GoKWh

USER MANUAL

GoKWh 12V LiFePO4 Battery Series

Dongguan GoKWh Technology Co., Ltd.
Version - 2025

Important Safety Instructions

Please save these instructions.

DISCLAIMER

The user manual provides important operation and maintenance instructions for the GoKWh 12V LiFePO4 Battery Series (hereinafter referred to as the battery or battery pack).

Before use, please read all specifications, usage, storage conditions and warnings on this document and save for future reference. Always follow our instructions for the handling and use of this battery pack. Abuse of battery can cause battery failure, performance degradation or shortened life, overheating, explosion or fire.

Note

- Users should install and use the battery in accordance with the requirements of the user manual. If the user uses the battery under conditions or equipment beyond the conditions specified in this user manual, GoKWh does not assume any responsibility or liability for direct or indirect personal and property losses.
- The illustrations in the user manual are for demonstration purposes only. Details may vary slightly based on product version and market region
- GoKWh reserves the right to make changes to the user manual without prior notice.
- Please carefully check all the configurations and batteries in the package. If any accessories are missing or for any technical support, please contact GoKWh Customer Service Center in time.

1.APPEARANCE AND DIMENSIONS

There shall be no such defect as scratch, bur and other mechanical scratch, and the connector should be no rust dirt. The structure and dimensions see attached drawing of the product.

2.TECHNIAL SPECIFICATION

Model	12V100Ah

BATTERY

Cell Type	Lithium Iron Phosphate (LiFePO4) Prismatic
Nominal Voltage	12.8V
Rated Capacity	100Ah
Nominal Energy	1280Wh
Internal Resistance	⩽30 mΩ
Cycle Life	⩾4,000 Cycles at 80% DOD
Max. Expansion	Parallel or Series (4P or 4S)
Protection Class	IP65
Warranty	5 Years

BMS

BMS	100A
Max. Continuous Charge Current	⩽50A
Max. Continuous Discharge Current	⩽100A
Min. Discharge Cut-off Voltage	⩾10V

CHARGE

Charge Method	CV/CC
Charge Voltage	⩽14.6V
Recommend Charge Current	⩽50A

MECHANICAL

Terminal Type	M8 Bolt
Dimensions (L*W*H)	12.99*6.89*8.70 in/ 330*175*221mm
Weight	10KG
Case Material	ABS(Flame Retardant Plastic)

TEMPERATURE

Charge	0°C~45°C / 32°F~113°F
Discharge	-20°C~60°C / -4°F~140°F
Storage	-10°C~45°C / 14°F~113°F

3.Battery Connection

Safe and reliable installation requires trained and certified technicians. Therefore, the purpose of this section is only to serve as a guideline as all scenarios cannot be covered.

Preparation

Before the installation and operation of the battery, it is recommended to have the following equipment or tools available:

- Proper Protrctive Equipment
- Insulated Tool(s)
- Multimeter
- Battery Cable
- Battery Charger/ Charge Controller

Inspection

Please check for visible damage including cracks, dents, deformation, and other visible abnormalities. The top of the battery and terminal connections should be clean, free of dirt and corrosion, and dry. If any problems are detected with the battery, please contact us for assistance. Refer to the last page of the manual for contact information.

Cable Sizing

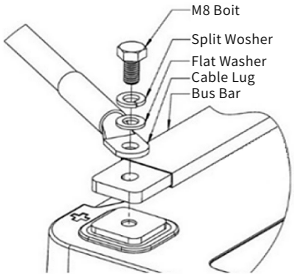
Battery cables (sold separately) should be appropriately sized to handle the expected load. Please refer to the following table for the ampacities of copper cables with different gauge sizes.

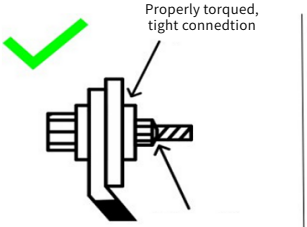
Copper Cable Gauge Size (AWG/mm2)	Ampacity (A)
14 (2.08)	20
12 (3.31)	25
10 (5.25)	35
8 (8.36)	50
6 (13.3)	65
4 (21.1)	85
2 (33.6)	115
1 (42.4)	130
1/0 (53.5)	150
2/0 (67.4)	175
4/0 (107)	230

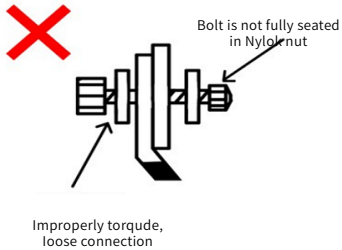
The above values are from the NEC Table 310.15(B)16 for copper cables rated at 75°C (167°F), operating at an ambient temperature of no more than 30°C (86°F). Lengths in excess of 6 feet (1829 mm) may require heavier gauge cable to avoid excess voltage drop in undersized wiring

Battery Terminal

The depths of the female battery terminal threads are no more than 12 mm. Consider this when determining the proper bolt length to secure bus bars, cable lugs, and any washers that will be affixed to the terminal connection pad. If too much torque is applied to a bolt, the female threads of the battery terminal will be stripped and the damage will not be covered under warranty due to misuse of the product. Consider the 12 mm thread depth when selecting your bolts so that they do not bottom-out. Conversely, a minimum of 3 threads must be engaged before applying 8lb-ft of torque so as to not damage the threads.

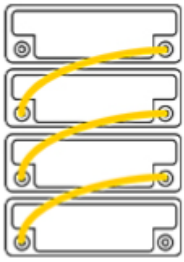






Connecting Batteries in Banks

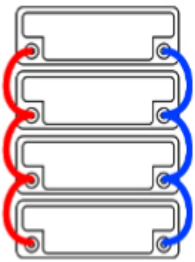
- The batteries pack support max 4S or 4P, but in practical applications, consumers need to calculate based on their own load situation.
- The maximum voltage after series and parallel connection of battery packs should less load voltage.
- The load current should be less than the recommended current of the battery pack after series and parallel connection.
- It is recommended to balance the voltage before using it in series or parallel.
- DO NOT string batteries with different chemistries, brands, models, rated capacities, or nominal voltages in parallel.
- In parallel battery banks, the cables between each battery should be of equal length to ensure that all batteries in the system can work equally together.
- The built-in BMS of the battery pack only protect and balance the internal battery cells. If the battery pack is connected in series or parallel, if you want to achieve better protection and balance, you can additionally install an external BMS control.



Connection In Series

(Maximum of **4** Batteries)

12V100AH:**48V(51.2V) 100Ah**



Connection In Parallel

(Maximum of **4** Batteries)

12V100AH:**12V(12.8V) 400Ah**

4.Instructions For Use

a. Confirm the positive and negative polarity of the battery before use. Do not turn on the power when connecting the positive and negative terminals of the battery to the load to prevent a large number of electric sparks from being generated during the connection process and causing danger. Turn on the load switch after the connection is turned on.
b. Pay attention to the matching of load power. Forcible use beyond the power range may damage the power supply and cause danger.

5.BATTERY TRANSPORTATION

- When transporting the battery, please ensure that the battery power is around 50%.
- During transportation, please use insulating and shockproof materials to pack the battery to avoid collision and extrusion during transportation, which may cause damage to the battery.
- Please handle with care during transportation and loading to avoid dropping or bumping the battery.
- Do not transport together with flammable, explosive or sharp metal objects.

6.BATTERY STORAGE

- When storing the battery, keep the battery charge between 35%-50%.
- The battery is to be stored in a condition that the temperature of 23±2°C and the humidity 0f 45%- 75%.
- The battery should be stored in a ventilated and dry environment to avoid contact with corrosive substances.
- Keep away from high temperature and open flame environment.
- During storage, it is recommended to charge the battery every 180 days and fully charge the battery.

7.WARNING

- DO NOT immerse the battery in water or allow it to get wet.
- DO NOT use or store the battery near sources of heat such as a fire or heater.
- DO NOT reverse the positive (+) and negative (-) terminals.
- DO NOT connect the battery directly to wall outlets or car cigarette-lighter sockets without proper charging equipment.
- DO NOT allow exposed ends of cables connected to opposite terminals to touch.
- DO NOT put the battery into a fire or apply direct heat.
- DO NOT use the battery if the battery casing has been pierced, broken, cracked, or otherwise visibly damaged.
- DO NOT throw the battery or heavily strike the battery in any way.
- Never solder anything directly to the battery terminals.
- DO NOT mix batteries of different capacities, types, and brands.
- Stop using the battery if it has an odor, is abnormally hot, deformed, has its cover discolored, or has any other abnormalities.
- When the battery is in use or charging, the above conditions may occur. Please disconnect the charger immediately and stop using it
- Before discarding the battery, please fully discharge the battery.

Note.
The electrolyte in the battery is harmful to human skin and eyes. If the electrolyte leaking from the battery contacts your eyes, please do not rub it, rinse it with clean water immediately, and go to the hospital for treatment. If not handled properly, the electrolyte may damage your eyes.

8.WARRANTY & AFTER-SALES SERVICE

GoKWh guarantees that all batteries are brand new and are fully tested before shipment. If you encounter any problems when using the product, please feel free to contact us through the official email for after-sales service. If you need to use the warranty service, please refer to the warranty terms in this booklet:

- All GoKWh GoKWh 12V LiFePO4 Battery Series come with a 5-year manufacturer's warranty from the date of purchase.
- This warranty covers the following GoKWh 12V LiFePO4 Battery Series models:

a. GoKWh 12V 100Ah LiFePO4 Battery

- Warranty applies only to the original owner and is not transferable.
- We will require proof of purchase and usage before processing any warranty claim or return.

a. If GoKWh provides technical support and battery repair services for non-manufacturer defects, the customer will be responsible for the corresponding shipping costs.
b. If the product is confirmed to have a manufacturer defect, GoKWh will bear the shipping costs of replacing the battery.

- Warranty service will not be provided if the battery fails due to the following conditions or reasons:

a. Improper battery maintenance, incorrect charging, reverse polarity, improper use, improper installation
b. Damage to the battery caused by use in an overheated environment, fire, freezing, accidental entry into any body of water (lakes, streams, ponds or oceans)
c. Failure to maintain proper battery charge or use beyond the rated charge/discharge cycle
d. Battery damage caused by unauthorized tampering or repair
e. Force majeure or external causes, misuse, accident, negligence
f. The buyer intentionally conceals or fails to cooperate in providing purchase or use information

GoKWh

Make Your Daily Power Up.

hi@gokwh.com

+86-13071300873

gokwh.com

No.5 Puxin Road, Tangxia Town, Dongguan, Guangdong, China