### GOKWH 12V 320Ah Mini BT

# GOKWH 12V 320Ah LiFePO4 Battery User Manual

Model: 12V 320Ah Mini BT

## 1. Introduction

Thank you for choosing the GOKWH 12V 320Ah LiFePO4 Battery. This high-performance deep cycle battery is engineered with Grade A prismatic LiFePO4 cells, offering exceptional longevity and reliability for various applications including RVs, trolling motors, and solar systems. With a built-in 200A Smart Battery Management System (BMS) and app monitoring capabilities, this battery provides stable, efficient, and safe power.


Figure 1.1: GOKWH 12V 320Ah LiFePO4 Battery. This image shows the main product with its branding and key specifications printed on the label.

## 2. Safety Information

Please read and understand all safety instructions before operating the battery. Failure to follow these instructions may result in serious injury, property damage, or voiding of the warranty.

- **DO NOT** reverse connections from charger to battery. Ensure correct polarity (+ to + and - to -) during all connections.
- **DO NOT** throw the battery into fire or incinerate it. LiFePO4 batteries can explode or release toxic gases when exposed to extreme heat.
- **DO NOT** expose the battery to temperatures above 70°C (158°F). High temperatures can damage the battery and pose a safety risk.
- **DO NOT** short circuit the battery terminals. This can cause high current flow, leading to heat, fire, or explosion.
- **DO NOT** disassemble the battery. The battery contains sensitive electronic components and chemicals. Disassembly can lead to electric shock, fire, or exposure to hazardous materials.
- Keep the battery away from water and moisture.
- Use only compatible chargers designed for LiFePO4 batteries.

- Ensure adequate ventilation when charging or discharging the battery.

## 3. Product Overview

### 3.1 Key Features

- **Ultra-Long Cycle Life:** Engineered with Grade A prismatic LiFePO4 cells, providing over 8000 deep charge/discharge cycles at 80% Depth of Discharge (DOD), translating to 10+ years of dependable performance.
- **Built-in 200A Smart BMS:** Integrated Battery Management System ensures comprehensive protection including overcharge/over-discharge, overcurrent/short-circuit, and temperature monitoring.
- **App Monitoring Support:** Easily monitor real-time voltage, current, State of Charge (SOC), cycles, and more via a mobile app (iOS & Android supported).
- **High Power Output:** 200A continuous discharge current supports heavy-duty devices like RV air conditioners, inverters up to 2400W, trolling motors, compressors, and solar generators.
- **4096Wh Energy Storage:** Store and use up to 4096Wh of clean, stable power, ideal for off-grid systems, RVs, or emergency backup.
- **Lightweight Design:** Approximately 25kg (55.1 lbs) with a rugged case, making it easier to handle compared to lead-acid batteries.

### 3.2 Components

The GOKWH 12V 320Ah LiFePO4 battery features a robust design with high-quality internal components.


Figure 3.1: Internal view highlighting the Grade A LiFePO4 Prismatic Cells and the Reliable BMS System. This image illustrates the internal components of the battery, showing the prismatic cells and the integrated Battery Management System (BMS) which ensures safety and performance.


Figure 3.2: Mini size LiFePO4 Battery with detailed dimensions. This image provides the physical dimensions of the battery, including length, width, and height, which are crucial for installation planning.

## 4. Setup

### 4.1 Installation

Install the battery in a clean, dry, and well-ventilated area. Ensure the battery is securely mounted to prevent movement or damage during operation. Avoid installing in direct sunlight or areas with extreme temperatures.

### 4.2 Wiring for Battery Bank Systems

The GOKWH 12V 320Ah battery can be configured in series or parallel to achieve higher voltage or capacity requirements.

- **Parallel Connection (up to 4P):** Connect batteries in parallel to increase total capacity while maintaining the same voltage (12.8V). For example, 4 batteries in parallel yield 12.8V 1280Ah (16.384 kWh).
- **Series Connection (up to 4S):** Connect batteries in series to increase total voltage while maintaining the same capacity (320Ah). For example, 4 batteries in series yield 51.2V 320Ah (16.384 kWh).

Always use appropriate gauge cables and ensure all connections are tight and secure to prevent voltage drop and overheating.

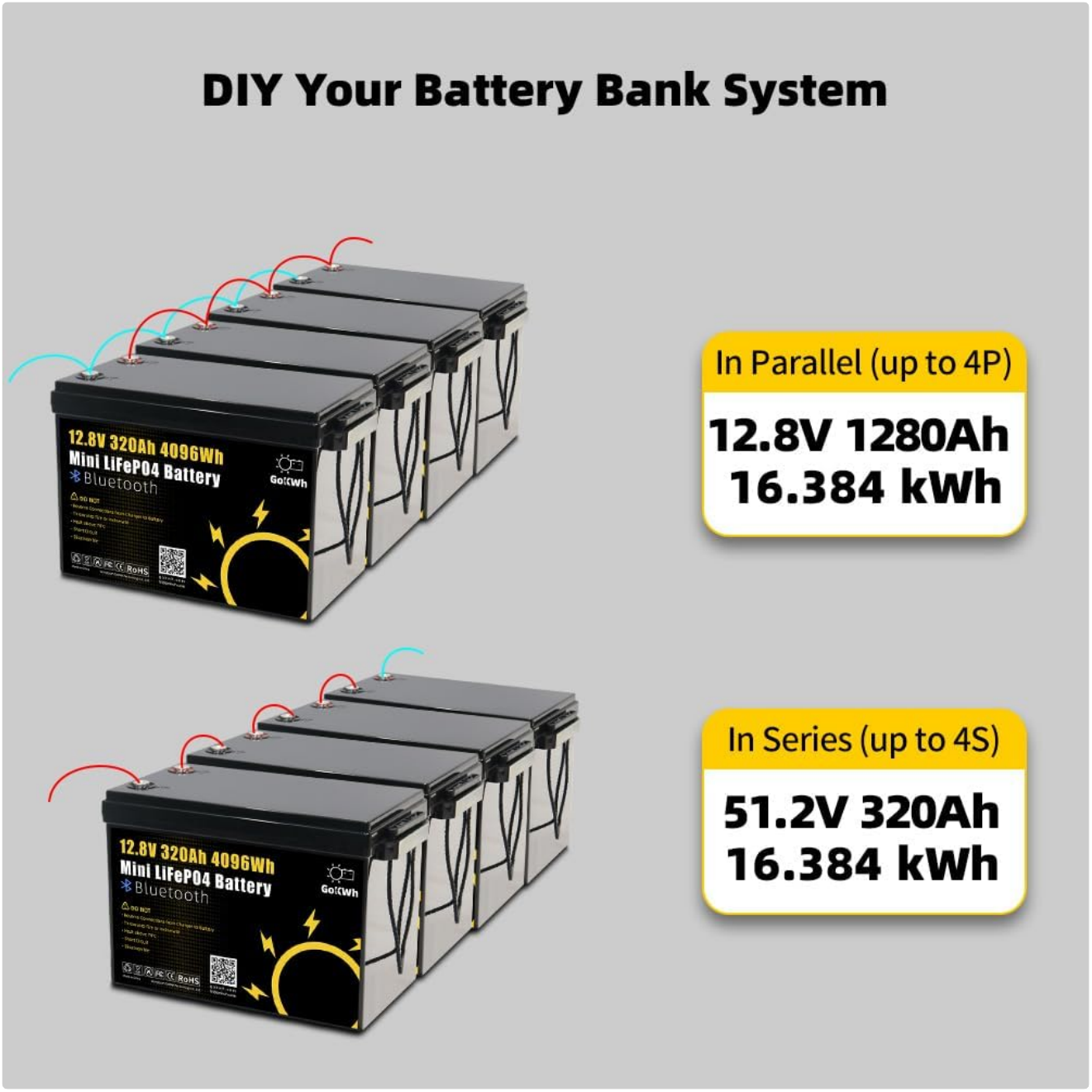


Figure 4.1: DIY Battery Bank System configurations. This diagram illustrates how to connect multiple batteries in parallel for increased capacity or in series for increased voltage, enabling flexible system design.

## 5. Operating

### 5.1 Charging the Battery

The GOKWH LiFePO4 battery can be recharged using various methods:

- **Generator:** Add a 20A DC to DC charger. Approximate charging time: 16 hours.
- **Dedicated LiFePO4 Charger:** Use a 12V (14.6V) 20A LiFePO4 battery charger. Approximate charging time: 16 hours.
- **Solar Panel + MPPT:** Recommend a solar panel of ≥400W with an MPPT charge controller. Approximate charging time: 2 sunny days.

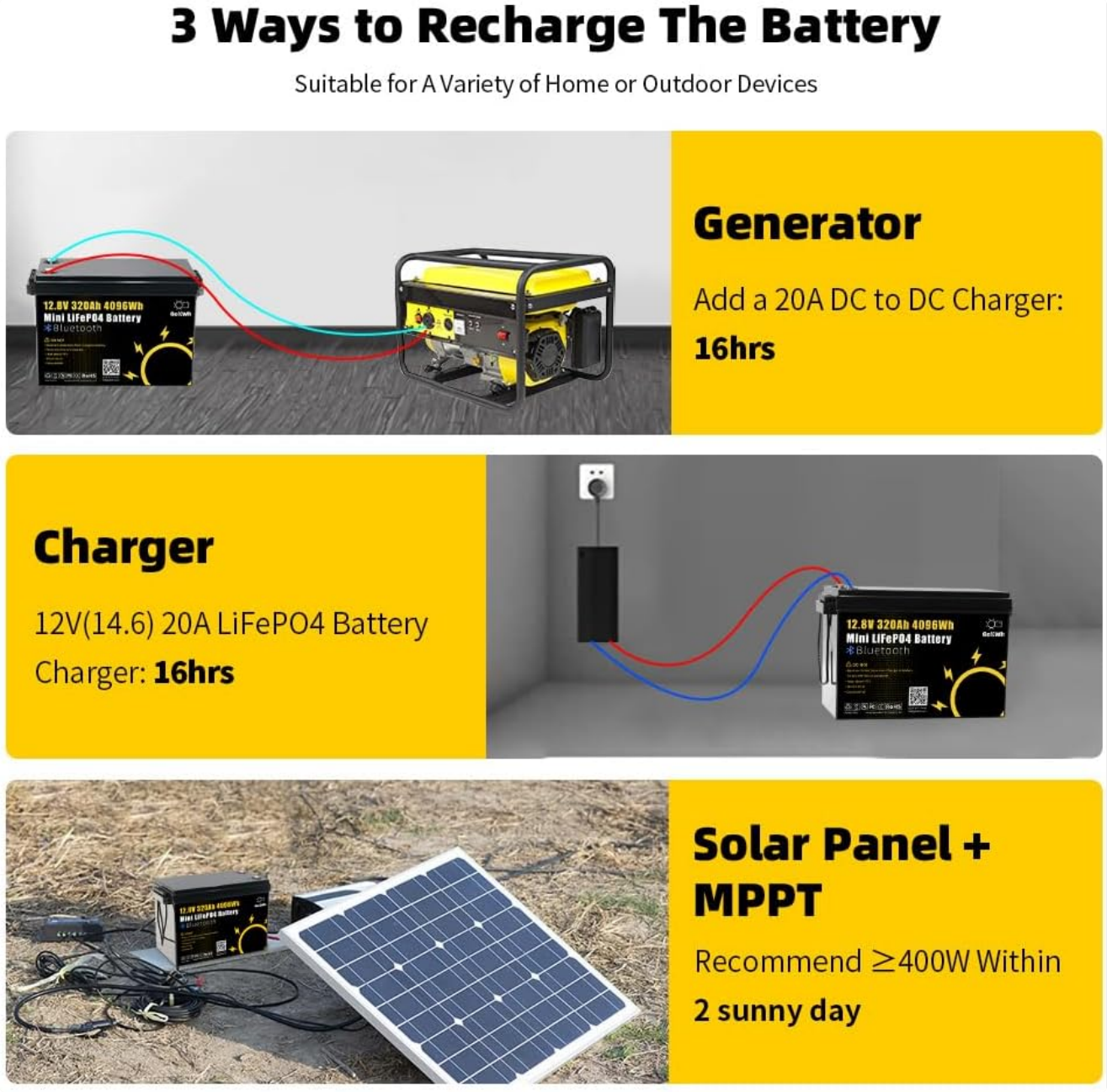


Figure 5.1: Three ways to recharge the battery. This image illustrates different charging methods: using a generator, a dedicated charger, or a solar panel with an MPPT controller.

## 5.2 Discharging and Usable Energy

The battery provides 4096Wh of usable energy, suitable for a variety of home or outdoor devices. The 200A continuous discharge current supports high-power applications.


Figure 5.2: High Output Power and Usable Energy. This chart provides estimated run times for common outdoor and home backup appliances, demonstrating the versatility of the 4096Wh usable energy.

## 5.3 App Monitoring

The integrated Smart BMS allows for real-time monitoring of battery status via a mobile application. Search for "Xiaoxiang Electric" or "Gorilla Lithium" in your app store (Google Play Store or Apple App Store) or scan the QR code on the product to download the app.

- Monitor real-time voltage, current, SOC (State of Charge), cycle count, and temperature.
- Access historical data and logs for performance analysis.


Figure 5.3: Built-in Smart App for battery monitoring. This image shows the mobile application interface, demonstrating how users can monitor various battery parameters in real-time.

## 6. Maintenance

LiFePO4 batteries require minimal maintenance compared to lead-acid batteries. Follow these guidelines to ensure optimal performance and longevity:

- **Regular Inspection:** Periodically check battery terminals for corrosion or loose connections. Clean terminals if

necessary.

- **Storage:** If storing the battery for an extended period, ensure it is charged to approximately 50% State of Charge (SOC) and stored in a cool, dry place. Avoid extreme temperatures.
- **Avoid Deep Discharges:** While LiFePO4 batteries can handle deep discharges, frequent extreme discharges can reduce overall cycle life.
- **Temperature Management:** Operate the battery within its specified temperature range. The BMS provides temperature protection, but avoiding extreme conditions is best practice.

## 7. Troubleshooting

If you encounter issues with your GOKWH LiFePO4 battery, refer to the following common problems and solutions:

| Problem | Possible Cause | Solution |
|---|---|---|
| Battery not charging | Loose connections, incompatible charger, BMS protection activated (over-discharge, over-temperature) | Check all cable connections. Ensure charger is compatible with LiFePO4 batteries and functioning correctly. Allow battery to cool if overheated. If deeply discharged, a specialized charger might be needed to wake up the BMS. |
| Battery not providing power | Low State of Charge (SOC), BMS protection activated (over-discharge, overcurrent, short circuit), loose connections | Check battery SOC via app or voltmeter and recharge if low. Disconnect load to reset BMS if overcurrent/short circuit protection is active. Verify all connections are secure. |
| App not connecting to battery | Bluetooth off, app not updated, battery too far, multiple devices connected | Ensure Bluetooth is enabled on your device. Update the app to the latest version. Move closer to the battery. Disconnect other devices from the battery's Bluetooth. |
| Reduced run time | Aging battery, consistent deep discharges, high power draw | While the battery has a long cycle life, capacity can slightly decrease over many years. Avoid consistently discharging to 0%. Reduce simultaneous high-power loads. |

If the problem persists after attempting these solutions, please contact GOKWH customer support for further assistance.

## 8. Specifications

Key technical specifications for the GOKWH 12V 320Ah LiFePO4 Battery:

| Specification | Value |
|---|---|
| Model Name | 12V 320Ah Mini BT |
| Nominal Voltage | 12.8 Volts (DC) |
| Nominal Capacity | 320 Ah |
| Energy | 4096 Wh |
| Battery Cell Composition | Lithium Iron Phosphate (LiFePO4) |

| Specification | Value |
| --- | --- |
| Cycle Life | 8000+ cycles @ 80% DOD |
| Max Continuous Discharge Current | 200 A |
| Max Continuous Output Power | 2400 W |
| Built-in BMS | 200A Smart BMS with App Monitoring |
| Item Weight | ~55.7 pounds (~25.26 kg) |
| Dimensions (L x W x H) | 388 ±1mm (including handle) x 193 ±1mm x 250 ±1mm |
| Manufacturer Part Number | BAPGW12320ABTXXC |

## 9. Warranty and Support

The GOKWH 12V 320Ah LiFePO4 Battery is designed for a long lifespan, with an expected 10+ years of dependable performance and 8000+ deep cycles. For specific warranty terms and conditions, please refer to the product documentation included with your purchase or visit the official GOKWH website.
For technical support, troubleshooting assistance, or warranty claims, please contact GOKWH customer service through their official channels. You can find more information and contact details on the official website: gokwh.com