User Manual

V1.0

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EcoFlow OCEAN 2 Hybrid Inverter
Three-Phase

IMPORTANT

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

CONTENTS

About this Manual

DISCLAIMER

Read this user manual carefully before using the product to ensure that you completely understand the product and can correctly use it. After reading this user manual, keep it properly for future reference. Improper use of this product may cause serious injury to yourself or others, or cause product damage and property loss. Once you use this product, it is deemed that you understand, approve and accept all the terms and content in this document. EcoFlow is not liable for any loss caused by the user's failure to use this product in compliance with this user manual.
In compliance with laws and regulations, EcoFlow reserves the right to final interpretation of this document and all documents related to this product. This document is subject to changes (updates, revisions, or termination) without prior notice. Please visit EcoFlow's official website to obtain the latest product information.

INTENDED USE

This document complements the product's Installation Guide. While the Installation Guide offers instructions for the installation and initial setup of the product, this document provides general instructions of product installation and use.
Please note that all illustrations in this manual are for demonstration only and may vary from the actual product due to regions and firmware versions.

INTENDED USER

This document is intended for qualified persons and end users. Please note that only qualified persons are allowed to perform professional or skilled work on the equipment, such as installation, maintenance, or other electrical operations.

Safety Instructions

SYMBOL CONVENTIONS

The following table describes the symbol conventions used in this document. Please note that all the instructions and cautions on the equipment or in related documents are only supplements to local laws and regulations.

Symbol	Description
DANGER	Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.
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.
	Indicates additional information that promotes understanding of the product or a topic.

GENERAL REQUIREMENTS

DANGER

- Do not work with power on during installation.

WARNING

- When the photovoltaic array is exposed to light, it supplies a d.c. voltage to the PCE.

CAUTION

- The product must only be operated with PV modules of protection class II in accordance with IEC 61730, application class A. The PV modules must be compatible with this product. Do not ground the PV array positive/negative hole.

1. If the power cord of this equipment is damaged, it must be replaced by the manufacturer, customer service department or qualified personnel to prevent a safety hazard.
2. Do not touch the exposed cable with your hands.
3. Make sure the cables, connectors and ports are dry before starting up the equipment. Make sure all three are connected securely.
4. Do not install, use, or operate outdoor equipment and cables in harsh weather conditions such as lightning, rain, snow, and level 6 or stronger wind.
5. Tighten the screws to the specified torque using tools when installing the equipment.
6. After installing the equipment, remove the remnants of the device installation area, such as cardboard boxes, foam, plastic, wire ties, stripped insulation materials, etc.
7. All warning label and nameplates on the equipment should be visible after installation is complete. Do not scrawl, damage, or block any warning label on the device.
8. Understand the components and functioning of a grid-tied PV power system and relevant local standards.
9. Do not reverse engineer, decompile, disassemble, adapt, add code to the device software or alter the device software in any other way. Any other operation that violates the original design specifications of the device hardware and software is not allowed.
10. If there is a probability of personal injury or equipment damage during operations on the equipment, immediately stop the operations, take feasible protective measures.
11. Do not touch the energized equipment, as the enclosure is hot.
12. Use insulated tools when operating equipment and wear personal protective equipment to ensure personal safety. Wear anti-static gloves, clothing and wristbands when touching electronic devices to protect equipment from damage.
13. Prior to performing any work on the equipment, always disconnect it from all voltage sources as described in this document. Always adhere to the prescribed sequence.
14. Before installing PV modules, please read its user manual carefully.
15. The system is not suitable for power supplying life-sustaining medical devices. It cannot guarantee backup power in all circumstances.
16. Do not connect loads between the inverter and the AC switch that directly connects to the inverter.

PERSONNEL REQUIREMENTS

1. 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.
2. Only qualified professionals are allowed to install, operate, and maintain the equipment.
3. Personnel who will operate 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.

- Professionals: personnel who are trained or experienced in equipment operations and are clear of the sources and degree of various potential hazards in equipment installation, operation, and maintenance.

ELECTRICAL SAFETY

GROUNDING

1. For the equipment that needs to be grounded, install the ground cable first when installing the equipment and remove the ground cable last when removing the equipment.
2. Ground the PE hole of GRID connector, BACKUP connector and the equipment enclosure.
3. Do not damage the ground conductor.
4. Do not operate the equipment in the absence of a properly installed ground conductor.
5. Ensure that the equipment is connected permanently to the protective ground. Before operating the equipment, check its electrical connection to ensure that it is securely grounded.

GENERAL REQUIREMENTS

⚠ DANGER

- Before connecting cables, ensure that the equipment is intact. Otherwise, electric shocks or fire may occur.

1. Ensure that all electrical connections comply with local electrical standards.
2. Obtain approval from the local electric utility company before using the equipment in grid-tied mode.
3. Ensure that the cables installer prepared meet local regulations.
4. Use dedicated insulated tools when performing high-voltage operations.
5. Before connecting a power cable, check that the label on the power cable is correct. When fabricating cables and installing connectors on site, follow the respective instructions in this manual and the requirements of local laws and regulations.
6. Before operating the equipment, disconnect all power to the equipment and wait for the corresponding delayed discharge time to ensure that the equipment is completely deenergized.

CABLING

1. The cabling path must avoid the equipment cooling system and parts.
2. When routing cables, ensure that a distance of at least 30 mm exists between the cables and heat-generating components or areas. This prevents damage to the insulation layer of the cables.
3. Bind cables of the same type together. Mutual entanglement or cross-deployment is not allowed.
4. Ensure that the cables used in a grid-tied PV power system are properly connected and insulated and meet specifications.

INSTALLATION ENVIRONMENT REQUIREMENTS

1. Ensure that the equipment is installed in a well ventilated environment.
2. To prevent fire due to high temperature, ensure that the ventilation vents or heat dissipation system are not blocked when the equipment is under operation.
3. Do not expose the equipment to flammable or explosive gas or smoke. Do not perform any operation on the equipment in such environments.
4. Do not place the equipment next to any heat source, fire source, or water source, and not to perform any operation on the equipment next to that heat source, fire source, or water source.

EQUIPMENT AND PERSONNEL SAFETY REQUIREMENTS

MOVING THE EQUIPMENT

1. When moving the equipment by hand, wear protective gloves to prevent injuries.
2. Move the equipment with precaution as it is heavy. Two or more people are needed to assist in moving the equipment.

DRILLING HOLES

1. Wear goggles and protective gloves when drilling holes.
2. When drilling holes, protect the equipment from shavings or dust. After drilling, clean up any shavings or dust that have accumulated at the installation site in a timely manner, otherwise, it may block the drilled hole.

GROUNDING CONDUCTOR MONITORING

The inverter is equipped with a grounding conductor monitoring device. This grounding conductor monitoring device detects when there is no grounding conductor connected and disconnects the inverter from the utility grid if this is the case. Depending on the installation site and grid configuration, it may be advisable to disable the grounding conductor monitoring. This can be necessary, if there is no neutral conductor present and you intend to install the inverter between two line conductors.

1. Grounding conductor monitoring must be disabled after initial start-up depending on the grid configuration. Safety in accordance with IEC 62109 when the grounding conductor monitoring is deactivated. In order to guarantee safety in accordance with IEC 62109 when the grounding conductor monitoring is deactivated, you have to connect an additional grounding conductor to the inverter.
2. Connect an additional grounding conductor that has an cross-section of at least 10 mm^2. Ground the PE hole of GRID connector and the equipment enclosure.

DISPOSAL

For information on the disposal of electrical and electronic equipment, please refer to the following website:
https://eu.ecoflow.com/pages/electronic-devices-disposal

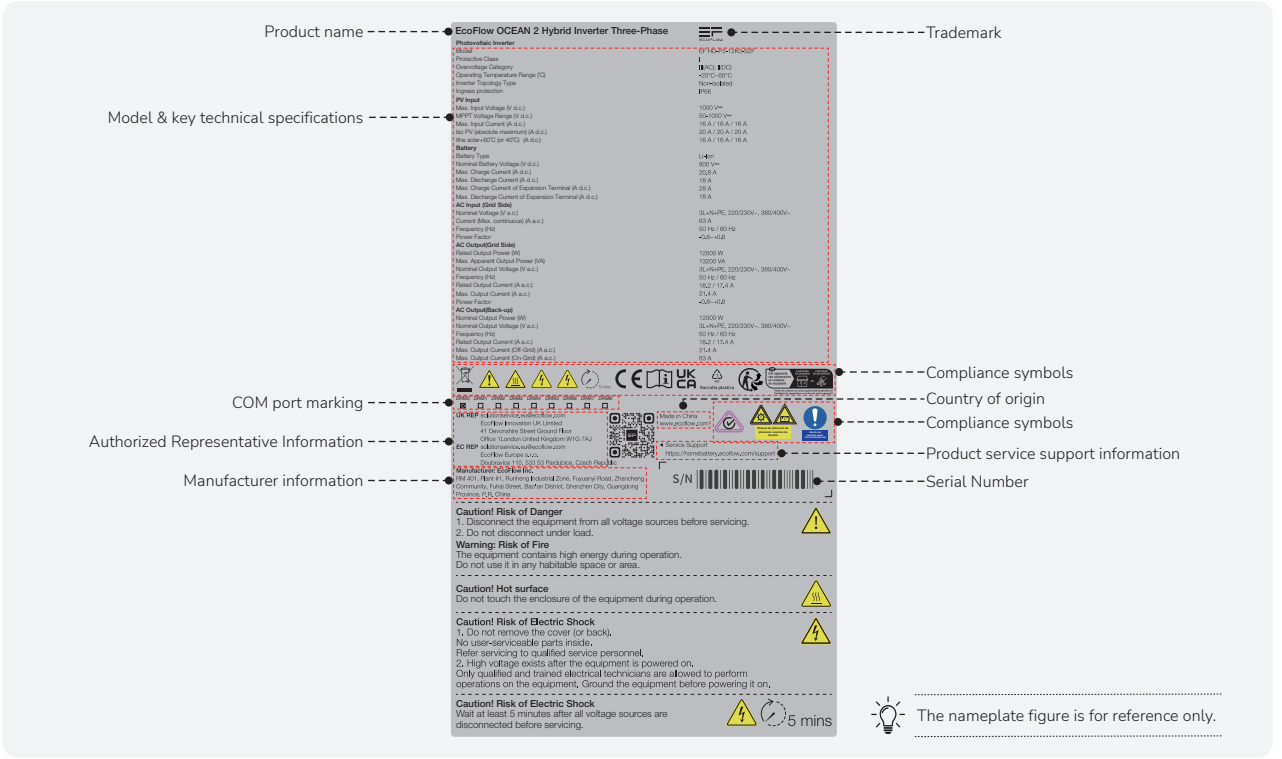
SETTING THE RATED RESIDUAL CURRENT OF THE RESIDUAL-CURRENT DEVICE

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. However, if there are specific local electrical codes regarding RCDs, please ensure that you adhere to those.

EMC PROTECTION CLASS

Class B

PRODUCT NAMEPLATE



SYMBOLS ON ENCLOSURE OR NAMEPLATE

Icon	Name	Meaning
	Caution	Caution, risk of danger.
	Eletric shock warning	Caution, risk of eletric shock.
5 mins	Delayed discharge	Danger to life due to high voltages in the inverter; observe a waiting time of 5 minutes. High voltages that can cause lethal electric shocks are present in the live components of the inverter. Prior to performing any work on the inverter, disconnect it from all voltage sources as described in this document.
	Burn warning	Do not touch a running equipment because the enclosure is hot when the equipment is running.
	Refer to documentation	Reminds operators to refer to the documents delivered with the equipment.
	Grounding	Indicates the position for connecting the protective earthing (PE) cable.
	Symbol of a crossed-out trash can	WEEE designation Do not dispose of the product together with the household waste but in accordance with the disposal regulations for electronic waste applicable at the installation site.
CE	CE marking	The product complies with the requirements of the applicable EU directives.
☒	COM port marking	The box with "×" indicates that the port supports a protocol, while the empty box indicates the port does not support the protocol.

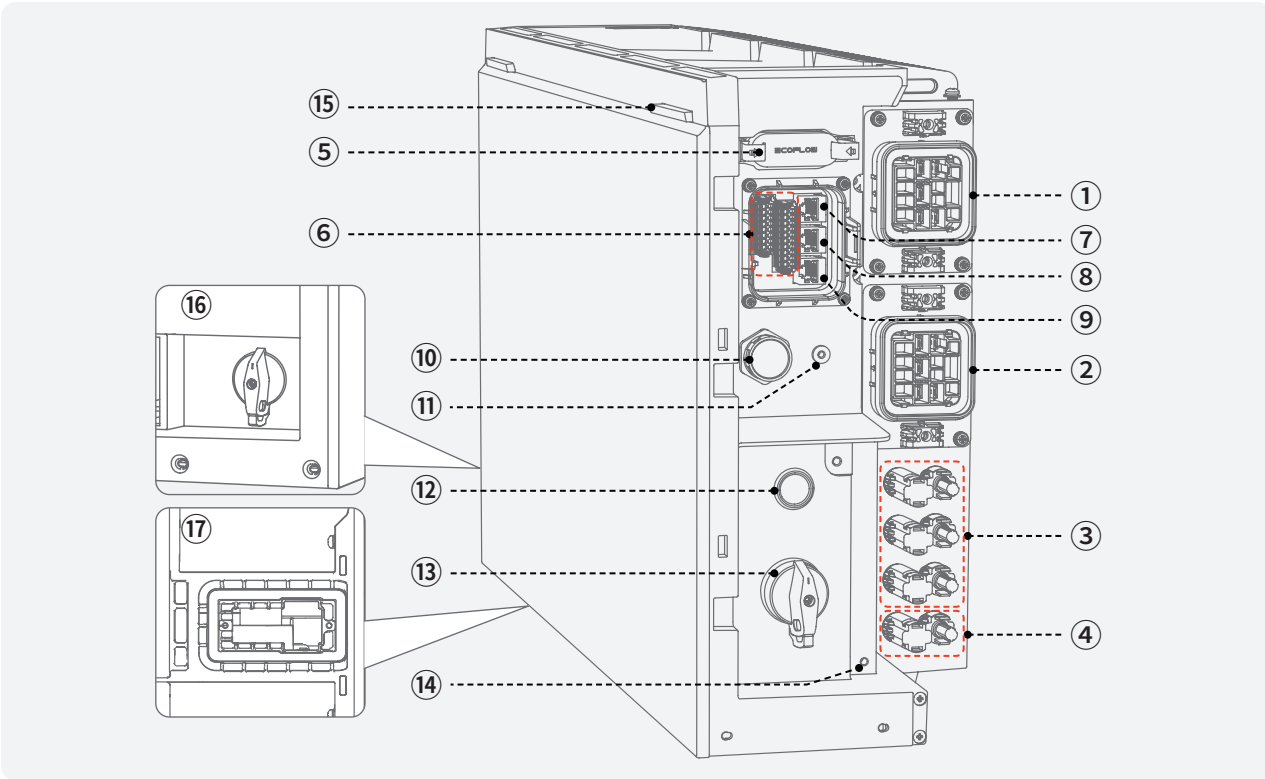
- The labels are for reference only.

Overview

EcoFlow OCEAN 2 Three-Phase Solar Battery System consists of a hybrid inverter and scalable batteries (up to 12 units (battery junction box required)). The inverter converts energy from solar panels, and the battery pack provides energy storage for solar self-consumption, load shifting, or off-grid use. With up to 24kW solar input, 15kW AC output and dynamic tariff support, the system achieves maximum power independence and financial savings on energy bills.
Full compatibility with all EcoFlow home energy Ecosystem products, smart monitoring and control over your household appliances can be achieved right now.
The hybrid inverter is a grid-tie type (also known as grid interactive inverter or synchronous inverter) with pure sine wave output.

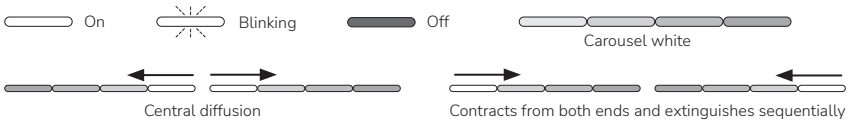
APPEARANCE

Key components and ports are shown below.



No.	Part Name	Description
1	GRID terminal	Connects with the grid conductors.
2	BACKUP terminal	Connects with home backup load conductors.
3	PV terminals	Used for solar panel connection. With up to 3 Maximum Power Point Trackers (MPPTs) provide superior energy harvesting and design flexibility, allowing up to 3 independent strings of PV modules with different orientations, tilt angles, or shading profiles to operate efficiently. This configuration is ideal for complex rooflines, reducing overall system power losses from string mismatch.
4	Battery junction box port	Used for battery junction box connection. You can connect up to 12 battery packs.
5	WIFI port	Connects with EcoFlow Ocean 2 Dongle.
6	COM terminals	Used for connecting with an emergency stop (EPO), AC meters, ecosystem appliances, etc. If you do not install an EPO, you must install the supplied COM connector with shorting wire to the COM terminal. Otherwise, the inverter will not work properly.
7	PAR-OUT	Used for inverter cascading communication.
8	WAN/PAR-IN	WAN: Used for wired network connection and connecting with the router in your home. PAR-IN: Used for inverter cascading communication.
9	B-COM	Used for communication between battery junction box and inverter.
10	USB-A	Reserved
11	Earth stud	Used for connecting ground wire.
12	BATTERY ON/OFF	Press and hold for 10 seconds to turn on (Battery Black Start) /off the batteries.
13	PV switch	The control of PV inputs only, instead of controlling any other voltage sources.
14	Earth stud	Used for connecting ground wire.
15	LED indicator	See "LED indication" for details.
16	BATTERY SWITCH (Australian and French version only)	Used for battery-inverter connection control (disconnect/reconnect)
17	Stacking terminal	Used for battery module stacking connection

LED INDICATION



DAILY USE

Power On	Description
	Startup
Power Off	**Description**
	Shutdown
Charge Status	**Description**
	0-25%
	25-50%
	50-75%
	75-100%
	100%
Discharge Status	**Description**
	1-10% (Low battery)
	11-24%
	25-49%
	50-74%
	75-100%

INSTALLATION/COMMISSIONING

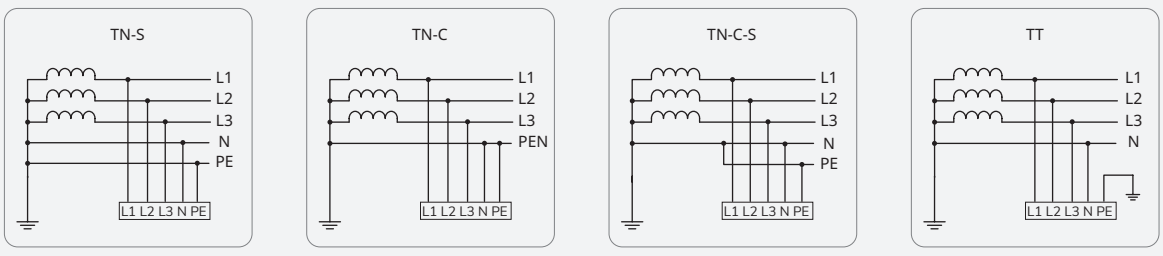
Over-the-air Updates / Self-Check Status	Description
	Over-the-air update or self-check ongoing.
Wi-Fi Setup Status	**Description**
First breathing white then blinking 	Wi-Fi pairing ongoing

ABNORMAL/FAULT

Faulty Status	Description
	Electrical connection fault detected
	Communication fault detected
	Battery fault detected
	Converter fault detected

SUPPORTED POWER GRID TYPES

The inverter supports the following power grid types: TN-S, TN-C, TN-C-S, and TT.



WORKING PRINCIPLES

The inverter receives inputs from up to 3 PV strings. Then the inputs are grouped into 3 MPPT routes inside the equipment to track the maximum power point of the PV strings. The DC power is then converted into three-phase AC power through an inverter circuit. Surge protection is supported on both the DC and AC sides.
This equipment applies to residential grid-tied systems. The system includes PV strings, batteries, hybrid inverter, AC switches, and power distribution units, etc..

System Installation

⚠ CAUTION

- Only qualified professionals are allowed to install, operate, and maintain the equipment.

Refer to Installation Guide delivered with the equipment for installation, or download the guide at https://homebattery.ecoflow.com/documentation
Installation procedure and the corresponding section is shown below

Step	Section in the Installation Guide
Installation site survey	Installation Environment Requirements
	Installation Space Requirements
Installation of LFP batteries and the inverter	Installing Battery
	Installing Inverter
Wiring	Connecting PE Cables
	Connecting PV Input Cables
	Connecting GRID/BACKUP Cables
	Cascading Batteries
	Connecting Smart Mater
Internet access	Connecting to Internet
Installation completion	Installing trim cover on the battery junction box and inverter
Installation review	Checking before Power-On
Electrical energization and LED indicator check	System Power-On
	System Power-Off
	LED Indicators
System commissioning via the EcoFlow Pro app	System Commissioning

System Operation

SYSTEM POWER-ON

- **Procedure (PV module configured)**

1. Set the BATTERY SWITCH (Australian and French version only) to ON position.
2. Set the PV SWITCH to ON position.
3. Turn on the AC switch between the inverter and the power grid.
4. Observe the LED to check the operating status.

- **Procedure (no PV module configured and no no grid power)**

1. Set the BATTERY SWITCH (Australian and French version only) to ON position.
2. Set the PV SWITCH to ON position.
3. Turn on the AC switch between the inverter and the power grid.
4. After commissioning, press and hold for 3 seconds the BATTERY ON/OFF button.
5. Observe the LED to check the operating status.

SYSTEM POWER-OFF

⚠ WARNING

- 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.

1. Tap shutdown command via the app.
2. Turn off the AC switch between the inverter and the power grid.
3. Set the PV SWITCH 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 (Australian and French version only) to OFF position.
6. (Optional) Secure the BATTERY SWITCH (Australian and French version only) with a lock to prevent accidental startup. The lock is prepared by the customer.
7. Press and hold the BATTERY ON/OFF button 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.

APP DOWNLOAD

EcoFlow provides thorough support for the system. Both the home owner and installer benefit from our comprehensive guides and resources.

- **For home Owner**
  Effortlessly manage, monitor, and control your EcoFlow devices through a sleek, user-friendly interface via app or web management. Access real-time energy data, detailed power generation, storage and energy bills savings anytime and anywhere. Professional technical support is also readily available when needed.

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

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

- **For Installer**

  Streamline the commissioning process, monitor device status in real-time, access detailed troubleshooting solutions for system faults and also offer customer support from EcoFlow professional support team.

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

EcoFlow Pro

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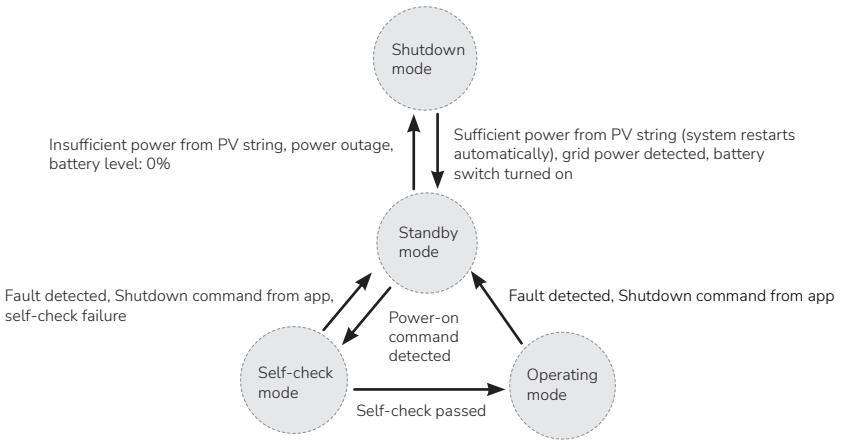
OPERATION MODE

The Ocean 2 energy storage system can work in shutdown, standby, self-check or operating mode.



Working mode	Description
Shutdown mode	The internal auxiliary power source, hybrid inverter and DC-DC converter of the battery do not work. If the grid is detected, or the power from PV string is sufficient, the system will restart automatically and enter Standby mode.
Standby mode	The internal auxiliary power source works, but hybrid inverter and DC-DC converter of the battery do not work. If the inverter detects a power-on command, the system will enter Self-check mode. If there is a power outage, the power from PV string is insufficient, or the battery level is 0% and the PV cables are disconnected, the system will enter Shutdown mode.
Self-check mode	The internal auxiliary power source works, but hybrid inverter and DC-DC converter of the battery do not work. If self check is passed, the system enters Operating mode. If the self-check is not passed, a fault or a shutdown command is detected, the system will enter Standby mode.
Operating mode	The internal auxiliary power source works, hybrid inverter and DC-DC converter of the battery start working. The inverter converts DC power from PV strings into AC power and feeds the power to the power grid. The inverter tracks the maximum power point to maximize the PV string output power. If a fault or a shutdown command is detected, the system will enter Standby mode.

BACK-UP FUNCTION

⚠ CAUTION

- For hybrid inverters, both PV modules and batteries need to be configured in the system installation typically and there is sufficient power from batteries or PV modules in backup mode, otherwise, the backup power supply will be automatically terminated. EcoFlow shall hold no liability for any consequences arising from failing to observe this instruction.

NOTICE

To prevent the power backup function from failing, instructions as below must be observed:

- The system is not suitable for powering life-sustaining medical devices. It cannot guarantee backup power in all circumstances.
- Do not connect any loads that require an uninterrupted energy supply.
- Do not connect the loads whose total capacity is greater than the maximum Back-Up capacity.

The backup function ensures that the inverter forms a three-phase battery-backup grid that uses energy from the battery and the PV system that is directly connected to the inverter to power the household loads in the event of a utility grid outage. The backup function is enabled by default.

When a utility grid outage occurs:

The backup loads connected to the AC-BACKUP terminal are connected and supplied to the AC-GRID terminal via an integrated bypass contactor. The contactor opens when a utility grid outage occurs. Then the backup loads are switched to be supplied by the energy stored in the battery and the PV modules connected directly to the inverter.

Batteries keep being charged by the existing PV system during backup operation.

However, the inverter is able to create a stable battery-backup grid only when sufficient power is available in the battery. Battery-backup operation starts automatically when sufficient energy is available from the PV system.

Utility grid recovers:
The backup operation is disabled automatically and the loads are supplied with energy from the power grid and PV system.

Backup switching time:
Under normal circumstances, the back up switching time during grid outage is 0 ms, which will be more than 20ms when low-voltage ride-through function is enabled by default based on local electrical code.

- You can set charging and discharging limit in the EcoFlow app.

BACK-UP OVERLOAD PROTECTION

When single overload protection occurs, the inverter can restart automatically. However, the restarting time will be extended (5 min at most) if it repeats. For a faster restarting, try it via app. Try removing the loads which may cause very high start-up current surges.

OPTIMIZE SOLAR AGAINST SHADE

The system will optimize solar generation in shaded conditions at your setup intervals to track the maximum power point. Solar generation may fluctuate under this condition.

This Function is disabled by default.
To enable it, switch on **Commissioning** > **Optional setup** > **Optimize solar generation** in the EcoFlow Pro app when the installer performs system commissioning.

RCR OR DRM DETECTION

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, required in Germany and some European regions for more than 25kW inverters.
Demand Response Mode (DRM) which enables the inverter to respond to signals sent to it remotely, is required in Australia.
Generally, if the grid is overloaded, the utility company will specify whether the PV system should reduce the feed-in power to 0%, 30%, 60% of the rated power.

This Function is enabled by default.
To disable it, switch on **Commissioning** > **Testing** > **DI active scheduling** in the EcoFlow Pro app when the installer performs system commissioning. Or custom the DI values.

CUSTOM PARAMETER

You can custom the following parameters in **Commissioning** > **Device settings** > **Customize settings** in the EcoFlow Pro app when the installer performs system commissioning.

- Connection parameters
- Voltage Protection parameters
- Frequency Protection parameters
- Reactive Power parameters
- Other parameters

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.

ROUTINE MAINTENANCE

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

Check Item	Check Method	Power off or not	Maintenance Cycle
System cleanliness	• Periodically check that the heat sinks are free of dust and obstructions, and ensure proper ventilation and heat dissipation for the equipment. • Clean the equipment surface with a dry, soft cloth if there is dust or dirt. Do not use liquids, abrasive materials, or hard objects for cleaning.	Yes	Once every 6 months
System running status	• Check that the equipment is not damaged or deformed. • Check that the equipment operates with no abnormal sound. • Check that all equipment parameters are correctly set during operation. • Check for abnormal noise from the fan during operation and ensure that there are no objects obstructing the fan. If foreign objects are found, remove them.	No	
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	

REPLACING THE INVERTER FAN

⚠ WARNING

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

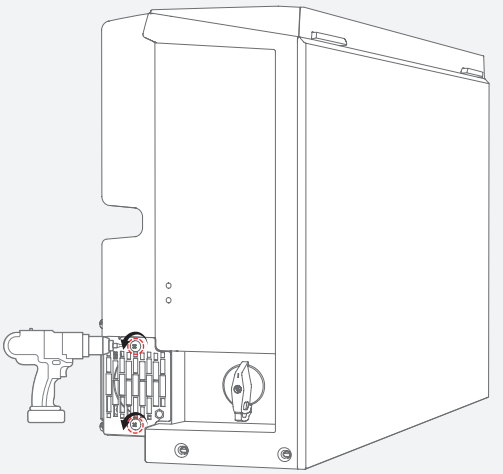
REPLACING THE INVERTER FAN

NOTICE

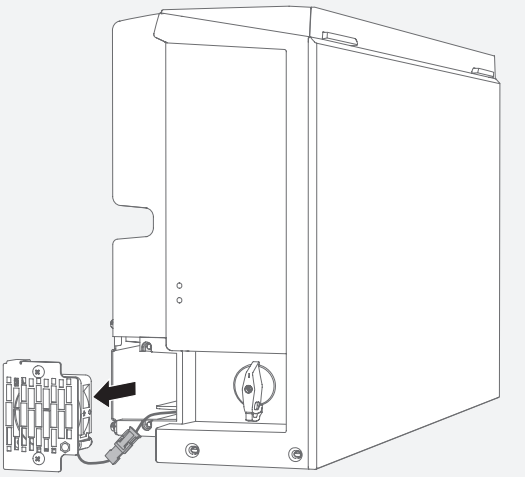
You can only replace the whole fan module instead of the individual fan.

To remove the inverter fan:

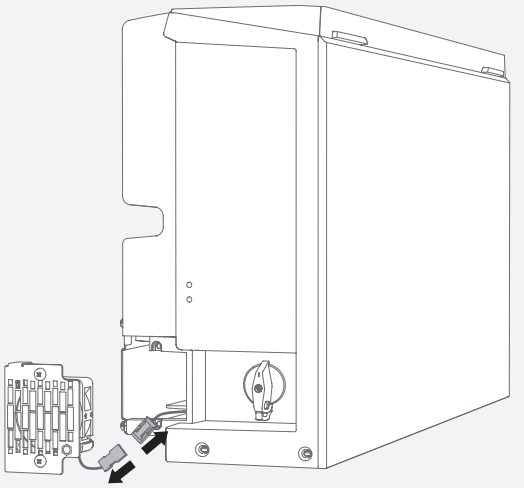
1 Loosen the screws using a Phillips screwdriver.



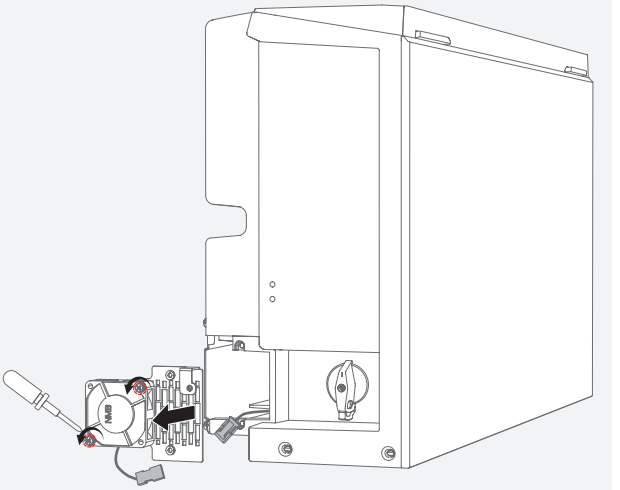
2 Remove the fan-equipped exhaust shutter.



3 Disconnect the cable.

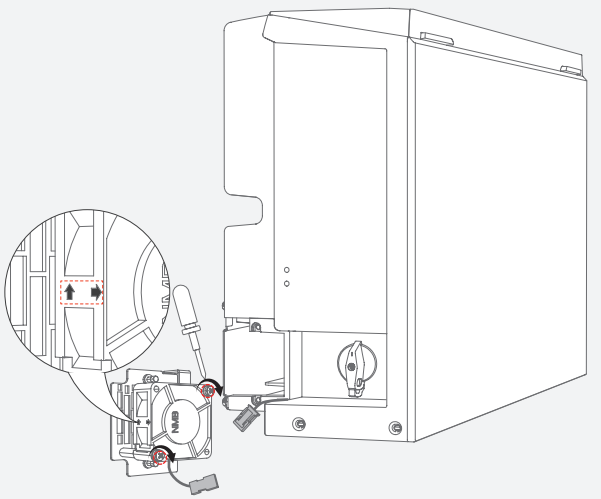


4 Unscrew to remove the fan module.

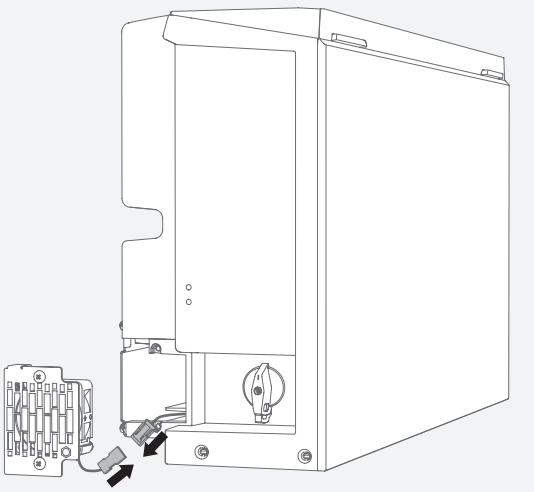


Prepare a new fan and install it on the inverter. To install a new fan:

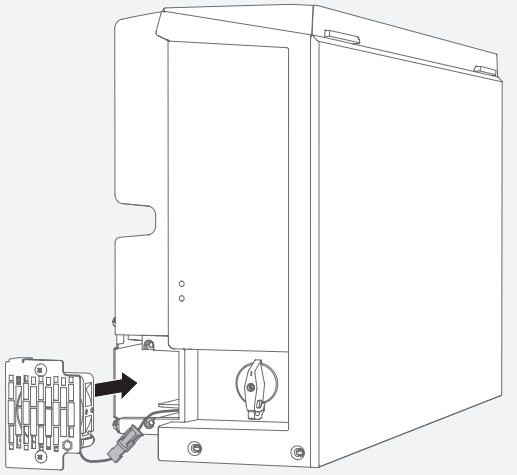
1 Secure the new fan to the exhaust shutter.



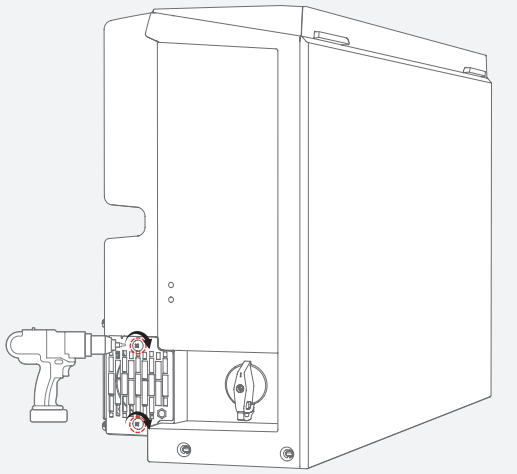
2 Connect the cable.



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



4 Secure the exhaust shutter.



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:

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. Refer to the **System Power-Off** section.
4. Follow the in-app instructions to solve the problems. If the equipment is faulty, contact your dealer.

For home owners, to troubleshoot the system:

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

PRODUCT STORAGE

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

1. Do not unpack the equipment if you are not using it.
2. Keep the storage temperature at –30°C to 60°C and the humidity at 0%–100% RH.
3. The product should be stored in a clean and dry place and be protected from dust and water vapor corrosion.
4. Do not stack the inverters to avoid personal injury or equipment damage.
5. Do not place this product near water, fire or other heat sources (heaters, direct sunlight, gas ovens, etc.).
6. During the storage period, check the equipment periodically.
7. 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 Ocean 2 LFP Battery 5kWh User Manual.

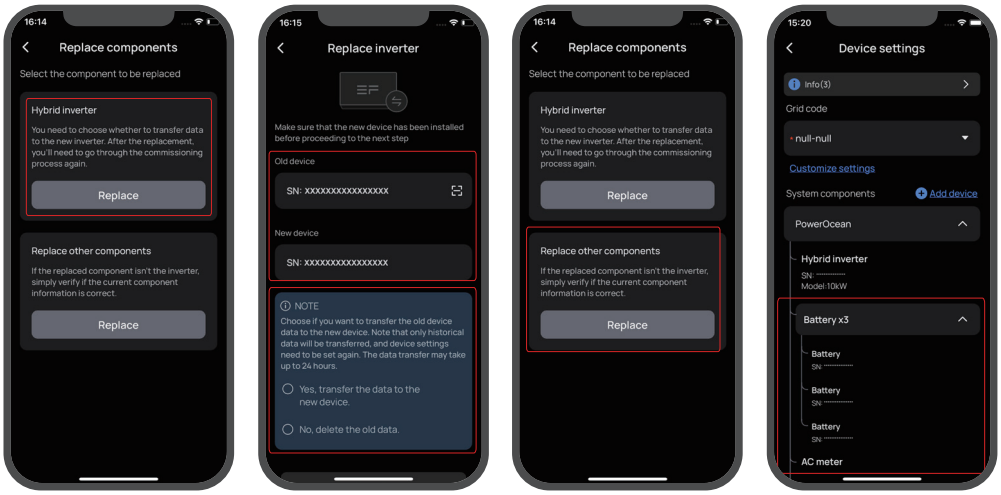
REPLACEMENT

⚠ WARNING

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

To replace the inverter:

1. Power off the entire system. Refer to the **System Power-Off** section.
2. Sequentially disconnect GRID/BACKUP cables, PV input cables, battery cables (if any), communication cables (if any) and all modules connecting to the inverter.
3. Remove the inverter or other components from the mounting bracket.
4. 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 differnet. Refer to the new inverter's Installation Guide.
5. Power on the system and perform system commissioning. Refer to the Installation Guide delivered with the new inverter.
6. Transfer the device data to the new inverter or delete the previous data **Settings** > **Replace components** in the **EcoFlow Pro** app.



DECOMMISSIONING

⚠ CAUTION

- Before removing a inverter, power it off. Refer to the **System Power-Off** section.

To decommission the inverter:

1. Sequentially disconnect GRID/BACKUP 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

Technical parameters		EF HD-P3-5K0-S2/ EF HD-P3-5K0-S2F	EF HD-P3-6K0-S2/ EF HD-P3-6K0-S2F	EF HD-P3-8K0-S2/ EF HD-P3-8K0-S2F	EF HD-P3-10K0-S2/ EF HD-P3-10K0-S2F	EF HD-P3-12K0-S2/ EF HD-P3-12K0-S2F
PV Input	Number of MPP Trackers	3				
	Number of Strings per MPPT	1				
	Max. Input Power per MPPT (W)	8000				
	Max. Input Voltage[1] (V)	1000				
	PV Operating Voltage Range (V)	50-1000				
	Nominal DC input voltage (V)	600				
	MPPT Start-up Voltage (V)	120				
	Max. Total Input Power (W)	10000	12000	16000	20000	24000
	Max. Input Current per MPPT (A)	16				
	Max. Short Circuit Current per MPPT (A)	20				
AC Input/ Output (On-grid)	Nominal Output Power (W)	5000	6000	8000	10000	12000
	Max. Output Apparent Power (VA)	5000	6600	8800	11000	13200
	Supported Power Grid Types	TN-S, TN-C, TN-C-S, TT systems				
	Nominal Voltage (V)	L-L: 380/400Vac; L-N: 220/230Vac; 3L+N+PE				
	Nominal Frequency (Hz)	50/60				
	Nominal Output Current (A)	7.2 @ 230V 7.6 @ 220V	8.7 @ 230V 9.1 @ 220V	11.6 @ 230V 12.2 @ 220V	14.5 @ 230V 15.2 @ 220V	17.4 @ 230V 18.2 @ 220V
	Max. Output Current (A)	8.9	10.7	14.3	17.8	21.4
	Max. Input Current (A)	63				
	Power Factor	0.8 leading to 0.8 lagging				
	THDi at Full Load	≤3%				
AC Output (Backup)	Nominal Output Power (W)	5000	6000	8000	10000	12000
	Nominal Voltage (V)	L-L: 380/400Vac; L-N: 220/230Vac; 3L+N+PE				
	Nominal Frequency (Hz)	50/60				
	Nominal Output Current (A)	7.2 @ 230V 7.6 @ 220V	8.7 @ 230V 9.1 @ 220V	11.6 @ 230V 12.2 @ 220V	14.5 @ 230V 15.2 @ 220V	17.4 @ 230V 18.2 @ 220V
	Off-grid THDu	≤2%				
Parallel Installation	Max. On-grid Capacity[2]	Up to 5 cascaded inverters				
	Max. Off-grid Capacity	Up to 2 cascaded inverters				
Battery Input / Output	Rated Voltage (V)	800				
	Voltage Range (V)	720-960				
	Battery Capacity	Up to 12 battery modules (up to 6 battery modules per tower)				
	Communication Method	CAN				
Efficiency	Max. Efficiency	97.60%	97.80%			
	Deep Power Saving Mode[3]	15				
	Self Consumption (Light-load scenario)[4] (W)	50				
Compliance	Safety Standards	IEC/EN 62109-1, IEC/EN 62109-2, AS 60947.3, ISO4892-4				
	Grid-tied Standards	VDE-AR-N 4105, EN 50549-1, EN50549-10, AS/NZS 4777.2, OVE-Richtlinie R, TOR Erzeuger (for Type A), PTPiREE (Type A), PPDS, CEI 0-21, G98, G99, G100, G98 NI, G99 NI, TR3.3.1, UNE 217001, UNE 217002, IEC 62116, NTS(Type A), C10/C11, SI 4777.2				
	EMC&RF	EN 300 328, EN 301 893, EN 301 489-1, EN 301 489-17 V3.3.1, EN IEC 61000-6-1, EN IEC 61000-6-2, EN IEC 61000-6-3, EN IEC 61000-6-4, EN IEC 61000-3-11, EN 61000-3-12, EN 55011, EN 62920, EN IEC 62311, EN 50665				
Protection	Grid to Off-Grid Switching Time[5] (ms)	0				
	Off-Grid to Grid Switching Time[5] (ms)	0				
	GFCI	Yes				
	AFCI	Yes				
	Emergency Power Off (EPO)	Yes				
	PV Insulation Resistance Detection	Yes				
	PV Reverse Polarity Protection	Yes				
	AC Overcurrent Protection	Yes				
	AC Short Circuit Protection	Yes				
	AC Overvoltage Protection	Yes				
	DC Surge Protection	Type II				
	AC Surge Protection	Type II				

General Data	Relative Humidity	0-100%
	Operating Temperature Range (°C)	–20 to 60
	Storage Temperature (°C)	–30 to 60
	Max. Operating Altitude (m)	3000 (>2000 derating)
	Ingress Protection Rating	IP66
	Communication Method	RS485, CAN, Wi-Fi, Bluetooth, WAN
	User Interface	LED, EcoFlow app
	Wi-Fi Frequency Range (MHz) Maximum Output Power (dBm)	2.4GHz: 2400-2483.5, 5GHz: 5150-5350, 5470-5725, 5725-5850 <20
	Bluetooth Frequency Range (MHz) Maximum Output Power (dBm)	2402-2480, <20
	Weight (kg)	Approx. 36.5
	Dimension (W×D×H mm)	680×203×406.5
	Environmental Category	Outdoor/Indoor
	Mounting Method[6]	Floor Stand/Wall Mounted
	Anti-theft	Supported

1. The PV input voltage should not exceed the specified maximum value. Exceeding this limit may trigger system protection or compromise normal operation.
2. In grid-connected parallel operation, load-side current is limited by the maximum input current rating of the GRID port.
3. In Deep Power Saving Mode, the hybrid inverter consumes 15W, and loads draw power from the grid.
4. 50W represents the system's self-consumption measured under light-load conditions (<300W total load) in a laboratory environment, for a configuration consisting of one OCEAN 2 12kW Inverter and two EcoFlow OCEAN 2 LFP Battery 5kWh units. In this mode, loads draw power from the battery.
5. This specification refers to the disruption time on the BACKUP side. This function is available only when the system's maximum output exceeds the BACKUP side total load and grid-connection regulations are satisfied. The performance was validated under stable grid conditions, where a grid outage does not cause a sudden voltage drop.
6. For floor-stand installation, a maximum of 6 batteries is supported; for wall-mounted installation, a maximum of 3 batteries is supported.

Network Security & Vulnerability Disclosure

CHANGE MECHANISMS

Users can change their login identity by switching accounts and entering the password corresponding to that account on EcoFlow app login page. See the **Installation Guide** delivered with the inverter.

SENSORS

- The device can be connected to a smart meter via the COM port for power sampling.
- The device comes with built-in NTC to sample the internal inverter temperature for control strategies.

SECURITY SETTING

Users will be instructed to set an access password during the initial binding of the device. See the **Installation Guide** delivered with the inverter.

SETUP CHECK

Each input by the user is checked based on the validation rules. The only scenario where the user can make an insecure input is creating a new user account. If the password entered does not comply with the password rules, the app immediately notifies the user via a pop-up window, and the setup process can only proceed when the user enters valid characters.

PERSONAL DATA

The device will record the hotspot information of the wifi accessed by the user so that the device can automatically connect to the corresponding hotspot after re-powering on without having to reenter the information.

TELEMETRY DATA

- Telemetry parameters include home load power consumption, PV production, grid usage, etc., to be revealed to the user via EcoFlow App or web portal.
- Telemetry parameters include internal inverter parameters such as current, voltage, temperature, etc., which are used for safety diagnosis of the device.

ERASING DATA

- Users can visit the home page of the EcoFlow App, and delete the corresponding data by tapping the following in sequence **Settings** > **Reset and erase data**.
- User can visit the home page of Ecoflow app, and select **Account settings** > **Delete account** to write off app account.

MODEL DESIGNATION

- EF HD-P3-5K0-S2/EF HD-P3-5K0-S2F
- EF HD-P3-6K0-S2/EF HD-P3-6K0-S2F
- EF HD-P3-8K0-S2/EF HD-P3-8K0-S2F
- EF HD-P3-10K0-S2/EF HD-P3-10K0-S2F
- EF HD-P3-12K0-S2/EF HD-P3-12K0-S2F

SUPPORT PERIOD

The product warranty and software support period are both 15 years.

VULNERABILITY DISCLOSURE POLICY

For the Vulnerability Disclosure Policy, users can visit Ecoflow's official website at https://account.ecoflow.com/agreement/en-uk/EFSRC_Vulnerability_Disclosure_Plan.html