LiFOS®
ADVANCED LITHIUM POWER

ADVANCED LIGHTWEIGHT LITHIUM BATTERY

FOR POWER ON THE MOVE

LONG LASTING RELIABLE POWER

The LiFOS Lithium Battery is an advanced battery using the new premium in lithium battery chemistries - Lithium Iron Phosphate ($LiFePO_4$) – which delivers reliable and safe power in virtually all conditions. Perfect for voltage sensitive and high cycling applications including leisure, commercial and off grid renewable energy installations.

LONG LIFE

LiFOS has a 5-year warranty and its integral Battery Management System (BMS) guarantees its Depth of Discharge(DOD) does not exceed 90%, thus ensuring thatLiFOS gives no less than 2750 charge and discharge cycles – see graph on back page.

Further, if LiFOS is only partially discharged to 50% of its capacity, for example, the number of times it can be charged and discharged jumps to 5000 (+13yrs).

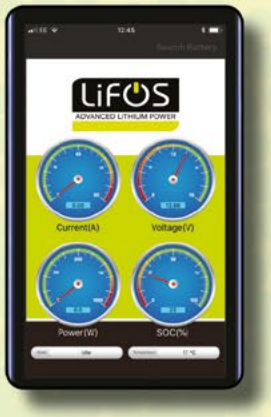
Depth of Discharge (DOD)

All batteries have a DOD. It's typical to expect a battery using lead acid and gel compounds to give a 50% DOD. This means if, for example, such a battery is rated at 100Ah, it will only provide usable power of 50Ah. LiFOS has a 90% DOD, providing 61.2Ah of usable power, which means that to replicate the available power provided by LiFOS, a +120Ah lead acid or gel battery would be needed.

BATTERY MANAGEMENT AND COMMUNICATION SYSTEM

LiFOS has uniquely designed hardware/software integrated into each battery which allows it to:

- **Operate heavy loads up to 1000w (e.g. caravan motor movers);**
- **Protect the battery from deep discharging;**
- **Be charged by most mains lead acid battery charger <40Ah, vehicle alternator or solar panel;**
- **Speed up charging times, whether being powered by mains or solar;**
- **Provide users with a unique view of the charge and discharge performance** of their battery on a smartphone via a simple-to-understand Android or Apple App. This free to download App provides extremely accurate information – generally far more so than a typical analogue battery meter. The App, once connected to a smart device, will also sends users a reminder to put theirLiFOS on charge once it has been discharged to 30%, thus further prolonging its life.



FREE BLUETOOTH APP

Monitor the state of charge of LiFOS batteries through a smartphone via our unique app available online for free download (Apple or Android).

The BMS has also been specially designed to allow LiFOS to perform when using a DC to DC charger and we are pleased to confirm that LiFOS is compatible with most manufacturers products:

* The LiFOS battery will go into dormant mode when battery voltage is < 8V and battery output is 0V. Please contact us or use a specific $LiFePO_4$ battery wall charger to recharge it for 3-5 minutes, which will release it. Please contact your dealer/retailer to get the wall charger if necessary.

LIGHTWEIGHT AND COST EFFECTIVE

CONNECTIONS

LiFOS is fitted with removable terminal posts, compatible with caravan quick release connectors, so that it can fit in the smallest space possible. The posts can be removed and ring terminals connected directly onto the terminal plates. In addition, two LiFOS batteries can be joined in parallel to **create double the (AH) capacity. (Please note that** LiFOS cannot be joined in series to create higher voltages

WEIGHT

LiFOS is a featherweight 7.8kgs. When compared to a good quality 120Ah **lead acid battery at circa 34kgs,** LiFOS gives an impressive 77% weight saving – and in motor campers, caravans and boats, saving 27+ kilograms can be crucial.

SAFETY

LiFOS does not emit noxious gases therefore does not need to be housed in a specially vented chamber.LiFOS has a huge operating temperature range of -20 to +60 °C and it can be used in any orientation (e.g. on its side), although on its base will give the best performance. Like all batteries it should not be allowed to discharge fully over a long period and if it will be left without any power input for a 6-month period theLiFOS must be charged. A warning will be sent via the App as a reminder – see previous page, 'Battery Management and Communication System'.

For more safety information, download the MSDS and Data sheet fromwww.lifos.co.uk (click on the 'Data' tab).

Note: LiFOS can discharge in temperatures down to -20°C but cannot receive a charge at any temperature lower than 0°C. IfLiFOS is housed within a housing such as a caravan battery compartment or similar, it should be protected from freezing temperatures. If, howeverLiFOS is exposed to the elements it should be placed inside a battery box or similar with some level of insulation.

COST

A LiFOS costs £699 (inc VAT), which is of course much higher than a 120Ah lead acid or gel battery. However, the number of times it can be charged and discharged is anything up to six times more, so looking at the cost per cycle is important when considering the value of a battery purchase. The examples below in the comparison are both from the NCC Verified batteries category A:

Battery	Cost	No. of charging cycles	Cost per cycle
LiFOS 68Ah	£699	2750	25.4p
120Ah Gel	£250	400	62.5p
120-12 120Ah AGM	£240	500	48p

In many commercial applications, a battery is used in combination with a solar panel to provide power to equipment such as car park ticket machines, electric fences, data loggers and street lighting, to name but a few. In such devices the cost of the battery itself is small compared with the cost of sending a technician once a year to change the battery. LiFOS will reduce this service visit to once every 7.5yrs, meaning that labour and material savings due to LiFOS soon become very significant. Not only that but waste, vehicle congestion and carbon emissions are reduced.

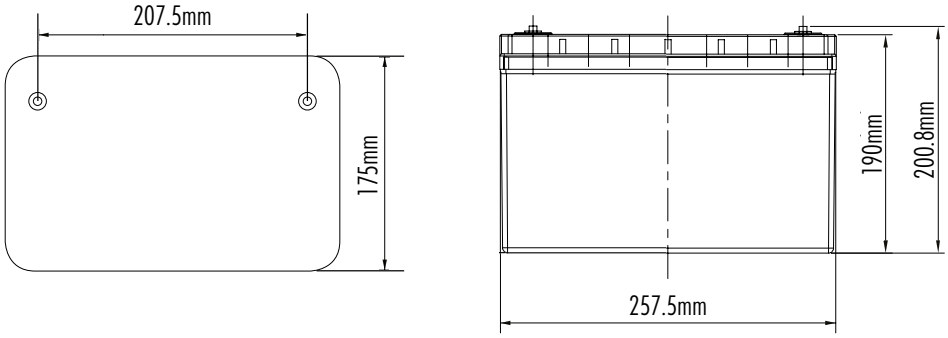
5 YEAR GUARANTEE

CUSTOM-MADE LiFOS BATTERIES

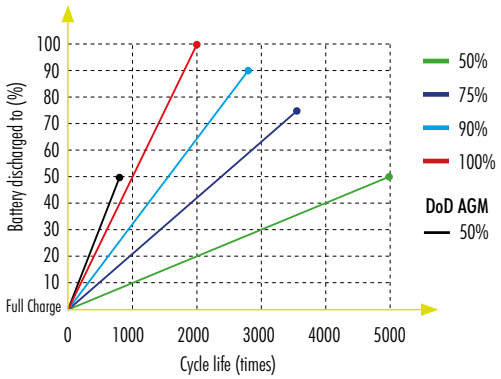
Do you have a specific battery application or need a precise size or voltage? If so, our bespoke, custom-made service is for you. However you want your **LiFOS** lithium battery configured, we can help.

As well as your choice of Ah and voltage, the list of options includes Bluetooth connectivity, integral or external BMS, plastic case, personalised wrap or complete custom branded solution. Our expert team will work with you to create the perfect **LiFOS** lithium battery for you.

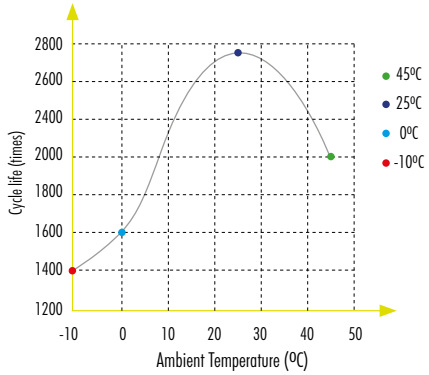
Dimensions



Lifecycle v. Depth of Discharge



Lifecycle v. Ambient Temperature



SPECIFICATIONS

Chemistry: Lithium Iron Phosphate $LiFePO_4$
Capacity: 12.8V/68Ah
Depth of Discharge: 90%
Max continuous charge: 20A
Max continuous discharge: 60 A
Charging temperature: –20 to +60ºC
Discharge temperature: 0 to +60ºC
Dimensions: L 175 x W 257.5 x H 190mm
Weight: 7.8kgs

RECYCLING

LiFOS is a member of a UK accredited scheme to safely and securely recycle lithium batteries. This service is completely free to customers and to access this service please visit **www.lifos.co.uk** and click onto the recycling tab for instructions on how to do this.

CE RoHS

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