



PRODUCT SPECIFICATION

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GEB-20150320
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PRODUCT SPECIFICATION

PRODUCT: Lithium ion Battery Pack

MODEL: 11.1V8.8Ah(18650)

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1. Preface

This specification describes the type and size, performance, technical characteristics, warning and caution of the GEB-11.1V/8.8Ah Li ion rechargeable pack. The specification only applies to GEB-11.1V/8.8Ah Li ion pack supplied by GEB GENERAL ELECTRONICS BATTERY CO., LTD

2. BATTERY TYPE AND SIZE

2.1 Pack Type and Specification

GEB Manufacturer 11.1V/8.8Ah Battery pack specification Voltage/Capacity

2.2 Battery Pack Dimension

The material of the battery pack is PVC .Size: 85 *60*70 (mm)

Output wire specification

Positive output wire	Red one wire with 14AWG	Length: 25cm
Negative output wire	Black one wire with 14AWG	Length: 25cm

3. Battery Pack Specification

ITEM	SPECIFICATION
Pack assembled mode	4P3S-18650
Typical Capacity	8.9Ah(0.2C, 25°C)
Minimum Capacity	8.8Ah(0.2C, 25°C)
Nominal Voltage	11.1 V
Charging Ending Voltage	12.6±0.1 V
Discharge Ending Voltage	9.0±0.1 V
Standard Cont.Charging Current	2.0A
Fast Cont.Charging Current	3.0A
Standard Cont.Discharge Current	1.0A
Fast Cont.Discharge Current	1.5A
Peak Current	3A (<1S)
Internal Resistance	<100mΩ
Weight	0.7±0.1kg



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4. PCM Electrical Characteristics

TYPE	FUNCTION	ITEM	PARAMETER	ACCURACY
BATTERY	Chemical system	Lithium ion		
	Capacity	8.8Ah		
	Working voltage	11.1V		
	Series number	3		
The function of the PCM	Overcharge protection	Over charge voltage	4.3	±50(mV)
		Output delay of overcharge	1000	±100(mS)
		Over charge release voltage	4.2	±50(mV)
	Over discharge protection	Over discharge voltage	2.75	±50(mV)
		Output delay of over discharge	200	±50(mS)
		Over discharge release voltage	3.3	±50(mV)
	Over current protection	Over current protection	2	±0.5(A)
		Output delay of over discharge-current protection	150	±10(mS)
		Qualification of release from over current protection	Cut off load	
	Short circuit protection	Short circuit protection current	3	±0.5(A)
		Output delay of short protection	15	±5 (uS)
		Qualification of release from short protection	Cut off load	
	Temperature protection	Temperature protection (°C)	65	±2(°C)
		TemperatureProtection Release (°C)	55	±2(°C)
	Main circuit resistance	Main circuit resistance (mΩ)	<20	
	Current Consumption	Current Consumption (mA)	<20mA/cell	

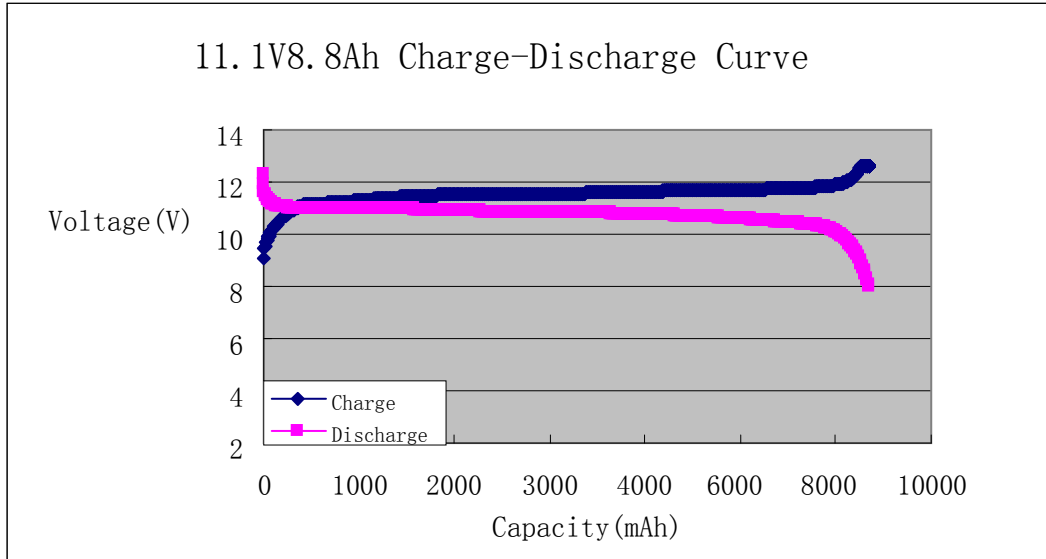


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5. Test

5.1 Battery Charge/Discharge Curve



5.2 Vibration test

Pack installed onto the vibration desk with clamps. Equipment parameters are as follows:

a: direction: up and down single vibration

b: frequency: 10~55Hz

c: max acceleration: 30m/s^2

d: amplitude: 0.38mm

e: time: 10min.

During the test, Nickel film without shedding, no scratch, the voltage is OK.
the voltage is OK.

5.3 Drop test

Packs dropped from a height of 0.5 meter to cement ground, packs shall be dropped in each of three mutually perpendicular directions. Total drop times are 6. After that, Nickel film without shedding, no scratch, the voltage is OK.

6. Usgae methods and Cautions

6.1 Usgae methods

1. Charge: Connecting the battery pack to the charge controller, connect the charger to recharge.

2. Discharge: Connecting the battery pack to the load, connect the load to discharge.

3. When you combine the battery with series or parallels, if there are oxidation layer on the surface, you should brush surface to the metal glow with thin steel brush to lower the connective resistance to the minimal resistance.

4. When combining with many batteries, if the voltage between the two electrodes is over 36V, the safe voltage for human beings, to guarantee the safety, you should not touch the two electrodes with your body.

6.2 Cautions

1. If shelve a long time suggested that the battery voltage 9.0V-10V, need for regular recharging (even if not use), must charge and discharge for three months one time;

2. Do not expose the battery to extreme heat or flame.



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3. Do not short circuit, over-charge or over-discharge the battery pack;
4. Do not disassemble or modify the battery pack.
5. Do not handle or store with metallic like necklaces, coins or hairpins, etc.
6. Do not reverse the polarity of the battery pack for any reason.
7. Do not immerse the battery pack in water or sea water, or get it wet.
8. Use a constant current, constant voltage (CC/CV) lithium-ion (Li+) battery charge controller.

7.Warranty Period& Product Liability

Warranty period begins from the delivery date, and is exclusively continued 6 months.

GEB is not responsible for the incident caused by not obeying the specifications.

When the specification is modified, GEB does not inform the customer.

Before using the battery, you should read the specifications,usage instruction and some attentions carefully to learn its application method and areas. If the phenomenon such as error using method or wrong circuit connection, or input power data,working index are inconsisted with the specifications happen and cause damage to production, circuit and its accessories, we are not responsible for it.

Special cautions

Due to the voltage between two electrodes over the safe voltage of human beings, nobody should touch the two electrodes by his body in case of his safety. During using the battery, you need insulate the two electrode terminals and also the part outside the metal conductor, in order to prevent the short-circuit incident. You should do the related safety-prevention work well.

