



## Spec. of Charger

Customer		Product	Lithium Battery Charger
Model No.	BQ-275W55V/54.6V5A (high PF)	Product No.	BQ-54.6V5A-001 (high PF)

### Updating History

Version	Date	Before update	After Update	Reason for update
V1.0	Aug 5, 2019			



Shanghai Boquan Electronic Technology Co., Ltd

Tel: 021-69587686, 69589737 Fax: 021-69589733

Add: Rm201-216, Bldg. #7, No.787 Kangqiao Rd, Pudong, Shanghai, China 201315

Please sign back this spec. before manufacturing, or it will be deemed all the content has been confirmed by the buyer.

Prepared By	Xiang Ziwen	Checked By	Xiang Ziwen	Approved By	Jiang Tian
-------------	-------------	------------	-------------	-------------	------------

## Contents

### **1. Input characteristics**

- 1.1 Rated input voltage
- 1.2 Input voltage range
- 1.3 Input frequency range
- 1.4 Efficiency
- 1.5 No-load power
- 1.6 No-load input current
- 1.7 Power Factor

### **2. Characteristics of light output and charging functionality instructions**

- 2.1 Rated output voltage
- 2.2 Output current
- 2.3 Output Voltage Range
- 2.4 Output voltage ripple and noise
- 2.5 Minimum battery charge voltage
- 2.6 The highest voltage to maintain constant-current charge
- 2.7 Constant-current charge
- 2.8 Light conversion -red light turnto green
- 2.9 Light conversion - green light to red light

### **3. Features**

- 3.1 Over-current protection
- 3.2 Short-circuit protection
- 3.3 Anti-intrusion protection
- 3.4 Internal temperature protection

### **4. Environmental characteristics**

- 4.1 Dielectric Strength (Pressure)
- 4.2 Insulation Resistance
- 4.3 Safety requirements
- 4.4 Temperature
- 4.5 Humidity

## **5. Mechanical properties**

- 5.1 Shell Size
- 5.2 AC input socket
- 5.3 DC output line
- 5.4 Color

## **6. The specifications of the iutput AC line**

## **7. Finished map products**

## **8. The specifications of the output DC line**

## **9. Label**

## **10. Manual**

## Electrical performance requirements

### 1. Input characteristics

Serial number	Conditions	Specifications
1.1 Rated input voltage	Continuously	110/220V
1.2 Input voltage range	Continuously	100Vac -300Vac
1.3 Input frequency range	Continuously	47Hz -63Hz
1.4 Efficiency	Vin 110Vac/Vout 1.8A Vin 220Vac/Vout 1.8A	$\geq 80\%$
1.5 No-load power	Vin 220Vac/Vout 0A	$\leq 3W$
1.6 No-load input current	Vin 220Vac/Vout 0A	$\leq 65 \text{ mA}$
1.7 Power Factor	100/240Vac/Out 1.8A	$\geq 0.8$

### 2. Output and charge characteristics, functional lights instructions

Serial number	Conditions	Specifications
2.1 Rated output voltage	$(4.2 \pm 0.02) \times N \text{ V}$	54.6V
2.2 Output current	constant voltage mode	$5A \pm 0.5A$
2.3 Output Voltage Range	at the output end of DC cable	$54.4V \leq V_o \leq 54.8V$
2.4 Output voltage Ripple and Noise:(0.1uF Ceramic Cap and 50 V 10uF Aluminum Cap.Paralleled between the end of output cable,BW=20MHz)	Vin 110Vac/Vout 1.8A Vin 220Vac/Vout 1.8A	$\leq 500\text{mVp-p}$

<p>2.5 Minimum battery charge voltage</p>	<p>Battery discharge in a long time after the arrival of an automatic protection that will shut down output, the point is the minimum charge voltage point</p>	<p>27±2V</p>
<p>2.6 The highest voltage to maintain constant-current charge</p>	<p>By the constant current into the battery when the voltage at constant pressure, usually by the charge compensation and the relevant specifications of the output line</p>	<p>≥53.3V</p>
<p>2.7 Constant-current charge</p>	<p>Battery charging voltage to the minimum to the maximum voltage between the constant-current charge, the charge current to meet the requirements of current customers range called the constant-current charge.</p>	<p>27±2V to 29V ±2V at 500mA ± 300mA, 29V ± 2V maximum voltage to constant current 5A ± 0.5A</p>
<p>2.8 Light conversion - red light turn to green</p>	<p>Red light to green light shows battery has been fully charged, such light shows battery charging state directly.</p>	<p>300mA±200mA</p>
<p>2.9 Light conversion - green light to red light</p>	<p>Intuitively reflect the state of charge.</p>	<p>500mA±300mA</p>

### 3. Features

Serial number	Conditions	Specifications
<p>3.1 Over-current protection</p>	<p>When internal or external charger failure, such as short circuit or overload, charger will stop working until failures removed.</p>	<p>Protection without damage.</p>



## Electrical Specification

3.2 Short-circuit protection	When the positive and negative short-circuit, charger will protect and no charger output and input power $\leq 5W$ . Charger rework after failure removed.	Protection, without damage.
3.3 Anti-intrusion	When charge saturation, unplug the power cord but battery charger is still connected, battery energy will not flow backward into charger.	No intrusion
3.4 Internal temperature protection	Charger in the process of charging, the charger internal temperature, the temperature exceeds the set value, the temperature of the charger will turn off the charge current protection, stop charging.	Internal temperature protection $80\pm 2^{\circ}\text{C}$

### 4. Enviromental Features

Serial number	Conditions	Specifications
4.1 Dielectric Strength:(pressure-resistance)	Between AC input and secondary applied AC 1.5kV, 1 minute test time, and cut off current shall be less than 10 mA.AC 3.75kV, test time 3 Sec.for mass production.	(No fire, arc gap, super-leak)
4.2 (Insulation Resistance)	Between AC input and secondary applied 500Vdc, 1 minute test time. 500Vdc, test time 3 Sec.for mass production.	$\geq 20M\Omega$
4.3 Safety requirements	As per customers' requirements	
4.4 Temperature	Operation Storage	$0^{\circ}\text{C}$ to $+55^{\circ}\text{C}$ $-40^{\circ}\text{C}$ to $+60^{\circ}\text{C}$
4.5 Humidity	Operation Storage	20% ~85% 10%~95%

## 5. Mechanical properties

Serial number	Conditions	Specifications
5.1 Shell Size (Length x width x Height)	Overall dimensions	190*90*50mm
5.2 AC input socket		
5.3 DC output line		(2*0.75mm <sup>2</sup> )
5.4 Color		
SHELL		Black
DC Line		Black

## 6. The specifications of the input AC line



## 7. Products photo



Note: Logo can be customized as per needs.

**8. The specifications of the output DC line**

Note: DC line will be different as per customers needs

**9. Label (ref)**

**CumSumI** LI-ION BATTERY CHARGER  
MODEL : BQ-54.6V5A- 001(high PF)  
INPUT : AC100-300V 50/60HZ  
OUTPUT: DC 54.6V 5A MADE IN CHINA



