

SPECIFICATIONS

Fuelfix & Tanks2Go

ESU Range

Battery Energy Storage System

ESU-50/100/150/200



The ESU (Energy Storage Unit) is a next-generation modular Battery Energy Storage System (BESS) designed for intelligent and flexible energy management. It integrates high-performance lithium battery technology with a Multifunctional Power Conversion System (MPCS), enabling seamless bi-directional energy flow—charging from AC or solar and discharging to power loads or feed energy back to the grid. Compatible with solar, grid, and diesel inputs, the ESU uses advanced digital control to optimize performance, enhance reliability, and support smooth transitions between grid-connected and off-grid modes. It's a powerful solution for commercial, industrial, and hybrid energy applications.

Model	ESU50	ESU100	ESU150	ESU200
POWER CONVERSION SYSTEM				
Rated power (kW)	50	100	150	200
Max output power (kW)	55	110	165	220
Rated Voltage (V)	400			
Rated Frequency (Hz)	50			
Overload capacity	105%]: continuous operation; (105% ~ 120%]: 10min; 120%); stop operation			
System Efficiency	95%			
BATTERY				
Battery Type	Lithium Iron Phosphate (LiFePO4)			
Module Capacity (kWh)	5.12			
Module Quantity	15	30	45	60
Combination Mode	1P15S	2P15S	3P15S	4P15S
Total Capacity (kWh)	76.8	153.6	230.4	307.2
Lifecycle	25C 0.5C/0.5C 100% DOD 80% ≥ 4000s			

BASIC PARAMETERS				
Dimensions (W*D*H)	1680*1500*1700	1680*2270*1700	1680*3050*1700	1680*3830*2300
Weight (kg)	1395	2470	3545	4620
On/off grid switching	Static Transfer Systems (STS)			
Protection	IP54			
Working Temperature	-20~55°C (>45°C derating)			
Relative Humidity	0~95%			
Cooling	Intelligent air conditioning			
Max working altitude(m)	4000(>2000 derating)			
Display	HMI			
Communication Protocol	Modbus-RTU, Modbus-TCP, CAN2.0B			

BATTERY MODULES

Our advanced battery module is built using 16 high-quality 3.2V 100Ah lithium iron phosphate (LiFePO₄) cells, configured in a 1P16S arrangement to deliver a robust 51.2V 100Ah power solution.



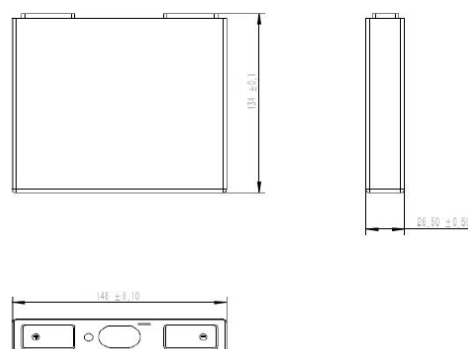
Equipped with an intelligent, integrated Battery Management Unit (BMU), the module continuously monitors individual cell voltage and temperature, ensuring optimal performance and safety. The BMU also manages active cell balancing, enhancing efficiency and extending battery life—making it ideal for demanding energy storage applications.

PARAMETERS	
Rated Capacity (Ah)	100
Rated Energy (kWh)	5.12
Rated Voltage (V)	51.2
Standard Charging Current (A)	75
Max Charge Current (A)	100A (1C)
Standard Discharging Current (A)	75
Max Discharge Current (A)	100A (1C)

Working voltage range	44.8~58.4
Operating temperature range	-20°C~55°C
Weight	58kg
Dimension (W*D*H)	570mm*455mm*152mm
Cooling	Intelligent fan

CELL

Our lithium battery system is engineered with high-performance 3.2V 100Ah LiFePO₄ cells, featuring a robust square aluminium shell design. This structure enhances mechanical strength and minimizes the risk of internal damage from external impacts—significantly boosting overall safety and reliability.



Each cell is equipped with a precision-engineered film-type explosion-proof valve. In extreme conditions—such as internal short circuits, overcharging, or deep discharging—this safety valve rapidly releases built-up gases, preventing pressure accumulation and always ensuring safe operation.

PARAMETERS	
Cell Type	Lithium Iron Phosphate (LiFePO ₄)
Rated Capacity (Ah)	100.0
Rated Voltage (V)	3.20
Max Discharge Current	2C (Continuous), 5C (50%SOC, 30s)
Max Charge Current	1.5C (Continuous), 2C (50%SOC, 30s)
Average working voltage (V)	2.5~3.65
AC-impedance (mΩ)	≤0.5
Weight	1980±20g
Maximum Operating Temperature Range	-20°C/ + 60°C
Operating Temperature Range	0°C~50°C (Charge), -20°C~55°C (Discharge)
Optimal Operating Temperature Range	15°C~35°C
Cycle Life	≥4000 times (25°C 1C/1C)