Customer:

PN：02340034

Lithium Battery Specification

MODEL: INB14.4-35-d-E2-18650-02

(14.4V3.5Ah)**Specifications**

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
A0	First Edition			

Material Code	Material Name	Specifications	Remark

1.Scope

This specification is applied to the LiFePO4 battery pack manufactured by **Huarui Xinchuang** Technology Co., Ltd.

2. Product Specification

Table 1

No.	Item	General Parameter	Remark
1	Rated Capacity	3.5Ah	Standard discharge（0.2C）after standard charge（0.2C）
2	Minimal Rated Capacity	3.3Ah	
3	Nominal Voltage	14.4V	
4	Life Exception	Higher than 80% .of the Initial	◆Charge:CC@0.2C to 14.6V, then CV till current to 0.02C ◆Rest: 30min. ◆Discharge: 0.2C to10.0V ◆Temperature:20±5℃ ◆Carry out 2000cycles
5	Discharge cut-off voltage	3.0V/Cell	12.0V (recommended)
6	Charging cut-off voltage	4.2V/Cell	16.8V (recommended)
7	Cell and assembly method	SAMSUNG INR18650-3.5AH	4S1P
8	Housing material	Blue PVC	

Continuous the table 1

No.	Item	General Parameter	Remark
9	Standard charge	0.2C constant current(CC) charge to14.6Vthen constant voltage (CV)14.6V charge till charge current decline to ≤0.02C	Charge time : Approx 7h
10	Standard discharge	Constant current 0.2C Cut-off voltage10.0V	
11	Maximum Charge Current	4A@20℃	
12	Maximum Continuous Discharge Current	4A@20℃	
13	Operation Temperature Range	Charge: 0～45℃	60±25%R.H. 23 ± 5°C
		Discharge: -20～60℃（cell surface temperature≤80℃）	
14	Storage Temperature Range	Less than 1 year : 0～25℃	60±25%R.H. at the shipment state
		Less than 3 months:-5～35℃	
15	Weight	Approx: 0.2Kg	
16	Internal resistance	≤50mΩ@50%SOC	
17	Dimension	Length：MAX70mm	
		Width：MAX40mm	
		Thickness：MAX40mm	
18	Lead way	UL1007 22AWG 150±5mm	

3. Performance And Test Conditions

3.1 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℃ and relative humidity of 45~85%. If it is judged that the test results are not affected by such conditions, the tests may be conducted at temperature 15~30℃ and humidity 25~85%RH.

3.2 Measuring Instrument or Apparatus

3.2.1 Dimension Measuring Instrument

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

3.2.2 Voltmeter

Standard class specified in the national standard or more sensitive class having inner impedance more than 10kΩ/V

3.2.3 Ammeter

Standard class specified in the national standard or more sensitive class. Total external resistance including
ammeter and wire is less than 0.01Ω.

3.2.4 Impedance Meter

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

3.3 Standard Charge/Discharge

3.3.1 Standard Charge : 0.2C

Charging shall consist of charging at a 0.2C constant current rate until the battery reaches 14.6V. The battery shall then be charged at constant voltage of 14.6volts while tapering the charge current. Charging shall be terminated when the charging current has tapered to 0.02C. Charge time: Approx 7.0h, The battery shall demonstrate no permanent degradation when charged between 0 ºC and 45 ºC.

3.3.2 Standard Discharge : 0.2C

Battery shall be discharged at a constant current of 0.2C to10.0V @ 20º ± 5C

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

3.4 Appearance

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

4. Handling of battery

4.1 Prohibition short circuit

Never short circuit 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 poles 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.

An appropriate circuitry with PCM shall be employed to protect accidental short circuit of the battery pack.

4.2.Mechanical shock

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

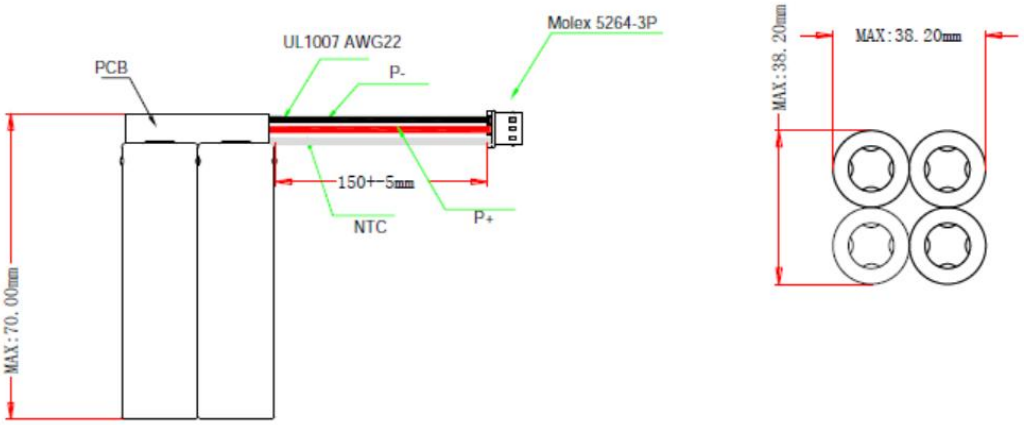
5. Period of Warranty

The period of warranty is18months 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.

6. Storing the Batteries

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

7. Photo:



8.Specification of PCM

9. Any other items which are not covered in this specification shall be agreed by both parties.