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# PRODUCT SPECIFICATION

: CS12. 8100QDB

Revision History

N.0	Revision	Description	Check	Date	Note
1	A/00			20231010	

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## 1、Scope

The specification describes the requirements for the Lithium-Ion rechargeable battery supplied by Shenzhen Chaowei Renewable Energy Co.,Ltd.

## 2、Normal performance

NO.	Item	General Parameter	Remark
1	Rated voltage	12.8V	
2	Model capacity	100.0Ah	25℃ 0.2C 0.5 0.2C charge and 0.5C discharge at room temperature and 25 ℃
3	Minimum Capacity	97.0Ah	
4	Max Charge voltage	14.6V	
5	Cut-off voltage	10.0V	
6	Standard charge current	20.0A	
7	Standard discharge current	50.0A	
8	Max. charge current	50.0A	
9	Max. discharge current	100.0A	
10	Factory Voltage	13.0±1V	60% About 60% of the shipped electricity
11	Battery weight	12.0±0.2KG	
12	Battery Resistance	<20mΩ	
13	Shell color	Black	
14	External Dimension of battery	329*172*214±2mm	
15	Protection level	IP54	
16	Storing Conditions	30 天	-5℃~45℃
		90 天	0℃~30℃
17	Cell	LiFeP04	
18	Series-parallel connection	4S1P	
19	Human Interface Specification	LCD, Bluetooth APP	
20	Terminal type		M8

## 3、Product sketch



#### 4、Absolute maximum rating

Parameter		Rating	Unit
Operating temperature range	charge	0 ~ 45	°C
	discharge	-20~60	°C
Operating humidity range		5 ~ 85	%RH
Storage humidity range		60±25	%RH
store temperature range		-20~45	°C
store temperature for a long time		20~25	°C

#### 5、Silk screen printing



6、Protection parameters:DL-R05A-F4S100ATJ

Details		Min.	Typ.	Max	Error	Unit
		同口				
Battery Gas		3.2V				
Battery Link		4S				
Loop capability		/				
Input Charging Voltage			14.6		±1%	V
Input Charging Current				≤50		A
Continuous Output Discharging Current ( )				≤100		A
Ambient Condition	Operating Temperature	-20	25	60		°C
	Humidity (No Water-Drop)	0%		90%		RH
Storage Condition	Temperature	-40		85		°C
	Humidity (No Water-Drop)	0%		90%		RH
<b>Protection Parameters (for Individual Cell)</b>						
Cell Over-Charge Voltage Protection (OVP)		3.70	3.75	3.80		V
Cell Over-Charge Voltage Protection Delay Time(OVPDT)		500	1000	1500		ms
Cell Over-Charge Voltage Protection Release (OVPR)		3.60	3.65	3.70		V
Overall voltage overcharge protection		14.8	15.0	15.2		V
Overall voltage overcharge protection delay		500	1000	1500		ms
Overall voltage overcharge protection release		14.4	14.6	14.8		V
Over-Current Charge Protection (OCCP)		140	150	160		A
Over-Current Charge Protection Delay Time (OCPDT)		500	1000	1500		ms
Over-Discharge Voltage Protection (UVP)		2.15	2.20	2.25		V
Over-Discharge Voltage Protection Delay Time(UVPDT)		500	1000	1500		ms
Over-Discharge Voltage Protection Release (UVPR)		2.25	2.30	2.35		V
Overall voltage over-discharge protection		8.6	8.8	9.0		V
Overall voltage over-discharge protection delay		500	1000	1500		ms
Overall voltage over-discharge protection release		9.0	9.2	9.4		V
Over-Current Discharge alarm (OCDP)		115	120	125		A
Over-Current alarm Delay Time (OCPDT)		500	1000	1500		mS
Over-Current Discharge Protection (OCDP)		140	150	160		A
Over-Current Protection Delay Time (OCPDT)		500	1000	1500		mS
Over-Discharge Protection Release		Charge to reach the recovery voltage				
Over-Current Discharge Protection Release		Release load				

<b>Short circuit current protection</b>	In theory, considering the short-circuit current of thousands of amperes, it is not recommended for customers to conduct short-circuit tests to avoid danger				
<b>Short circuit current protection delay time</b>	<b>10</b>	<b>250</b>	<b>500</b>		<b>uS</b>
<b>Short circuit protection Release</b>	<b>Release load</b>				
<b>Discharging Temperature Protection</b>	<b>-20</b>		<b>70</b>	<b>±5</b>	<b>°C</b>
<b>Discharging Temperature Protection Release</b>	<b>-10</b>		<b>65</b>	<b>±5</b>	<b>°C</b>
<b>Charging Temperature Protection</b>	<b>-10</b>		<b>65</b>	<b>±5</b>	<b>°C</b>
<b>Charging Temperature Protection Release</b>	<b>-5</b>		<b>60</b>	<b>±5</b>	<b>°C</b>
<b>Discharging Protection Temperature</b>			<b>/</b>	<b>±5</b>	<b>°C</b>
<b>Discharging Temperature Protection Release</b>			<b>/</b>	<b>±15</b>	<b>°C</b>
<b>Cell balance</b>					
<b>Bleed StartPoint</b>		<b>3.2</b>		<b>±50mV</b>	<b>V</b>
<b>Bleed Current</b>		<b>30</b>		<b>±10mA</b>	<b>mA</b>
<b>Balance Mode</b>					
<b>Self-consumption current during operation</b>			<b>≤50</b>		<b>mA</b>
<b>Self-consumption current in sleep mode</b>			<b>≤800</b>		<b>uA</b>
<b>Main loop electrify resistance MOS-R<sub>DS</sub></b>			<b>≤20</b>		<b>mΩ</b>
<b>Human Interface Specification</b>	<b>LCD, Bluetooth APP</b>				
<b>PCBA Size</b>	<b>166 (±2) ×65 (±2) ×&lt;24</b>				<b>mm</b>

## 7 Test conditions, methods and electrical properties

### 7.1 Test conditions

7.1.1,  $25 \pm 2^\circ\text{C}$ 、 $60\% \pm 25\% \text{RH}$ 、 $86 \text{kPa} \sim 106 \text{kPa}$ 。

All the tests were carried out at temperatures of  $25 \pm 2^\circ\text{C}$ , relative humidity of  $60\% \pm 25\% \text{RH}$  and atmospheric pressure of  $86 \text{kPa} \sim 106 \text{kPa}$ , except for special designation.

### 7.2 Standard charging of battery pack.

。 The battery pack is charged with a DC regulated power supply or charger in a constant current and constant voltage mode with a maximum voltage of  $14.6\text{V}$  and a maximum voltage of  $0.2\text{C}$  until the current is reduced to  $2\text{A}$ .

### 7.3 Standard discharging of battery pack.

$10.0\text{V}$ 。 After according to (7.2) methods charging, using  $0.5\text{C}$  discharging battery over-discharging protection  $10.0\text{V}$ 。

### 7.4 capacity test of battery pack

。 After according to (7.2) methods charging, After according to (7.3) methods discharging, recording discharge capacity,  $\text{capacity (AH)} = \text{current (0.5C)} \times \text{time of discharge (hour)}$

### 7.5 electro chemistry performance

Test items	test methods	technical requirements
Normal temperature discharge capacity	。 The battery pack is charged according to the standard of 7.2, then discharged according to 7.3 standard, and recording the discharge capacity of the battery.	$\geq 97\%$ nominal capacity
$-10^\circ\text{C}$ Discharge capacity	。 The battery pack is charged according to the standard of 7.2. It is shelved for 8 hours at the temperature of $-10 \pm 2^\circ\text{C}$ , and then discharged at 7.3 at this temperature to record the discharge capacity of the battery	$\geq 55\%$ nominal capacity
$40^\circ\text{C}$ Discharge capacity	The battery pack is charged according to the standard of 7.2. It is shelved for 8 hours at the temperature of $40 \pm 2^\circ\text{C}$ , and then discharged at 7.3 at this temperature to record the discharge capacity of the battery	$\geq 95\%$ nominal capacity
charge retention	The battery pack is charged according to the standard of 7.2. It is shelved for 28 days at the Normal temperature or shelved 7 days at the temperature of $55^\circ\text{C}$ and then discharged at 7.3 at this temperature to record the discharge capacity of the battery	$\geq 80\%$ Charge retention rate $\geq 80\%$



cycle life	The battery pack is charged according to the standard of 7.2. It is shelved for 10 mins, then discharge according to the standard of 7.3, in this cycle. Battery capacity is tested once every 25 cycles according to standard charging and discharging, and the test is stopped when the capacity is less than 70% of the rated capacity.	$\geq 3000$ times
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## 8、Packaging instructions

TBD

## 9、Instructions and Requirement

9.1. Please read the battery instructions and the label on its surface before use.

9.2. When in use, the battery shall be kept out of heat, high voltage and avoided children' s touching. Do not drop the battery.

9.3. Do not contact contactor together. Do not demolish or disassembly the battery by yourself. Do not put the battery in the damp place to avoid danger.

9.4. .Well disposed the disused battery. Do not put it into fire or water.

9.5. The battery should be stored at room temperature, charged to about 40%-60% of capacity. In case of over-discharge, battery should be charged for one time every 3 months while storing.

9.6. Battery should be stored in conditions specified. For storage higher than one year, performance are not guaranteed.

9.7. Battery must meet the corresponding requirements during transport, such as packaging, documentation, labeling requirements

## 10、Free-responsibility declaration

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Before using the product, please read the product specifications, user manuals and precautions, understand the scope of usage and application of products; if the product usage errors, wrong or the input circuit is connected with the power supply, load function parameters and product specifications book mark the performance parameters such as inconsistent phenomenon is improper use and by the improper use of products, the load and the surrounding connecting parts are damaged, the company shall not bear any responsibility.

Any items not mentioned in this specification shall be decided by both parties.

。 The final explanation right belongs to Shenzhen Chaowei Renewable Energy Co.,Ltd..

## 11. Bluetooth APP download address



这个是谷歌商店的二维码，直接链接到谷歌商店

陈如锐 13:51



Browser Scan (Android)



Browser Scan (IOS)

Single Equipment

The device ID

- Device name Number has been added:0
- DL-ZL0
- DL12356

Bluetooth connection > DL-ZL0 Main interface >

SOC 77.3%

SumVolt 14.1V Current 0.0A remaining capacity 23.1Ah

Chg MOS Dischg MOS Balance

Max Voltage	Min Voltage	Average	Delta V	Cycles	power
3.551v	3.501v	3.525v	0.050v	0	0.0kw

Fault alarm :0

Device Status Active balance Preferences