

# AL-12.8-140- ESCAPE SERIES LITHIUM DEEP CYCLE (LiFePO<sub>4</sub>) BATTERY (12.8V, 140Ah)

## Features of LiFePO<sub>4</sub> Battery

### WHY ADVANCE ESCAPE?

- **Proven Quality** - Advance Escape is manufactured in a fully integrated facility, to international standards of excellence in quality, environment and safety: ISO9001, ISO14001 and ISO45001.
- **Certified Safety** - Advance Escape has been certified and tested to the highest international safety standards at both cellular and battery level: UL1642, UN38.3

### WHY LITHIUM ION FERROUS PHOSPHATE (LiFePO<sub>4</sub>)

- The safest of all the known lithium ion technologies globally
- Smaller than any other commercial size battery type
- Less than half the weight of a lead-acid battery
- Wider temperature range and higher temperature
- Higher cycle life than any other commercial sized battery
- Ultra low self discharge makes it ideal for intermittent use
- LiFePO<sub>4</sub> is the most robust chemistry under extreme conditions
- Environmentally friendly: LiFePO<sub>4</sub> batteries have no poisonous or harmful substances, whether in production or in use.
- Best direct replacement for deep cycle duty.



# Advance



## Applications

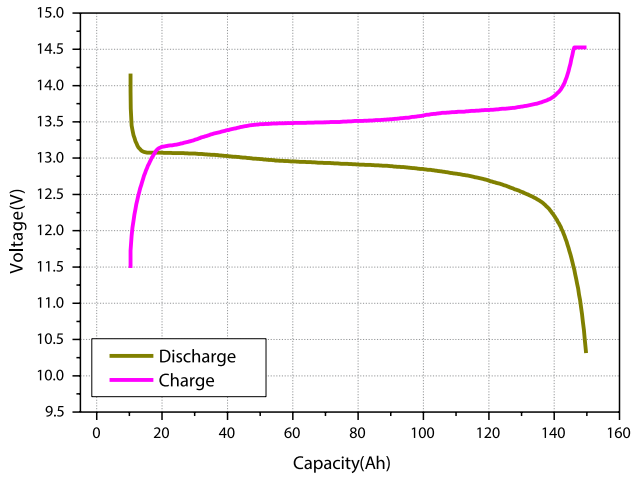
- Caravans, Camping, 4WD • Marine • Solar/Wind Energy Storage • UPS, Back-up Power • Electric Vehicles, Mobility

## Specifications

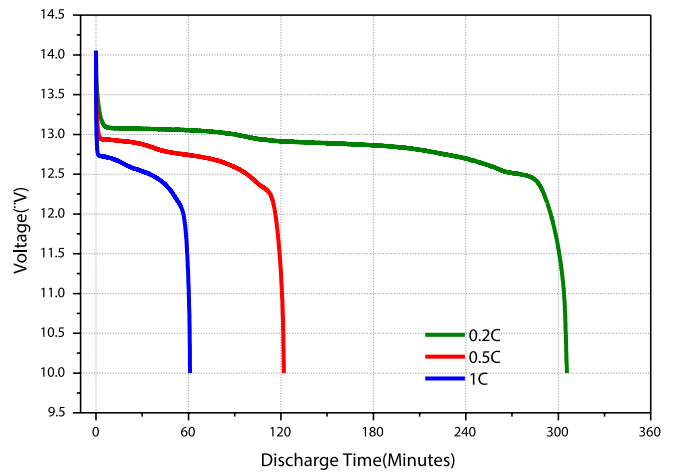
Electrical Characteristics	Nominal Voltage	12.8V	
	Nominal Capacity	140 ± 5Ah (0.2C)	
	Nominal Energy	1790Wh	
	Internal Resistance	≤ 35mΩ	
	Cycle Life		≥ 2,000 @ 0.2C (100% DOD)
			≥ 3,200 @ 0.2C (80% DOD)
		≥ 5,600 @ 0.2C (50% DOD)	
BMS	Over charge, over discharge, and over & under temperature protection, and cell balancing		
Standard Charge	Charge Voltage	14.4 ± 0.15V	
	Charge Profile	CC @ 0.2C to 14.4V, then CV @ 14.4V. Current ≤ 0.01C (CC/CV)	
	Charge Current	30A	
	Max. Charge Current	75A	
Standard Discharge	Continuous Current	75A	
	Max Continuous Current	≤ 100A	
	Max Pulse Current	100-450A (≤ 20ms)	
	Cut-Off Voltage	About 10.0V	
Environmental	Charge Temperature	0°C to 45°C	
	Discharge Temperature	-20°C to 60°C	
	Storage Temperature	0°C - 40°C	
Mechanical	Material System	LiFePO <sub>4</sub>	
	Case Material	Plastic	
	L (mm) ×W (mm) × H (mm)	(328 ± 3) × (172 ± 2) × (212 ± 2)	
	Weight	16.5 ± 0.5kg	
	Terminal	M8	
Warranty	3years * private use * Do not use under bonnet		

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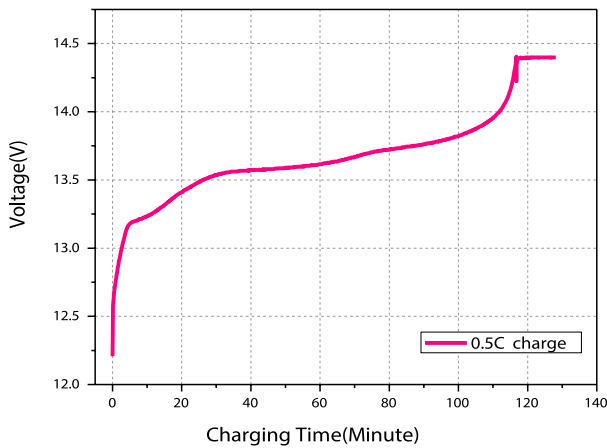
**12.8V140Ah Charge-Discharge Curve**



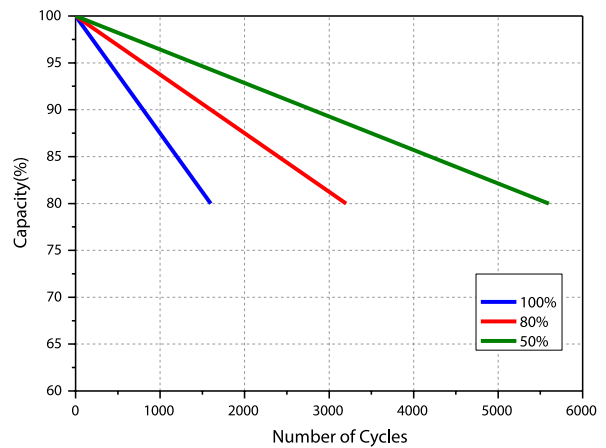
**Different Rate Discharge Time & Voltage**



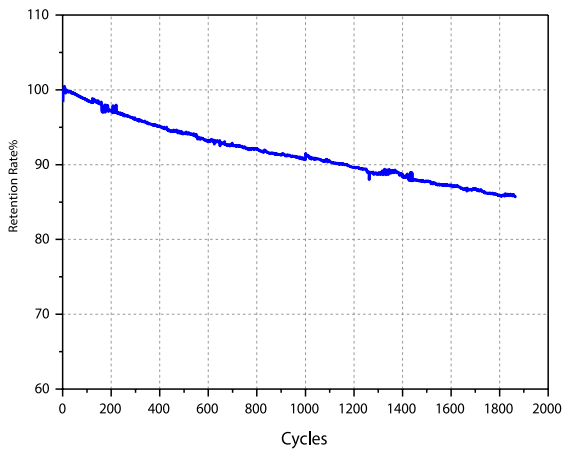
**Voltage & Charging Time Curve, 0.5C, 25 °C**



**Different DOD Discharge Cycle Life Curve**



**Cycles & Capacity Retention @ 0.2C**



**Discharge Curves at Different Temperature**

