

ACES Energy

AL12V100HFA

Lightweight Lithium LiFePO4 Battery with Bluetooth.
This battery has built in Bluetooth and can be connected with our APP. This very compact and newly developed LFP battery is designed to offer low weight and best cycle life figure at very affordable cost.
Dependent on application suitable for an expected lifetime of 10-20 years.

Performance

- Nominal Voltage 12.8V
- Final maximum Charge Voltage 14.6V (100% SOC)
- Final Discharge Voltage 10V (protection level)
- Capacity 100Ah or 1280Wh (at 0.2C)
- Maximum continuous discharge Current Imax of 100A (1C)
- Overcurrent protection level 120A
- Maximum charge current to 100% is 50A (0.5C); recommended 10…50A
- Cycle Life with 80% DOD is 4000 @20A; 2500 @100A
- 300A discharge Current up to 5 sec
- Operating temperature: see Figure 1 and 2
- Storage temperature < 30 days 0…+40°C; Storage temperature > 30 days 5…20°C
- ABS case with dimensions 306 x 168 x 211 mm (LxWxH)
- IP65 waterproof
- Weight about 12kg

Features

- Bluetooth functionality; The APP is available on the App store or Play store
  Via Bluetooth the user can see the status of the battery
- LFP (LiFePO4) chemistry using prismatic cells with highest Power Density
- Can be connected in parallel up to 4 pcs
- Most safe Lithium Technology
- Integrated BMS (Battery Management System)
- Electronic Short Circuit protection and integrated fuse
- Overload protection
- Failsafe BMS protection functions
- Strong ABS case with handgrips
- ACES charger ABC700-1220LF is optimized for this battery
  This charger has a special mode for balancing the battery cells resulting in more available capacity over time.

Safety

These ACES Energy batteries are based on Lithium LFP technology (LiFePO4). This is the most safe Lithium Ion chemistry and it is used today for EV, Marine, Backup and many industrial applications. LFP does not use cobalt.
The battery is developed in the Netherlands. The BMS offers additional protection which is designed in a failsafe way.

Warranty

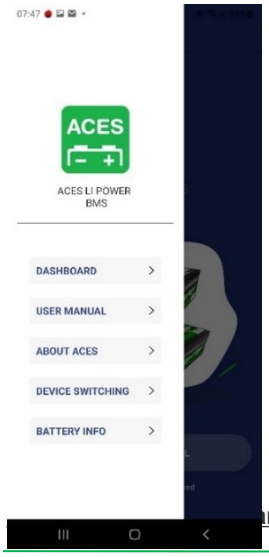
The warranty related to production faults is 5 years. Warranty conditions are described in our ACES warranty document which can be downloaded from our website.

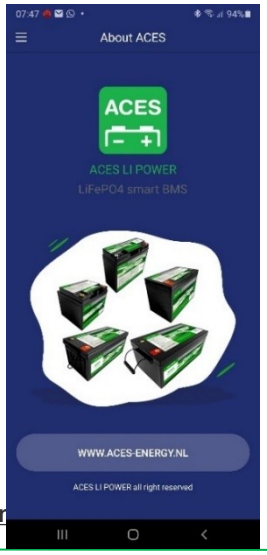
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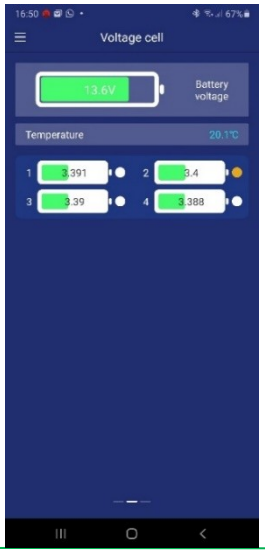
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APP functionality











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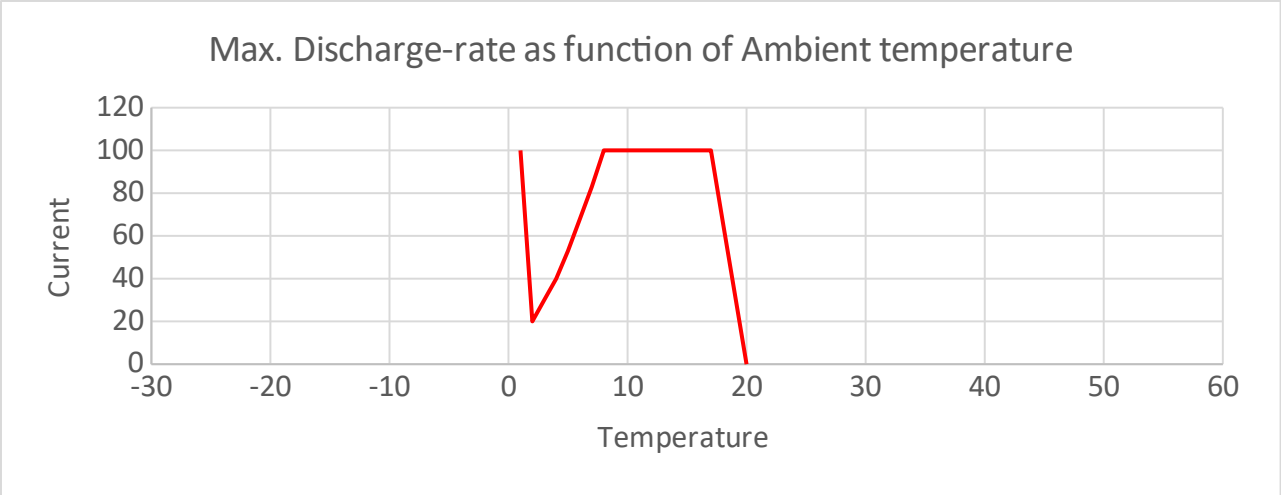


Fig. 1

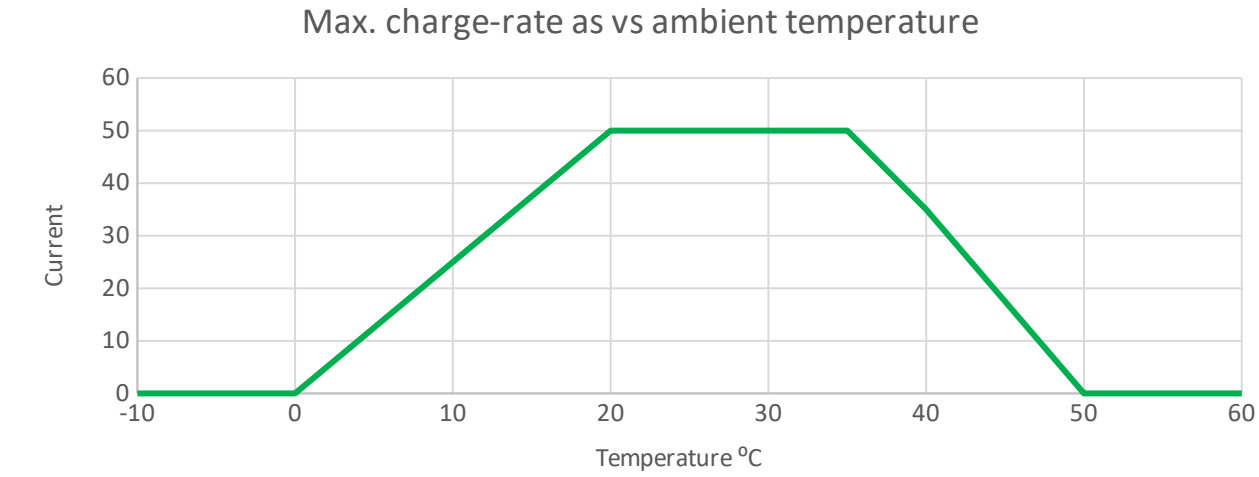


Fig. 2

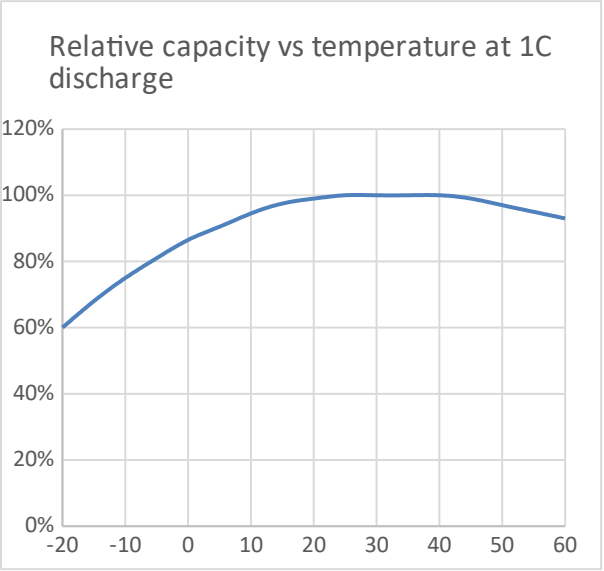


Fig. 3

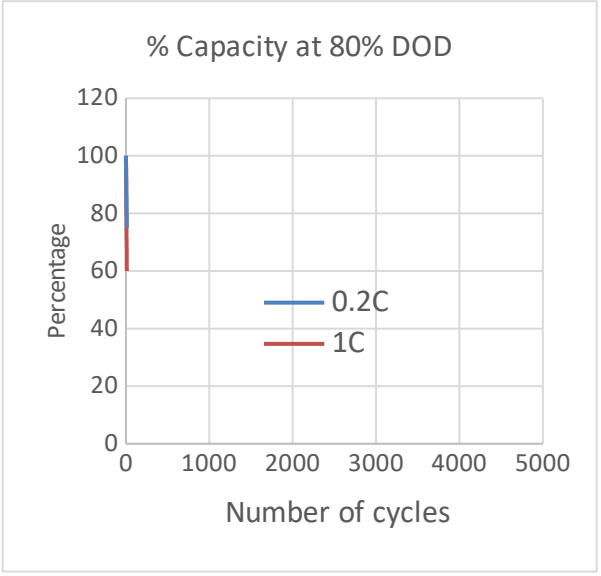


Fig. 4

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Usage Instructions

- Read this User Manual carefully before use.
- Make sure the battery is always charged after use. If the battery is almost discharged and left unused for a longer time there is a risk of capacity loss and deep-discharge. When the battery is deep-discharged there is a big risk the cells are damaged. This situation is not covered by warranty.
- Charge the battery regularly.
- Up to N batteries can be connected in parallel; be aware that the load current shall be limited to Imax*(N-1).
- When the battery is not used for more than 1 months charge the battery to about 50% and store it in ambient temperature between 5-20°C. Remove the connections from the +pole to prevent deep discharge.
- Always use the battery in the normal position; side mounting or top-mounting is not allowed.
- The battery shall be mounted by special straps or clamps with rubber protection to the battery.

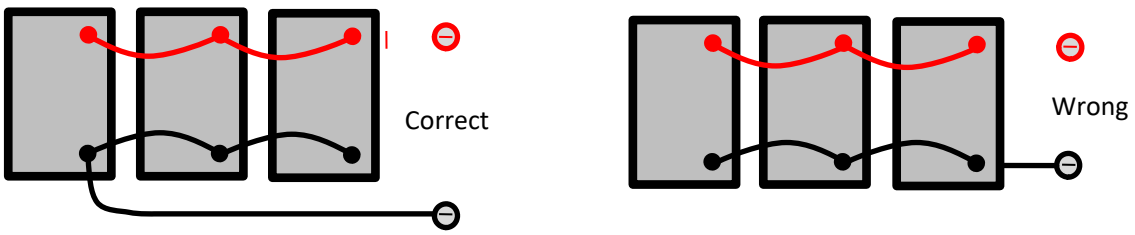
Safety related instructions

- The batteries shall only be opened and repaired by ACES.
- If the batteries are opened or repaired by others than ACES no warranty will be granted anymore and ACES will not be liable anymore for the safety of the battery.
- If the battery case is damaged in some way because of an accident contact the manufacturer ACES immediately.
- Use the appropriate ACES charger which is advised for this battery.
- For transportation of the battery only the original packaging shall be used or packaging that applies to the international UN packing rules for dangerous goods class 9.
- Do not use the battery in high electrostatic or (electro)-magnetic fields.
- Keep the battery away from heat sources like heaters, fire and very hot places.
- Take care to use the battery within the temperature boundaries of figures 1 and 2
- Don't use the battery if the capacity is reduced to less than 70%; It is End Of Life and should be disposed then
- The battery is splash waterproof, but it is not is allowed to use it under water.
- Safety cannot be guaranteed if the battery is used outside the specifications.
- Don't use the battery in series connection ; this can cause defects
- Don't continue to use the battery in case of any malfunction or visual damage and send it to ACES for service.

Installation Instructions

- The battery shall be connected by using M8 screws and cable lugs with 8mm holes (torque of about 10-15 nm)
  If the screws are not properly tightened it can result in overheating of the cables and the poles
- The battery shall be mounted on rubber foam or rubber blocks.
- The cable cross section shall be suitable for the maximum continuous current.
- Finally the cable connection shall be isolated by a suitable cable-boot, red for + and black for -.

Parallel connection of batteries:



- If N batteries are used in parallel make sure that N-1 batteries can handle the maximum allowed current.
  e.g. 4 batteries parallel means Imax4 = Imax1 * N-1 = 3 * Imax