EREMIT®

Datasheet
Model ELF212314L 12V 50Ah

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Auf der Platt 12
65594 Runkel

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This specification is applies to describe the related battery product in this Specification and the battery/cell supplied by EREMIT

All batteries are originally produced by Bixell Technology limited.

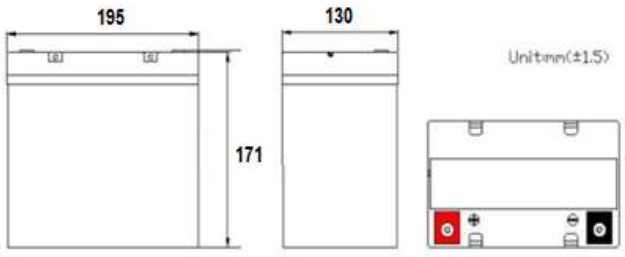
Number	Description	Ratings	Remarks
1;	Nominal Capacity	52.4Ah	At 1C CC discharge
2;	Minimal capacity	52Ah	
3;	Nominal Voltage	12,8V	
4;	Delivery voltage	13,1V	On delivery
5;	Charge voltage	14,65V	
6;	Standard Charging	0.5C Standard	2.5 hour nominal
		1C max.	1.5 hour rapid
7;	Standard discharging	1C CC to 8V	
		2C max. To 8V	
		4C Pulse	Pulse below 10 second 4C standart discharge may cause shorter lifetime

8;	Cell internal impedance	≤9mOhm	Measured at 1khz after 50% Charge
9;	Operating temperature	0-45°C Standard	Maximum -30° - 60°C
		Recommended	10 - 34°C

10; Long time storage (-5°C – 30°C)

If the battery need be stored for a long time, the voltage should be 13.2V, and stored in the condition as storage proposal. It need at least one charge & discharge cycle every year.

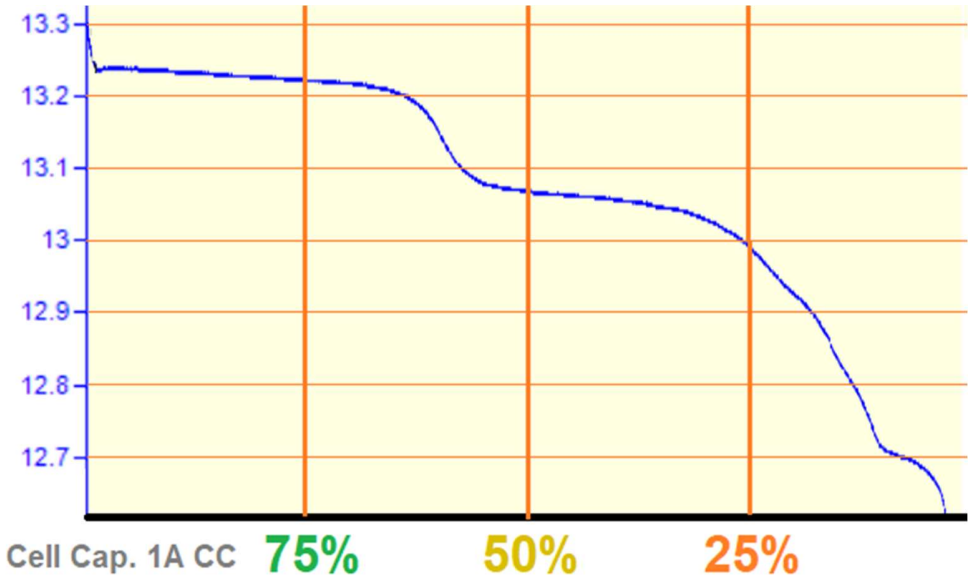
Maximum sizes: 195 x 171 x 130mm
Maximum weight: 4,9kg



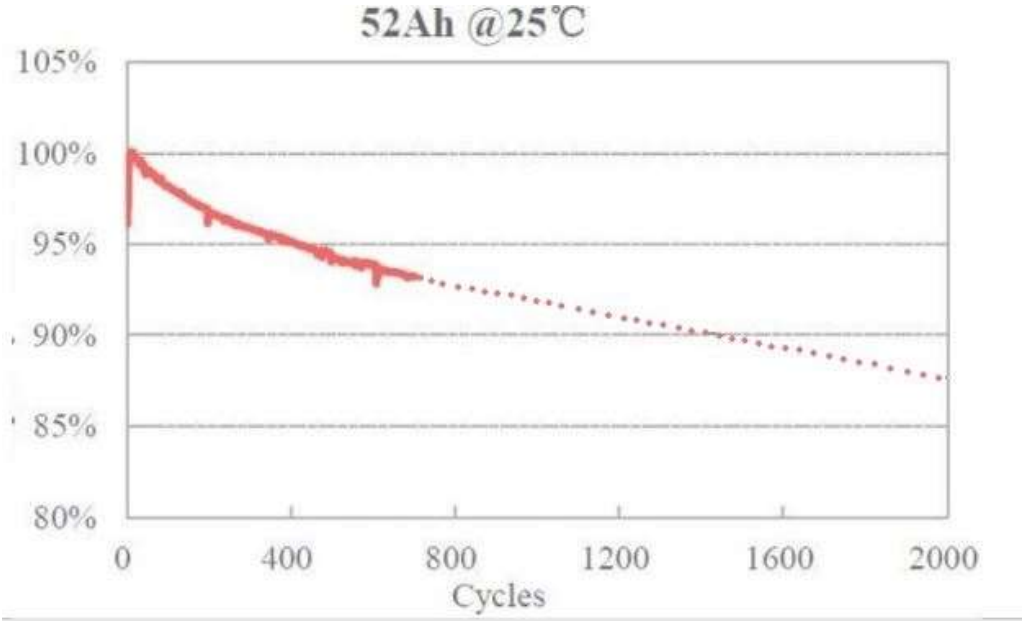
Battery Characteristics

Number	Description	Ratings	Remarks
1;	Standart Charge	Charging cell initially with constant current at 0.5C to 14.6V, then with constant voltage at 14.6V till charge current is below 0.05C	
2;	Rated capacity	Capacity means the discharge capacity of the cell, which is measured with discharge current of 1C with 8V cut-off voltage after standard charge.	>52Ah
3;	Cycle life	Test condition: Carge 1C to 14.6V -> discharge 1 C to 8.0V 80% or more of 1st cycle capacity at 1C discharge of operation	>3000
4;	Self discharge	After standart charging stored 1 month under storage condition descriped in page 2; then measured the capacity with 0.2C till 3.0V	Above 97% residual capacity

Discharge curve



Cycle life



Protection circuit Data

Item	Symbol	Content (single cell)	Criterion
Over charge Protection	V_{DET1}	Over charge detection voltage	3.75V±0.05V (15V total)
	tV_{DET1}	Over charge detection delay time	0.96～1.4s
	V_{REL1}	Over charge release voltage	3.55±0.05V (14.2V total)
Over discharge protection	V_{DET2}	Over discharge detection voltage	2.2V±0.1V (8.8V total)
	tV_{DET2}	Over discharge detection delay time	2s
	V_{REL2}	Over discharge release voltage	2.7V±0.10V (10.8V total)
Over current protection	V_{DET3}	Over current detection voltage	140±30mv
	I_{DP}	Over current detection current	200A
	tV_{DET3}	Detection delay time	~1S
		Release condition	Cut load
Short protection		Detection condition	Exterior short circuit
	T_{SHORT}	Detection delay time	50μs
		Release condition	Cut short circuit
Hot Temperature protection	Cut-off Temperature		70°C
	Release Temperature		60°C
	BMS protection temperature		95°C
Cold Temperature protection	Cut-off Temperature charging		-2°C
	Release Temperature charging		2°C
	Cut-off Temperature discharging		None – discharge allowed to -30°C
Balancer	Balancing current		225mA
	Balancer Switching Voltage		13.8V ~ 14.0V
Interior resistance	R_{DS}	Main loop electrify resistance	n/a
Current consumption	I_{DD}	Current consume in normal operation	6μA Type 12μA Max


温度开关
C−
C−
B−
B−
JBD−ZP04S014 V1.0
Size:144*85mm


EREMIT
LiFePO4
12.8V 50Ah
www.EREMIT.de
640Wh
50A CC
150A pulse

Over-Discharge

Short time over discharge does not affect the battery function, but long time over discharges can damage battery performance, and can't use any more. due to its own self-discharge characteristics also lead to over-discharge, to prevent over-discharge occurs, the battery should maintain the certain electric quantity， the battery shall be charged periodically to maintain between 13V and 13.3V.
Over-discharging may causes loss of cell performance, characteristics, or battery functions.
The electrical products shall be equipped with a device to prevent further discharging exceeding a cut-off
voyage specified in the Product Specification. Also the charger shall be equipped with a device to control the recharging procedures.

Charging

Charging current：Do not surpass the largest charging current that specification stipulated.。

Charging voltage：Do not surpass the highest limited voltage that specification stipulated

Battery BMS can switch off at higher charging voltage, but may cause shorter battery lifetime
。

Charging temperature：within temperature scope that specification stipulated。

Charge with constant current, then with the constant voltage, no reverse charge, which is dangerous

Period of Warranty

The period of warranty is two year from the date of shipment. Replacement is guaranteed within warranty if battery with defects proven due to manufacturing process instead of the customer's abuse and misuse.