

10-YEAR LIMITED WARRANTY



# INTERSTATE® LIGC48V100 LITHIUM GOLF CART BATTERY

## SAFETY & OPERATION MANUAL

# POWER BEYOND COMPARE™



Please read this manual carefully before use and retain it for future reference. Not following the instructions and warnings could lead to battery failure, serious injury, death, property or product damage and will also void the warranty.

**INTERSTATE®**

# CONTENTS

Warning.....	2
Safety Instructions.....	3
Installation.....	3
Battery System Charging.....	5
Battery System Discharging.....	7
Storage.....	8
Warranty Information.....	8
Battery Disposal .....	9
Common Faults And Solutions.....	9

## WARNING

- THIS BATTERY IS FOR USE IN AN ELECTRIC GOLF CART ONLY. DO NOT INSTALL IN ANY OTHER VEHICLE. DO NOT ATTEMPT ANY OTHER USE OR INSTALLATION OF THE BATTERY. USING THE BATTERY IN ANY OTHER MANNER MAY RESULT IN SERIOUS INJURY AND WILL VOID THE WARRANTY.
- The following personal safety devices are recommended to prevent accidental injury during battery handling and installation: a safety helmet, safety goggles, protective shoes and other safety equipment commensurate with the work being performed.
- Insulated tools and gloves should be worn when handling wiring to avoid electric shock.
- In case of fire, the use of a dry powder extinguisher is recommended. Electric shock may occur if a fluid extinguisher is used.
- Only approved accessories should be used. DO NOT connect an incompatible charger.
- The battery system should be kept in a dry environment with a relative humidity between 5% and 95%RH. It should always be kept away from heat sources and not exposed to sparks. DO NOT open the top cover of the battery without authorization.

*Interstate Batteries® and its affiliates are not responsible for any damage or injury resulting from use of this manual. For safe and proper handling, please consult a professional.*

## **SAFETY INSTRUCTIONS**

Please read this guide and follow all safety precautions and warning signs related to the product before installation, operation or maintenance. Always shut down the system and check for hazardous voltage before changing connections or performing maintenance. Interstate Batteries® is not liable for any violations of general operational safety requirements or safety standards related to the design, production or use of batteries. Inspect the charging/discharging plug and harness for signs of overheating or melting during regular use. Contact Interstate® support at 888.772.3600 if you notice any issues.

## **INSTALLATION**

***NOTE: This battery is shipped at a partial state of charge (SoC) and must be fully charged using a 48V LiFePO4 lithium charger before use.***

***This battery is very heavy, so we recommend using a second pair of hands to help with the installation.***

***DO NOT put a wrench or other metal object across the terminal blocks of the battery during operation.***

***DO NOT connect the positive and negative cables in reverse as it will cause a short circuit.***

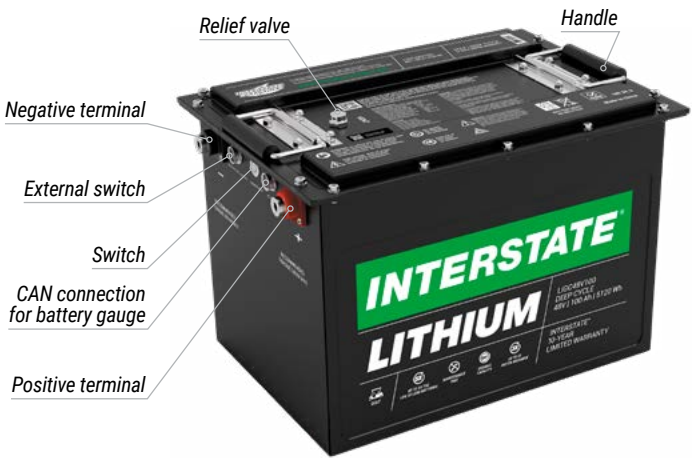
***DO NOT touch the positive and negative terminals at the same time, even when the cart is off, as this can cause injury.***

1. Before installation, confirm that the voltage and capacity of the new battery match the requirements and needs of the golf cart and ensure that the power is turned off and the cart is in park before installation.
2. Confirm that the dimensions and weight of the new battery conform to the use specifications.
3. Place the golf cart on flat ground, turn off the main power switch and ensure that the emergency brake is engaged.
4. Open the battery compartment, disconnect the wires connected to the batteries and remove the old batteries.

*Interstate Batteries® and its affiliates are not responsible for any damage or injury resulting from use of this manual. For safe and proper handling, please consult a professional.*

Ensure compartment is clean before installing the new batteries.

5. Install the new battery adapter bracket onto the base of the battery box, place the new battery in the box steadily and affix it to the support.
6. Connect the positive and negative connectors between the battery and the golf cart. Connect the battery gauge and affix it in the appropriate position on the golf cart.
7. The on-board charger must be installed in the open compartment near the new lithium battery, but still allowing space for heat dissipation. Leave enough space between the battery and charger to prevent overheating.
8. Once the location is confirmed, secure the unit with the supplied fasteners. (Do not over-tighten).
9. Install the positive and negative cables from the charger to the lithium positive and negative connections.
10. Test the charger using a 110V extension cable. Connect it to the charger plug and then plug the extension cord into the 110V wall outlet. The charger fan should start running, indicating that it is working.
11. If your cart has 12V accessories (lights, for example), you will need to make sure a licensed professional installs a voltage reducer so you can safely power them. If you attempt to run 12V accessories off of 48V power, you will ruin the accessory.
12. Press the battery switch key (button) for three seconds to turn the battery on, then close the compartment. If you have installed the remote on/off switch, you can use the remote button instead of the button on the battery itself.
13. Turn on the main power switch of the golf cart and check that all functions are normal.



## BATTERY SYSTEM CHARGING

**The operating temperature for charging:  
32°~131°F (0°~55°C)**

1. Before charging, ensure the charger model matches the battery voltage and current.
2. Turn on the golf cart and check that everything is working properly.
3. Once completed, ensure the e-brake is engaged and functioning properly. Then, power down the battery by holding the power button for 3 seconds.
4. Connect the golf cart battery's positive and negative terminals to the charger connector (skip this step if an on-board charger has been installed).




5. Connect the power source to the golf cart. The battery system will start charging automatically. Check whether the gauge shows a charging status.

*Interstate Batteries® and its affiliates are not responsible for any damage or injury resulting from use of this manual. For safe and proper handling, please consult a professional.*

Maximum Charge Voltage 57.6V  
Minimum Discharge Voltage 44.8V  
Charge Temperature Range 32°F~131°F  
Discharge Temperature Range -4°F~131°F  
Optimal Discharge Current <=50A  
Maximum Discharge Current 300A for 5S  
Optimal Charge Current 20A  
Maximum Charge Current 40A

***NOTE: After charging is complete, always turn off the charger's AC power before disconnecting the connecting plug between the charger and battery.***

- ***When the charger starts to recharge a battery at a temperature within the range of 32°~41°F (0°~5°C), it will perform battery preheating and charging simultaneously. It will deactivate the preheating function once the temperature exceeds 59°F (15°C).***
- ***When the charger does not produce current for 10 minutes, the battery enters a fault state. You can restart the battery to charge it again, but otherwise, it will automatically shut down after 30 minutes.***
- ***When the battery is fully charged and not in use, it will automatically shut down after 7 days of inactivity.***

 **WARNING:** This product can expose you to chemicals including Lithium and Nickel, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## BATTERY SYSTEM DISCHARGING

**Operating temperature for discharging:  $-4^{\circ}\sim 131^{\circ}\text{F}$   
( $-20^{\circ}\sim 55^{\circ}\text{C}$ )**

1. When the battery is turned off, connect the positive and negative connectors between the battery and the golf cart correctly.
2. Keep the battery switch key (button) pressed for three seconds to start the battery system. Check that the battery level gauge is on and indicates the remaining capacity; there is no alarm.



- The battery management system (BMS) can calculate the SoC value and indicate the current capacity via the Interstate® battery level gauge.
- When the battery has less than 20% charge remaining, the SoC gauge will begin to flash to let you know it's time to recharge.
- In the event of a battery fault, a fault code will be displayed in the upper right-hand corner of the Interstate battery level gauge. Please refer to the fault code table in the battery gauge manual to clear the fault.

## **STORAGE**

1. Please place the battery in a dry, well-ventilated room at a temperature of -4°~113°F (-20°~45°C) for short-term storage (within 1 month) and 32°~95°F (0°~35°C) for long-term storage (within 1 year).
2. DO NOT place it near any corrosive material, fire or heat sources.
3. To avoid over-discharge during long-term storage, the power supply must be turned off and the SoC value must be above 60%.

If the battery is not used for a long time, please turn off the system to reduce power consumption and extend the single retention time. Regular maintenance, such as recharging it every six months, ensures the battery's readiness when needed.

## **WARRANTY INFORMATION**

For details about the Interstate Batteries lithium warranty, please visit our warranty page at:

<https://www.interstatebatteries.com/support/warranty>

To access our video on lithium battery installation, please visit: <https://www.interstatebatteries.com/lithium-batteries>



## BATTERY DISPOSAL

### WARNING

1. DO NOT dispose of the battery in the trash.
2. DO NOT include a lithium battery with lead-acid battery recycling.
3. Recycle or dispose of the battery in accordance with all federal, state and local regulations or bring it to the nearest recycling facility.

Visit [www.interstatebatteries.com/recycling](http://www.interstatebatteries.com/recycling) to recycle with us. For further needs, contact the distributor or dealer from the original purchase.

## COMMON FAULTS AND SOLUTIONS

SYMPTOMS	POSSIBLE CAUSE	SOLUTION
Battery will not power on/off when pressing the power button	Disconnected power button	Reconnect power button.
	Damaged power button	Contact Interstate Batteries® support at 888.772.3600.
	Battery Management System (BMS) issue	
Power outage while braking down a slope	Suppose you have regenerative braking and you experience a loss in power. In that case, it's likely because your regenerative brakes are trying to add power to a battery that is already full, and they will shut themselves down to prevent over-current.	

<b>SYMPTOMS</b>	<b>POSSIBLE CAUSE</b>	<b>SOLUTION</b>
Failing to charge	Charger sends fault alarm	Turn the charger power off completely and restart. If the fault cannot be remedied, contact Interstate Batteries support at 888.772.3600.
	Battery Management System (BMS) issue	Restart the battery system; if the fault cannot be remedied, contact Interstate Batteries support at 888.772.3600.
	Loose connection of charging plug	Reconnect the charging plug.
	Abnormal operating temperature	Check whether the operating environment temperature meets the battery operating temperature requirements.
Low charging current	Excess temperature, charging current is restricted	If you are charging in high and low temperature environments; low charging current is normal.
Discharging fails	Low battery	Recharge battery.
	Abnormal operating temperature	Check whether the operating environment temperature meets the battery operating temperature requirements.
	Loose terminal connections	Tighten the terminal connections to spec 12N.M.
	Battery Management System (BMS) hardware issue	Contact Interstate Batteries support at 888.772.3600.

*Interstate Batteries® and its affiliates are not responsible for any damage or injury resulting from use of this manual. For safe and proper handling, please consult a professional.*

## Interstate Batteries

14221 Dallas Parkway, Ste. 1000, Dallas, TX 75254 USA

888.772.3600

[www.interstatebatteries.com](http://www.interstatebatteries.com)

©2024 Interstate Batteries | Printed in USA | PROD-24-872868