

## Chennic Water Proof with PFC Battery Charger ( For Lead-Acid Battery 1KW)



### ■ Feature Overview

This is an intelligent battery charger, which adopts advanced high frequency switching mode power supply technology. The charging or recovery process is controlled intelligently by a high performance microprocessor. A 0.99 Power Factor minimizes utility surcharges, maximizes use of AC power, and makes it can operate with worldwide range AC input.

Approved battery charge algorithms for ideal charging, which can not only make the charging with high efficiency, but also can resume the battery capacity and increase the battery life span. Fully sealed enclosure which provides improved reliability in demanding environments, and the advantages of light weight, compact size and long life design make the charger more competitive than any other battery chargers

Some charger modules can be used in parallel directly to increase charging current and realize high-speed charging

### ■ Specifications

AC Input Voltage:	AC95V—AC265V
AC Input Frequency:	45Hz—65Hz
Max AC Input current:	12A@110V, 6A@220V

AC Power Factor:	≥0.99
DC Output Voltage:	See the Type Table
DC Output current:	See the Type Table
Maximum Efficiency:	≥90%
Environmental Enclosure:	IP66
Shock & Vibration:	SAEJ1378
Safety-North America:	UL2202/UL1564 2nd Edition
Emissions- North America:	FCC Part 15/ICES 003 Class A
Immunity-Europe:	EN61000-4-2/3/5/6/11
Operating Temperature:	-20℃-50℃(-22-122)

### ■ Protections

Short Circuit: Electronic current limit, manual reset

Thermal Cutback: Reduce output current if thermal is over 85℃

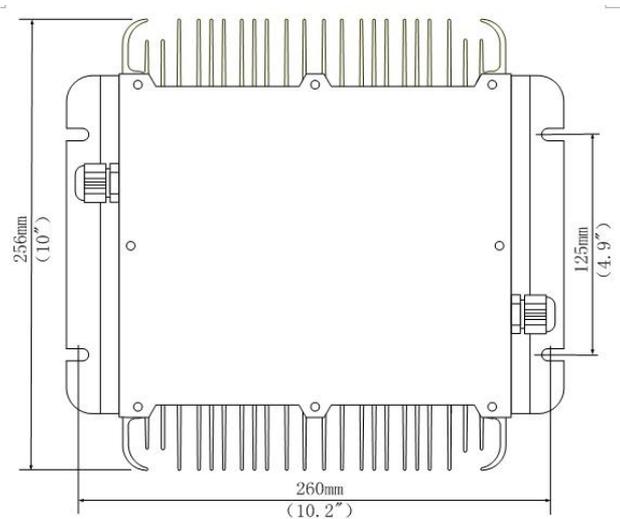
AC under or Over: Shut down, auto-reset.

Reverse Polarity: Electronic protection, auto-reset.

### ■ Type Table

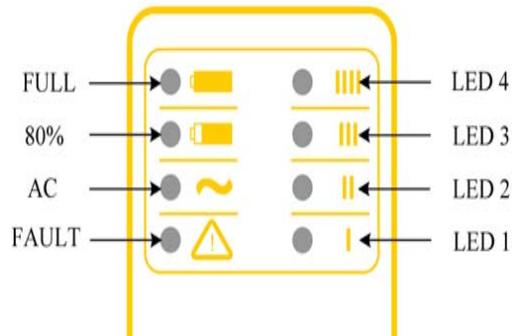
Type	Battery Voltage	Charge current
JCWPC-1240	12V	40A
JCWPC-2430	24V	30A
JCWPC-3621	36V	21A
JCWPC-4818	48V	18A
JCWPC-6015	60V	15A
JCWPC-7212	72V	12A
JCWPC-9610	96V	10A
JCWPC-12008	120V	8A
JCWPC-14408	144V	7A

■ **Installation Size**



■ **Appendix:**

Display panel illustration



■ **Operation Indication**

- Stand By: AC LED on
- <80% Charge: Charging with maximum current.
- >80% Charge: 80% LED on, Charging current is cutting down bar by bar.
- 100% Charge: FULL LED on, Charging course is over.
- Maintenance: Auto-restart if battery voltage<2.1V/cell or 15days elapse

■ **Fault indication**

- Charger Fault: AC & FAULT LED on, LED4 flash.
- Battery Fault: AC & FAULT LED on, LED1 flash.

**Warning:** Use charger only on battery systems with an algorithm selected that is appropriate to the specific battery type. Other usage may cause personal injury and damage. Lead acid batteries may generate explosive hydrogen gas during normal operation. Keep sparks, flames, and smoking materials away from batteries. Provide adequate ventilation during charging. Never charge a frozen battery. Study all battery manufacturers' specific precautions such as recommended rates of charge and removing or not removing cell caps while charging.

**Danger:** Risk of electric shock. Connect charger power cord to an outlet that has been properly installed and grounded in accordance with all local codes and ordinances. A grounded outlet is required to reduce risk of electric shock-do not use ground adapters or modify plug. Do not touch uninsulated portion of output connector or uninsulated battery terminal. Disconnect the AC supply before making or breaking the connections to the battery while charging. Do not open or disassemble charger. Do not operate charger if the AC supply cord is damaged or if the charger has received a sharp blow, been dropped, or otherwise damaged in any way-refer all repair work to qualified personal. Not for use by children.

**Operating Instructions**

1. Always use a grounded outlet .When using an extension cord, avoid excessive voltage drop by using a grounded 3-wire cord.
2. The charge will automatically turn on and go through a short LED indicator self-test (AC on, else flash). If the charger is connected to battery pack, a trickle current will be applied until a minimum voltage. If the charger is used in an off-broad application and the charger is waiting to be plugged into a battery pack (AC on, else off).
3. Once a minimum battery voltage is detected, the charger will enter the bulk charging constant-current stage. It will display the current to the battery on the bar graph. The length of charge time will vary by how large and how depleted the

battery pack is, input voltage (the higher, the better), and ambient temperatures (the lower, the better).

4. When the battery is at approximately 80% state of charge, the bulk stage has completed and an > 80% charge indication is given ('80%' LED on). In the next phase known as the absorption or constant-voltage phase, the last 20% of charge is then returned to the battery. The charging could be terminates at this point if the vehicle requires immediate usage, however, it is highly recommended to wait until 100% charge indication is given to ensure maximum battery capacity and life.
5. A low current "finish-charge" phase is next applied to return and maintain maximum battery capacity ('100%' LED on).
6. When '100%' LED on, the batteries are completely charged. The charger may now be unplugged from AC power (always pull on plug and not cord to reduce risk of damage to the cord). If left plugged in, the charger will automatically restart a complete charge cycle if the battery pack voltage drops below a minimum voltage or 30 days has elapsed (optional).
7. If a fault occurred anytime during charging, a fault indication is given by flashing FAULT and other LED. Detail information is shown in appendix II.

#### Maintenance Instructions

1. For flooded lead-acid batteries, regularly check water levels of each battery cell after charging and add distilled water as required to level specified by battery manufacturer. Follow the maintenance and safety instructions recommended by the battery manufacturer
2. Make sure charger connections to battery terminals are tight and clean.
3. Do not expose charger to oil, dirt, mud or to direct heavy water spraying when cleaning vehicle.

#### Installation Instruction

**WARNING:** The output of chargers will be greater than 48V may pose an energy and/or shock hazard under normal use. These units must be installed in the host equipment in such a manner that the output cable and battery connections are only accessible with the use of a tool by qualified personnel.

**Optional function** Dc battery connection procedure:

The green wire outputs battery voltage when the charger is not plugged into AC to provide an interlock function – see Fig.1. If used, a user-supplied 1A fast-blow external fuse must be installed inline to prevent damage. Shorting or drawing more than 1A may damage charger and void the warranty.

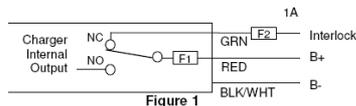


Figure 1

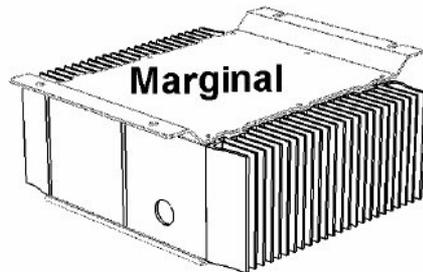
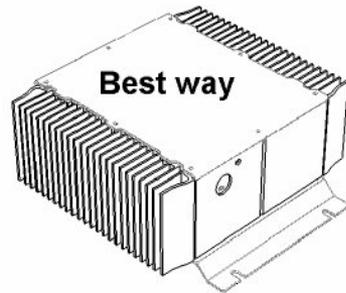
#### Appendix II Charging Status Describe

Num	Status	Describe	Reason & Handle
1	AC light	STAND BY	
2	AC light, others flash	SELF TEST	
3	AC、LED1 light	charging, current is 25%	
4	AC、LED1、LED2 light	charging, current is 50%	
5	AC、LED1、LED2、LED3 light	charging, current is 75%	
6	AC、LED1、LED2、LED3、LED4 light	charging, current is 100%	
7	AC、80% light	charging, battery is 80% charged	
8	AC、FULL light	battery is 100% charged	
9	AC、FAULT light、LED1 flash	Batteries are not right.	Battery is not connected rightly.
10	AC、FAULT light、LED2 flash	Over heat	Charger is covered or air is not flow.
11	AC、FAULT light、LED3 flash	Over current	Disconnect the charger from AC input, and reconnect to AC, if it happens again, there is some fault in charger.
12	AC、FAULT light、LED4 flash	AC voltage is too low	AC voltage is lower than 90V.
13	AC、FAULT light、LED1/LED4 flash	AC voltage is too high	AC voltage is higher than 265V.
14	All LEDs are right, except FAULT	TEST IN COMPANY	
15	All LEDs are flashing, except FAULT	TEST IN COMPANY	

### Installation & Safety Instructions

Our charger has been designed to provide safety and reliability. It is important to observe the following precautions and installation instructions in order to avoid damage to persons and to the battery charger. For further reference keep the instruction in a proper place.

1. Fix the battery charger to a stable surface with the holes inserted on the mounting tabs. In case of installation on a vehicle, it is advisable to use anti-vibration supports.
2. Preferably the charger should be installed in the vertical position with radiator fins vertical. A space of 10cm above ground should be vacated, to ensure it is ventilated. Never install in the vertical position with fins facing down. Refer to drawing below:



3. Ensure all heat dissipating parts are not obstructed to avoid overheating. Do not put the battery charger near any heat sources. Make sure that free space around the battery charger is sufficient to provide adequate ventilation and easy access to cable sockets.
4. For safety and electromagnetic compatibility the battery charger has a 3-prong plug that will only plug into a proper grounded outlet.
5. To avoid damaging the power cord, do not put anything on it or place it where it will be walked on. If the cord becomes damaged or frayed, replace it immediately.
6. If you are using an extension cord or power strip, make sure that the total of the amperes required by all the equipment on the extension is less than the extension's rating.
7. Verify that the selected charging curve is suitable for the type of battery to be recharged.
8. In order to avoid voltage drop, the output cables must be as short as possible, and the diameter must be adequate for the output current.
9. Do not try to service the battery charger yourself. Opening the cover may expose you to shock or other hazards.
10. If the battery charger does not work correctly or if it has been damaged. Unplugged it immediately from the supply socket, from the battery and contact a retailer.
11. In the case of thermal compensation for the battery voltage. It is necessary to place the thermal sensor in the area of the highest battery temperature, such as between 2 batteries near the center of the pack

For more information please contact us directly at [sales@chennic.com](mailto:sales@chennic.com)