# AL-12.8-80 - ESCAPE SERIES LITHIUM DEEP CYCLE (LiFePO4) BATTERY (12.8V, 80Ah)

### 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.







## **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	80 ± 3Ah (0.2C)
	Nominal Energy	1013Wh
	Internal Resistance	≤ 40mΩ
	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	16A
	Maximum Charge Current	40A
Standard Discharge	Continuous Current	40A
	Max Continuous Current	≤ 56A
	Max Pulse Current	56-200A (≤ 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)	(228 ± 2) × (138 ± 2) × (208 ± 2)
	Weight	9.5 ± 0.5kg
	Terminal	M6
Warranty		3years * private use * Do not use under bonnet



#### AL-12.8-80 - ESCAPE SERIES LITHIUM DEEP CYCLE (LIFePO4) BATTERY (12.8V, 80Ah) 12.8V 80Ah Charge-Discharge Curve Different Rate Discharge Time & Voltage 15.0 14.5 14.5 14.0 14.0 13.5 13.5 13.0 13.0 12.5 Noltage (V) 12.5 12.0 11.5 12.5 12.0 11.5 11.0 11.0 10.5 10.5 Discharge 0.5C 10.0 10.0 Charge 9.5 9.5 120 240 300 20 40 60 70 Discharge Time(Minutes) Capacity(Ah) Voltage & Charging Time Curve, 0.5C, 25°C Different DOD Discharge Cycle Life Curve 14.5 90 Voltage(V) Capacity(%) 13.5 80 13.0 70 100% 12.5 0.5C charge 12.0 100 1000 3000 4000 5000 120 6000 Number of Cycles Charging Time(Minute) Discharge Curves at Different Temperature Cycles & Capacity Retention @ 0.2C 110 13 100 12 Retention Rate% Voltage(V) 11 80 10 -20°C -10°C 70 10°C 30°C 60°C

20

30

Capacity(Ah)

400 600

1000 1200 1400 1600

Cycles

70