



LiFePO4 Battery

This specification applies to SunGarner Energies Limited, design and development of the battery, it is the basis of product design, production and inspection. The role of understanding the quality of the product and the correct method of use.

Safe Performance

No.	Item	Feature.	Measurement
1.	Over-charge performance	No fire, No exploding, No smoking obtained	After standard charge, the battery shall be charged at 0.5C
2.	Over-discharge performance	No fire, No exploding, No smoking obtained	After discharged to the cut-off voltage, the battery shall be subjected to a short-circuit condition with a load of resistance less than 30Ω for 24 hour.
3.	Short-circuit performance under room temperature	No fire, No exploding, No smoking obtained	After standard charged, put the cell/battery into the explosion-proof with glass cover to short the positive and the negative for the battery (the total impedance is less than 100mΩ) for 1 hour

Storage

Item	Criteria
Storage Temperature	Short period less than 1 month
	Long period less than 3 month
	Long period more than 3 month
Relative Humidity	≤75%RH
Charged	About 40%~60% charged state

The batteries should be stored at room temperature, charged to about 30%~50% of capacity. We recommend that batteries be charged about once per 1 month to prevent over discharge.



Battery Parameters											
Model		SK8012L	SK10012L	SK8024L	SK10024L	SK10048L	SK10096L	SK100120L	SK100192L	SK100240L	SK100384L
Battery Voltage(V)		12.8		25.6		48	96	121.6	192	240	384
Battery Capacity (Ah)		80	100	80	100	100					
Battery Energy (Wh)		1024	1280	2048	2560	4800	9600	12000	19200	24000	38400
Series Cell		4S		8S		15S	30S	38S	60S	75S	120S
No. of Cell		4		8		15	30	38	60	75	120
Standard Discharge 25℃	Max. constant current	80A	100A	80A	100A	100A	100A	100A	100A	100A	100A
	Cut-off voltage(V)	10.8	10.8	21.6	21.6	42	84	106	168	210	336
Standard Charge 25℃	Recommended Max. charging current	40A	50A	40A	50A	50A	50A	50A	50A	50A	50A
	Cut-off voltage(V)	14.5	14.5	29	29	54.5	106.5	136	216	270	426
Round trip efficiency(%)		>98%									
Calendar life 25℃		>10 years									
Cycle life (0.2C, 25℃)		80% DOD 3500 cycles									
Recommend operating temperature		Charging: 0℃~60℃									
		Discharging: -20℃~60℃									
BMS Parameters											
Charging Voltage	Cell Voltage Protection	3.75V Protection/Recover at 3.6V									
Discharging Voltage	Cell Voltage Protection	2.5V Protection/Recover at 3.1V									
Charging Current	Normal	≤40A	≤50A	≤40A	≤50A						
Discharging Current	Normal	≤80A	≤100A	≤80A	≤100A						
	Over Current Protection 1	>100A and <120A Delay 30s ,recovery in									
	Over Current Protection 2	>120A and <150A Delay 3s ,recovery in									
	Short Circuit Protection	≥200A Delay 1mS									
Cell Temp 1	Low temp protection	Charging < 0℃/Discharging <- 20℃ ,Delay 1~2S									
Cell Temp 2	High temp protection	Charging >70℃/Discharging >75℃ ,Delay 1~2S									
Cell Balance	Make all cells be balance during charging process. Current: 150mA	$V_{Max} \geq 3.40V$ and $V_{Max} - V_{Min} \geq 40mV$, Start balance/All cell voltages≤3.65V and $V_{Max} - V_{Min} \leq 40mV$, Stop balance									
Dimension	Rack * Dimension(L*B*H)	290x155X285	290x155X285	370x250x160	370x250x160	480x350X270	610X650X600	1X525X525 X900	1X525X525X1792		2X525X525 X1792
Weight	Weight	12Kgs	12Kgs	21Kgs	21Kgs	42Kgs	102Kgs	133Kgs	216 Kgs	250 Kgs	432 Kgs

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