



# BAT-12100-01

LiFePO4 Lithium Iron Phosphate Battery, 12V 100Ah

## OPERATOR'S MANUAL



<b>Serial Number</b>	
<b>Purchase Date</b>	

**Note:** Thank you for purchasing this product. Please read through the instructions carefully. Installer is responsible for damage if instructions are not followed properly. The RHOX BAT-12100-01 LiFePO4 is an economic, high quality, 12V 100Ah battery. Connect (4) batteries in a series for a 48V system.

**Charger Requirements:** Charging requires the use of RHOX CGR-715, 58V 15A Battery Charger ONLY. **\*\*DO NOT USE LEAD ACID GOLF CAR CHARGERS\*\*.** Any other charger can damage the battery or battery pack, void the warranty and/or cause a safety issue. This charger provides protection against overload, over-voltage, over-heating, short circuit and reverse polarity connections. The RHOX battery pack's internal battery management system (BMS) will turn the charger ON and OFF as required.

**Approved Charger** (Single 48V Pack / (4) 12V BAT-12100-01 Batteries in a Series):

- **RHOX CGR-715, 58V 15A LiFePO4 Battery Charger**
- **Do NOT use a 22A charger on BAT-12100-01 Batteries**

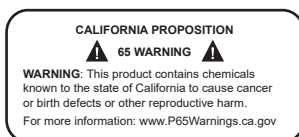
**Charger Plugs:** The RHOX CGR-715 Battery Charger includes a short cord with a SB50 gray quick disconnect (QD) connector. Vehicle gender specific cords for E-Z-Go, Club Car and Yamaha are sold separately. Please ensure SB50 QD connectors are tight before use. Observe polarity!

## Specifications

DC OUTPUT / INPUT	
Rated DC Output Voltage	12.8VDC (51.2V Assumed for (4) 12V Batteries in Series)
Battery Type	Lithium LiFePO4 12.8V, 4 Cell
With Battery Management System (BMS)	4S, 12V, 150A
Rated Capacity	100AH
Energy	1.280KWH (4x12V Batteries = 5.12KWH Total)
Cycle Life	>3,000 Times @ 0.5C 100% DOD
Charge Voltage	14.6V +/-0.2V (4x12V = 58.4V +/-0.2V Total); (CGR-715)
Max Continuous CHARGE Current	15A Charger (CGR-715)
Max Continuous REGEN Current	Motor Controller 65A REGEN Setting
Max Continuous Discharge Current	125A
Max Surge 10 Sec. Discharging Current	150A @ 10 Seconds
Peak Discharging Current	250A, Momentary 2 Seconds
Low Voltage Setting	Motor Controller <45VDC (BMS Shut Off 41V for 4x12V)

MECHANICAL	
Dimensions	329mm x 172mm x 214mm (12.95" x 6.77" x 8.42")
Water Resistance	IP65 (Do NOT use High Pressure Washer)
Weight	12 kg ea. (26.4 lbs ea.) 48 kg (105.6 lbs) for 4 ea. (48V Pack)
Torque Specifications (Lugs)	M8 Bolt with Lock Washer: 10 Nm (7.38 FT LB)

ENVIRONMENTAL	
Operating CHARGING Temperature	0° to 45°C (32° to 113°F)
Operating DISCHARGING Temperature	-20° to 45°C (-4° to 113°F)
Charge Time (Estimated)	7-10 Hours Using a 15A Charger



Recycle Electronic Component



## Warning and Safety Precautions

- Minimum Wire Gauge: The BAT-12100-01 LiFePO<sub>4</sub> battery requires a MINIMUM of 2AWG cable. Correctly sized terminals with a good quality crimp are required for proper installation.
- Use in High Temperatures (> 110°F (37.8°C)): To increase the life of the battery, it is recommended to not push the ratings of the battery capacity, current or low voltage when operating in hot environments greater than 110°F (37.8°C).
- Secure Batteries: Properly install and secure batteries within the vehicle. Operation of vehicle creates high vibration and the vehicle can be involved in accidents. Batteries must be properly secured to prevent movement.
- **DO NOT DISASSEMBLE BATTERY!**
- Disposal: Recycle batteries at a local battery reclamation facility.
- Safety glasses and gloves should be worn at all times when working on batteries.
- Conversion from Lead Acid Batteries: It is recommended to wash and remediate corrosion with paint before new battery installation if converting from lead acid batteries.
- Installation Instructions: Follow installation instructions and guidelines provided by the vehicle manufacturer.
- New LiFePO<sub>4</sub> Batteries: It is recommended to CHARGE THE BATTERY(IES) FIRST BEFORE DRIVING. It takes 2-3 discharge/recharge cycles to balance a NEW battery.
- Never leave the charger unattended when it is connected to its power supply.
- Cleaning: Never use high pressure washer to clean the batteries. Use a damp cloth.
- Never place the charger and batteries connected to it on any form of flammable surface.
- Never operate or charge the batteries in the vicinity of flammable material or gas.
- Do not submerge batteries in liquids.
- Low Voltage Setting: Motor controller settings to low level shutdown and current limit prevent damage or BMS faults.
- Do NOT short circuit the terminals.
- **Output Fuse Required**: A 200A (max rating) output fuse is required.
- DC to DC Converters: Aux circuits (DC-DC converters) should be connected to the key switch through a 15A fuse (or as recommended by vehicle manufacturer).
- Polarity: Always maintain battery polarity. Terminal Color: RED=POSITIVE(+), BLACK=NEGATIVE(-).
- EV, Golf Car or Other Electric Vehicles: A new solenoid is required to maintain warranty and prevent battery failure.
- Read the charger manufacturer's instructions and strictly adhere to them.

# DRIVE, CHARGE, DRIVE, REPEAT.



RHOX Lithium Iron Phosphate Batteries are highly efficient, very compact, and most importantly, durable.



# RED HAWK

A Family of Brands

