

GIANT POWER

48V 100Ah LITHIUM DEEP CYCLE BATTERY

STANDARD / NON-REGENERATIVE GOLF CART & DEEP-CYCLE APPLICATIONS

Installation • Operation • Charging • Safety • Maintenance

IMPORTANT: This model is NOT compatible with regenerative-braking golf carts. If your golf cart uses regenerative braking, do not install this battery; use a battery specifically approved for regenerative braking.

Rated capacity	100Ah
Nominal voltage	48V
Chemistry	LiFePO4
Integrated BMS	100A with active cell balancing

Read this manual completely before installation or operation.

Product information based on the Aussie Batteries & Solar listing for the GIANT 48V 100Ah Lithium Deep Cycle Battery.

1. PRODUCT OVERVIEW

The Giant Power 48V 100Ah battery is an Australian-made LiFePO4 deep-cycle battery designed for high-capacity 48V applications. The product listing identifies uses including golf carts, electric vehicles, off-grid solar storage, recreational vehicles, marine applications and backup power. It uses prismatic LiFePO4 cells, a 100A Battery Management System (BMS), and active cell balancing.

GOLF CART COMPATIBILITY: This standard battery is not compatible with regenerative braking. The product listing also notes that most newer golf carts may require two batteries. Confirm the exact battery configuration, controller requirements and current demand for your cart before installation.

2. TECHNICAL SPECIFICATIONS

Specification	Value
Rated capacity	100Ah
Nominal voltage	48V
Chemistry	LiFePO4 - Lithium Iron Phosphate
Cycle life	Up to 5000 cycles (product specification)
BMS	100A integrated BMS with active cell balancing
Maximum continuous discharge	100A
Peak discharge	150A maximum for 5 seconds
Charge voltage	58.4V
Maximum charger current	Less than 60A
Best / recommended charge current	Less than 20A
Terminal type	M6
Dimensions	370 x 330 x 265 mm (L x W x H)
Approximate weight	60 kg
Ingress protection	IP65
Housing	Metal case
Parallel configuration	Up to 12 batteries (subject to correct system design)
Series configuration	Product specification lists up to 4 (only where system equipment is designed for the resulting voltage)
Charging temperature	0°C to 45°C
Discharge temperature	0°C to 60°C
Warranty	5-year pro-rata warranty; refer to current warranty terms

3. SAFETY INFORMATION

- Use the battery only in systems compatible with a 48V LiFePO4 battery and within the battery's current, voltage and temperature limits.
- Do not use this standard model in a regenerative-braking golf cart.
- Do not short-circuit the terminals, reverse polarity, dismantle the battery, puncture the case, expose it to fire, or modify the BMS or internal wiring.
- Keep conductive tools, jewellery and loose metal objects away from the terminals.
- Although the enclosure is rated IP65, do not submerge the battery, pressure wash it, or deliberately expose electrical connections to water.
- Do not install or operate a battery that is swollen, leaking, badly damaged, unusually hot, smoking or producing an unusual odour.
- Use correctly sized cables, fusing and isolation equipment suitable for the maximum current of the installation.
- Because this battery weighs approximately 60 kg, use appropriate lifting technique/equipment and secure it firmly against movement.
- Keep the battery away from excessive heat, ignition sources and contaminants.
- Installation should be carried out by a competent person familiar with high-current DC systems and the equipment manufacturer's wiring requirements.

BMS PROTECTION: The BMS is designed to protect against conditions including overcharge, over-discharge and short circuit. A BMS trip is a protective event, not a fault to repeatedly bypass. Identify and correct the cause before returning the system to service.

4. BEFORE INSTALLATION

1. Confirm the equipment is a 48V system and that its controller/inverter/charger current requirements do not exceed the battery's approved limits.
2. For a golf cart, confirm that the cart does NOT use regenerative braking.
3. Confirm whether the cart or application requires one battery or a multi-battery configuration. Do not assume a single battery is suitable solely because the nominal voltage is 48V.
4. Inspect the battery, terminals, case, cables, fuse, isolation switch, charger and mounting hardware for damage.
5. Ensure the battery compartment/tray is clean, dry, structurally sound and capable of supporting the battery's weight.
6. Identify POSITIVE (+) and NEGATIVE (-) terminals before making any connection.
7. Switch off and isolate all loads and charging sources before connecting the battery.
8. Verify cable size, terminal hardware, fuse rating and connection method against the equipment manufacturer's requirements.

5. STANDARD INSTALLATION PROCEDURE

9. Switch the golf cart or equipment OFF, remove the key where applicable, engage the parking brake and isolate all charging sources.
10. Remove the existing battery system using the equipment manufacturer's procedure. Prevent removed cables from contacting each other or the chassis.
11. Position the Giant Power 48V 100Ah battery upright in the tray or enclosure. Secure it with suitable hold-downs so it cannot move during operation.
12. Connect the system NEGATIVE cable to the battery NEGATIVE (-) terminal.
13. Connect the system POSITIVE cable to the battery POSITIVE (+) terminal through the correctly specified fuse/protection arrangement.
14. Tighten terminal hardware securely without over-tightening or damaging the M6 terminal assembly. Fit terminal covers where provided.
15. Route cables so they cannot rub on sharp edges, become pinched, contact hot components or interfere with moving parts.
16. Before switching on, check polarity with a suitable meter and complete a visual inspection of every connection.
17. Power the system on according to the equipment manufacturer's procedure and initially test at low load / low speed in a safe area.
18. Stop immediately if there is abnormal heat, smell, noise, BMS tripping, controller faults or unexpected behaviour.

NO REGEN CONNECTION: Unlike the regenerative-braking battery version, this standard battery does not use a dedicated REGEN terminal or external regenerative resistor circuit. Do not attempt to add or imitate a regenerative connection.

6. CHARGING

- Use a charger or charging source with a LiFePO4 profile suitable for a 48V battery.
- Charge voltage: 58.4V.
- Maximum charger current: less than 60A.
- Best / recommended charge current: 20A and above.
- The product listing states compatibility with 240V chargers, solar charging and DC/DC charging when configured for the battery.
- Do not use charging equipment with incompatible lead-acid equalisation or desulfation modes.
- Charge only within the specified battery charging temperature range of 0°C to 45°C.
- Inspect charger plugs, connectors and cables before use. Do not charge a physically damaged battery.
- If the BMS prevents charging, identify the protection condition before attempting further charging.

CHARGER MATCHING: A charger being labelled '48V' does not automatically make it suitable. Confirm that its LiFePO4 charging profile, maximum voltage and current are compatible with this battery.

7. OPERATION

- Operate within the 100A maximum continuous discharge limit.
- Short-duration peak discharge is specified as a maximum of 150A for 5 seconds.
- Avoid repeatedly driving or operating equipment until the BMS disconnects from low voltage.
- Do not exceed the battery discharge temperature range of 0°C to 60°C.
- If the battery repeatedly trips under acceleration or load, stop use and check controller/load current, cable condition, connections and battery state of charge.
- Where multiple batteries are used, they should be matched and installed as part of a correctly engineered system. Follow the equipment and battery supplier's configuration requirements.
- Do not mix batteries of different chemistry, voltage, capacity, age or state of charge in the same bank unless specifically approved.

8. STORAGE AND MAINTENANCE

- LiFePO4 batteries are maintenance-free internally; do not open the metal enclosure.
- Keep the case, terminals and surrounding area clean and dry.
- Regularly inspect terminals, cable lugs, mounting points, fuse holders and connectors for looseness, corrosion, abrasion or heat damage.
- Do not pressure wash the battery or electrical connections.
- For extended storage, isolate loads that could slowly discharge the battery and follow the supplier's current storage guidance.
- Periodically check battery condition during storage and recharge as required. Do not leave the battery in a deeply discharged state.
- Store in a cool, dry location away from direct heat and ignition sources.
- After long storage, inspect the system before returning it to normal service.

9. PARALLEL / SERIES SYSTEMS

The product specification lists up to 12 batteries in parallel and up to 4 in series. These figures describe battery capability only; they do not mean every golf cart, inverter, charger or controller can accept those configurations. Parallel banks increase capacity/current capability while series connections increase system voltage. Incorrect configuration can damage equipment or create a serious electrical hazard.

IMPORTANT: Do not series-connect batteries for a 48V golf cart unless the cart and all connected equipment are specifically designed for the resulting higher voltage. Obtain technical advice for multi-battery systems.

10. TROUBLESHOOTING

Symptom	Check	Action
No power	Isolation switch, fuse, polarity, loose connections, BMS protection, state of charge.	Switch off and inspect. Correct the cause; do not bypass protection.
Will not charge	Charger profile, 58.4V charge setting, AC supply, connectors, temperature, BMS status.	Stop if abnormal. Verify the charger and battery are compatible.
BMS trips under load	Load/controller current, cable size, loose terminals, low state of charge, temperature.	Reduce load and diagnose before continued use.
Terminal/cable becomes hot	Loose connection, damaged lug/cable, undersized conductor or excessive current.	Stop immediately, isolate power and repair before reuse.
Reduced run time	State of charge, charger operation, abnormal parasitic load, battery condition.	Fully charge with approved equipment and investigate persistent capacity loss.
Golf cart braking behaves abnormally	Possible regenerative-braking cart or controller incompatibility.	Stop using the cart. Confirm braking system type and battery compatibility.
Unusual smell, swelling, smoke or excessive heat	Possible battery or electrical fault.	Stop use, isolate if safe, keep people clear and seek qualified assistance.

11. WARRANTY AND SUPPORT

Warranty: The product page states a 5-year pro-rata warranty. Warranty assessment remains subject to the current Aussie Batteries & Solar warranty terms and applicable Australian Consumer Law.

- Damage associated with incorrect polarity, short circuit, incompatible charging equipment, excessive current, unsuitable installation, unauthorised modification, water ingress outside the IP65 rating, or use in an incompatible regenerative-braking golf cart may not indicate a manufacturing defect.
- Keep purchase records and installation details for warranty support.
- For technical support, provide the battery model, application, charger details, controller/load details, fault symptoms and any BMS/monitor information available.

AUSTRALIAN CONSUMER RIGHTS: Nothing in this manual is intended to exclude, restrict or modify consumer guarantees or other rights that cannot lawfully be excluded under the Australian Consumer Law.

12. CONTACT

AUSSIE BATTERIES & SOLAR

Sales & Support: 1800 853 315
 Product: Giant Power 48V 100Ah Lithium Deep Cycle Battery
 Standard / Non-Regenerative Model

Source note: Technical values and compatibility statements in this manual were prepared from the Aussie Batteries & Solar product page supplied by the customer. Always check the current product specification and the equipment manufacturer's instructions before installation.