

LiFe 15-12

12V / 15Ah

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	: 15Ah
Energy	: 192Wh
IR	: $\geq 40\text{m}\Omega$ @100% SOC
Efficiency	: $\geq 99.5\%$
Maximum Modules in Series	: 2 (Single Use)

Mechanical characteristics

Case Material	: ABS
Dimensions (LxWxH)	: 151x97x101 mm
Weight	: 1.9kg $\pm 3\%$
Terminal Type	: F2
IP Grade	: -
Cell Type-Chemistry	: Cylindrical LiFePO ₄

Charge & discharge characteristics

Voltage Window	: 10.8-14.6V
Max. Continuous Charge	: 15A
Max. Continuous Discharge	: 20A
Peak Discharge Current	: 35A (10s $\pm 1\text{s}$)
Recomm. Charge Current	: 7.5A
Recomm. Discharge Current	: 7.5A

BMS characteristics

Primary Charging Protection	Current	25~35A
	Delaytime	15 $\pm 2\text{s}$
Secondary Charging Protection	Current	$\geq 35\text{A}$
	Delaytime	3 $\pm 1\text{s}$
Primary Discharging Protection	Current	30~40A
	Delaytime	15 $\pm \text{s}$
Secondary Discharging Protection	Current	40~86A
	Delaytime	3 $\pm 1\text{s}$
Over-charge Voltage Protection	Voltage	$\geq 14.8\text{V}$
	Delaytime	$\leq 3\text{s}$
Over-discharge Voltage Protection	Voltage	$\geq 9.2\text{V}$
	Delaytime	$\leq 3\text{s}$
Temperature Protection	PCB Temp.	$\geq 90^\circ\text{C}$
	Recover	$\leq 65^\circ\text{C}$

Operating Conditions

Cycle Life	: ≥ 2000
Operating Temperature	Charge $10^\circ\text{C} \sim 45^\circ\text{C}$
	Discharge $-20^\circ\text{C} \sim 55^\circ\text{C}$
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)	15A	7.5A	5A	3A	1.5A

Constant Power Discharge Data (Watt @25°C)

	1h	2h	3h	5h	10h
Cut-off voltage (10.8V)	187W	92W	65W	38W	19W

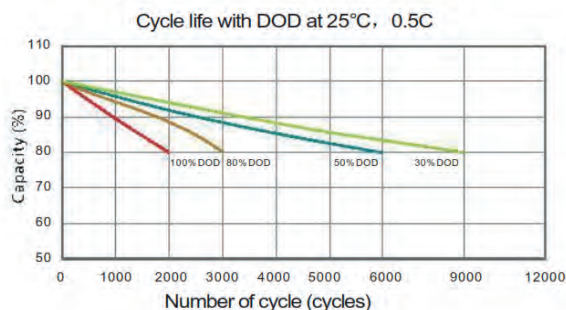
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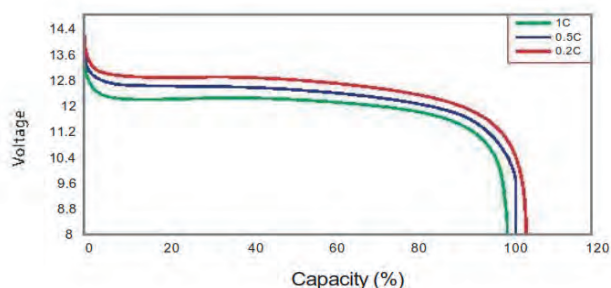
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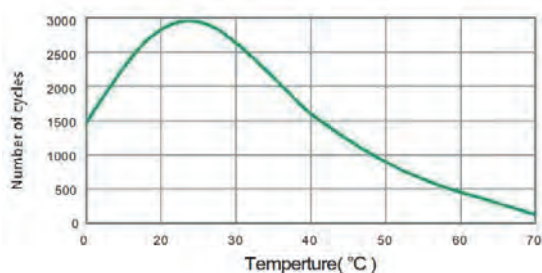
Number of Cycles Vs. DOD



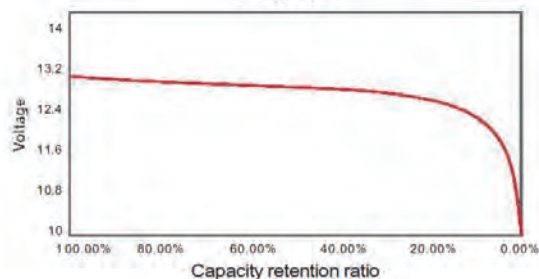
Discharge Performance at R.T.



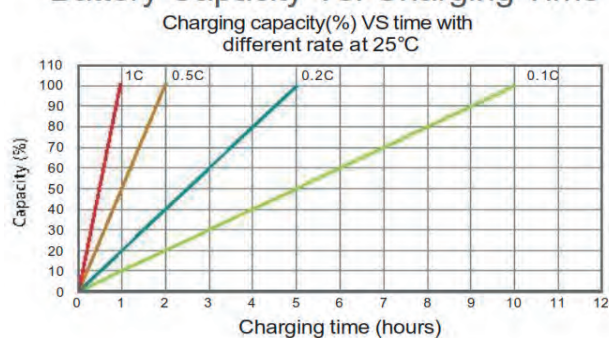
Cycle Life in Relation to Temperature



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



Battery Capacity Vs. Charging Time



Temperature Effects on Capacity

