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TECHNICAL SPECIFICATION

Lithium Thionyl Chloride Battery

Model：ER18505M

Established date: 10 October ,2023

	Position	Signature
Draft	Product Engineer	
Checked	Technical Manager	
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Customer signature
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Version Record

Version	Reviser	Established Date	Version	Revise page	Revised reason
0	Liu Shaoping	2021.10.09	A/0	all	Release
1	Liu Shaoping	2022.07.06	A/1	Page 1 Page 8	Increase customer return Add 10.1 Important tips
2	Liu Shaoping	2023.04.25	A2	all	Modify The Logo, Change the file number
3	Liu Shaoping	2023.10.09	A3	all	Add the word confidential to the footer

1. Scope

The document applies to ER18505M battery supplied by WUHAN FANSO TECHNOLOGY CO.,LTD. Specify quality, test method, performance, quality assurance and matters need attention.

2. Battery type

Lithium Thionyl Chloride-Spiral type

3. Battery system characteristics

Table 1 General characteristics

No.	Item	Characteristic	Remarks
1	Nominal Voltage	3.6V	
2	Nominal Capacity	3500mAh	23±3℃,5mA,2.0V cut off
3	Max. constant current	800mA	
4	Max. pulse discharge current	1200mA	
5	Operate temperature	-55~80℃	Operation under higher temperature than ambient temperature may lead to reduced capacity and lower voltage reading at the beginning of pulses. If continuous high temperature over +40℃ or low temperature down to -20℃ usage conditions, please consult FANSO.
6	Dimension	Φ18.5*50.5	See Product Fig
7	Weight	About 30g	
8	Annual self-discharge rate	⩽2%	At 23±3℃ and humidity 65±10% RH long time storage

4. Appearance and structure

4.1 Appearance

Cell appearance, no scratch, swelling, deformation, corrosion, electrolyte leakage and other defects.

4.2 Mark and label

4.2.1 Mark

The battery label contains the following: model, type, company name, voltage, positive and negative mark, safety warning content, certificaiton mark, no littering sign.

4.2.2 Manufacture date

MM/YY print on battery sleeve.

eg：MM/YY：MM-month, YY- year.

5. Typical electrical performances

Table 2

Item	Test condition	Initial Values
Open Circuit Voltage	23±3°C,by three and half digital meter	⩾3.64V
Capacity 1	23±3°C,400mA/8.2Ω,2.0V cut off, anode upward	2100mAh/5.25h
Capacity 2	23±3°C,100mA/33Ω,2.0Vcut off, anode upward	2700mAh/27h
Load voltage	23±3°C,33Ω,10seconds, by three and half digital meter	⩾3.25V

6. Inspection items, order, sampling method and capacity judgment basis

6.1 Incoming inspection

As for the customer's incoming inspection, FANSO recommended sampling according to GB2828.1-2012 standard.

Table 3 Acceptability quality level

No	Item	Technical request	Check level	AQL
1	Dimension	2-6	S-2	0.65
2	Appearance	2-8	Ⅱ	1.0
3	Open circuit voltage	3-1	Ⅱ	0.4
4	Load voltage	3-1	Ⅱ	0.4

Table 4 Sampling amount

Lot size	Sampling amount
≤3200	32
3200~10000	50
＞10000	80

Note:Unless other specified, the above items should be tested within 45 days since receipt of the battery.

6.2 Capacity judgment

6.2.1 If the average capacity is not less than the standard value specified in Table 2, and no battery below 90% of the value, the battery capacity is qualified.

6.2.2 If the average capacity is lower than the standard value specified in Table 2, and some battery below 90% of the value, do re-sample test, If the average capacity is not less than the standard value specified in Table 2, and no battery below 90% of the value, the battery capacity is qualified.

6.2.3 if the average capacity is lower than the standard value specified in Table 2 and some battery

below 90% of the value during the second test, the battery capacity is unqualified.

7. Safety terms

7.1 Before use, do not remove the battery from the original packaging.

7.2 Do not scattered placed the battery together in order to avoid accidental short circuit.

7.3 Do not heat the battery above 85℃ or incinerated.

7.4 Do not recharge the battery.

7.5 Do not mixed with different brand, model or type batteries.

7.6 Do not mix the new and used batteries.

7.7 Do not disassembly or open battery.

7.8 Do not short circuit the battery or reversely contact the positive and negative terminals.

7.9 Do not solder on the battery surface.

7.10 Do not test environment and safety under extrusion without any protection.

7.11 Do not use or store batteries under wet conditions without protection.

7.12 Batteries are not allowed to be used excessively in the equipment without setting the cut-off voltage. After reaching the cut-off voltage, it should be removed from the equipment immediately to stop working.

7.13 Stop using if the battery is found to have heat, odor, discoloration, deformation, or other abnormalities during using or storage.

7.14 Batteries used should be handled in accordance with local environmental regulations and buried deep underground or into brine.

7.15 If the liquid is splashed on the skin, eyes and clothes, rinse immediately with plenty of water, and then seek medical care immediately.

8. Storage

8.1 Batteries should be used and stored away from static electricity

8.2 Batteries shall be stored not exceeding 30 DEG C and relative humidity of 45% - 75%.

8.3 Keep the battery away from the heat source, away from corrosive gas, avoid direct sunlight, and make sure the storage area is clean, cool, dry and ventilated.

8.4 The battery packing carton height shall not exceed 1.5 meters, and the wooden box shall not exceed 3 meters.

8.5 Batteries should keep the original storage state when not using, after removing the packaging, the battery should not be piled up irregularly.

9. Transportation

9.1 Battery meets the tests and criteria requirements of UN Manual, Part III, subsection 38.3.

9.2 Batteries should be protected against sunlight, fire, rain, immersion, and corrosive substances in transportation.

9.3 Handling and loading should be with care.

9.4 For long transportation, such as shipping, should be kept away from the engine. And in summer should not be prolonged in an airless environment.

10. Effective

10.1 The batteries are warranted to conform to the description contained in this specification for a period of twelve [12] months from the ex-factory date without use (after 3 months storage, FANSO recommend to active the battery, more details please consult FANSO), any claim by customer (apparatus manufacturer or distributor) must be pointed out within such period. During that warranty period, if the batteries are proved to become defective under proper stored and handled, FANSO will

replace the batteries for free.

10.2 In practical applications, customer should be responsible for the compatibility and reliability of the battery and the device.

10.3 In any of the following circumstances, FANSO will not take any responsibility: the client’s fails of appropriate treatment, operation, installation, testing, maintenance and inspection of the battery, or do not follow the instructions provided in the specification, notes, terms, and other FANSO instructions.

10.4 This specification is accepted after 6 months from the date of issues if not be refunded.

11. Statement

If you have any questions on the product specifications, please contact with Wuhan Fanso Technology Co. ltd. Fanso reserves the right to amend the product specification.

12. Battery dimension