CANBAT

GC2-30-48

USER MANUAL

TABLE OF **CONTENTS**

CANBAT GC2-30-48
USER MANUAL

This user manual was created by Canbat Technologies Inc. and contains important information relating to the proper care and maintenance of your golf cart lithium battery. This manual only applies to Canbat golf cart lithium battery products. It does not apply to other lithium batteries or chemistries. Please read through the guide in detail before installing and using your new lithium battery. Reading this guide in its entirety will help you achieve high performance and a longer life from your lithium batteries.
Should you have any questions concerning safety precautions, installation or the use of your Canbat lithium battery, please contact us:

Email: info@canbat.com

Phone: +1 778-358-3925

Online chat is available 24/7 on our website www.canbat.com

SAFETY INFORMATION

Precautions

Failure to follow these instructions / guidelines can result in property damage, personal injury, or worse. Please read the following information carefully before installation and keep available for future reference:

- Do not use if any of the components (battery, cables, connections, charger, etc.) are damaged.
- If any of the components are damaged upon arrival, please contact vendor for product support.
- Do not attempt to charge or discharge the battery in climates exceeding the specifications of the battery.
- Do not connect the battery to any other batteries with different specifications or chemistry.
- Do not place conductive materials near the battery terminals or connections.
- The area surrounding the battery should be kept clear from debris.
- Do not operate the battery near fire or flammable / explosive materials.
- Do not attempt to disassemble or modify the battery.
- Do not leave batteries charging while unattended.
- Do not overcharge or over-discharge the battery.
- Do not float / trickle charge the battery

Disclaimers

- Buyer is responsible for any damages resulting from the mishandling or misuse of our products, and/or failure to follow the safety guidelines.
- Mishandling and/or misuse of the products will void the warranty.

Disposal & Recycling

- Ensure that batteries are disposed of properly, in accordance with laws and regulations in your area.
- This product contains lithium ion batteries and other recyclable materials.
- We strongly encourage our customers to recycle retired batteries.
- Please feel free to contact us for more information regarding how to do so.

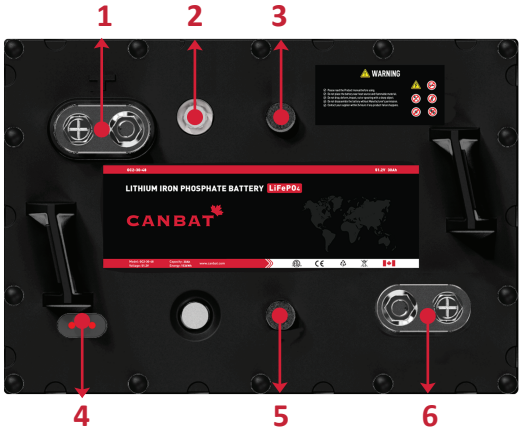
PRODUCT OVERVIEW

Key Features

- Lithium Iron Phosphate ($LiFePO_4$) chemistry provides exceptional stability and consistent performance.
- Advanced Battery Management System (BMS) provides safety features and protections.
- Heat dissipation and pressure release for high current charging and discharging.
- IP67 Rated for dust and water resistance. UL94 Grade V-0 fireproof.
- Constant voltage and full usable capacity at any state of charge.

External Features

1. Positive Terminals
2. Pressure Release
3. CANbus Connection 1
4. LED Status Display
5. CANbus Connection 2
6. Negative Terminals



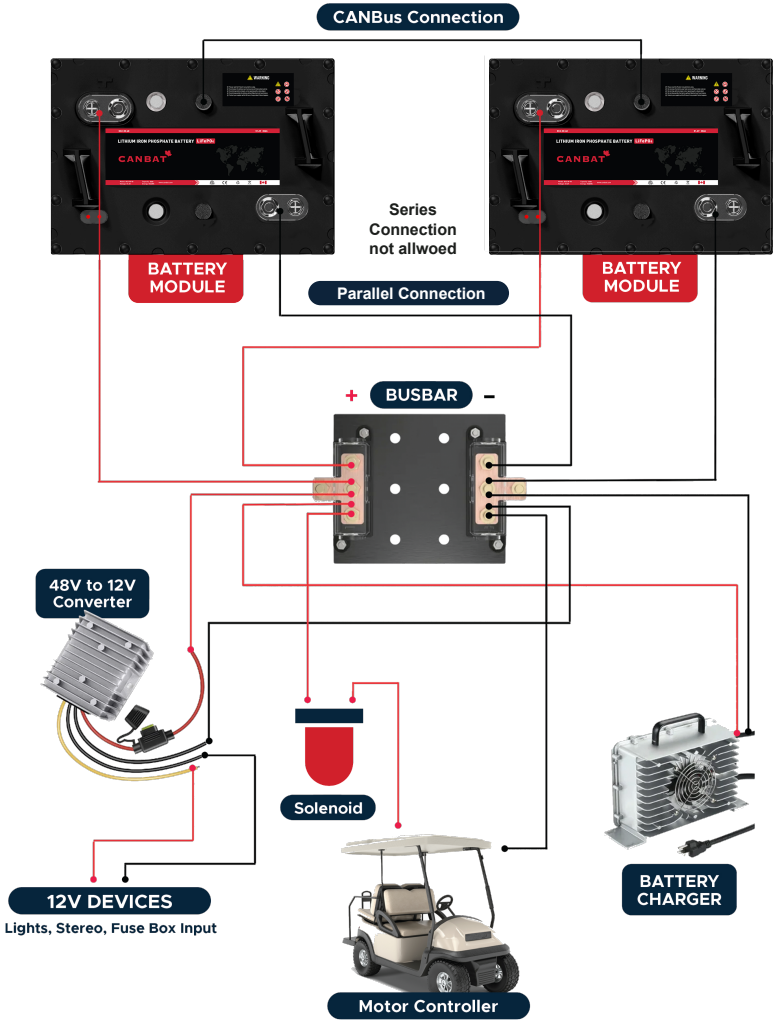
Battery Gauge

- System Voltage
- Current
- Capacity

SPECIFICATIONS

Item	Specification
Rated voltage	51.2V
Rated capacity	30AH
Standard Charging voltage	55.2V~57.6V
Max continuous charging current	30A
Standard charging current	10A
Maximum continuous discharge current	60A
Peak discharge current / time1	65A/30S
Peak discharge current / time2	100A/10S
Discharge cut off voltage	44.8V
IP Grade	IP67
Series and parallel connection	10 Parallel (Max) Series connections not supported.
Item	260 x 180 x 272mm 10.2 x 7.1 x 10.7inch
Size	CAN/RS485
Communication	~15.5 kg (34.17 lbs)
Weight	Charging：0°C-45°C
Working temperature	Discharge：-20°C-65°C
Short circuit protection	500A/366ms
Self discharge rate	<3%/month
Cycle life	6000cycles@80%DOD
Shell material	ABS+PC /UL94-V0

48V GOLF BATTERY CONNECTION DIARGRAM



CHARGING

Note: The batteries should be powered on while charging

Charging with AC-DC Battery Charger

Use an AC-DC battery charger that has LiFePO4 charge settings.
Please refer to the recommended charge voltage parameters in the previous table. Some lead-acid battery chargers may work but may not fully charge the battery.

Charging Specification

Model	Max Charge Voltage	Cut-off Voltage	Maximum Charge Current	Recommended Charge Current	Operation Temperature
48V	57.6V	40V	1C	0.3C	Charge: 0~45°C
					Discharge: -20~65°C

LED Charging Indicator

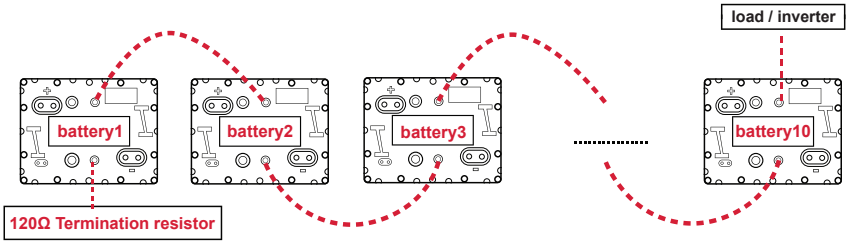
Each battery has a pair of LED indicators (as seen on External Features, page 7). While charging, a green LED will illuminate intermittently to indicate the state of charge (SOC) of the battery:

SOC	Lighting mode
≤ 20%	On "0.3s" / off "0.7s"
20%-90%	On "1s" / off "1s"
≥ 90%	Green light constant

COMMUNICATIONS

CANbus

Each battery has 2 communication ports. These ports utilize the CANbus (Controller Area Network bus) protocol. CANbus improves the efficiency, reliability, and safety of the system, and it is also responsible for the SOC gauge. In the box with the battery meter, there is also a 120ohm resistor that is used as a terminator. This is to be installed on the battery opposite of the gauge, as demonstrated in the image below. The gauge itself can be powered by the same battery it is connected to.



Fault Codes

The Battery Management System (BMS) protects the battery and ensures optimal performance. If the BMS activates protection, a red LED will illuminate on the battery and a message will be displayed on the gauge to indicate the cause. The following is a list of codes that may be displayed:

Code	Description
Alarm 1	Cell high voltage
Alarm 2	Cell low voltage
Alarm 3	System high voltage
Alarm 4	System low voltage
Alarm 5	Large voltage difference between cells
Alarm 6	Over-current (discharge)
Alarm 7	Over-current (charge)
Alarm 8	High temperature
Alarm 9	Low temperature
Alarm 10	Large temperature difference
Err	Abnormal communication

CANBAT

TECHNICAL SUPPORT

If you have technical questions about your Canbat battery, please contact the original place of purchase or Canbat Technologies Inc. directly:

info@canbat.com

+1 (778) 358-3925

www.canbat.com

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CANADIAN BATTERY MANUFACTURER