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深圳天诚巨能科技有限公司
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Product Specification

Name：**Cd-Ni Battery**

Model: **F7000C**

Author:

Review:

Approval:

Date: 2021/06/08

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1、 APPLICATION

This specification governs the performance of the following Nickel-Cadmium Cylindrical cell and its stack-up battery。

Model ： F7000C

Cell Size ： D ($\phi 33.0^{-1.0} \times 90.0^{-2.0}$)

2、 DATA OF STACK UP BATTERIES

All data involves voltage and weight to stack-up battery are equal to the value of unit cell times the number of unit cell which consisted in the stack-up batteries

Example:

Stack-up battery consisting three unit cells

Nominal voltage of unit cell=1.2V

Nominal voltage of stack-up batteries=1.2V×3=3.6V

3、 RATINGS

Description	Unit	Specification		Conditions
Nominal Voltage/	V/Cell	1.2V		Unit cell
Nominal Capacity/	mAh	7000		Standard Charge/Discharge
Standard Charge/	mA	700(0.1C)		Ambient Temperature Ta= 20±5℃
	Hour	16		
Trickle Charge		(0.03C)~(0.05C)		Ta = 0~45℃
Standard discharge/	mA	1400(0.2C)		Ambient Temperature：Ta = 20±5℃ Humidity：Max ： 85%
Discharge Cut-off Voltage	V/Cell	1.0		
Operating temperature range	℃	0~45℃		Humidity：Max ： 85%
Storage Temperature	℃	-20~35℃	One year	Fully charged state、Humidity、Max.60%
		0~60℃	One week	Fully charged state、Humidity、Max.80%
Typical Weight/	g	Approx.170.0		

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4、 PERFORMANCE

Unless otherwise stated, tests should be done within one month of delivery under the following conditions：

Ambient Temperature T：20±5℃

Relative Humidity：65±20%

Test	Unit	Specification	Other Condition	Remarks
Capacity	mAh	7000	Standard Charge Discharge	Up to 3 cycles are allowed
Open Circuit Voltage(OCV)	V/Cell	≥1.25	Within l hour after standard Charge	
Internal Impedance	mΩ/Cell	≤15	Upon fully charge (l KHz)/	
High Rate Discharge(0.5C)/ 0.5C	minute	≥96	Standard Charge, l hour rest Before Discharge by 0.5C to 1.0 V/cell	up to 3 cycles are allowed
Overcharge		No leakage nor explosion	0.1C Charge14 days	
Charge Retention/	mAh	≥4550(65%)	Standard Charge, Storage：45℃ Ambient Temperature，Standard Discharge	
IEC Cycle Life/ IEC	Cycle	≥500	IEC61951-1(2003)7.4.1.1	(See Note)/
Leakage Test/		No leakage nor deformation	Fully charged at 0.5C for 2.5 hour stand for 14 days.	
Security Test/		No explosion，but l eakage or deformat ion is allowed	Charge the cell 0.1C 16hrs，Then≤100 mΩ Impedance short circuit for 1hour	Ambient Temperature：T=20±5℃

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Impact Resistance/		Change of voltage should be under 0.02V/ Cell Change of impedance should be under 5 m Ω / Cell	Charge the cell 0.1C 16hrs Then leave for 1~4hrs,check battery before/after dropped, H eight 50cm Wooden board (thickness 30mm) Direction not specified,3 times.	Ambient Temperature/： T=20±5℃
Vibration Resistance		Change of voltage should be under 0.02V/cell, Change of impedance should be under 5 milliohm/cell	Charge the battery 0.1C 16hrs, then leave for 24hrs,check Battery before/after vibration, Amplitude 1.5mm Vibration 3000 CPM, Any direction for 60mins.	Ambient Temperature： T=20±5℃

5、 CONFIGURATION,DIMENSIONS AND PACKINGS

Please refer to the attached drawing.

6、 EXTERNAL APPEARANCE

The cell/battery shall be free from cracks, scars, breakage, rust, discoloration, leakage nor deformation.

7、 CAUTION

1) Reverse charging is not acceptable.
2) Charge before use. The cells/batteries are delivered in an uncharged state.
3) Do not charge/discharge with more than our specified current./ 避免以高于指定的电流充放电
4) Do not short circuit the cell/battery Permanent damage to the cell/battery may result.
5) Do not incinerate or mutilate the cell/battery
6) Do not solder directly to the cell/battery.
7) The life expectancy may be reduced if the cell/battery is subjected adverse conditions like: extreme temperature, deep cycling, excessive overcharge/ over-discharge
8) Store the cell/battery uncharged in a cool dry place. Always discharge batteries before bulk storage or shipment
9)

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Notes：

1) Ambient Temperature
2) Approximate charge time from discharged state is for reference only.
3) We recommend cells or batteries are charged and discharged at least once every 6 months
4) IEC61951-1(2003)7.4.1.1 Cycle Life:

Cycle No.	Charge	Rest	Discharg
1	0.1C×16h	None	0.25C×2h20min
2-48	0.25C×3h10min	None	0.25C×2h20min
49	0.25C×3h10min	None	0.25C to 1.0V/ cell
50	0.1C×16h	1-4h	0.2C to 1.0V/ cell
Cycles l to 50 shall be repeated until the discharge duration on any 50th Cycle becomes less than 3 h			

8、 Other

Manufacturer reserves the right to alter or amend the design， model and specification without prior notice.