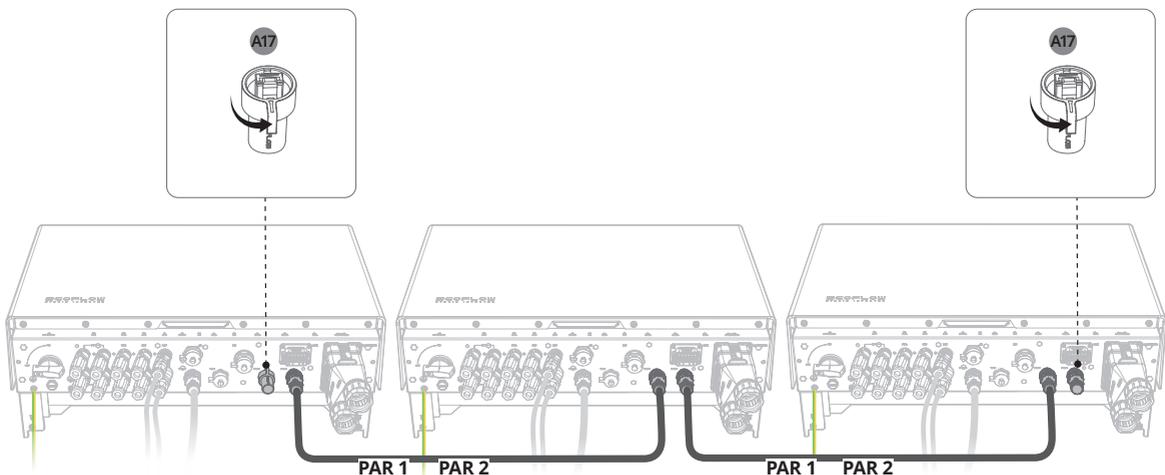
x1



**I Communication Between Cascaded Inverters**

**⚠ CAUTION**

- Insert terminal resistors for proper communication.



A6

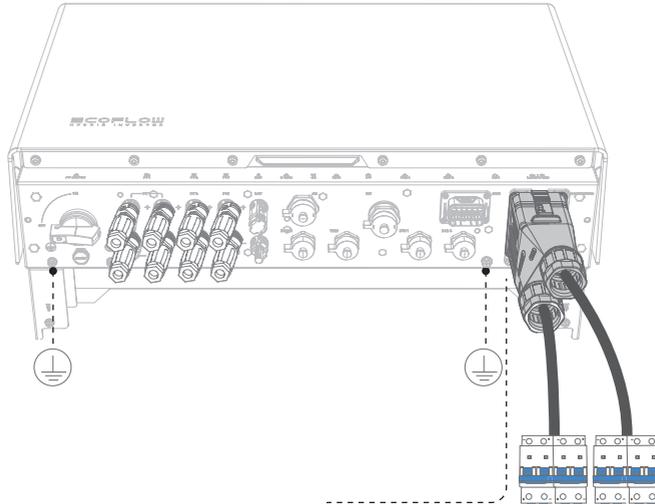
# I Connecting GRID/BACKUP Cables

**⚠ DANGER**

- The strip length must be 20 mm. A shorter strip length may cause unsecure crimping and affect the current-carrying capacity.
- Straighten the conductors. If any conductor is left outside the wire jacket, a short circuit may occur.
- Make sure to pull back the cable to confirm connection before holding terminal block in place.

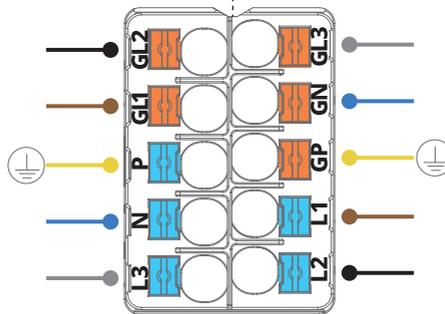
**⚠ CAUTION**

- 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 conductors to the BACKUP load terminal of the inverter, and do not connect the BACKUP load conductors to the GRID terminal.
- Please ensure the wiring is correct; otherwise, it may cause device malfunction or even damage.



## BACKUP load terminal

- L1 · LOAD-L1, a-phase line 1
- L2 · LOAD-L2, b-phase line 2
- L3 · LOAD-L3, c-phase line 3
- N · LOAD-N, neutral wire
- P · LOAD-PE, ground wire

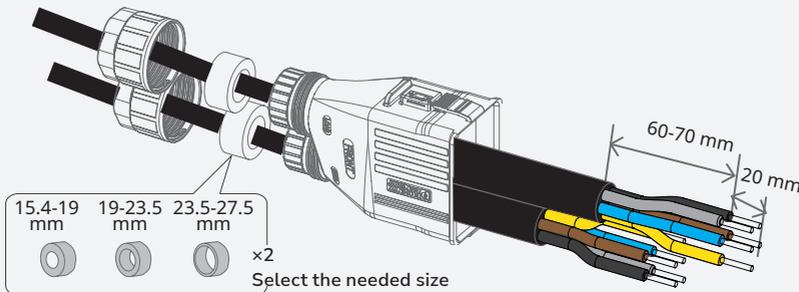


## GRID terminal

- GL1 · GRID-L1, a-phase line 1
- GL2 · GRID-L2, b-phase line 2
- GL3 · GRID-L3, c-phase line 3
- GN · GRID-N, neutral wire
- GP · GRID-PE, ground wire

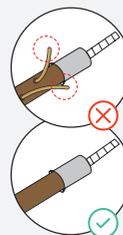
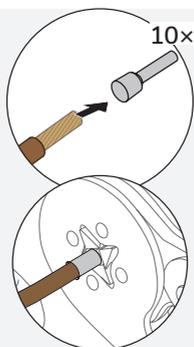
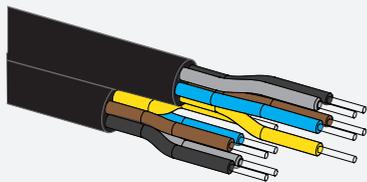
1

AB

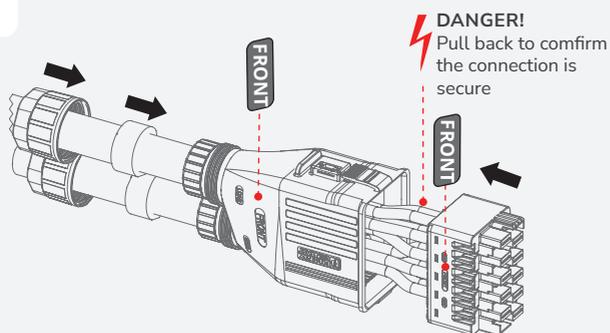


2

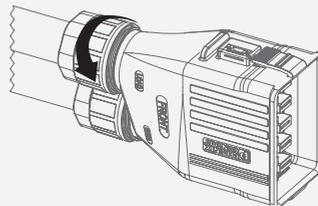
- A14 10-16 mm<sup>2</sup> according to the specification of inverter
- or
- A16 10-16 mm<sup>2</sup> according to the specification of inverter



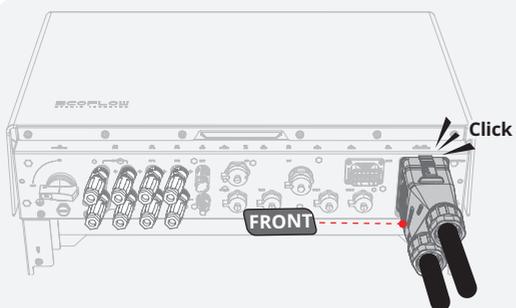
3



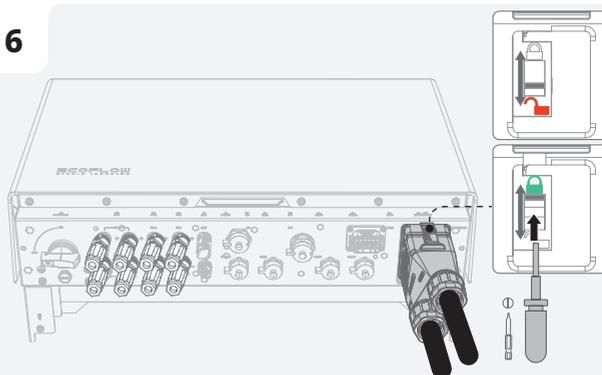
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5



6



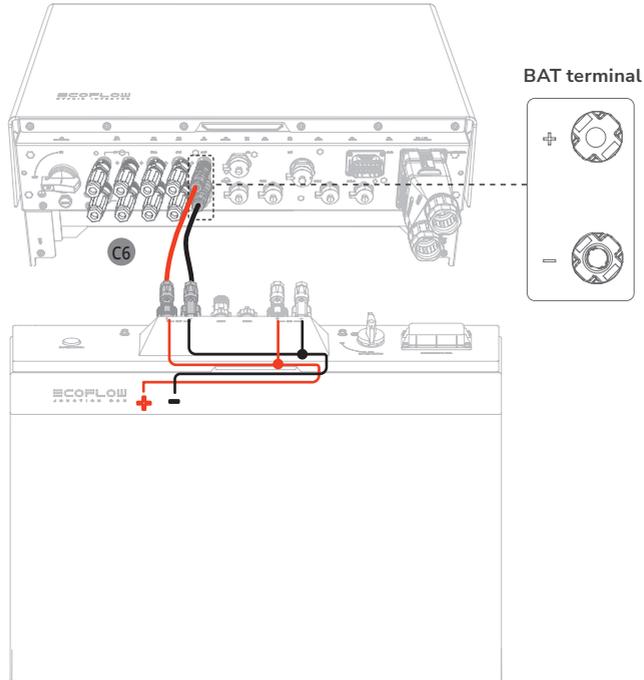
# I Connecting Battery Power Cables

**⚠ 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.



## • TO CREATE A LONGER BATTERY POWER CABLE (UP TO 20 M)

- 1

6-7.5 mm

+

6-7.5 mm

-
- ⚡ DANGER!**  
Pull back to confirm the connection is secure
- 3

A12 x2

Click

Click
- 4

Ensure that the cable polarities are correct.
- 5

Refer to the section [Removing the PV Terminal](#) for removing.

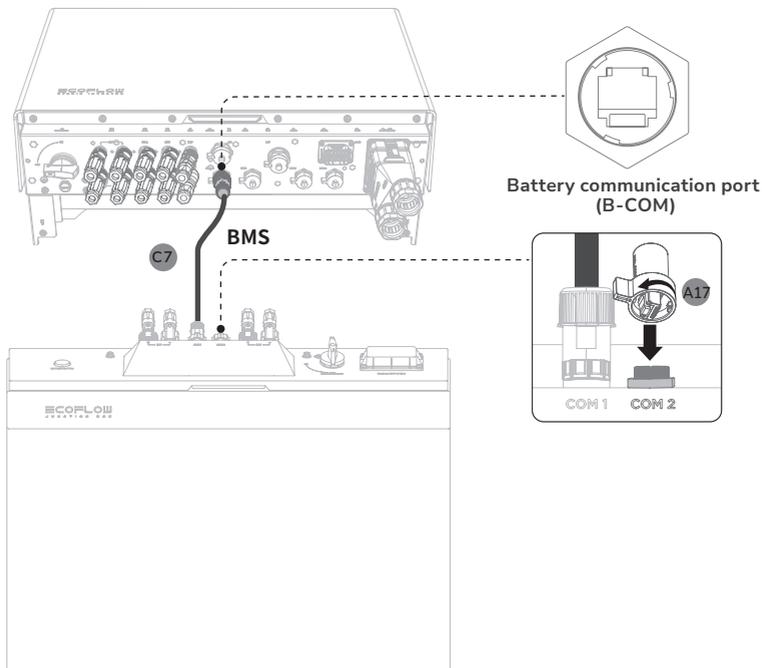
# I Connecting Battery Communication Cables

**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**

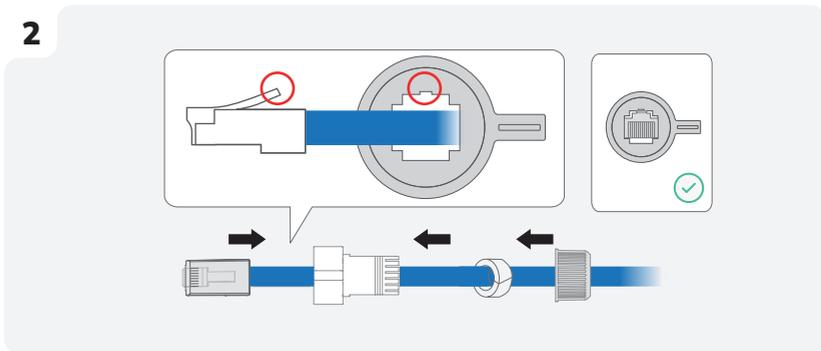
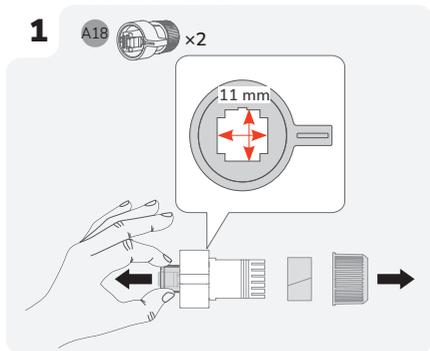
- It is a **MUST** to install a termination resistor to the unused B-COM terminal of the battery junction box, otherwise it would cause the system to malfunction.
- As for battery junction boxes already have termination resistors installed as delivered, remove the termination resistor to use the B-COM terminal.



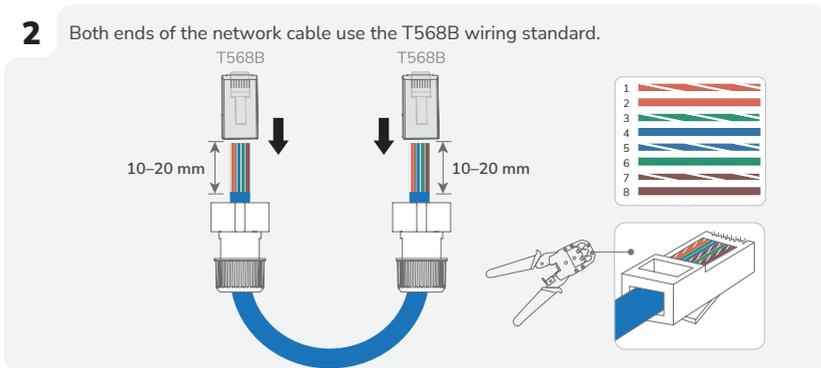
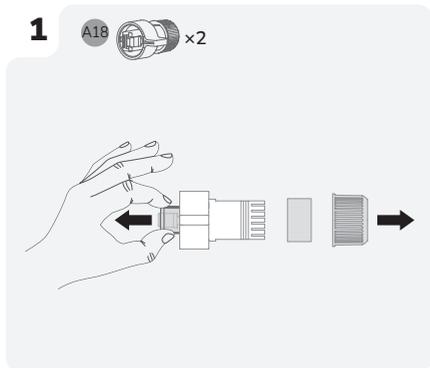
## • TO CREATE A LONGER COMMUNICATION CABLE (UP TO 20 M)

- Method 1 (recommended): Use a self-prepared network cable (Cat 5e or higher shielded network cable)

The cable should meet the dimension requirement, as shown in the figure, otherwise you can peel off the outer skin of the cable head or use method 2.



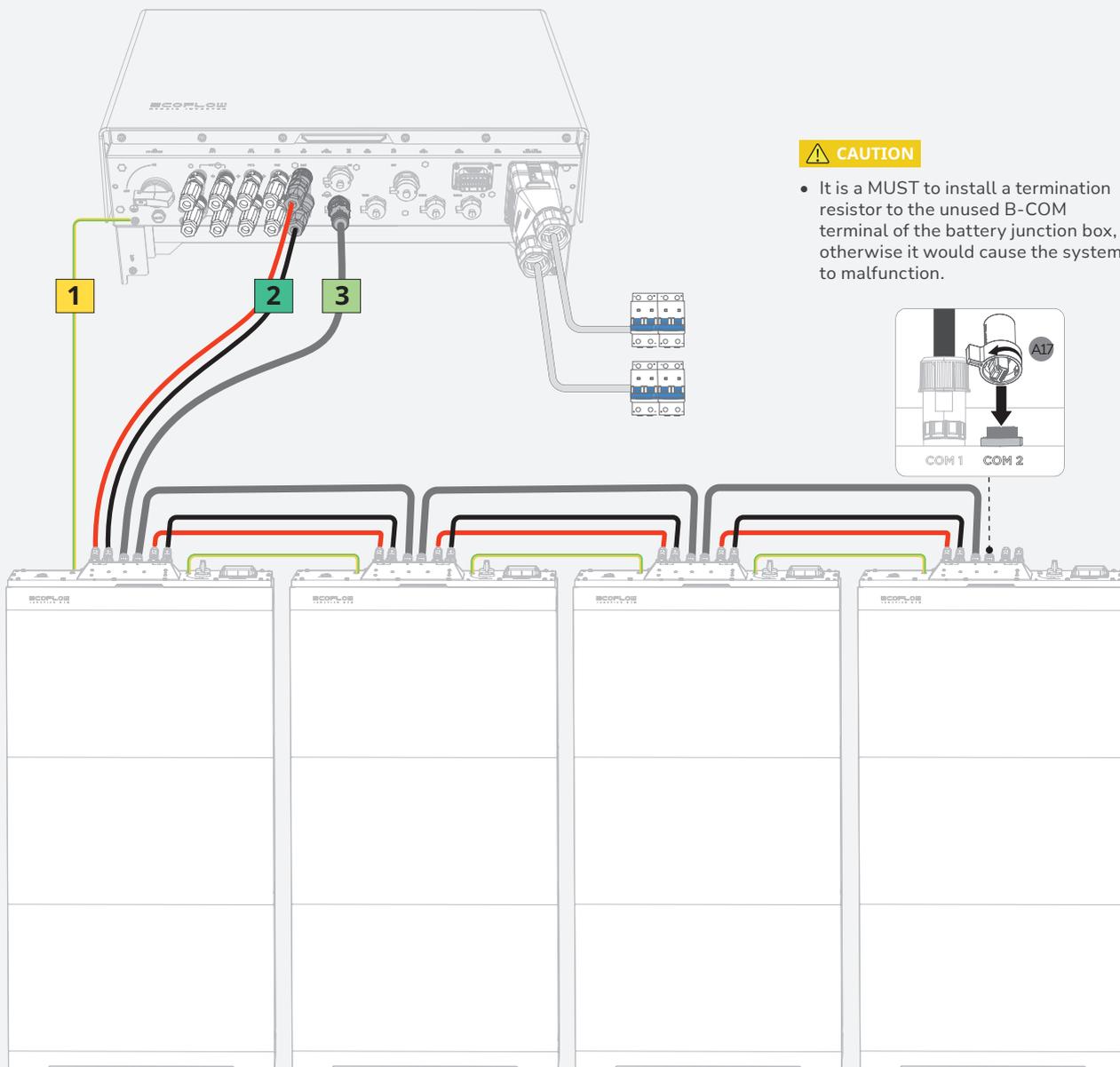
- Method 2: Create a new network cable



## I Cascading Batteries

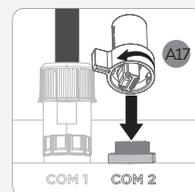
### NOTICE

- One battery junction box supports a maximum of 3 battery packs.
- Up to 12 battery packs (maximum 61.2 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.
- For the battery clearance, see the section Installation Space Requirements in this guide.



### 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.



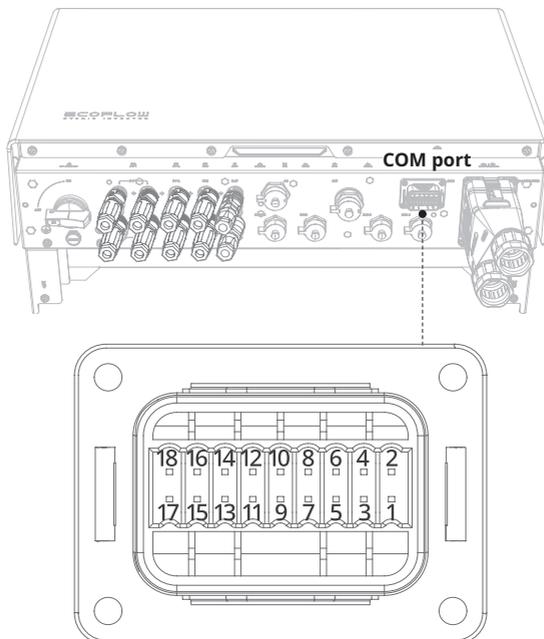
### LEGEND

- 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.

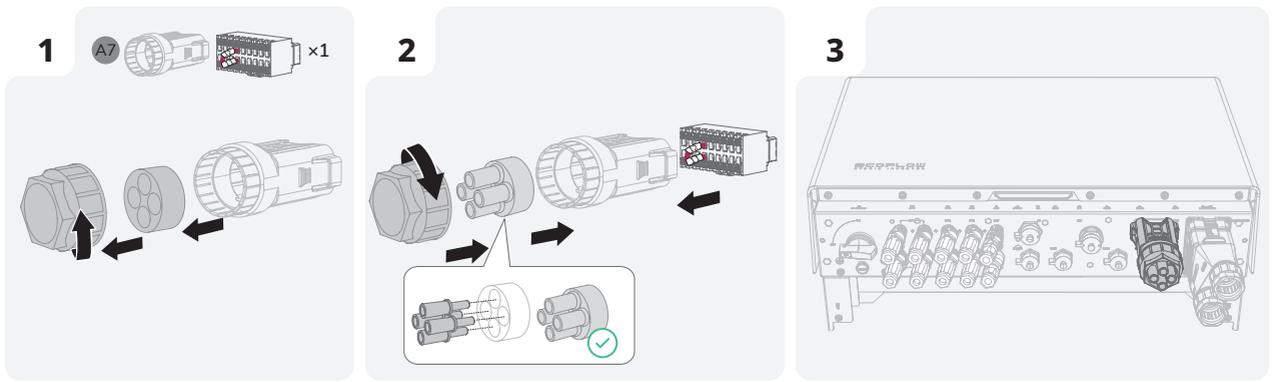
## I Installing COM Connector With Shorting Wire

### 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.
- DRM only be supported in Australia and New Zealand.
- Relay Contact rating of SG\_Ready pins: 30V/2A. The recommended load should be rated  $\leq 24V/2A$  for safe operation.



DRM or RCR Status Detection		Emergency Stop Input	
1	DRM0/COM LOAD or REF_1 (AU) REF_1 (EU)	11	EPO_GND
2	DRM1/5 or DI_1 (AU) DI_1 (EU)	12	EPO
3	DRM2/6 or DI_2 (AU) DI_2 (EU)	AC Meter	
4	DRM3/7 or DI_3 (AU) DI_3 (EU)	13	485_A_1
5	DRM4/8 or DI_4 (AU) DI_4 (EU)	14	485_B_1
6	REF GEN/0 or REF_2 (AU) REF_2 (EU)		
SG_Ready		AC Coupled Meter	
7	SG_Ready11	15	485_A_2
8	SG_Ready12	16	485_B_2
9	SG_Ready21	Ecosystem Appliances	
10	SG_Ready22	17	485_A_3
		18	485_B_3



• **RIPPLE CONTROL RECEIVER (RCR)**

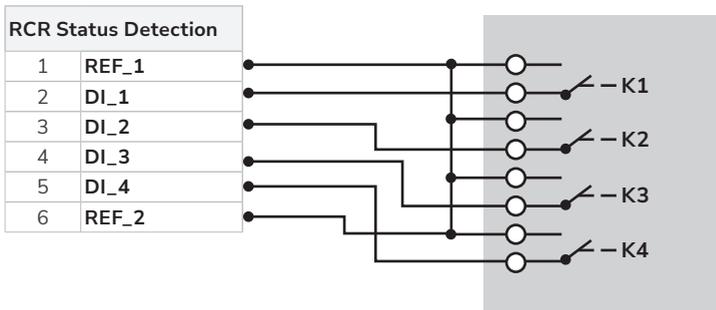
Ripple control receiver (RCR) is an interface between a PV system and power grid company that enables the grid operator to reduce the feed-in power if necessary. Generally, if the grid is overloaded, the utility company will specify whether the PV system should reduce their feed-in power to 0%, 30%, 60% of their rated power. If the grid is not overloaded, the PV system will be allowed to input 100% of the power. These control commands will be directly sent to the installer and then realized by the RCR.

The RCR has four relays (K1-K4). The relays are potential-free make contacts. The relays are interlocked with each other. Furthermore, each of these relays represents one of the following control stages:

No.	K1	K2	K3	K4	System Setpoint
1	0	0	0	0	100%
2	0	0	0	ON	0%
3	0	0	ON	0	30%
4	0	0	ON	ON	0%
5	0	ON	0	0	60%
6	0	ON	0	ON	0%
7	0	ON	ON	0	30%
8	0	ON	ON	ON	0%
9	ON	0	0	0	100%
10	ON	0	0	ON	100%
11	ON	0	ON	0	100%
12	ON	0	ON	ON	100%
13	ON	ON	0	0	100%
14	ON	ON	0	ON	100%
15	ON	ON	ON	0	100%
16	ON	ON	ON	ON	100%

Please enable the RCR by shorting COM1 and COM6, in this case, the feed-in power limitation will be disabled. The inverter is connected to the ripple control receiver as follows:

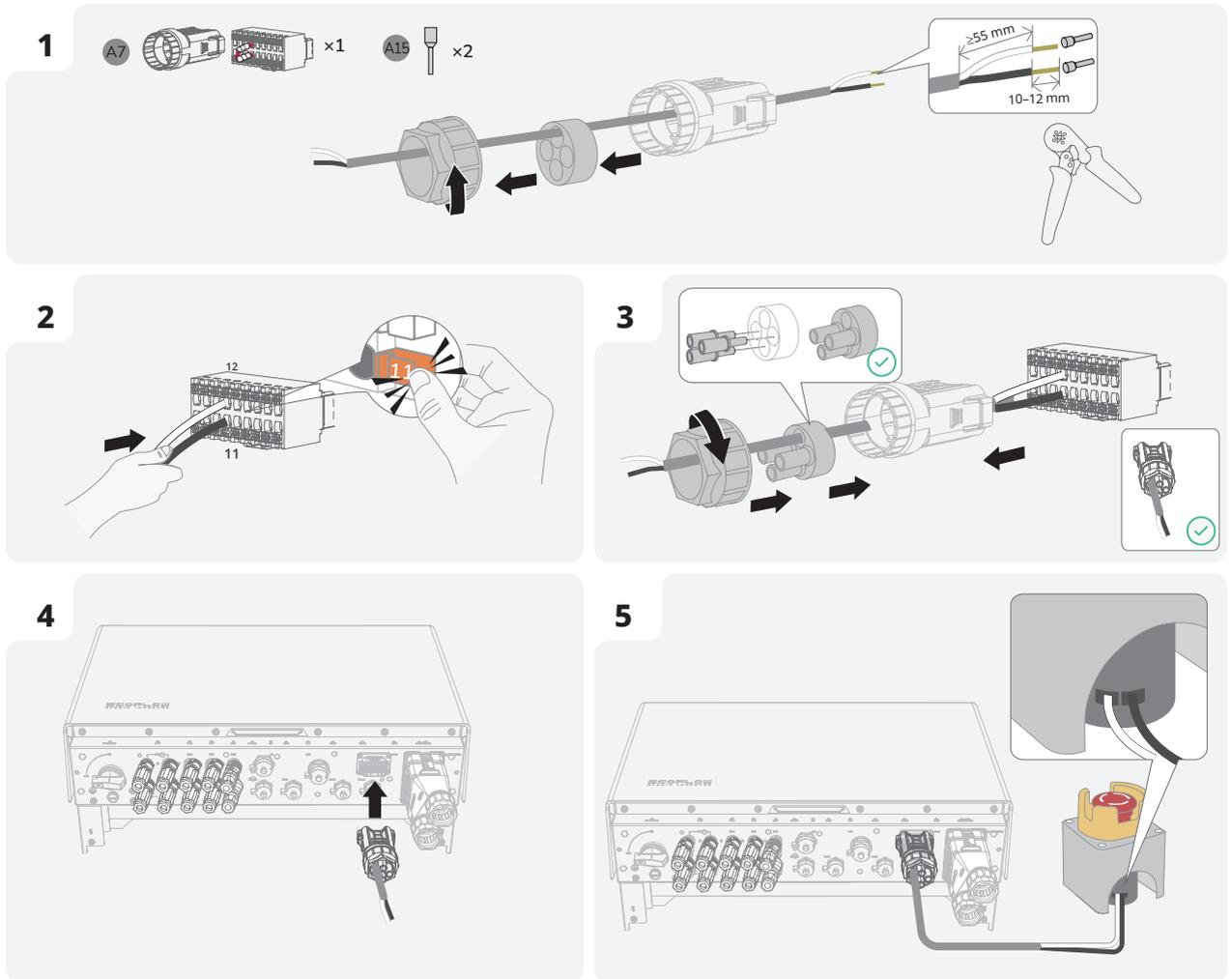
- DRM1/DI\_1(COM2): 100%
- DRM2/DI\_2(COM3) : 60%
- DRM3/DI\_3(COM4): 30%
- DRM4/DI\_4(COM5) : 0%



## I (Optional) Installing Emergency Stop (EPO)

**NOTICE**

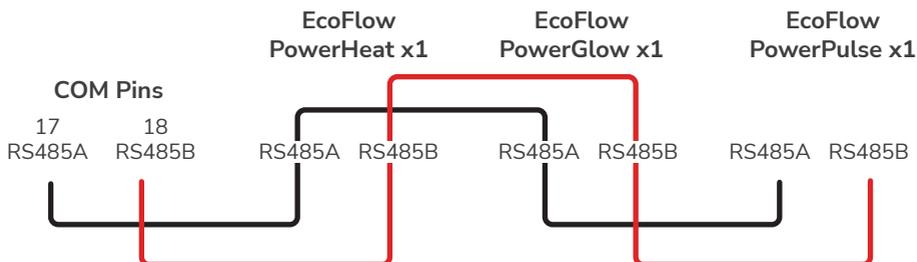
- Before installing EPO, remove the shorting wire between PIN11 and PIN12.



## I Connecting Ecosystem Appliances

EcoFlow PowerOcean Plus supports connecting with EcoFlow PowerHeat, EcoFlow PowerGlow, EcoFlow PowerPulse via the COM interface.

Refer to the procedure in the section "Installing COM Connector With Shorting Wire" and connect the wires in accordance with the PIN definition of the COM interface. Check the instruction of the corresponding products.

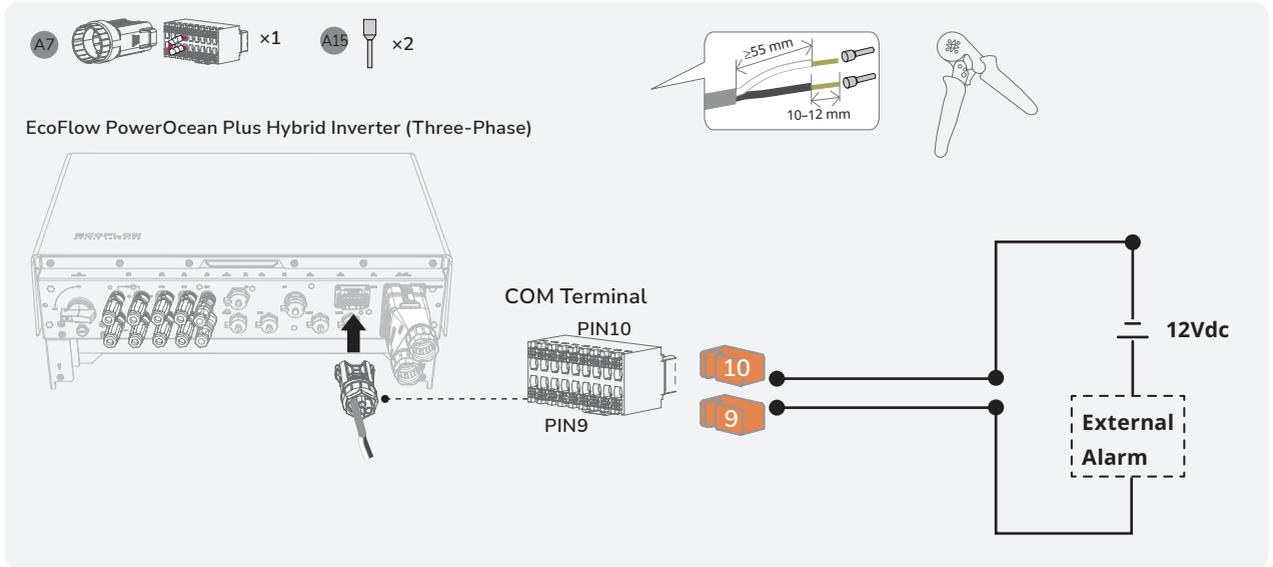


## I Installing Earth Fault Alarm

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.

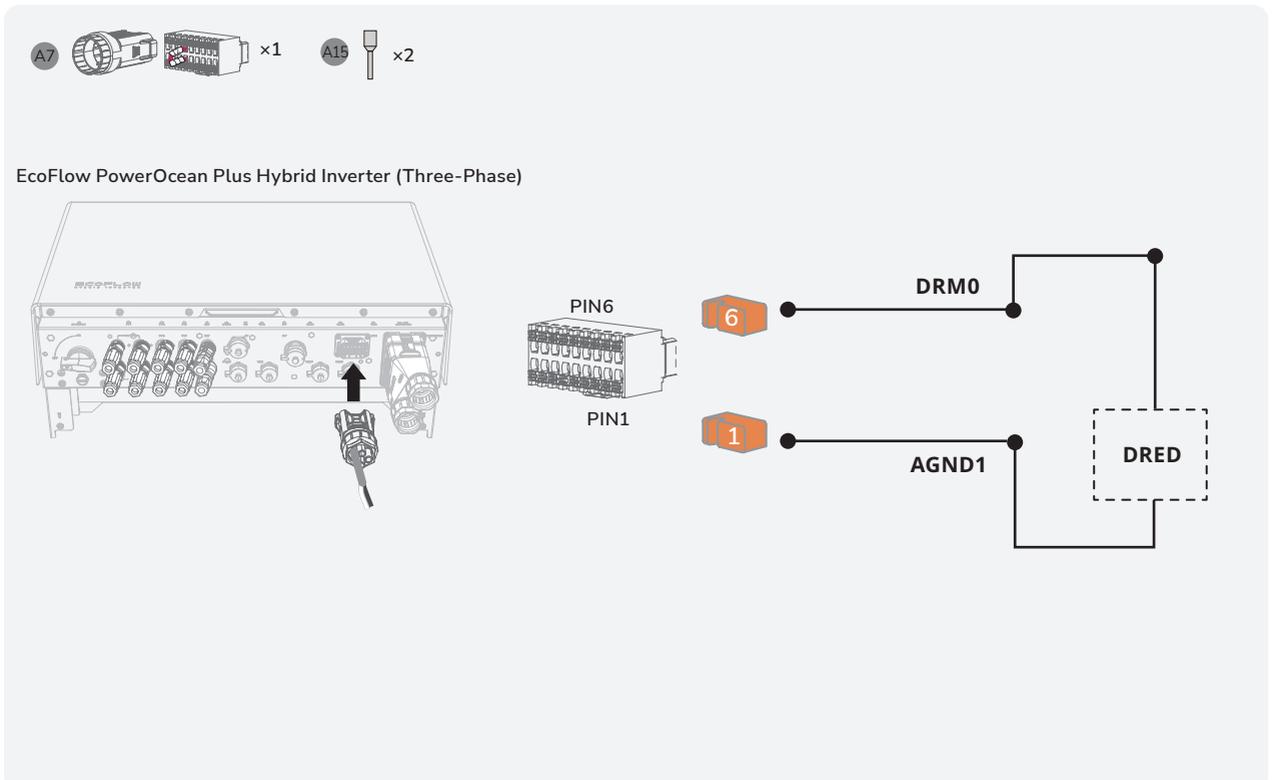
If an earth fault occurs,

- 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.



## I 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.



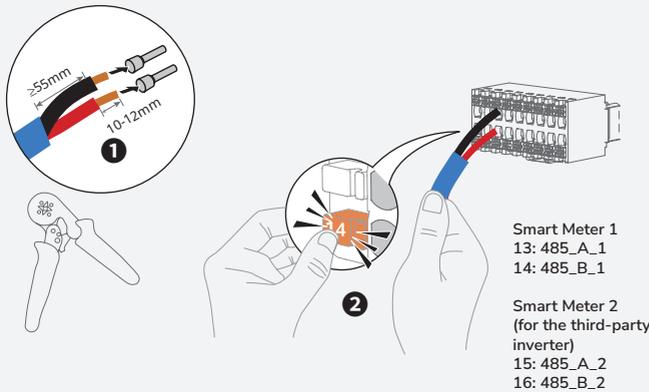
# I Connecting Smart Meter

**NOTICE**

- Cable requirement: shielded twisted pair 2\*0.5 mm<sup>2</sup>, up to 100 m.
- 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.

• WITH CT

- 1** A7 ×1 A15 ×2



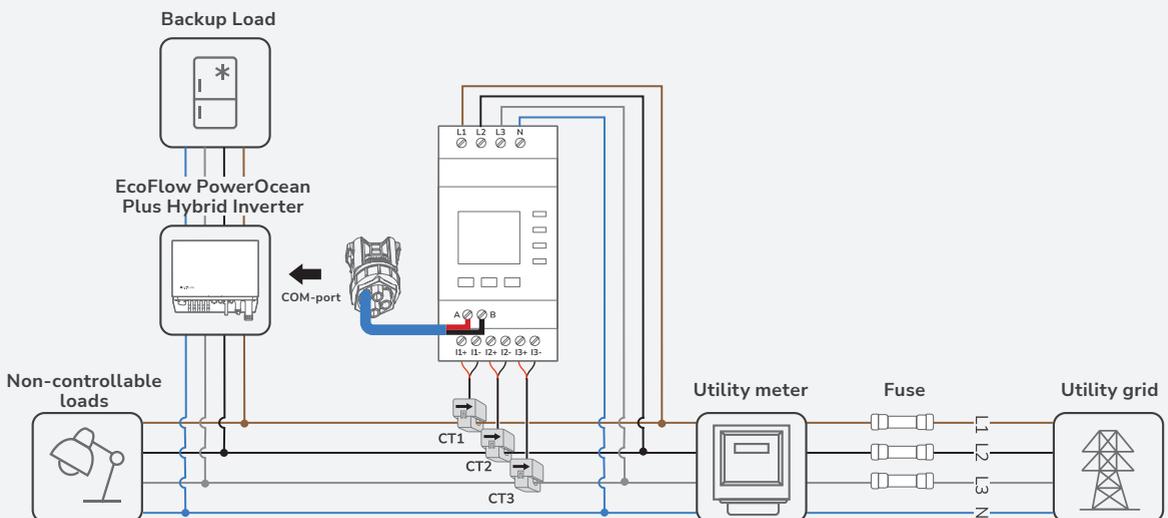
**2 METER SAMPLING**  
Find the home mains and connect the smart meter as shown in the diagram.

**3 METER COMMUNICATION**  
Find communication port A,B on the meter and connect with the inverter.



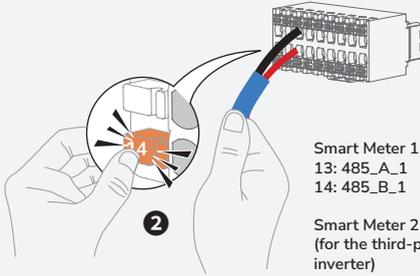
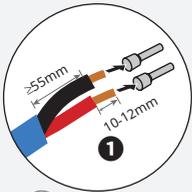
L1	Grid L1
L2	Grid L2
L3	Grid L3
N	Grid N
A	RS485A
B	RS485B
I1+	Grid L1 CT
I1-	
I2+	Grid L2 CT
I2-	
I3+	Grid L3 CT
I3-	

**4 COMMUNICATION WIRING DIAGRAM**



• WITHOUT CT

- 1   x1  x2

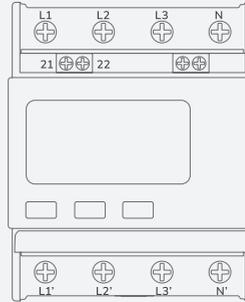


Smart Meter 1  
13: 485\_A\_1  
14: 485\_B\_1

Smart Meter 2  
(for the third-party inverter)  
15: 485\_A\_2  
16: 485\_B\_2

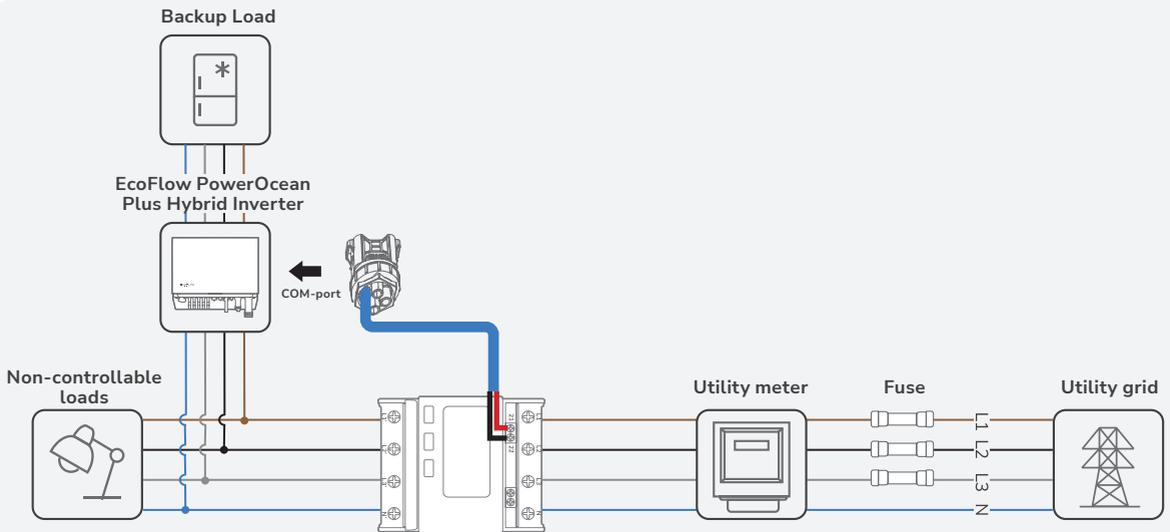
- 2 **METER SAMPLING**  
Find the home mains and connect the smart meter as shown in the diagram.

- 3 **METER COMMUNICATION**  
Find communication port A,B on the meter and connect with the inverter.



L1	Grid L1
L2	Grid L2
L3	Grid L3
N	Grid N
21	RS485A
22	RS485B
L1'	Load L1
L2'	Load L2
L3'	Load L3
N'	Load N

4 **COMMUNICATION WIRING DIAGRAM**

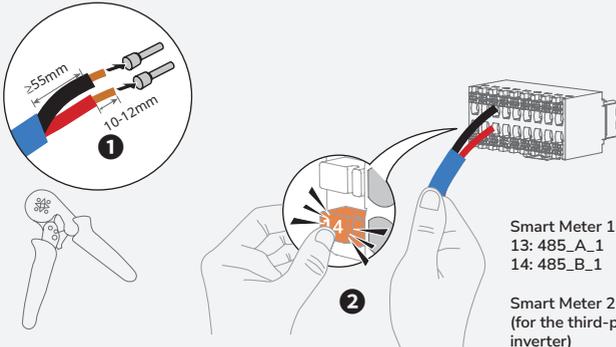


# I (Optional) Energy Metering Installation for System with Third-Party PV Integration

**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.

• **METER WITH CT**



Smart Meter 1  
13: 485\_A\_1  
14: 485\_B\_1

Smart Meter 2  
(for the third-party inverter)  
15: 485\_A\_2  
16: 485\_B\_2

**2 METER SAMPLING**

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

**3**

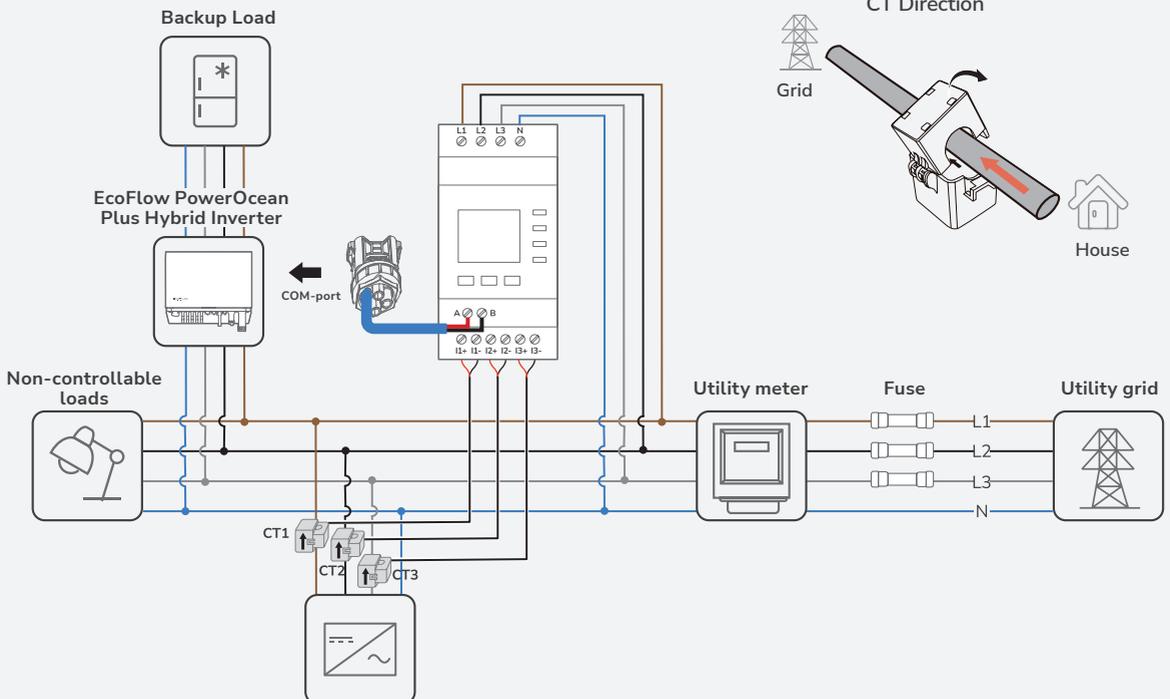
**METER COMMUNICATION**

Find communication port A,B on the meter and connect with the inverter.



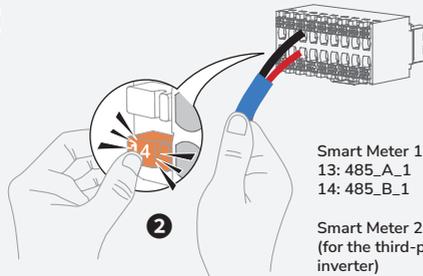
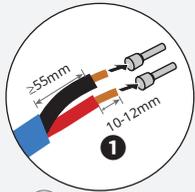
L1	Grid L1
L2	Grid L2
L3	Grid L3
N	Grid N
A	RS485A
B	RS485B
I1+	Grid L1 CT
I1-	
I2+	Grid L2 CT
I2-	
I3+	Grid L3 CT
I3-	

**4 COMMUNICATION WIRING DIAGRAM**



• METER WITHOUT CT

1



Smart Meter 1  
13: 485\_A\_1  
14: 485\_B\_1

Smart Meter 2  
(for the third-party inverter)  
15: 485\_A\_2  
16: 485\_B\_2

2

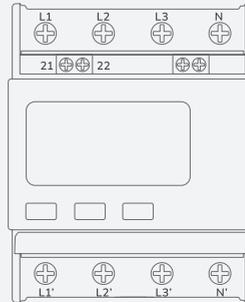
**METER SAMPLING**

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

3

**METER COMMUNICATION**

Find communication port A,B on the meter and connect with the inverter.



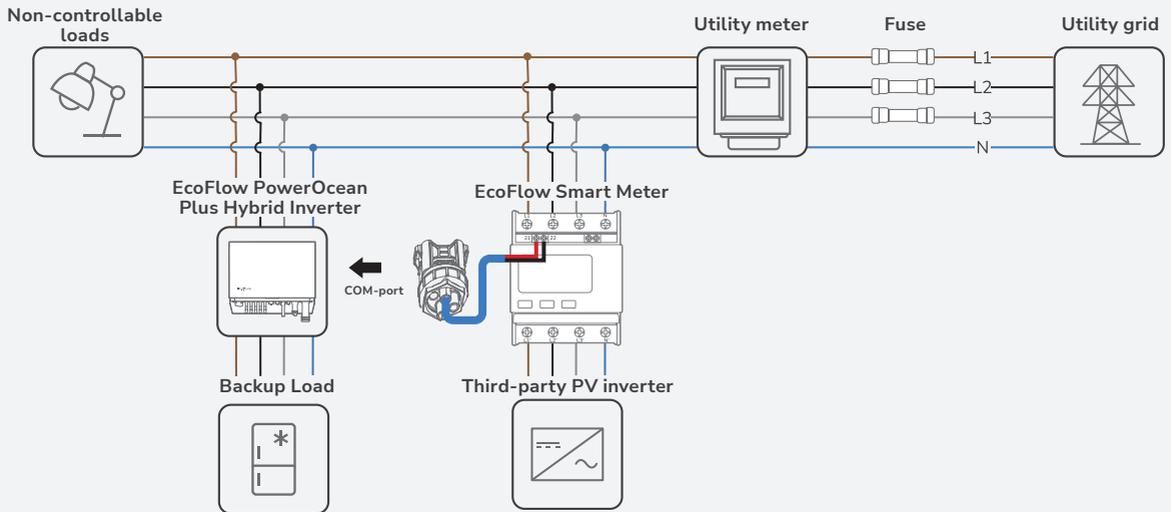
L1	Grid L1
L2	Grid L2
L3	Grid L3
N	Grid N

21	RS485A
22	RS485B

L1'	Load L1
L2'	Load L2
L3'	Load L3
N'	Load N

4

**COMMUNICATION WIRING DIAGRAM**

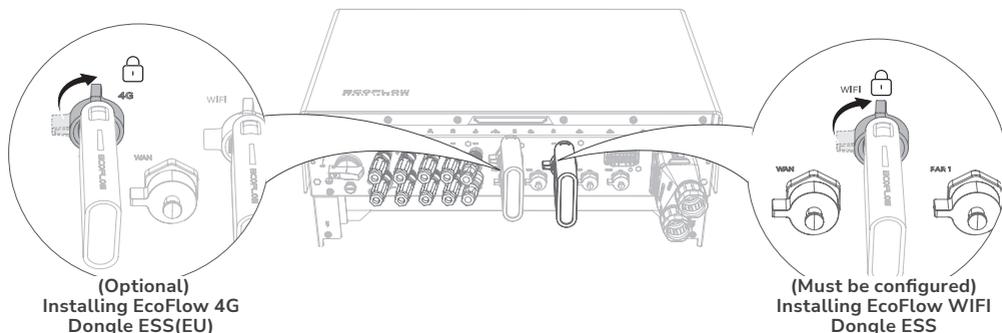


# I Connecting to Internet

**NOTICE**

- Use shielded CAT 5e or higher rating network cable for stable connection.
- For more details about EcoFlow WIFI Dongle ESS or EcoFlow 4G Dongle ESS (EU), please visit following website to access user manual: <https://homebattery.ecoflow.com/au/documentation>
- The WIFI dongle is used for wired and wireless WLAN or Bluetooth communication between inverters and EcoFlow app.

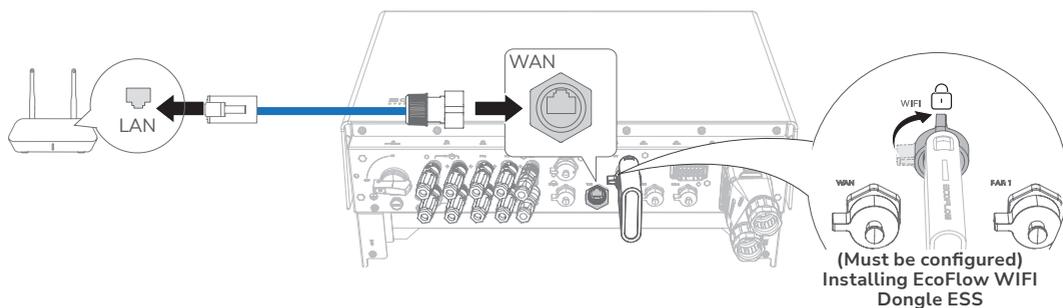
**METHOD 1: VIA A WIRELESS NETWORK**



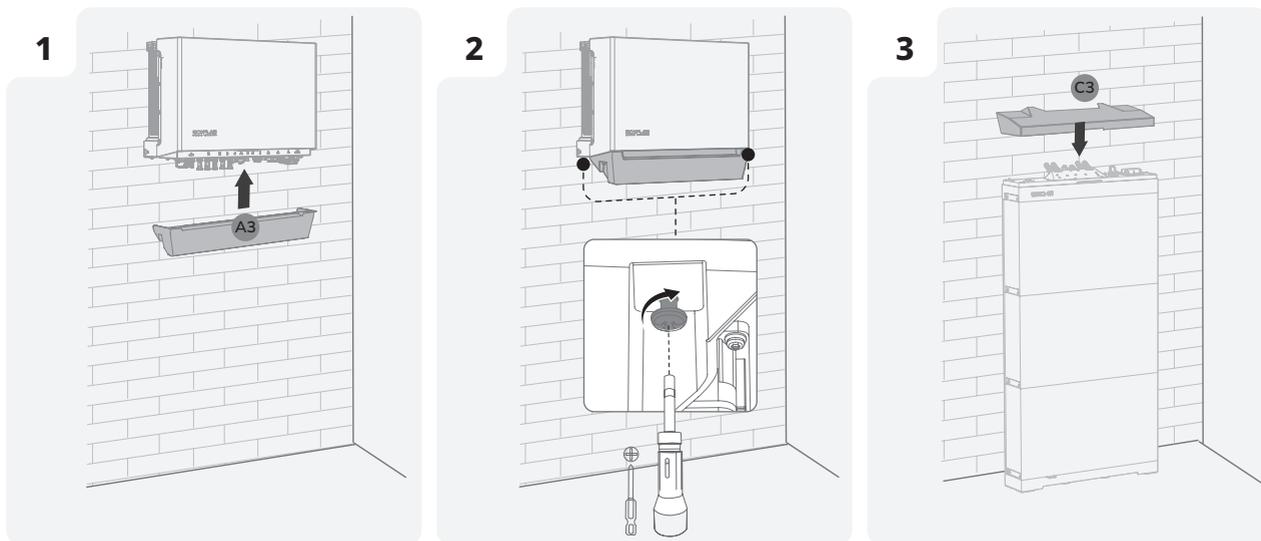
**METHOD 2: VIA A WIRED NETWORK**

Refer to the section "Connecting Battery Communication Cables" for creating a waterproof WAN communication terminal.

If two inverters are cascaded, plug EcoFlow WIFI Dongle ESS to both inverters.



# I Installing trim cover on the battery junction box and inverter



# System Commissioning

## I 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 cables are 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.

## I System Power-On

### • PROCEDURE (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 (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.

## I System Power-Off

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



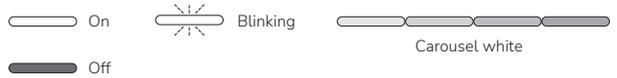
**WARNING**

- 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.

## I LED Indicators



### • ECOFLOW POWEROCEAN HYBRID INVERTER

Status	Description
 	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

# I 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.

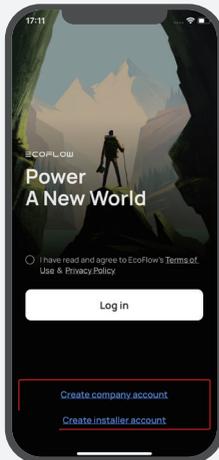
## 1 DOWNLOAD AND INSTALL ECOFLOW PRO APP (FOR INSTALLER ONLY)

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



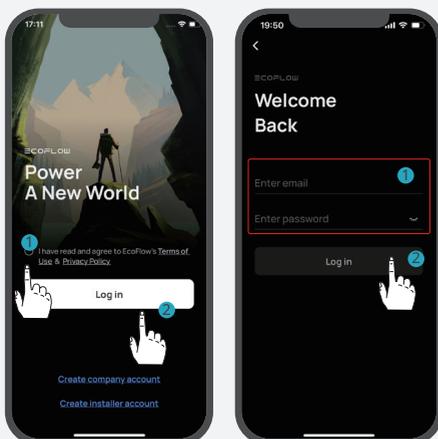
## 2 CREATE ACCOUNT

Create your company or installer account



## 3 LOG IN

Enter the installer account and password.

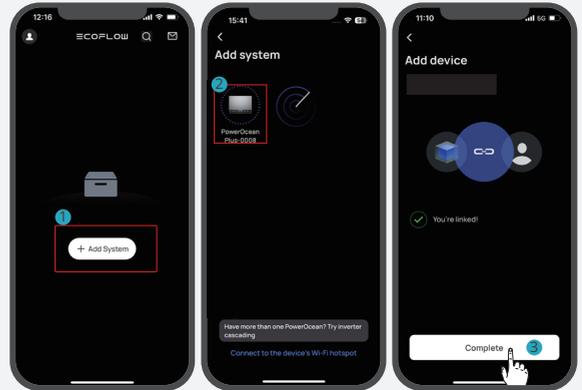


## 4 ADD SYSTEM

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

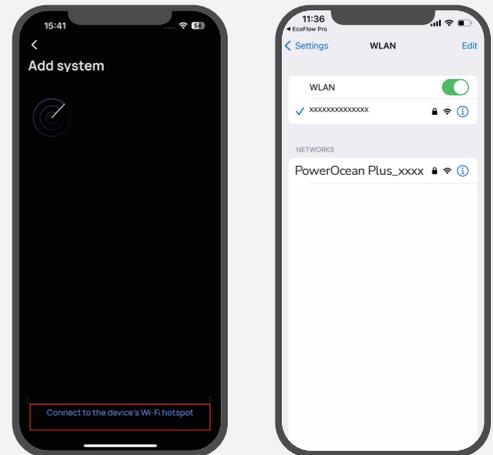
### ·Via Bluetooth

Tap **Add System** to automatically search for bluetooth devices nearby, tap **EcoFlow PowerOcean Plus** to connect, and then tap **Complete** to proceed.



### ·Via Wi-Fi

1. Tap **Add System**, and tap **Connect to the device's Wi-Fi hotspot** to access to your phone's Wi-Fi settings.
2. Tap "PowerOcean Plus\_xxxx" and enter the password for the Wi-Fi. The password is the last 8 digits of the serial number of the inverter, found in the product nameplate.



## 5

### COMMISSIONING

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

#### Step 1: Internet Setup

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

##### • Wi-Fi

Select **WiFi** select the appropriate **network** and enter the password.

##### • Ethernet

Connect the system to a router using a network cable in the DHCP or Static mode.

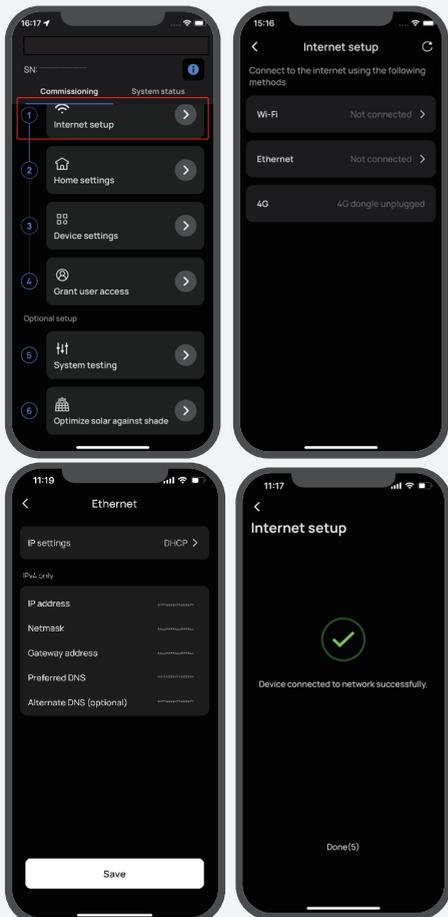
- In the default DHCP mode, the device obtains IP address automatically (recommended).
- In the Static mode, network administrator (homeowner) should set a valid IP address to the device. To avoid IP address conflict, check the IP addresses of other devices on the network by accessing router's settings.

##### • 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.

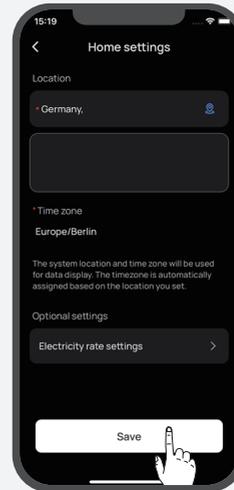


For more details about EcoFlow 4G Dongle ESS(EU), refer to the user manual of the 4G Dongle.



#### Step 2: Home Setting

Tap **Home Setting** to enter the corresponding house address and set the electricity rate if needed.



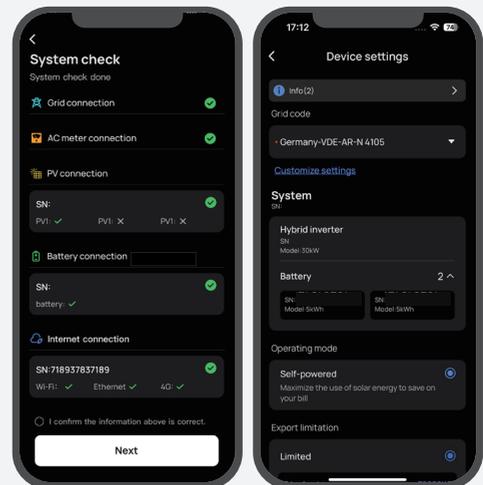
#### Step 3: Device Setting

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

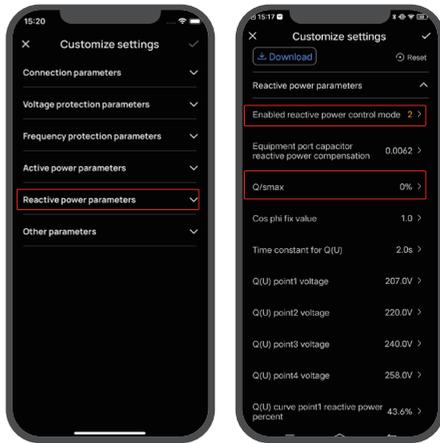
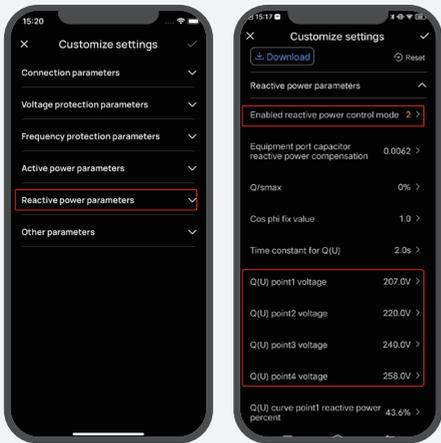
- Perform system check to confirm connection (during the initial commissioning)
- Update firmware (recommended)
- Set the grid code, system work mode, feed-in power limitation, etc.
- Set connection parameters, voltage protection parameters, etc. in **Customize Settings**.



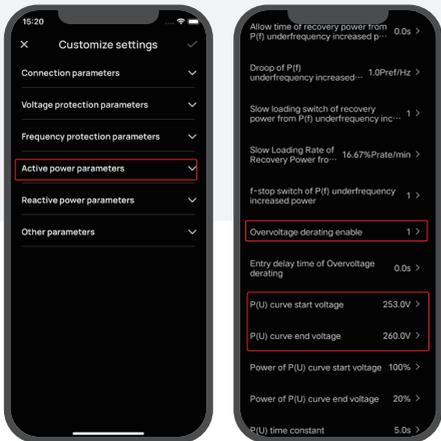
Follow local regulations if you need to change any of these parameters, and contact your local power organization first.



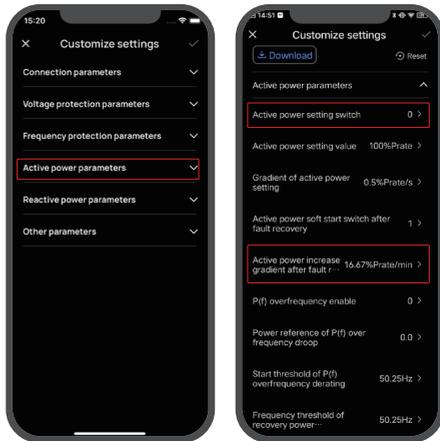
- Set power quality response modes: Volt-var.



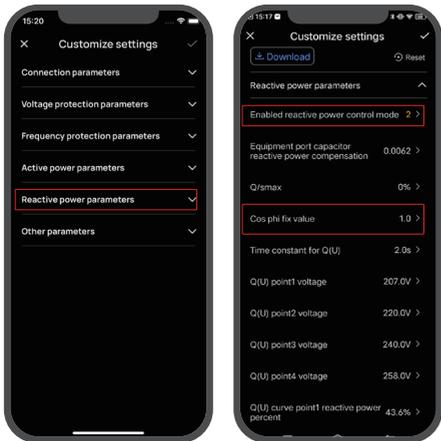
- Set power quality response modes: Volt-watt



- Set power rate limit.



- Set fixed power factor.



#### Step 4: Grant User Access

Tap **Grant User Access** to generate an access QR code for the home owner to bind the system after the home owner adds the device in the EcoFlow app.



- Set reactive power mode.

#### Step 5: Optional Setup

- System testing for on-grid or off-grid feature and DL active scheduling.
- Optimize solar against shade.

# I Help Home Owner for App Initial Setup

## 1. Download and install EcoFlow App

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



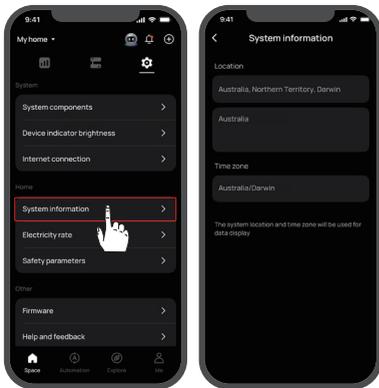
## 2. Create new account and log in.

## 3. Add device manually or use Bluetooth.

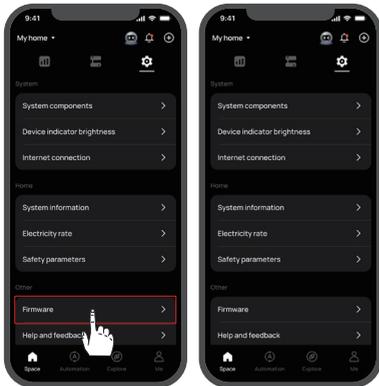
## 4. Scan user grant QR code

Home owner scans the system QR code displayed on the installer's phone to bind the device.

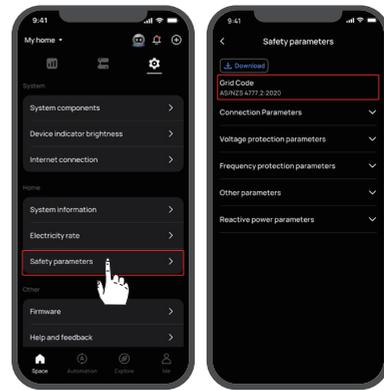
### • How to view region settings?



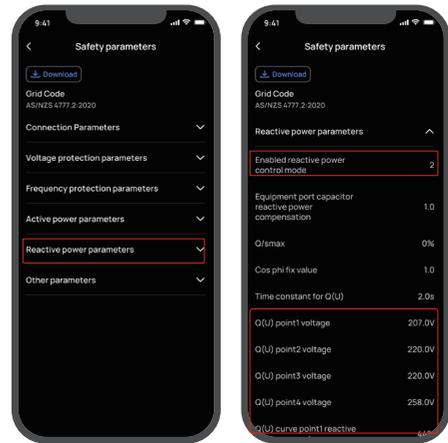
### • How to view firmware version?



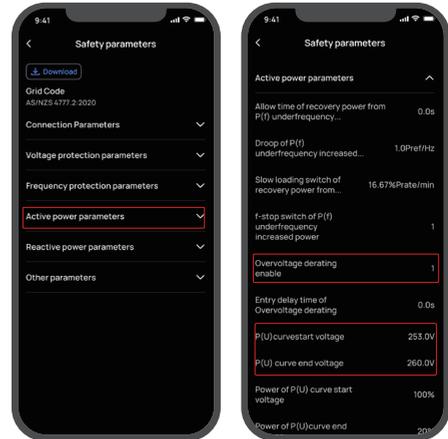
### • How to view grid code?



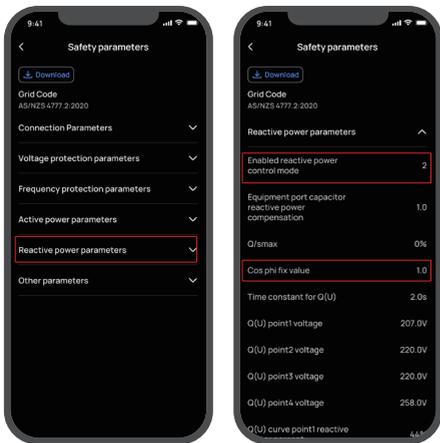
### • How to view power quality response modes: Volt-var?



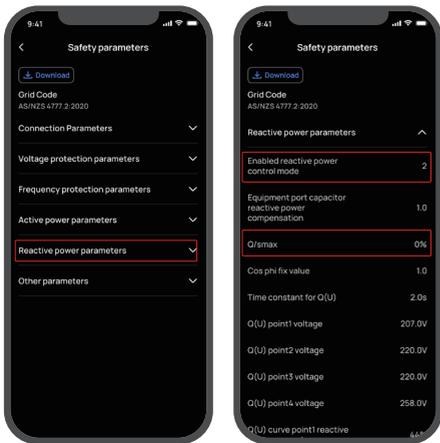
### • How to view power quality response modes: Volt-watt?



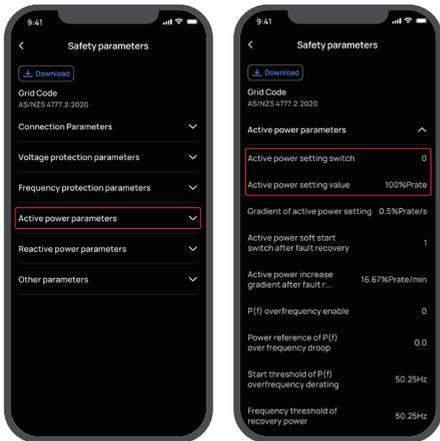
### • How to view fixed power factor?



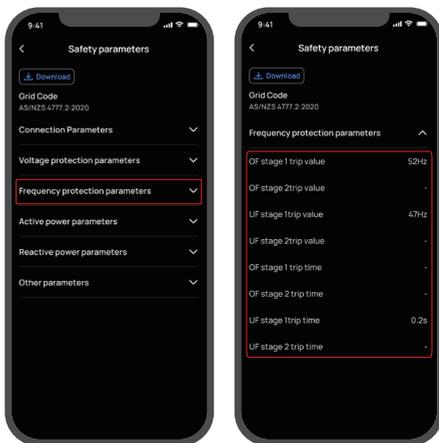
- How to view reactive power mode?



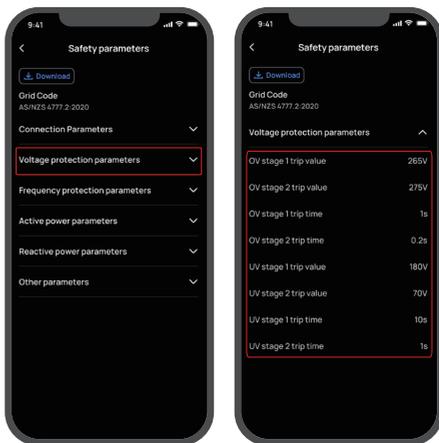
- How to view power rate limit?



- How to view frequency protection parameters?



- How to view voltage protection parameters?



## Important Information about Inverter Cascading

### ⚠ WARNING

- Turn off the grid power and turn on EPO (if any) before cascading inverters.
- Flip the circuit breakers of loads to the OFF position, otherwise the wiring self-check might be faulty.
- Ensure the firmware version is up to date before performing cascading.

### NOTICE

- Cascading different models is not recommended.
- Cascading different PowerOcean products is not supported.

Check whether the cascading installation (up to 2 units) is completed according to the following items.

Check Item	Note
Power cable connection	Refer to "Wiring Diagram". Connect NS protection before wiring to the utility grid according to local regulation.
Communication	Use the inverter cascading cable to connect 2 PAR ports of inverters, and plug the remaining 2 PAR ports with termination resistors. Refer to "Communication Between Cascaded Inverters".
Metering	Connect an EcoFlow Smart Meter when using inverter cascading. Refer to "Connecting Smart Meter".

Connecting to Internet	Plug EcoFlow WIFI Dongle ESS to both inverters.
System commissioning	<p>Perform system commissioning and wiring check in the EcoFlow Pro app in the following step. Otherwise, the system may be damaged.</p> <p>Before commissioning, make sure all loads are disconnected.</p> <ol style="list-style-type: none"> <li>1. Go to <b>Home settings &gt; Device settings</b> to perform system check (for each inverter).</li> <li>2. Turn on the load-side circuit breaker of the secondary inverter.</li> <li>3. Tap <b>Add device &gt; Inverter cascading setup</b>, and tap Next for wiring check (for inverter cascading).</li> <li>4. Go to <b>Home settings &gt; Device settings</b> to perform system check AGAIN (for each inverter).</li> <li>5. After setup, turn off EPO, tap Refresh in the app, and turn on the load-side circuit breaker of backup loads.</li> </ol> <p>The inverter indicator will turn white.</p>

## System Maintenance & Replacement

### ⚠ WARNING

- 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.
- Wear proper PPE before any operations.
- Place temporary warning signs or erect fences to prevent unauthorized access to the maintenance site.

## I Routine Maintenance

To ensure the long-term operating of the equipment, you are advised to perform routine maintenance according to this section.

Check Item	Check Method	Power off or not	Maintenance Cycle
System cleanliness	<ul style="list-style-type: none"> <li>• Periodically check that the heat sinks are free of dust and obstructions, and ensure proper ventilation and heat dissipation for the equipment.</li> <li>• 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.</li> </ul>	Yes	Once every 6 months

System running status	<ul style="list-style-type: none"> <li>• Check that the equipment is not damaged or deformed.</li> <li>• Check that the equipment operates with no abnormal sound.</li> <li>• Check that all equipment parameters are correctly set during operation.</li> <li>• 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.</li> </ul>	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 covers as supplied.	Yes	

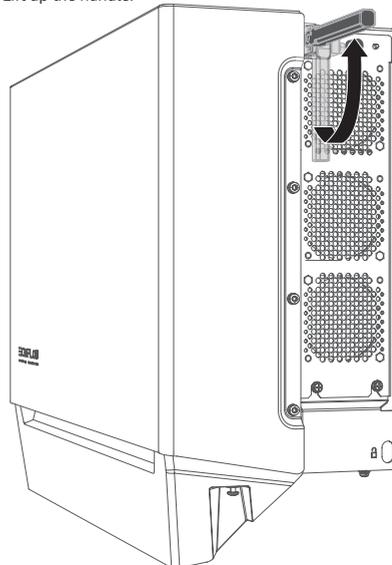
## I Replacing The Inverter Fan

### NOTICE

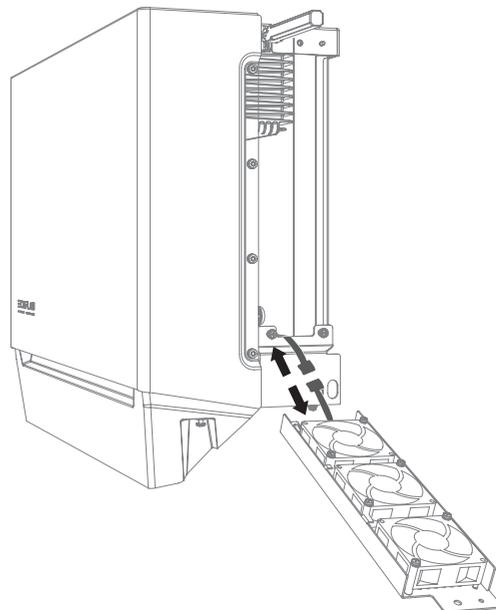
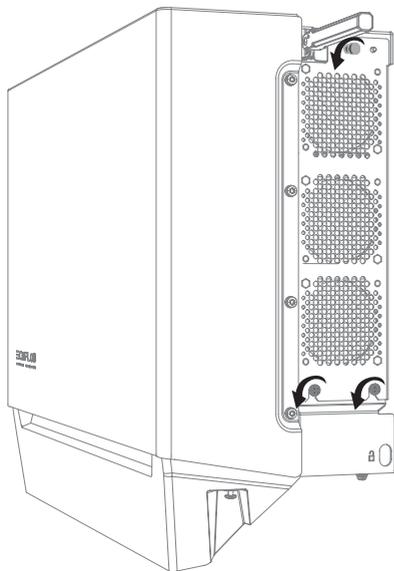
- You can only replace the whole fan module instead of the individual fan.

#### To remove the inverter fan:

1. Lift up the handle.

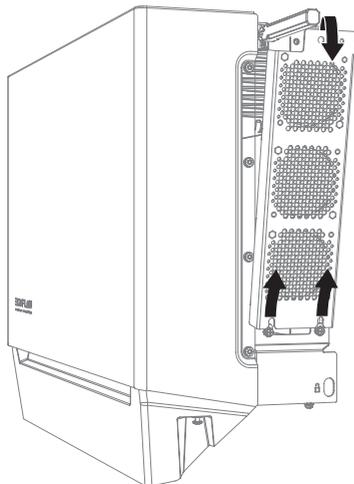


2. Loosen the bottom screws, and then the top screw, using a Phillips screwdriver.

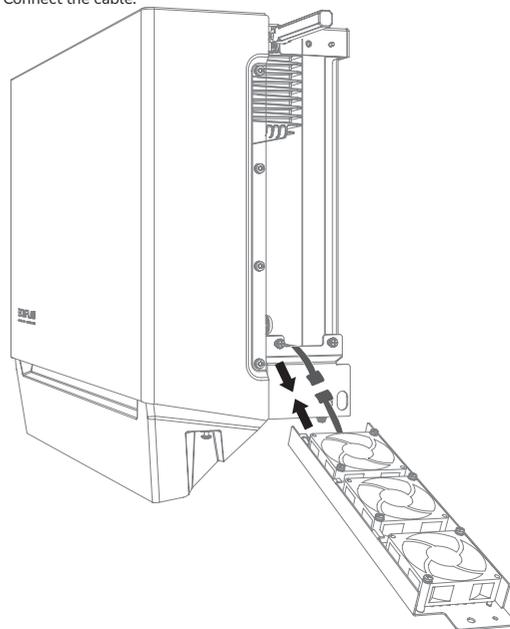


1. Prepare a new fan and install it on the inverter. To install a new fan:  
1. Connect the cable.

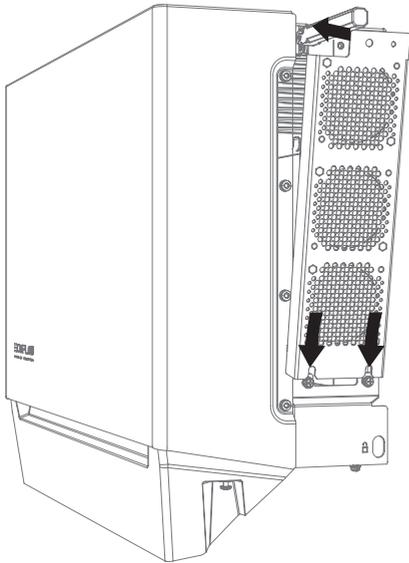
3. Pull the top screw by hand to remove the fan module.



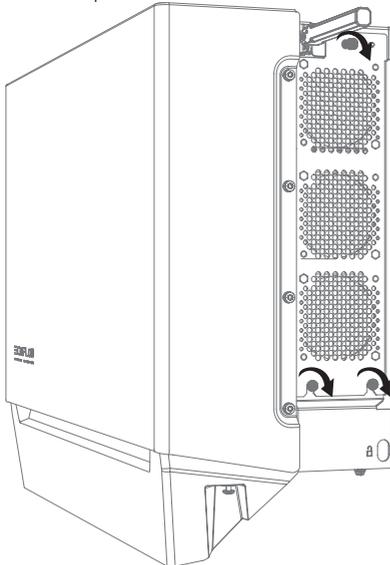
4. Disconnect the cable.



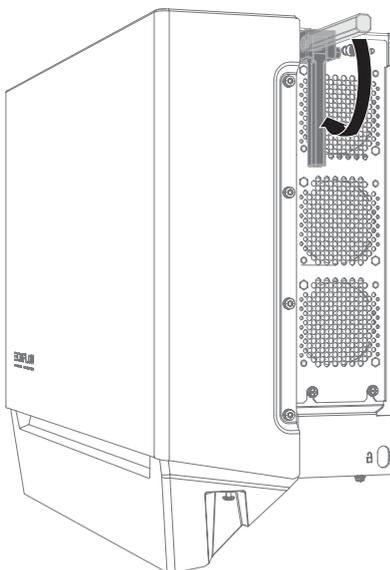
2. Align the locating pins and place the fan module into the fan position.



3. Secure the top screw.



4. Secure the bottom screws, and lower the handle.



## I TROUBLESHOOTING

### ⚠ WARNING

- The equipment can be powered on only after all faults are rectified. Failing to do so may escalate faults or damage the equipment.

#### For installers, to troubleshoot the system:

- Visit and log in to the **EcoFlow Pro** app.
- Retrieve the error code and in-app instructions.
- Completely power off the entire system. Refer to the **System Power-Off** section.
- Follow the in-app instructions to solve the problems. If the equipment is faulty, contact your dealer.

#### For home owners, to troubleshoot the system:

- Visit and log in to the **EcoFlow** app and find the most common FAQ or contact customer support in the **Setting > Help and feedback**.
- If the problem persists, contact the EcoFlow technical support team.

## I Product Storage

The following requirements should be met if the equipment is not put into use directly:

- Do not unpack the equipment if you are not using it.
- Keep the storage temperature at  $-30^{\circ}\text{C}$  to  $60^{\circ}\text{C}$  and the humidity at 0%–100% RH.
- The product should be stored in a clean and dry place and be protected from dust and water vapor corrosion.
- Do not stack the inverters to avoid personal injury or equipment damage.
- Do not place this product near water, fire or other heat sources (heaters, direct sunlight, gas ovens, etc.).
- During the storage period, check the equipment periodically.
- If the equipment has been stored for a long time (more than 6 months), it must be checked and tested by professionals before use.



For details about battery maintenance, see EcoFlow PowerOcean LFP Battery User Manual.

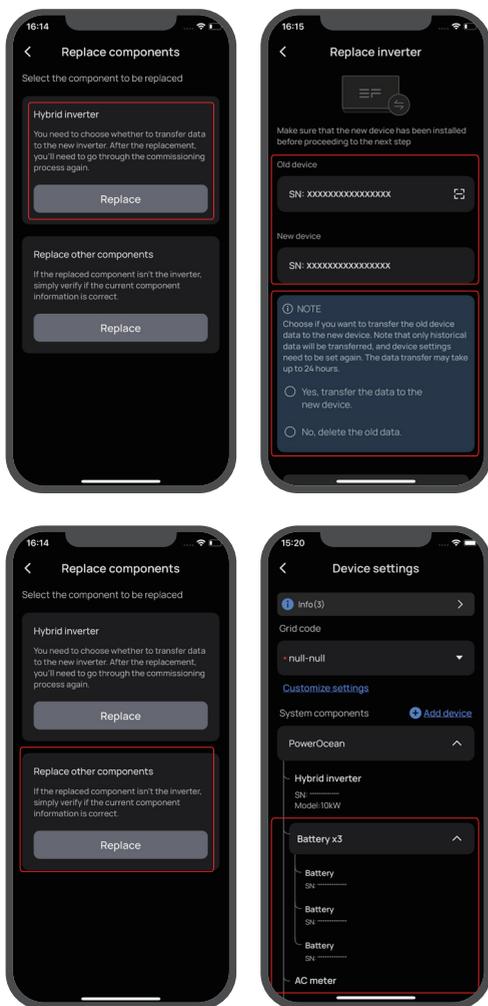
## I Replacement

### ⚠ WARNING

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

#### To replace the inverter:

- Power off the entire system. Refer to the **System Power-Off** section.
- Sequentially disconnect GRID cables, PV input cables, battery cables, communication cables and all modules connecting to the inverter.
- Remove the inverter or other components from the mounting bracket.
- Install a new inverter and new components. For example, if you upgrade the inverter of different model, the battery junction box and WIFI module might be different. Refer to the new inverter's Installation Guide.
- Power on the system and perform system commissioning. Refer to the Installation Guide delivered with the new inverter.
- Transfer the device data to the new inverter or delete the previous data **Settings > Replace components** in the **EcoFlow Pro** app.



## I Decommissioning

### CAUTION

- Before removing an inverter, power it off. Refer to the [System Power-Off](#) section.
- To decommission the inverter:
1. Sequentially disconnect GRID cables, PV input cables, battery cables, communication cables and all modules connecting to the inverter.
  2. Remove the inverter or other components from the mounting bracket.
  3. Remove the mounting bracket.
  4. Pack and store the inverter properly.  
If the inverter cannot work anymore, dispose of it according to the local disposal rules for electrical equipment waste.  
Hereby, our battery module has met the regulations of BattG in Germany.

# Technical Parameters

## I EcoFlow PowerOcean Plus Hybrid Inverter (Three-Phase)

Technical parameters		EF HD-P3-29K9-S1	EF HD-P3-25K0-S1	EF HD-P3-20K0-S1	EF HD-P3-15K0-S1
PV1 Input	Max. Input Power (W)	20000	20000	15000	10000
	Input Voltage Range(V)	160-1000			
	MPPT Operating Voltage Range (V)	200-850			
	Start-up Voltage (V)	160			
	Nominal Input Voltage (V)	620			
	Max. Input Current per MPPT (A)	16×2			
	Max. Short Circuit Current per MPPT (A)	19×2			
	Number of Strings per MPPT	2			
PV2/PV3 Input	Max. Input Power (W)	10000			
	Input Voltage Range(V)	160-1000			
	MPPT Operating Voltage Range (V)	200-850			
	Start-up Voltage (V)	160			
	Nominal Input Voltage (V)	620			
	Max. Input Current per MPPT (A)	16			
	Max. Short Circuit Current per MPPT (A)	24			
	Number of Strings per MPPT	1			
PV Input (PV1+PV2+PV3)	Max. Input Power (W)	40 000	40 000	35 000	30 000
	Overvoltage Category	II			
Battery Input	Nominal Battery Voltage (V)	800			
	Max. Continuous Charging Current (A)	40	33.3	26.6	20
	Max. Continuous Discharging Current (A)	40	33.3	26.6	20
	Max. Charging Power (W)	29900	25000	20000	15000
	Max. Discharging Power (W)	29900	25000	20000	15000
	Maximum Battery Capacity (kWh)	61.2			
AC Input (On-grid)	Nominal Input Voltage (V)	230/400, 3L+N+PE			
	Nominal Apparent Power from Utility Grid (VA)	43470			
	Max. Apparent Power from Utility Grid (VA)	43470			
	Max. AC Current from Utility Grid (A)	63			
	Nominal AC Grid Frequency (Hz)	50			
	Overvoltage Category	III			
AC Output (On-grid)	Nominal Apparent Power Output to Utility Grid (VA)	29900	25000	20000	15000
	Max. Apparent Power Output to Utility Grid (VA)	29900	25000	20000	15000
	Nominal Output Voltage (V)	230/400, 3L+N+PE			
	Nominal AC Grid Frequency (Hz)	50			
	AC Grid Frequency Range (Hz)	45-52			
	Nominal Output Current (A)	43.3	36.2	29	21.7
	Power Factor	-0.8 to 0.8			
	Inrush Current	<120% of the nominal AC current for a maximum of 10 ms			
	Current Total Harmonic Distortion (@Rated Power)	≤3%			
AC Output (Backup)	Overvoltage Category	III			
	Back-up Nominal Apparent Power (VA)	29900	25000	20000	15000
	Max. Output Apparent Power (VA)	35880 for 1 sec	30000 for 1 sec	24000 for 1 sec	18000 for 1 sec
	Nominal Output Current (A)	43.3	36.2	29	21.7
	Max. Output Current (A)	52 for 1 sec	43.4 for 1 sec	34.8 for 1 sec	26 for 1 sec
	Nominal Output Voltage (V)	230/400, 3L+N+PE			
	Nominal Output Frequency (Hz)	50			
	RD Load (kW)	1.65			
	Voltage Total Harmonic Distortion (@Linear Load & @Rated Power)	≤3%			
Efficiency	Max. Efficiency	98.0%			
	European Efficiency	97.0%			
	Max. MPPT Efficiency	99.9%			

<b>Compliance</b>	Certificates	CE mark
	Safety Standards	IEC/EN 62109-1, IEC/EN 62109-2
	Grid-tied Standards	VDE-AR-N-4105, TOR Erzeuger Typ A, EN 50549, PTPIREE, G99, TF 3.3.1 (B1.2 for type A), CEI 0-21, C10/11, UNE, NTS, AS 4777.2
	EMC&RF	EN 301 489-1, EN 301 489-3, EN 301 489-17, EN 300 328, EN 301 893, EN 300 440, EN IEC 61000-6-1, EN IEC 61000-6-2, EN IEC 61000-6-3, EN IEC 61000-6-4, EN 61000-3-11, EN 61000-3-12, EN IEC 62311, EN 62311, EN 50665
<b>Protection</b>	AFCI	Yes
	PV Insulation Resistance Detection	Yes
	Residual Current Monitoring	Yes
	PV Reverse Polarity Protection	Yes
	Anti-islanding Protection	Yes
	AC Overcurrent Protection	Yes
	Backup Load Short Circuit Protection	Yes
	AC Overvoltage Protection	Yes
	DC Switch	Yes
	Remote Shutdown	Yes
	Protective Class	I
	DC Surge Protection	Type II
AC Surge Protection	Type II	
<b>General</b>	Cascading	Up to 180kWh battery capacity*
	Operating Temperature Range (°C)	-20 to 50
	Relative Humidity	0-100%
	Max. Operating Altitude (m)	3000
	Cooling Method	Intelligent air cooling
	User Interface	LED indicator, EcoFlow app
	Communication Method	RS485 (for meter) & CAN (for BMS) & Wi-Fi & Bluetooth & WAN & 4G
	Wi-Fi Frequency Range (MHz) Maximum Output Power (dBm)	2.4GHz: 2412-2472, 5GHz: 5180-5700, 5745-5825 <20
	Bluetooth Frequency Range (MHz) Maximum Output Power (dBm)	2402-2480, <8
	Weight (kg)	Approx. 41
	Dimension (WxDxH mm)	636×235×498 (±1) (with trim cover) 636×235×419 (±1) (without trim cover)
	Noise Emission (dB)	<45
	Topology	Non-isolated
	Self-consumption at Night (W)	<20.5
	Ingress Protection Rating	IP65
	Environmental Category	Outdoor, Indoor - unconditioned, Indoor-conditioned
	Pollution Degree	PD3
	Storage Temperature (°C)	-30 to 60
Mounting Method	Wall Mounted	

\* For a total battery capacity of 180kWh, 3 hybrid inverters are required. One hybrid inverter can support a maximum of 60kWh.

# I EcoFlow PowerOcean LFP Battery

Number of Battery Packs		EF BD-JC-S2 EF BD-5.1-S1 EF BD-B-S1	EF BD-JC-S2 EF BD-10.2-S1 EF BD-B-S1	EF BD-JC-S2 EF BD-15.3-S1 EF BD-B-S1	EF BD-JC-S2 EF BD-20.4-S1 EF BD-B-S1
<b>Performance</b>	Battery Nominal Capacity (kWh)	5.1	10.2	15.3	20.4
	Battery Usable Capacity (100% Depth of Discharge)* (kWh)	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 Cell Type	LiFePO4			
<b>Compliance</b>	Certificates	RCM MARK			
	Safety Standard	IEC 62619, IEC 62040-1, IEC 62477-1, ISO13849			
	Delivery Standard	UN38.3			
	EMC	IEC 61000-6-1/3			
<b>General</b>	Dimension (mm)	680×183×612 (±1)	680×183×1009 (±1)	680×183×1406 (±1)	680×183×1803 (±1)
		680×183×424 (±1) (EF BD-5.1-S1 x 1)			
	Weight (kg)	65.6	120.9	176.2	231.5
		55.5 (EF BD-5.1-S1 x 1)			
	Installation	Floor stand / wall mounted			
	Operating Temperature (°C)	-20 to 50			
	Max. Operating Altitude (m)	3000			
	Cooling Method	Natural convection			
	Noise Level (dB)	≤35			
	Relative Humidity	0%-100% (Condensing)			
	Active Aerosol Fire Prevention Module	Integrated			
	Ingress Protection Rating	IP65			
Protective Class	I				

\* To maintain optimal battery performance in low-temperature environments, the depth of discharge (DoD) may vary with actual temperature. This is a normal fluctuation.





PAP

Raccolta carta

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