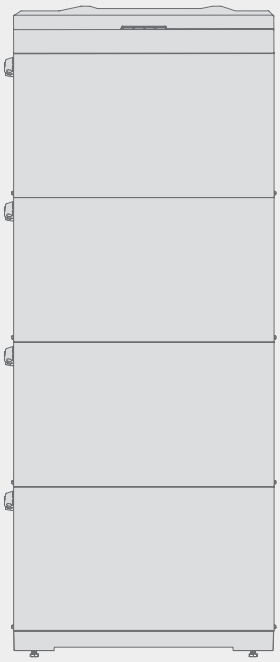
USER MANUAL

V1.1

Issue Date: 2026-08-31

EN

ECOFLOW OCEAN 2 LFP BATTERY 8kWh



For the latest documents, please scan the QR code.

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Disclaimer

This product includes essential printed documentation required for setup and basic usage. For detailed manuals, resources, and the most up-to-date information about the product, visit http://energy.ecoflow.com/documentation/. Fully read and understand the product documentation prior to use. Improper use may result in serious injury, damage, or property loss. By using this product, you agree to and accept all terms outlined in the product documentation. EcoFlow is not liable for losses, damages, or injuries caused by misuse or non-compliance.

Safety Instructions

Symbol Conventions

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

Safety Symbols

Icon	Name	Meaning
	Caution	Caution, risk of danger.
	Electric shock warning	Caution, risk of electric shock.
	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.

Important safety instructions

- **GENERAL REQUIREMENTS**

⚠ DANGER

1. Do not work with power on during installation.

⚠ CAUTION

2. The battery must only be operated with EcoFlow Hybrid Inverter (Single/Three-Phase). The customer or a third party is not allowed to use the batteries beyond the inverters specified by EcoFlow.
3. The customer or a third party is not allowed to use the batteries beyond the scenarios specified by the Company: such as connecting extra loads to the battery, or using with other batteries, including but not limited to batteries of other brands, or batteries of different rated capacities, etc.
4. Installation, operation and maintenance must be carried out by trained and qualified personnel who understand all safety precautions , are capable of performing all operations correctly, and hold all legally required national qualifications for special operations, such as high-voltage operation, working at heights, and the operation of special equipment.
5. Before installing, operating, and maintaining the equipment, always disconnect it from all power sources.
6. Wear proper PPE (Personal protective equipment) before any operations.
7. 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.
8. Do not touch the exposed cable with your hands.
9. Tighten the screws to the specified torque using tools when installing the equipment.
10. After installing the equipment, remove the remnants of the device installation area, such as cardboard boxes, foam, plastic, wire ties, stripped insulation materials, etc.
11. 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.
12. Understand the components and functioning of a grid-tied PV power system and relevant local standards.
13. 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.
14. Do not touch the energized equipment, as the enclosure is hot.
15. The battery system is not suitable for power supplying life-sustaining medical devices. It cannot guarantee backup power in all circumstances.

- **ELECTRICAL SAFETY REQUIREMENTS**

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 junction box for cascading batteries.
3. Do not damage the grounding conductor.
4. Do not operate the equipment in the absence of a properly installed grounding 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.

- **INSTALLATION ENVIRONMENT REQUIREMENTS**

1. The installation and use environment must meet relevant international, national, and local standards for lithium batteries, and are in accordance with the local laws and regulations.
2. Ensure that the battery is not accessible to children and away from daily working or living areas.
3. When installing the battery in a garage, keep it away from the drive way.
4. Install the battery in a dry and well-ventilated environment. Secure the battery on a solid and flat surface.
5. Install the battery in a sheltered place or install an awning over it to avoid direct sunlight or rain.
6. Install the battery in a clean environment that is free from sources of strong infrared radiation, organic solvents, and corrosive gases.
7. For areas prone to natural disasters such as floods, debris flows, earthquakes, and typhoons/hurricanes, take corresponding precautions for installation.
8. Keep the battery away from fire sources and heat sources. Do not place any flammable or explosive materials around the battery.
9. Keep the battery away from water sources such as taps, sewer pipes, and sprinklers to prevent water seepage.
10. Do not install the battery in a position where it is easy to touch as the temperature of the chassis and heat sink is high when the battery is running.

11. To prevent fire due to high temperature, ensure that the vents and the cooling system are not blocked when the battery is running.
12. Do not expose the battery to flammable or explosive gas or smoke. Do not perform any operation on the battery in such environments.
13. This battery is designed for residential scenarios. Do not install the battery on a moving object, such as ship, train, or car.
14. Do not install the battery outdoors in salt-affected or the sand areas because it may corrode. A salt-affected area refers to the region within 500 meters from the coast or prone to sea breeze.
15. The operation and service life of the battery depend on the operating temperature. Install the battery at a temperature equal to the ambient temperature.
16. The operating temperature of the battery ranges from –20°C to +55°C. If the battery is installed in a cold environment, the built-in thermal control system starts to heat the battery to achieve better performance. The heating process consumes rechargeable power, which reduces the system energy efficiency for a short time in cold weather.
17. If the battery is stored in a cold environment (for example, 0°C) before installation, the battery needs some time (< 30mins) to heat up before it can be charged.
18. When the ambient temperature of the battery is higher than +40°C or lower than 0°C, the battery charge and discharge power will be derated..

- **EQUIPMENT AND PERSONNEL SAFETY REQUIREMENTS**

Move the inverter and battery

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.
3. Handles must be used while lifting the battery or use a lifting device.
4. Always be aware of the weight of the inverter and the battery.
5. Avoid dropping the inverter or battery, or subjecting them to mechanical impact.
6. Do not place the inverter or battery directly on a hard surface. Place protective materials such as a sponge pad or foam cushion underneath to prevent damage to the metal enclosure.
7. Lift the inverter and the battery by holding both sides or its handles. Do not hold the terminals directly. Place protective materials, such as a sponge pad or foam cushion, underneath the terminals to prevent damage.
8. Move and install the battery in an upright position. Do not place the battery upside down or tilt it.
9. Do not release your the battery or inverter until it is secured.

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.

- **BATTERY SAFETY**

1. After system installing and connecting electrical, power on the battery system in a timely manner to avoid capacity loss or irreversible damage to the batteries.
2. Correctly set the battery operation management parameters.
3. Battery operating environment or external power parameters MUST meet environment requirements: such as the actual operating temperature of the battery meets the specifications; the power grid is stable, etc.) to avoid damage to the battery.
4. Batteries shall not be frequently over-discharged.
5. Batteries shall be correctly expanded.
6. Batteries shall not fully charged for a long time.
7. Maintain batteries based on the this manual, such as check battery terminals regularly.
8. Do not use batteries that have exceeded the warranty period.
9. Do not expose batteries at high temperatures or around heat-generating sources. The battery may cause a fire if overheated.
10. Do not disassemble, alter, or damage batteries. For example, do not insert foreign objects into batteries or place batteries in water or other liquids.
11. The fire hazard of the battery energy storage system is high. Consider the following safety risks before handling batteries:
    - Battery electrolyte is combustible, toxic, and volatile.
    - Battery thermal runaway can generate flammable gas and harmful gas such as CO and HF.
    - The concentration of flammable gas generated from battery thermal runaway may cause deflagration and explosion.
12. Obvious battery abnormalities, such as electrolyte leakage and structural deformation, indicate potential safety risks. Contact your installer or professional personnel to remove and replace the battery.
13. The batteries must be stored separately inside the packaging. Do not store batteries together with other materials or in the open air.
14. Do not remove the battery packaging before use.
15. Protect batteries from impact.
16. Do not perform welding or grinding work around batteries to prevent fire caused by electric sparks or arcs.
17. Do not use damaged batteries (such as damage caused when a battery is dropped, bumped, or dented on the enclosure). Damaged batteries may release flammable gases. Do not store damaged batteries near undamaged products.
18. Do not place damaged batteries in close proximity to flammable materials. Do not approach the damaged batteries unless you are a professional.
19. Monitor damaged batteries during storage for signs of smoke, flame, electrolyte leakage, or heat.
20. Do not place irrelevant objects on the top of the equipment or insert them into any position of the equipment.
21. To prevent electric shock, remove any metal objects from yourself before operating batteries, such as watches and rings.
22. Do not place the battery module in a fire, water or other liquids.
23. Do not use water to clean electrical components of the equipment.

- **BATTERY EMERGENCY MEASURES**

1. Avoid contact with leaked liquids or gases in the case of battery leakage or abnormal odor. Do not approach the battery. Contact professionals immediately. Professionals must wear safety goggles, rubber gloves, gas masks, and protective clothing.
2. Electrolyte is corrosive and can cause irritation and chemical burns. Should you come into direct contact with the battery electrolyte, do as follows:
    - Inhalation: Evacuate contaminated areas, get fresh air immediately, and seek immediate medical attention.
    - Eye contact: Immediately flush your eyes with water for at least 15 minutes, do not rub your eyes, and seek medical attention immediately.
    - Skin contact: Wash the affected areas immediately with soap and water and seek medical attention immediately.

- Ingestion: Seek immediate medical attention.

3. If the battery catches fire, extinguish the fire with sand, carbon dioxide, or dry powder fire extinguishers.
4. Do not contact with high-voltage components during fire fighting to prevent the risk of electric shock.
5. If any part of the batteries is submerged in water, do not touch the batteries to avoid electric shock.
6. Do not use batteries that have been soaked in water. Contact a battery recycling company for disposal.
7. If a battery pack is dropped or violently impacted during installation, internal damage may occur. Do not use such battery packs; otherwise, safety risks such as cell leakage and electric shock may arise. Contact the professionals to transfer the battery to an open and safe place, or contact a recycling company for disposal.

- **TRANSPORTATION REQUIREMENTS**

1. The batteries cannot be transported by rail or air.
2. Comply with maritime transport & road transport rules.
3. Protect the packing case with the product from the following situations:
   - Being dampened by rains, snows, or falling into water
   - Falling or mechanical impact
   - Being upside-down or tilted.

- **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

Product Introduction

Function

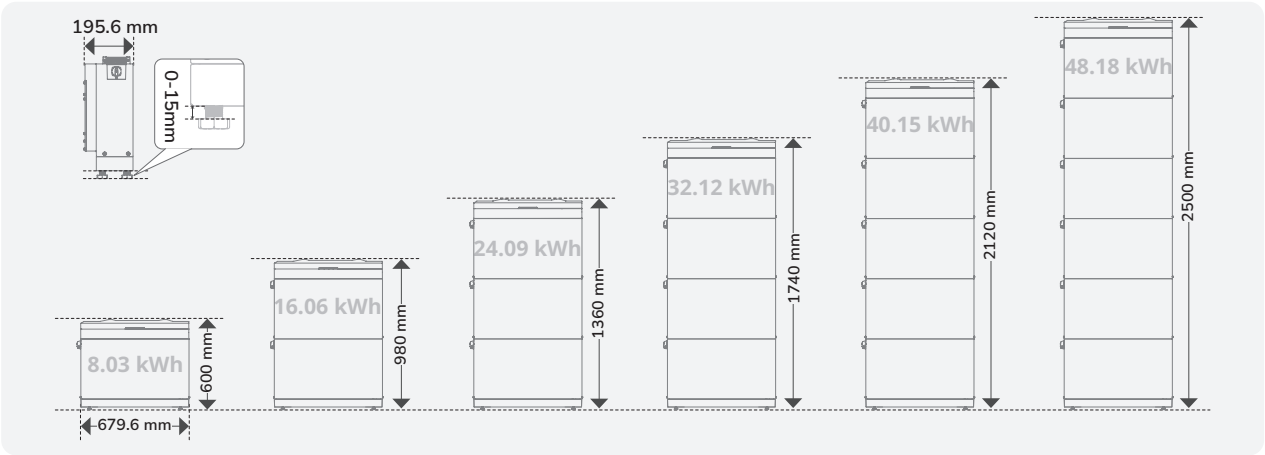
This battery system consists of a battery junction box, battery expansion modules and a battery base. It can store and release electric energy based on the requirements of the inverter management system. The input and output ports of the battery are high-voltage direct current (HVDC) ports.

Battery charge: The junction box connects to the battery terminals (BAT+ and BAT–) of the inverter. Under the control of the inverter, the system charges the batteries and stores excessive PV energy in batteries.

Battery discharge: When the PV energy is insufficient to supply power to the loads, the system controls the batteries to supply power to the loads. The battery energy is output to the loads through the inverter.

Battery Capacity Description

The battery supports power and capacity expansion. Up to 4 junction boxes can be connected in parallel. One junction box supports a maximum of 6 battery expansion modules.

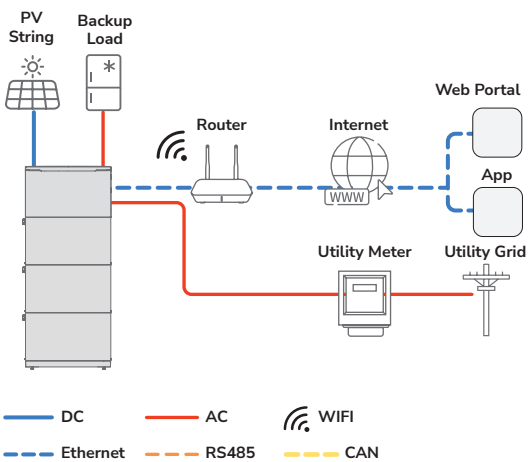


Networking Application

EcoFlow OCEAN 2 LFP Battery 8kWh is a parallel connected high voltage battery system, compatible with our three-phase / single-phase hybrid inverters. There are two types of EcoFlow inverters: modular separated designs and integrated stackable designs. For modular separated designs, a battery junction box is required to connect the inverter to the battery system. For integrated stackable designs, the inverter stacks directly with the battery—no battery junction box is needed.

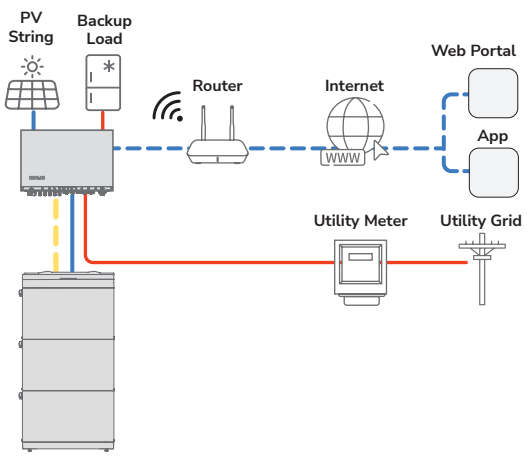
1. INTEGRATED STACKABLE DESIGNS: BATTERY JUNCTION BOX NOT REQUIRED

- EcoFlow OCEAN 2 Hybrid Inverter Three-Phase
- EcoFlow OCEAN 2 Plus Hybrid Inverter Single-Phase
- EcoFlow PowerOcean Single-Phase Hybrid Inverter
- EcoFlow OCEAN 2 Single-Phase Hybrid Inverter



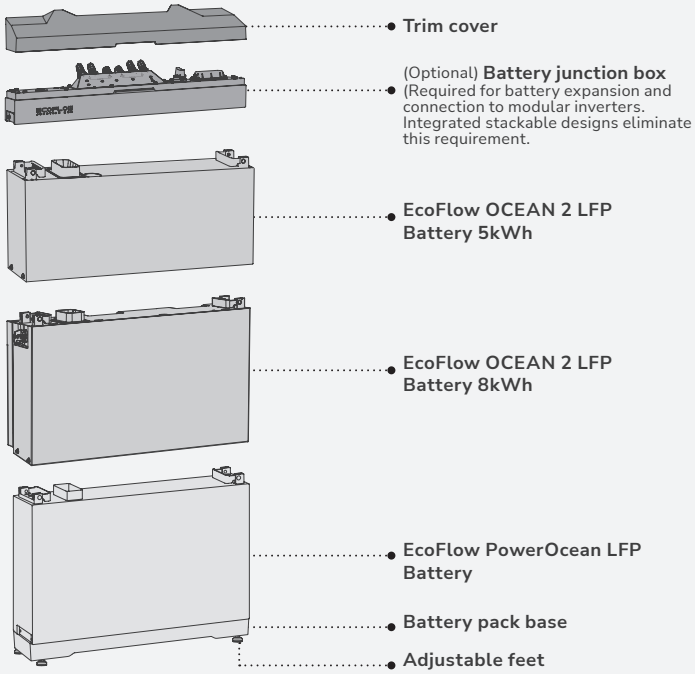
2. MODULAR SEPARATED DESIGNS: BATTERY JUNCTION BOX REQUIRED

- EcoFlow PowerOcean Three-Phase Hybrid Inverter
- EcoFlow PowerOcean Plus Three-Phase Hybrid Inverter



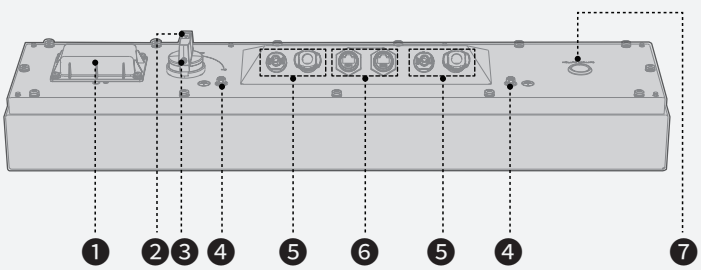
HYBRID STACKING OF EcoFlow OCEAN 2 LFP Battery and EcoFlow PowerOcean LFP Battery

EcoFlow OCEAN 2 LFP Battery 8kWh is compatible with EcoFlow OCEAN 2 LFP Battery 5kWh and EcoFlow PowerOcean LFP Battery; both the OCEAN 2 Battery and the PowerOcean Battery support power expansion, capacity scaling, and mixed stacking installation.



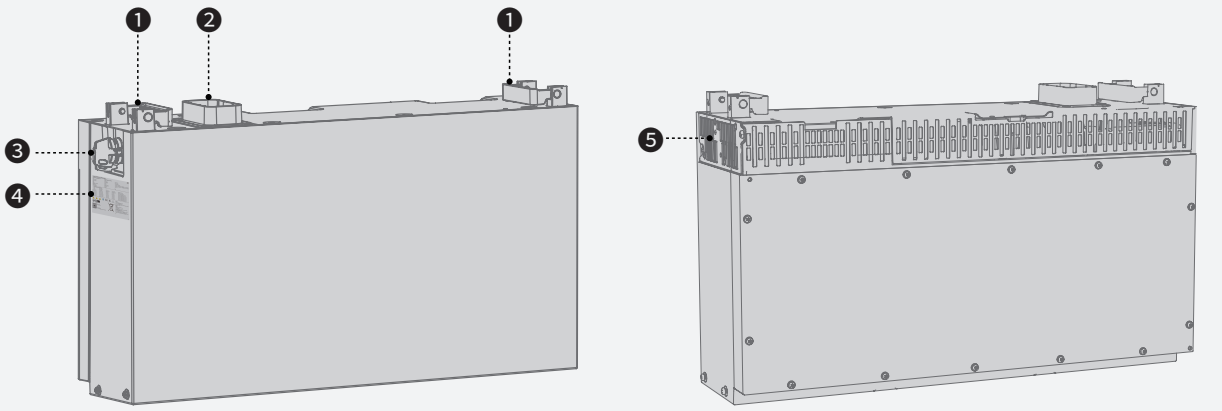
Appearance Overview

- **ECOFLOW BATTERY JUNCTION BOX**



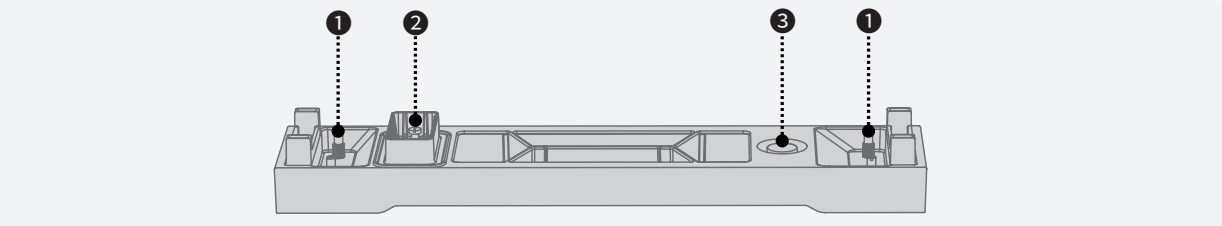
No.	Part Name	Description
1	Fuse	See the section **Replacing a Fuse.**
2	Lock hole button	press and hold to reveal the lock hole and lock to prevent accidental startup.
3	BATTERY SWITCH	Used for battery-inverter connection control (disconnect/reconnect).
4	Ground point	Used for connecting ground wire.
5	Battery terminal (BAT-/BAT+)	Used for battery power cable connection.
6	Communication port (B-COM)	Used for communication between battery junction box and inverter.
7	BATTERY ON/OFF	Press and hold for 3 seconds to turn on the batteries; Press and hold for 10 seconds to turn off the batteries.

- **ECOFLOW OCEAN 2 LFP BATTERY 8KWH**



No.	Part Name	Description
1	Handles	Hold the handles to move the battery
2	Click-on terminal	Stacking terminal
3	BATTERY SWITCH (Australia version only)	Used for battery-inverter connection control (disconnect/reconnect)
4	Nameplate	Containing essential information including brand, model, serial number, technical specifications, safety instructions, and regulatory compliance certifications.
5	Air exhausts	Do not block air exhausts during operation. Restricted airflow may cause overheating and activate power derating protection.

- **ECOFLOW OCEAN 2 LFP BATTERY BASE**



No.	Part Name	Description
1	Adjustable feet	Used for leveling the base
2	Click-on terminal	Stacking terminal
3	Spirit Level	Used to determine if the base is perfectly horizontal.

Features

- **MULTI-SCENARIO AND MULTI-WORKING MODE**

1. Supports multiple working modes such as grid-tied, power backup scenario, self-consumption mode.
2. Allows users to query the total discharge capacity in the product life cycle in real time.

- **INTELLIGENT AND SIMPLE OPERATION**

1. Works with the inverter, supports plug-and-play, and integrates the mobile phone app.

- **EASY INSTALLATION AND REPLACEMENT**

1. Standard battery DC terminals are used for system connection.
2. Modular design is adopted for batteries, which are stacked and connected without external cables.
3. Modular design is adopted for battery junction box, which is designed for easy connection to the inverter.
4. Sleek Design saves installation space.

- **FLEXIBLE SCALABILITY**

1. The battery system supports power expansion, battery capacity expansion, and hybrid use of old and new batteries.
2. The battery system supports isolation of failed battery modules to ensure that the energy storage system can still operate normally.

- **INTELLIGENT OPERATION AND MAINTENANCE**

1. The factory defaults meet the requirements of target markets and the battery can be started by pressing only one button and supports black startup.
2. The LED indicator shows the status. You can also use the EcoFlow app to perform local and remote operations and manage the battery anytime and anywhere.

- **SAFE AND EFFICIENT**

1. BMS module is embedded within every battery pack, achieving a compact design with no extra power module on top of batteries.
2. Active aerosol fire protection module in every battery pack to secure maximum safety.

Technical Specification

Technical Specifications		EF BD-8-S2A
Performance	Battery Nominal Capacity (kWh)	8.03
	Battery Usable Capacity[1] (kWh)	8.03
	Battery Cell Type	$LiFePO_4$
	Nominal Charging Power (W)	4100
	Nominal discharging Power (W)	4100
	Maximum discharging Power[2] (W)	6400
	Nominal Voltage (V)	400 / 800
	Operating Voltage Range (V)	360-520 / 720-960
Compliance	Safety Standard	IEC/EN 62619, IEC/EN 62040-1, IEC/EN 62477-1, ISO 13849-1, VDE-AR-E 2510-50, SA TS 5398
	Delivery Standard	UN38.3
	EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
General Data	Dimension (WxDxH) (mm)	679.6×195.6×378
	Weight (kg)	Approx. 67.5
	Installation	Floor Stand: Up to 5 batteries per tower, maximum 4 towers in parallel
		Wall Mounted: Up to 3 batteries per tower, maximum 4 towers in parallel
	Operating Temperature[3] (°C)	-20 to 55
	Storage Temperature (°C)	-25 to 60
	Max. Operating Altitude[4] (m)	3000
	Cooling Method	Active Air Cooling (Fan-assisted)
	Relative Humidity	0%-100%
	IP Rated	IP66
	Anti-theft	Supported
	Communication Method	CAN
	Protection	Over-charge/over-discharge protection, over-voltage/under-voltage protection, over-current protection, short-circuit protection, reverse-polarity protection, temperature protection, thermal-runaway protection, leakage-current protection, insulation protection, over-pressure protection, automatic power-off protection, emergency shutdown

1. Under laboratory test conditions at 25°C ambient temperature with the device stabilized at 25°C, the battery undergoes 0.2C charge/discharge cycling at 100% depth of discharge (DoD) during beginning of life (BOL).
2. At 25°C ambient and device temperature under laboratory conditions, the discharge duration at the specified power is limited to a maximum of 30 minutes.
3. Power may be derated when the temperature exceeds 40°C.
4. Power may be derated above 2000 m.