GENTRAX

USER MANUAL

12V 100Ah LiFePO4
Lithium Battery

Please read and understand this booklet before using this product

SAFETY

CAUTION: RISK OF FIRE, EXPLOSION OR BURNS.

- DO NOT short circuit
- DO NOT reverse connections from charger to battery
- DO NOT disassemble
- DO NOT throw into fire or incinerate
- DO NOT heat above 60°C
- Discontinue charging your battery if you see smoke or swelling.
- Never leave your battery unattended at any time when being charged or discharged.
- DO NOT expose the battery to sun, moisture, or water.
- DO NOT use or store in engine bay
- DO NOT airfreight
- DO NOT vibrate violently

TIPS

- It is advisable to invest in a dedicated Low Voltage Disconnect (LVD) device to safeguard your battery from being over-discharged to a low voltage. Whilst the battery management system (BMS) will protect the cells from over-discharge events, repeatedly over-discharging the battery may negatively affect its lifespan.

- The voltage of a LiFePO4 battery measured during the charging process is not a reliable indicator of its actual voltage. To obtain an accurate measurement, it is recommended to let the battery rest for 15 minutes before testing its voltage.

DISPOSAL

- This product will provide years of service. Recycling options may have changed by the time this is due for disposal.
- Never dispose of damaged batteries in regular household waste or recycling bins.
- Follow local recycling options to safely dispose of the battery.

CHARGING REQUIREMENTS

NOTE: Use a 14.6V lithium AC to DC or DC to DC battery charger to maximise the battery`s usable capacity.

DO NOT USE A LEAD ACID VEHICLE BATTERY CHARGER.

You won't be able to fully utilise the battery's usable capacity if you use an inappropriate charger or charge it at a lower voltage.

General Charging

» Charge in a well-ventilated area (0°C-45°C)
» It is always best to disconnect from charger once fully charged
» If connecting to an inverter
  - keep the cables as short as possible to limit voltage drop.
  - use only correct size cabling between battery and inverter.

Failure to follow charging recommendations may permanently damage the battery

First steps

1. Ensure battery charger is suitable for LiFePO4 batteries.
2. Set the charger to a voltage within the LiFePO4 battery charging range (see Specifications).
3. Fully charge battery prior to first use.
4. Ensure the battery cables are secure and have a good connection.

Charging with Mains Power

Carefully follow the instructions on the battery charger (see notes to the left in green).

Charging with Solar Power

Be sure to use a compatible solar panel regulator with a lithium profile (select LiFePO4 mode on solar regulator).
We recommend setting the solar regulator to the following parameters:

» Overcharge Protection Voltage:	14.6V
» Overcharge Recovery Voltage:	14.0V
» Over-discharge Protection Voltage:	10.0V
» Over-discharge Recovery Voltage:	11.2V

Vehicles Alternator

If charging via a vehicle's alternator, be sure to use a suitable DC to DC charger.

USAGE

Important: Do not use a damaged, cracked, or abnormally shaped battery. Do not use or store in car engine bay.

- Use only wires, cables and terminals with appropriate specifications and sizes that meet the Australian standard.
- Ensure the positive and negative connections are correct.
- Tighten the wires, cables and terminals to ensure they are firmly fixed.
- Do not draw more current than the Amps listed on the Specification table
- Do not use in wet areas or near flammable material.
- Operate within -20°C to 60°C with relative humidity no more than 85%.

Battery can be fully depleted prior to recharging.

Using in Parallel or Series

We do not recommend the use of this model battery in parallel or series. If a greater voltage or Ah is required, please review the Voltx product range.

STORAGE

To prolong the battery's lifespan, it is advisable to store it at an 80% charge level.

- LiFePO4 batteries have a low self-discharge rate of 2% per month.
- To prevent excessive discharge during storage, store LiFePO4 batteries at an 80% state of charge (SOC) if storing for longer than six months.
- Failure to charge the battery before storage can cause over-discharge, resulting in the battery's discharge level falling below the protection level of the BMS.
- It is strongly recommended to store the battery at room temperature, particularly for extended storage periods.

The battery should be periodically recharged every 9-12 months if not in regular use. Simply follow these steps:

1. Charge to 100%
2. Discharge to approx. 80%
3. Return to storage

Store the battery in a fireproof container
Keep out of reach of children

BATTERY RE-ACTIVATION

HOW TO RE-ACTIVATE A BATTERY THAT NO LONGER CHARGES

The over-discharge protection voltage for this battery is set at 10V, and if the voltage drops below this level, the Battery Management System (BMS) will trigger a safety cutoff to protect the battery.

In such an event, you must follow the reset procedure for the battery as outlined below:

METHOD 1 (EASY)

1. Disconnect the load from the battery and set it aside for at least 30 minutes
2. The battery should recover to a normal voltage level automatically
3. The battery can then be fully charged for normal use

It is important to note that in some cases, METHOD 1 may not be sufficient, and you may need to proceed with METHOD 2 or METHOD 3 to reset the battery.

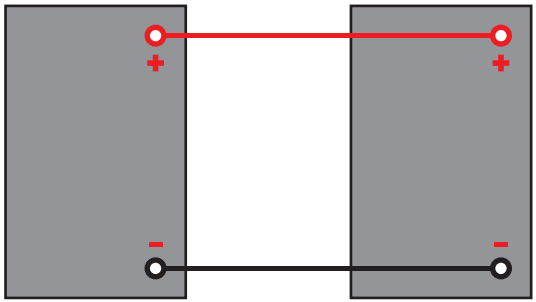
METHOD 2 (REQUIRES A CHARGER WITH 0V FUNCTION)

1. Use a charger equipped with a 0V charging function.
2. Charge the battery fully using this charger on its 0V setting.
3. Once the battery is fully charged, the BMS will reset automatically.
4. The battery can now be used as normal.

METHOD 3 (REQUIRES A SECOND BATTERY)

1. Using suitable cabling, connect the battery in parallel with another 12V lithium battery
2. Connect the charger. When the charger starts charging, disconnect the other battery after 30 seconds.
3. Disconnect the second battery and charge your battery fully using a regular lithium battery charger.
4. Once fully charged, the BMS will reset automatically, and the battery can be used normally.

A lead-acid battery with a voltage more than or equal to 12V and less than or equal to 14.6V will also work.



SPECIFICATIONS

Model	a_l1gtg-s-a0-ta-x
Nominal Voltage	12.8V
Charge Voltage Range	14.2-14.6V
Discharge Cut-off voltage	10V
Nominal Capacity	100Ah
Watt Hour	1280wh
Charge Method	CC/CV
Max.Charge Current	100A
Continuous Discharge Current	100A
Max.Discharge Current (5sec)	200A
Dimensions	L: 306 x W: 171x H:210mm
Storage Temperature	-10°C to 50°C
Working Temoerature Range	Charge 0°C to 45°C, Discharge: -20°C to 60°C

WARRANTY

The product is guaranteed to be free from defects in workmanship and parts for a period of **2 years** from date of purchase. Defects that occur within this warranty period, under normal use and care, will be repaired, replaced or refunded at our discretion, with no charge for parts and labour. The benefits conferred by this warranty are in addition to all rights and remedies in respect of the product that the consumer has under the Competition and Consumer Act 2010 and similar state and territory laws.
Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

If a defect in the goods appears within **2 years**, you are entitled to claim a warranty. Before taking the item back to the store of purchase please contact or send all warranty claims to:

No.202312

Designed in Australia