

Battery Charger

Product specification

Customer:

Product: Intelligent Charger

Series Name: SMHC3 (3.3KW)

Date: 2022-07-05

概述

1.Overview

SMHC3 series charger is designed by Dezhou Summit Power Co.,Ltd,which is specially designed for electric vehicle power batteries to supplement electric energy according to the national standard.The product not only has the advantage of high efficiency,small size,long life,etc.,the full sealed process has a protection level as high as IP67,can work safely under short-term immersion condition,high reliability,and complete protection functions,ideal power supply.The charger has a built-in thermal sensing device,which can work reliably under the condition of 40°C- +60°C; it has an overheat protection on function and can automatically recover.It can be guaranteed to work in any complex environment without causing failure.

2. Basic Parameter

Model	Rated Battery Voltage	Max Output Current	Max Output Current
SMHC3-4840A	48V	66V	40A
SMHC3-6040A	60V	82V	40A
SMHC3-7240A	72V	99V	40A
SMHC3-8440A	84V	116V	40A
SMHC3-9632A	96V	132V	32A
SMHC3-12025A	120V	165V	25A
SMHC3-14423A	144V	198V	23A
SMHC3-31210A	312V	440V	10A

3.Technical Parameter and characteristics

- ◆ Input Voltage:Input voltage is AC90V~AC264V.
- ◆ With APFC function,Power Factor(≥ 0.98):Ac input uses active power factor correction (APFC), less heat, less pollution to the power grid.
- ◆ Fully Sealed Charger: The charger adopts fully-enclosed potting and heatconducting silica gel technology, and the protection level can reach IP67. It has good shock resistance, good heat dissipation performance and long service life.
- ◆ High Reliability: Wide temperature range : -40°C—+60°C, 100% full load aging test, soft switching technology; Power device switching loss is small, the whole machine efficiency is high (maximum $\geq 93\%$), energy saving.
- ◆ High Safety : Waterproof, shock proof, acid fog proof, dust proof and enhanced isolation design, so that it can operate safely in harsh environments.

4.Charging Strategy

With CAN communication function, the charging strategy is controlled by BMS, as described in the CAN communication protocol between BMS and the charger. **5.**

Protection function

Protection	Function description
Reverse battery protection	When the battery is reversed, the charger has no output and will not damage the charger.
Short circuit protection	The charger automatically turns off the output when the output shorts out. After the fault is rectified, the battery can be recharged.
Output overcurrent protection	The output current of the charger is stable, and over current charging will not occur due to mains power or environmental changes
Over temperature protection	When the internal temperature of the charger exceeds the internal set value, the charging current will automatically decrease, and the charging will automatically resume when the temperature recovers
LED indicator	Provide LED indicator for charging process and fault display, better facilitate customers to use LED indicator

6.Reliability test

6.1 Insulation resistance

Test with a 1000V megohm meter for 60 seconds, and the insulation resistance between the input and output ends of the sample is not less than 50MΩ.

6.2 Withstand voltage test

(1) Ac 1500V (RMS) voltage is applied between the sample input and the enclosure for 60 seconds, and no abnormal phenomenon occurs. (2) Ac 1500V (RMS) voltage is applied between the sample input and the enclosure for 60 seconds, and no abnormal phenomenon occurs. (3) Ac 1500V (RMS) voltage is applied between the sample input and the enclosure for 60 seconds, and no abnormal phenomenon occurs.

6.3 High temperature aging test

The sample should be put into a constant temperature aging chamber at 40 ° C ±3 ° C under rated input voltage and full load. After working for 8 hours, it should work normally without mechanical damage or electrical failure.

6.4 Low pressure aging test

Sample input at 98VAC low voltage, at room temperature, full load for 8 hours, the sample machine works normally, no electrical failure.

6.5 High pressure aging test

The sample was input at a high voltage of 264VAC. After 8 hours of full load operation at room temperature, the sample machine worked normally without electrical failure.

6.6 Vibration test

According to GB/T 2423.10-1995 test. The tested sample shall be initially tested, and fixed on the vibration table according to the working position, and tested according to the requirements of sweep frequency vibration test under the condition of no power supply.

Sweep vibration test requirements

Frequency Range (Hz)	Displacement Amplitude (mm)	The number of scan cycles on each axis	Request
10 ~ 35 ~ 10	0.75	10	The sample is fixed on the vibration table according to the actual installation mode and vibrates in turn on three perpendicular axes
35 ~ 55 ~ 35	0.35	10	

Test and verify:1.The tested sample should be free of appearance and mechanical structural damage.

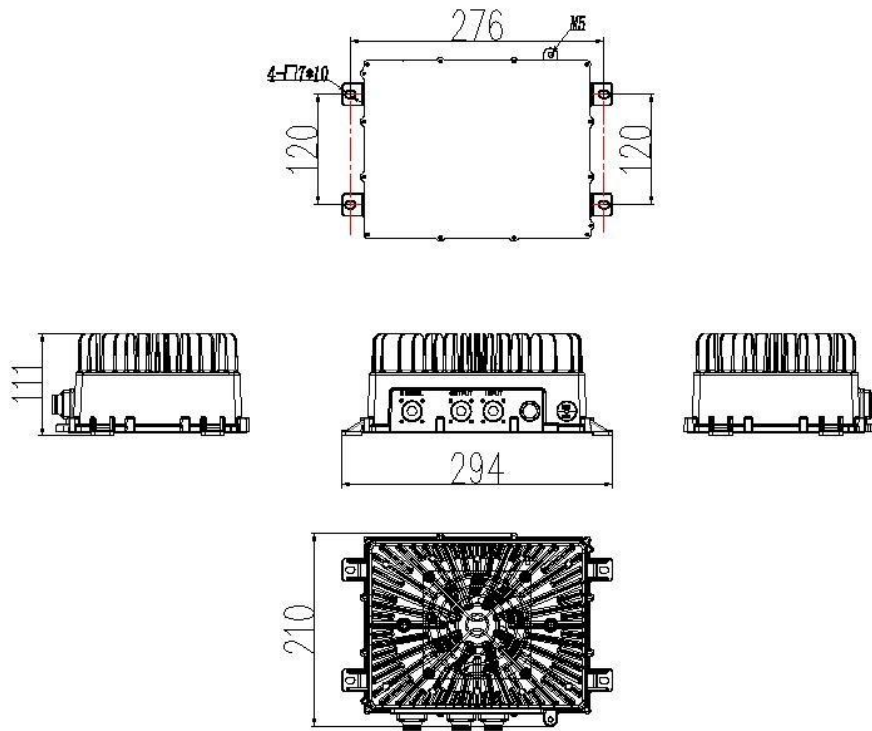
2.After power-on, the sample can work normally without electrical failure.

6.7 Drop Test

According to GB/T 2423.8-1995 drop test. Post-test inspection: 1.The tested sample should have no appearance and mechanical structure damage.

2.After power-on, the sample can work normally without electrical failure.

7. Shape and overall dimensions



8. Indicator status definition

(1) Alarm Free:

- | | |
|-------------------------|----------------------------|
| 1. Heating Condition : | The red light is steady on |
| 2. Charging State: | Blink Red lamp |
| 3. Wait for completion: | Steady Green Light |

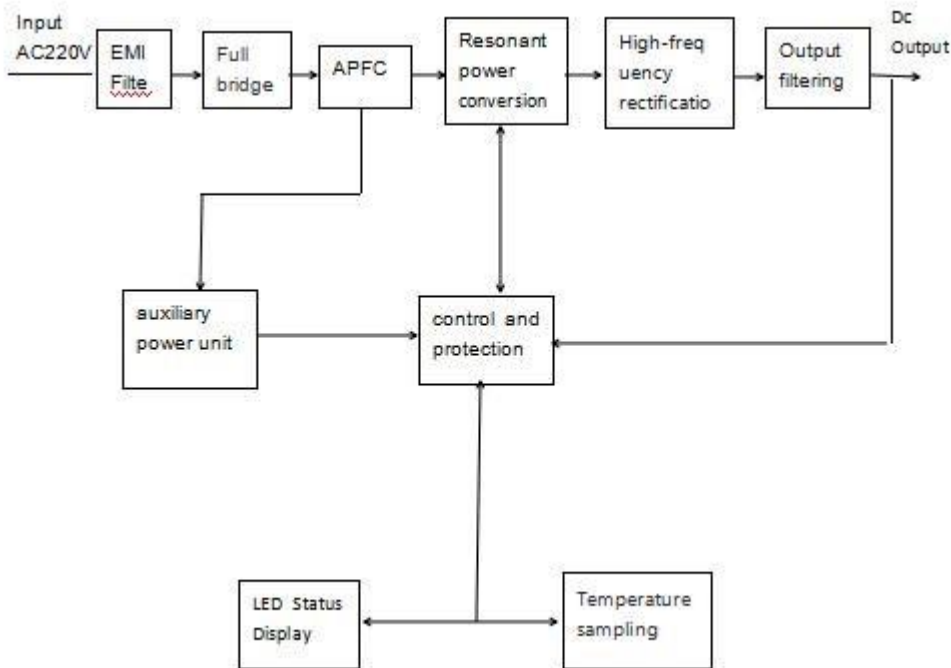
(2) Alarm:

1. The hardware or DC12V is faulty: Red、 Green、 __、 __、 __、 __
2. The DC bus voltage is faulty: Red、 Green、 Red、 Green、 __、 __
3. AC low or high protection: Red、 Green、 Red、 Green、 Red__
4. The battery is not connected: Red、 Green、 Red、 Green、 Red、 Green
5. Battery temperature protection: Green、 Red、 __、 __、 __、 __
6. CPU temperature or transformer temperature protection: Green、

Red、 Green、 __、 __、 __

7. Output short-circuit protection: Green、 Red、 Green、 Red、 __、 __

9. Functional Block Diagram



10. Attention

10.1 The machine is equipped with grounding, ensure good grounding when using, avoid the shell with induction electricity, to ensure personal safety.

10.2 Do not place the charger in the rain!

10.3 There are high voltage parts in this machine, please do not disassemble the charger without permission!

10.4 Do not block the air inlet and outlet of the charger!

10.5 Battery voltage and charger nominal voltage must be consistent!

10.6 When charging a mobile device, disconnect the power cord and charging plug.

10.7 If you have questions, you can call the company, our company will be happy to serve you.