

LiFe 40-12

12V / 40Ah

Lithium - Iron Phosphate



Features

High energy density
Automatic protection with battery management system (internal)
Low self-discharge
Long cycle life
Excellent performance in all operating temperatures
Cost effective
Fast charge
Drop-in replacement
Guaranteed Safety



Nominal characteristics

Nominal Voltage	: 12.8V
Nominal capacity	: 40Ah
Energy	: 512Wh
IR	: $\geq 25\text{m}\Omega$ @100% SOC
Efficiency	: $\geq 99.5\%$
Maximum Modules in Series	: 2 (Single Use)

Mechanical characteristics

Case Material	: ABS
Dimensions (LxWxH)	: 195x130x168 mm
Weight	: 5.15kg $\pm 3\%$
Terminal Type	: F11 (M6)
BCI Group	: U1
Cell Type-Chemistry	: Prismatic LiFePO ₄

Charge & discharge characteristics

Voltage Window	: 10.8-14.6V
Max. Continuous Charge	: 40A
Max. Continuous Discharge	: 40A
Peak Discharge Current	: 80A (10s ± 1 s)
Recomm. Charge Current	: 20A
Recomm. Discharge Current	: 20A

BMS characteristics

Primary Charging Protection	: Current	130 ± 20 A
	: Delaytime	5~20ms
Secondary Charging Protection	: Current	
	: Delaytime	
Primary Discharging Protection	: Current	130 ± 20 A
	: Delaytime	5~20ms
Secondary Discharging Protection	: Current	
	: Delaytime	
Over-charge Voltage Protection	: Voltage	3.75 ± 0.025 V/c
	: Delaytime	0.5-2.0s
Over-discharge Voltage Protection	: Voltage	2.1 ± 0.05 V/c
	: Delaytime	30-200ms
Temperature Protection	: PCB Temp.	$\geq 90^\circ\text{C}$
Recover Temperature Protection	: Idle for	30 minutes

Operating Conditions

Cycle Life	: ≥ 2000
Operating Temperature	: Charge $0^\circ\text{C} \sim 45^\circ\text{C}$ Discharge $-20^\circ\text{C} \sim 60^\circ\text{C}$
Storage Temperature	: $20^\circ\text{C} \sim 30^\circ\text{C}$
Storage Duration	: 12 months at 25°C

Constant Current Discharge Data (Amp @25°C)

	1h	2h	3h	5h	10h
Cut-off voltage (10.8V)	40A	20A	13.3A	8A	4A

Constant Power Discharge Data (Watt @25°C)

	1h	2h	3h	5h	10h
Cut-off voltage (10.8V)	460W	232W	155W	93.6W	47.2W

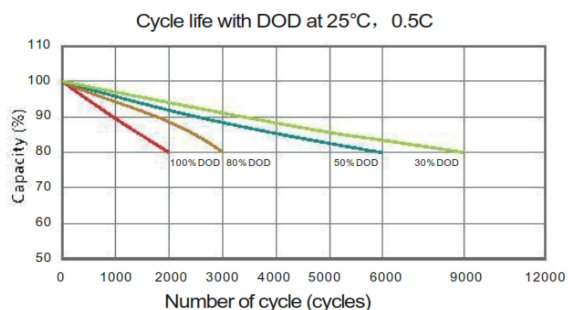
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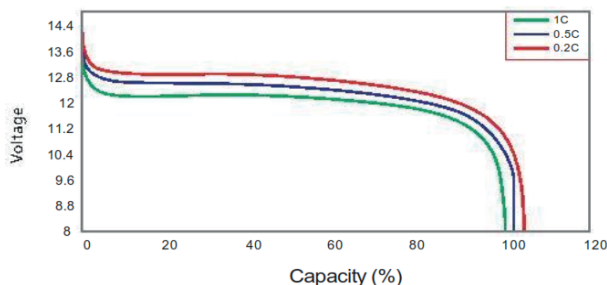
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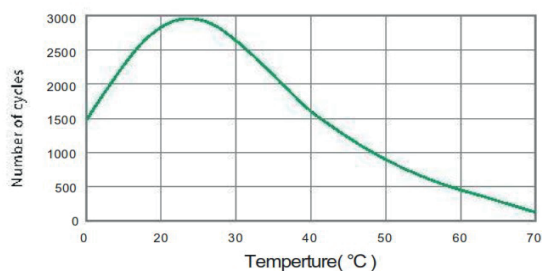
Number of Cycles Vs. DOD



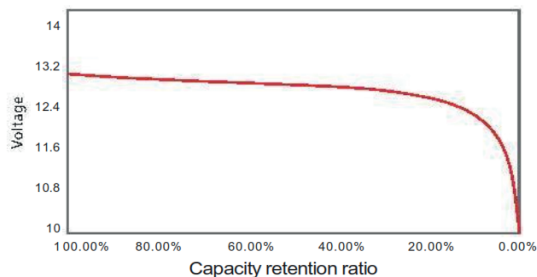
Discharge Performance at R.T.



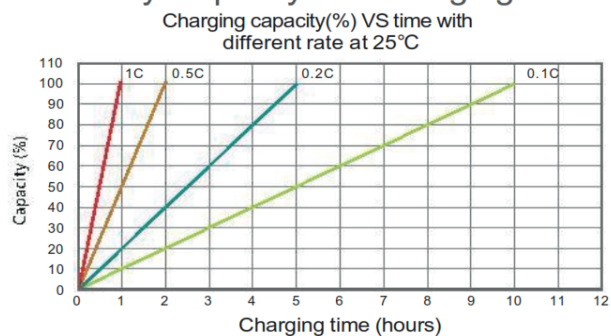
Cycle Life in Relation to Temperature



Battery Capacity (C) Vs. Open Circuit Voltage (OCV)



Battery Capacity Vs. Charging Time



Temperature Effects on Capacity

