



## Spec. of Charger

Customer		Product	36V12S LiFePo4 Lithium Battery Charger
Model No.	BQ-220W44V/44V3A	Product No.	BQ-43.8V5A-001

### Updating History

Version	Date	Before update	After Update	Reason for update
V1.0	May 31, 2019			
V2.0	June 8, 2020			



**SHANGHAI JINQUAN ELECTRONICS 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

### **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 Lowest Charging 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. Protection Features**

- 3.1 Over-current protection
- 3.2 Anti-intrusion protection
- 3.3 Turn off at fix time
- 3.4 Internal temperature protection

### **4. Environmental characteristics**

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

**5. Mechanical properties**

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

**6. Spec. of AC power cord****7. Products Photo****8. Spec. of DC power cord****9. Label**

## Electrical performance requirements

### 1. Input characteristics

Serial number	Conditions	Specifications
1.1 Rated input voltage	/	220V
1.2 Input voltage range	Continuously	AC 176 - 264V
1.3 Input frequency range	Continuously	47Hz -63Hz
1.4 Efficiency	Vin 176Vac/Vout 2.8A Vin 264Vac/Vout 2.8A	Min85%
1.5 No-load power	AC 220V/Out 0A	0W
1.6 No-load input current	AC 220V/Out 0A	$\leq 50$ mA

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

Serial number	Conditions	Specifications
2.1 Rated output voltage	DC 3.65V*12	DC 43.8V
2.2 Output current	constant voltage mode	5A $\pm$ 0.2A
2.3 Output Voltage Range	at the output end of DC cable	43.5V $\pm$ 0.3V
2.4 Output voltage Ripple and Noise:(0.1uF Ceramic Cap and 10uF Aluminum Cap.Paralleled between the end of output cable,BW=20MHz)	Vin 220Vac/Vout 2.8A	$\leq 500$ mVp-p
2.5 Lowest charging voltage	Battery discharge in a long time after the arrival of an automatic protection that will shut down output, the point is the lowest charging voltage point	22 $\pm$ 2 V



## Electrical Specification

2.6 The highest voltage to maintain constant-current charge	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	$\geq 42V$
2.7 Constant-current charge	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.	$22\pm 2V$ to $42\pm 0.5V$ , $5A \pm 0.2A$
2.8 Light conversion - red light turn to green	Red light to green light shows battery has been fully charged, such light shows battery charging state directly.	$500mA \pm 100mA$
2.9 Light conversion - green light to red light	Intuitively reflect the state of charge.	$600mA \pm 100mA$

### 3. Protection Features

Serial number	Conditions	Specifications
3.1 Over-current protection	When internal or external charger failure, such as short circuit or overload, charger will stop working until failures removed.	Protection without damage.
3.2 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
3.3 turn off at fix time	Maximum time from start to end of charging for charger, beyond which charger shuts off output	Turn off output after $12 \pm 0.5$ hours

3.4 Internal temperature protection

When the internal temperature of charger is above 80°C, the output stops, and when the internal temperature of the charger returns to 60°C, the normal charging continues.

Internal temperature protection 80±2°C, restart at temperature ≤60°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 2 Sec. for mass production.	No fire, no arc gap, no 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.	≥20MΩ
4.3 Temperature	Operation Storage	0°C to +55°C -40°C to +60°C
4.4 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	16.1cm*8.1cm*5.8cm (Ref)
5.2 color		Black
5.3 Shell		Black
5.4 DC output line		Black

## 6. Spec. of AC power cord (Ref)



Note: AC power cord can be supplied as per Customers requirement



## Electrical Specification

### 7. Products photo (Ref)



Note: Logo can be customized as per customers requirement.

### 8. Spec. of DC power cord (Ref)



Note: DC power cord can be supplied as per Customers requirement

### 9. Label

**CUMSUMI** LI-ION BATTERY CHARGER  
MODEL : BQ-43.8V5A-001  
INPUT : AC176-264V 50/60HZ  
OUTPUT: DC 43.8V 5.0A MADE IN CHINA