



**CRESLOW ENERGY  
SOLUTIONS**



# AUTOSMART Lithium Phosphate Battery

**AUTOSMART 12V 105AH LiFePO4**

<b>1/3</b> THE WEIGHT	<b>2X</b> THE POWER	<b>3X</b> FASTER CHARGING	<b>4X</b> THE LIFESPAN	<b>100%</b> CES SUPPORTED
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**COMPARED TO TRADITIONAL LEAD-ACID**

Golf carts are the preferred method of transportation for thousands of golfers throughout South Africa. It is obvious why golf course managers place so much emphasis on the maintenance and repair of their golf cart fleets.

## Weight

Our Lithium batteries weigh a fraction of their lead-acid counterparts, a golf cart powered by our Lithium battery has a significant power-to-weight ratio advantage. This means that the cart can carry more weight and reach higher speeds without the degradation of performance. It also means that the golf cart can carry up to two additional average-sized adults or their equivalent in weight before maxing out in capacity.

## Charging

Depending on the size of your golf cart fleet, the time it takes to charge a standard lead-acid battery can significantly impact the availability of golf carts. Considering how the average lead-acid battery takes 8 hours to fully recharge, a golf cart that's stuck in the maintenance shed is not making the course any money. Our Lithium batteries can be recharged to around 80 percent of their capacity in just one hour, fully charged in 2 hours and ZERO degradation on battery life. Unlike lead-acid batteries, our Lithium phosphate batteries are not susceptible to damage if repeatedly recharged to less than 100%.

## Longer Battery Cycle Life

One of the main advantages of our Lithium phosphate battery is that they have a much longer lifespan than a traditional lead-acid one. Our Lithium golf cart battery has around 4,000 cycles, whereas the average lead-acid one only has anywhere from 500 to 1,000 cycles. While Lithium golf cart batteries tend to cost more upfront, there is a considerable cost saving over time when compared to having to regularly replace a lead-acid battery, reduced energy bills incurred when charging the battery.

## Advanced Technology

Our Lithium batteries come with a built-in Battery Management system (BMS). It helps ensure that they are not accidentally over-charged or over-depleted and offer ZERO maintenance. The BMS continually monitors the battery so that its parameters are continually within the optimal working range. We can customize the programming to meet your specific requirements. An additional Cell Supervision Circuit, (Cell Balance) will monitor each individual cell, which helps ensure optimal performance. This translates to improved safety, reliability, and less downtime of the carts due to battery maintenance.

**LEVEL 1  
B-BBEE**  
135% CONTRIBUTOR

[www.energysolution.co.za](http://www.energysolution.co.za)

Customised lithium battery solutions for  
Home ESS, Forklifts, Golfcarts & E-bike

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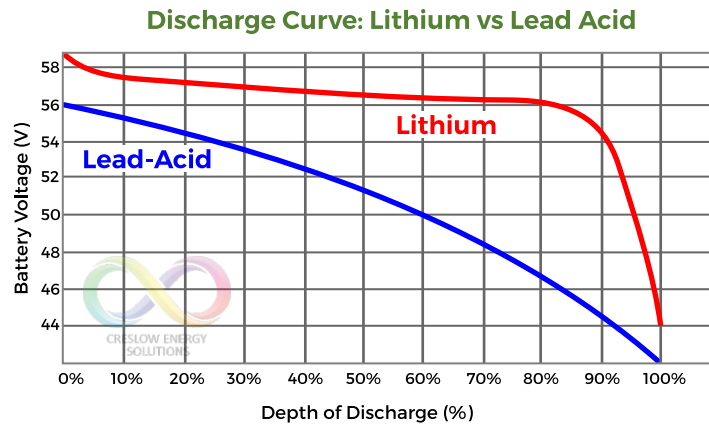
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# Creslow Energy Solutions AUTOSMART Lithium Phosphate Battery LiFePO4

At Creslow Energy Solutions, we use Tier 1, Grade A Lithium Phosphate Cells in all our battery systems. Our Lithium phosphate Golf cart line of batteries provides superior performance, and when added to a fleet of Golf carts, translate into huge costs savings over traditional lead-acid ones. Each of our battery packs are 12V 105Ah and can be combined in any configuration [parallel &/or series] to ensure maximum performance.



	LEAD-ACID	LITHIUM
Installed capacity	4.8 Kwh (48V 100AH)	5.4 Kwh (51.2V 105AH)
Usable capacity	2.5 KWh (50% utilization of Lead-Acid)	4.3 KWh (80% utilization - CES recommendation)
Total Weight (Per battery pack)	132KG (33KG per battery pack x 4)	40KG (10KG per battery pack x 4)
Lifespan	1,000 cycles at 50% DoD (Depth of Discharge)	4,000 cycles at 80% DoD (Depth of Discharge)
Number of Installations	4 (1 + 3 replacements)	1
BMS (Battery management system)	None	BMS included
Battery cost @ 4,000 cycles	ZAR 64,000 (4K per transport x 4 x 4) ***	ZAR 36,000 (9K per battery x 4) ***
TOTAL COST	ZAR 64,000.00	ZAR 36,000.00
<b>Cost per usable KWh per cycle</b>	<b>ZAR 6.40 Usable KWh (64,000 / 4,000 / 2.5)</b>	<b>ZAR 2.09 Usable KWh (36,000 / 4,000 / 4.3)</b>
*** Based on market retail price per 12V 100AH at 2nd January 2022.		
<b>NOTE:</b> Electricity cost for charging batteries has been excluded. Due to Lithium batteries achieving a higher utilization (80% vs 50%) there will be a saving on actual Eskom costs related to battery charging.		

AUTOSMART	
PRODUCT NAME	AUTOSMART 12V 105A
TYPE	LITHIUM PHOSPHATE LiFePO4
GROSS WEIGHT (KG)	10 KG
DIMENSIONS (MM)	255 x 160 x 220 (LxWxH) MM
NOMINAL (OPERATE) VOLTAGE	13 VDC (11.6 VDC - 14.4 VDC)
CHARGE (DISCHARGE) TEMPERATURE	0° to 65° (-35° to 65°) CELCIUS
BMS (Battery management system)	BMS INCLUDED
CYCLES	4,000 @80% DoD @25° CELCIUS



All our batteries are locally manufactured and supported, we are dedicated to developing and maintaining great and long-lasting customer relationships backed up by our superior quality products.

Contact us today to learn more about our company and line of Home ESS, Forklift battery, and Golf Cart / Caravan batteries.