LiNiCoMn02 Battery

Specification

MODEL: INM3.7-60E2(3.7V6Ah)

Prepared By/Date	Checked By/Date	Approved By/Date

Customer Approval	Signature/Date
	Company Name
	Company Stamp

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Amendment Records				
Edition	Description	Prepared by	Approved by	Date
A	First Edition	nancy		

15 Scope

This specification is applied to the LiNiC0Mn02 battery pack without communication port.

16 Specification

No.	Item	General Parameter	Remark
1	Rated Capacity	6.0Ah	Standard discharge (0.2C) after standard charge (0.2C)
2	Minimal Capacity	5.9Ah	
3	Nominal Voltage	3.7V	
4	Life Expectation	Residual capacity is more than 60% of the rated capacity	10 Charge: CC@0.2C to 4.2V, then CV till current to 0.05 C 11 Rest: 30min. 12 Discharge: 0.2C to 10.0V Temperature:20±S·C Carry out 400 cycles
5	Discharge cut-off voltage	3.0V/cell	3.0V recommended
6	Charging cut-off voltage	4.2V/cell	4.2V recommended
7	Assembly method	INP105590EC-6AH	1S1P
8	Housing material	PVC	
9	Standard charge	0.2C constant current (CC) charge to 4.2V,then constant voltage (CV) 4.2V charge till charge current decline to :s0.05C	Charge time : Approx 6.0h

1)	Standard discharge	Constant current 0.2C Cut-off voltage 3.0V	
2)	Maximum Charge Current	3A@20°C	
12	Maximum Continuous Discharge Current	3A@20°C	
13	Operation Temperature Range	Charge: 0°c - 45°c Discharge: -10- 60°C	60±25%R.H.
14	Storage Temperature Range	Less than 1 year: 0- 25 c Less than 3 months:-5- 35°C	60±25 %R.H. at the shipment state
1.	App rox. Weight	130g	
		Height: 10 mm (with PCM)	
2.	Dimensions	Width: 56mm	
		Length: 93 mm	
3.	Short Circuit Protection	Recover after charging	

17 Performance And Test Conditions

- Standard Test Conditions

  Test should be conducted with new batteries within one week after shipment from our factory and the batteries shall not be cycled more than five times before the test. Unless otherwise specified, test and measurement shall be done under temperature of 20 ± 5?c and relative humidity of 45- 85%. If it is judged that the test results a r e not affected by such conditions, the tests may be conducted at temperature 15- 30 and humidity 25-85%RH.

- Measuring Instrument or Apparatus
  - Dimension Measuring Instrument

    The dimension measurement shall be implemented by instruments with equal or more precision scale of 0.01mm.

  - Voltmeter

    Standard class specified in the national standard or more sensitive class having inner impedance more than 1OkON

  - Ammeter

    Standard class specified in the national standard or more sensitive class. Total external resistance including ammeter and wire is less than 0.010.

  - Impedance Meter

    Impedance shall be measured by a sinusoidal alternating current method (1kHz LCR meter).

- Standard Charge/Discharge
  - Standard Charge : 0.2C

    Charging at 0.2C constant current until the battery reaches 4.2V. The battery shall then be charged at constant voltage of 4.2V while tapering the charge current. Charging shall be terminated when the current has tapered to 0.05C. Charge time is approx 7.0 hours, The battery shall demonstrate no permanent degradation when charged between O°C and 55°C.

  - Standard Discharge : 0.2C

    Battery shall be discharged at a constant current of 0.2C to 3.0V@ 20 ± 5

  - If no otherwise specified, the rest time between charging and discharging is 30min.

- Appearance

  There shall be no such defect as crack, rust, leakage, which may adversely affect commercial value of battery.

18 Handling of battery

- Prohibition short circuit

Never short ccircuit battery. It generates very high current which causes heating of the battery and may cause electrolyte leakage , gassing or explosion that is very dangerous.
The terminals may be easily short-circuited by putting them on conductive surface.
Such outer short circuit may lead to heat generation and damage of the battery.

4.2.Mechanical shock

Falling, hitting, bending, etc. may cause degradation of battery characteristics.

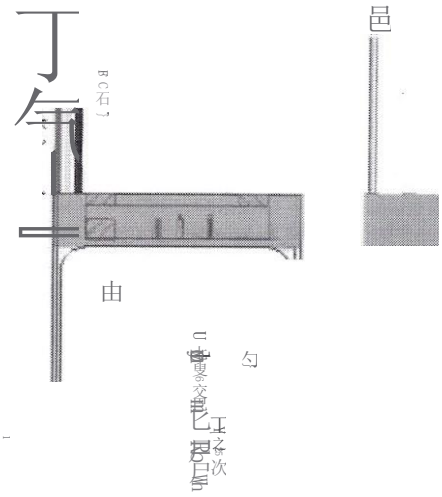
19 Period of Warranty

The period of warranty is 24 months from the date of shipment. **Huarui Xinchuang** guarantees to give a replacement in case of battery with defects proven due to manufacturing process instead of the customer abuse and misuse.

20 Storing the Batteries

The batteries should be stored at room temperature, charged to about 30% to 50% of capacity. We recommend that battery to be charged once each three months to prevent over-discharge.

21 Drawing



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22 Any other item which is not covered in this specification shall be agreed by both parties.

23 PCM Specification

No.		Test item	Criterion
1	Voltage	Charging voltage	DC4 2V CC/CV
		Balance voltage for single cell	N/A
2	Current	Balance current for single cell	NI A
		Current consumption for single cell	Max:10μA
		Maximal continuous Discharging current	3A
3	Over charge Protection	Over charge detection voltage	4.30±0.05V
		Over charge detection delay time	0.96S—1.4S
		Over charge release voltage	4.1±0.05V
4	Over discharge protection	Over discharge detection voltage	2.40±0.1V
		Over discharge detection delay time	115mS—173mS
		Over discharge release voltage	3.0±0.1V
5	Over current protection	Over current detection voltage	0.15±0.03V
		Over current detection current	4.5± A
		Detection delay time	7.2ms- 11ms
		Release condition	Cut load
6	Short protection	Detection condition	Exterior short circuit
		Detection delay time	200-500us
		Release condition	Cut load
7	Resistance	Protection Circuitry	50m0
8	Temperature	Operating Temperature Range	-40 +85"C
		Storage Temperature Range	-40- +125·c

2(T)*4.5(W)*40(L)

size :L 28 *W 5m m