

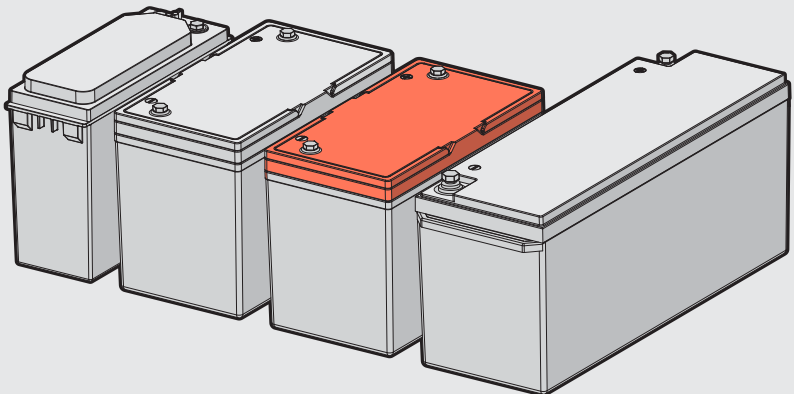
THE POWER OF

**REDARC**®

# Lithium Deep Cycle Battery

## MODELS:

- LBAT12060
- LBAT12100
- LBAT12100-HD
- LBAT12200



# LITHIUM DEEP CYCLE BATTERY

REDARC Lithium Deep Cycle Batteries are the ultimate in deep-cycle battery technology delivering unrivaled performance and battery life. REDARC Lithium Deep Cycle Batteries are equipped with an internal Battery Management System (BMS) that can monitor and optimise each cell during charge and discharge to protect the battery pack from over charge, over discharge and short circuit.

## WARNING AND SAFETY INSTRUCTIONS

**Save these instructions** — this manual contains important safety instructions for the LBAT Series Lithium Deep Cycle Battery. Do not operate the battery or modify the installation unless you have read and understood this manual and the battery is installed as per these installation instructions. REDARC recommends that the battery be installed by a suitably qualified person.

### **⚠ WARNING**

Risk of fire, explosion and burns — Working in vicinity of a Lithium battery is dangerous.

- DO NOT Short the battery terminals
- Do NOT expose the battery to temperatures Beyond the published limits
- DO NOT attempt to disassemble the battery
- Do NOT crush or puncture the battery
- Do NOT submerge the battery in liquid
- Do NOT operate the battery beyond the published ratings

Doing so may result in damage to the battery, fire, explosion and ultimately burns. For this reason, it is of utmost importance that you follow the instructions when installing and using the battery.

### **⚠ CAUTION**

1. The Battery should not be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they are supervised or have been instructed on how to use the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the Battery.
2. Do NOT alter or disassemble the Battery under any circumstances. Incorrect handling or reassembly may result in a risk of electric shock or fire and may void the unit warranty.

3. Cable and fuse sizes are specified by various codes and standards which depend on the type of vehicle the Battery is installed into. Selecting the wrong cable or fuse size could result in harm to the installer or user and/or damage to the Battery or other equipment installed in the system. The installer is responsible for ensuring that the correct cable and fuse sizes are used when installing this Battery.
4. NEVER smoke or allow a spark or flame in vicinity of battery or engine. This may cause the battery to explode.

### **NOTICE**

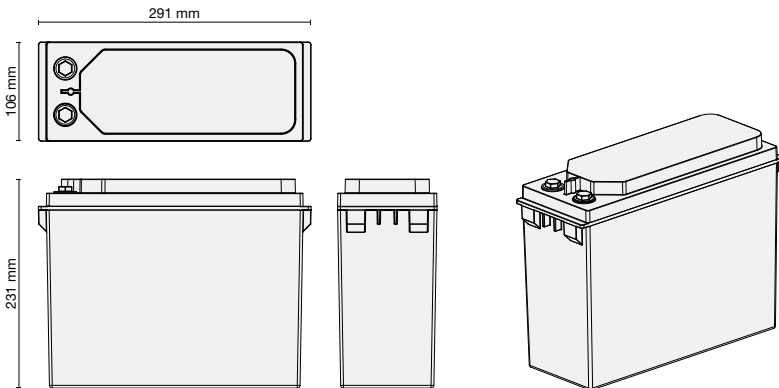
1. Do NOT use the battery for cranking/starting applications
2. Do NOT connect the batteries in series to increase the overall voltage
3. Do NOT dispose of in fire
4. The battery must be installed away from major heat sources, high voltage, and avoid exposed sunlight for long periods of time
5. Do NOT connect the positive and negative terminals of battery together
6. Do NOT allow the battery to sit in a discharged state  $\leq 10.0V$
7. Do NOT use unregulated non-lithium  $LiFePO_4$  battery chargers. Failure to install the correct battery charger will void all warranty
8. Do NOT mix lithium batteries with other types/chemistries or brands of batteries as they will not be compatible

# LBAT12060

Part Number	LBAT12060
Nominal Capacity (C20, 25 °C to 10.5V)	60Ah / 768Wh
Nominal Voltage	12.8V
Self-Discharge Rate per month	≤3%
Short Circuit Protection	200 to 500µs
Nominal Discharge Current @25°C*	20A
Maximum Continuous Discharge Current @25°C*	85A — 40 minutes
Pulse Discharge Current @25°C*	100A — 30 minutes
Peak Discharge Current	120A — 5 seconds
Discharge Cut-Off Voltage	10.0V
Life Cycles 80% DOD	2000
Life Cycles 50% DOD	5000
Life Cycles 20% DOD	8000
Nominal Charge Current @25°C*	20A
Recommended Charge Current @25°C*	≤30A
Maximum Charge Current	30A
Recommended Charge Voltage	14.6V ± 0.2V
BMS Charge Cut Off Voltage	15.6V
Dimension (L × W × H)	291 × 106 × 231 mm
Weight	8.0 kg
Cell Chemistry	LiFePO <sub>4</sub>
Case Material	Fire Retardant ABS
Terminal Type	M6
Charge Temperature Range	0 ~ 45°C
Discharge Temperature Range	-20 ~ 60°C
Storage Temperature Range	-20 ~ 40°C
Series Configuration	No
Parallel Configuration	Yes
Compliance	UN38.3

\*All specifications at recommended currents and voltages and 25°C unless otherwise specified.

## DIMENSIONS

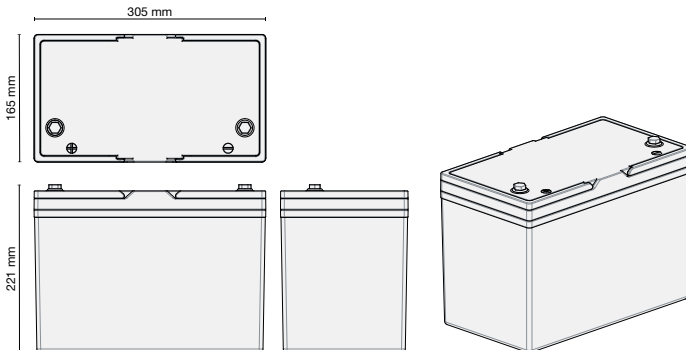


# LBAT12100 AND LBAT12100-HD

Part Number	LBAT12100	LBAT12100-HD
Nominal Capacity (C20, 25 °C to 10.5 V)	100Ah / 1280 Wh	
Nominal Voltage	12.8V	
Self-Discharge Rate per month	≤3%	
Short Circuit Protection	200 to 500 μs	
Nominal Discharge Current @25°C*	20A	20A
Maximum Continuous Discharge Current @25°C*	50A — 120 minutes	100A — 60 minutes
Pulse Discharge Current @25°C*	80A — 60 minutes	170A — 30 minutes
Peak Discharge Current	120A — 5 seconds	400A — 5 seconds
Discharge Cut-Off Voltage	10.0V	
Life Cycles 80% DOD	2000	
Life Cycles 50% DOD	5000	
Life Cycles 20% DOD	8000	
Nominal Charge Current @25°C*	20A	20A
Recommended Charge Current @25°C*	≤30A	≤40A
Maximum Charge Current	50A	50A
Recommended Charge Voltage	14.6V ± 0.2V	
BMS Charge Cut Off Voltage	15.6V	
Dimension (L × W × H)	305 × 165 × 221 mm	
Weight	11 kg	10.5 kg
Cell Chemistry	LiFePO <sub>4</sub>	
Case Material	Fire Retardant ABS	
Terminal Type	M8	
Charge Temperature Range	0 ~ 45°C	
Discharge Temperature Range	-20 ~ 60°C	
Storage Temperature Range	-20 ~ 40°C	
Series Configuration	No	
Parallel Configuration	Yes	
Compliance	UN38.3 / IEC 62619	

\*All specifications at recommended currents and voltages and 25°C unless otherwise specified.

## DIMENSIONS

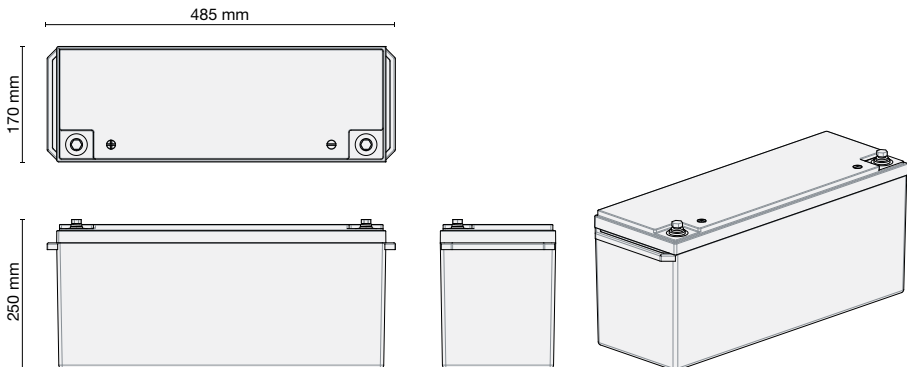


# LBAT12200

Part Number	LBAT12200
Nominal Capacity (C20, 25 °C to 10.5 V)	200Ah / 2560 Wh
Nominal Voltage	12.8V
Self-Discharge Rate per month	≤3%
Short Circuit Protection	200 to 500 μs
Nominal Discharge Current @25°C*	40A
Maximum Continuous Discharge Current @25°C*	100A — 120 minutes
Pulse Discharge Current @25°C*	160A — 60 minutes
Peak Discharge Current	250A — 5 seconds
Discharge Cut-Off Voltage	10.0V
Life Cycles 80% DOD	2000
Life Cycles 50% DOD	5000
Life Cycles 20% DOD	8000
Nominal Charge Current @25°C*	40A
Recommended Charge Current @25°C*	≤50A
Maximum Charge Current	100A
Recommended Charge Voltage	14.6V ± 0.2V
BMS Charge Cut Off Voltage	15.6V
Dimension (L × W × H)	485 × 170 × 250 mm
Weight	21.5 kg
Cell Chemistry	LiFePO <sub>4</sub>
Case Material	Fire Retardant ABS
Terminal Type	M8
Charge Temperature Range	0 ~ 45°C
Discharge Temperature Range	-20 ~ 60°C
Storage Temperature Range	-20 ~ 40°C
Series Configuration	No
Parallel Configuration	Yes
Compliance	UN38.3 / IEC 62619

\*All specifications at recommended currents and voltages and 25°C unless otherwise specified.

## DIMENSIONS



# USER GUIDE

REDARC Lithium Deep Cycle Batteries ship with a low state of charge and should be charged prior to first use. The batteries have a self-discharge rate of 3% per month @ 25°C. The battery should not be left for more than 30 days without checking its state of charge.

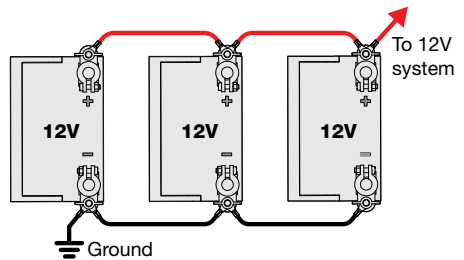
- Ensure that the battery is stored in a dry, clean, shaded and well-ventilated environment at a temperature range that does not exceed the published temperature range specifications
- Ensure all loads to the battery terminals are disconnected while the battery is in storage
- Keep the battery terminals clean at all times
- Ensure that the battery is free from damage from any force which may damage it, such as being dropped or being stored incorrectly
- Ensure that the battery is used in well-ventilated applications which does not place the battery at risk of exceeding its published charge and discharge temperature range specifications
- If shipping the batteries between locations, please check with local national and/or international authorities to ensure you are complying with transportation guidelines
- To dispose of the battery, please contact an authorised lithium battery recycling facility

## PARALLEL CONNECTION

When connecting REDARC Lithium Deep Cycle Batteries in parallel, we recommend that the earth connection be made on the opposite end of the battery bank to the positive connection.

When the batteries are wired this way, the effects of resistance in the POS+ and NEG- wires cancel each other out and both batteries receive a more equal charge.

This is to minimise the effects around unequal charge and discharge rates whereby older/traditional wiring methods result in the first battery receiving more charge and uneven discharge than the second battery.



Make sure all cabling is not undersized for the battery system/charger and ensure the battery cables are connected to the terminals correctly. Batteries must be installed by a suitably qualified person.

## SERIES CONNECTION

Do not connect REDARC Lithium Deep Cycle Batteries in series. The BMS's used in the batteries, if connected in series, are unable to operate due to voltage differences.

# WARRANTY

## LIMITED WARRANTY

For full warranty terms and conditions, visit the Warranty page of the REDARC website:  
[www.redarcelectronics.com/warranty](http://www.redarcelectronics.com/warranty)

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