AA Portable Power Corp
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CH-LF64V15A

Warning:

1. Please read the following instruction carefully to make sure you understand this charger before use.

2. Improper using of this charger will cause batteries badly damaged and other damage.

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1 Overview:

CH-LF64V15A is an intelligent and multifunction EMC charger. It is designed for 64V (20cells) LiFePO4 batteries. Depending on its CAN interface and digital input port, the charger can work seamlessly with our "Energy Management System" (EMS). It will help your battery pack long life and safety. Standard safety features include protection against a short circuit on the charger output, reverse polarity, over charging, over temperature, etc.

2 Technical specification

Input voltage:	110V AC (220V AC available as special order)
Input voltage range:	AC 95 ~ 130V 40 ~ 60Hz
Output voltage range:	DC 72.6V Base on the real output voltage of the batteries.
Max output current:	15A
Communication:	CAN and 12V Digital Input
Vibration:	SAEJ1378
Water resistance:	IP31
Efficiency:	⩾88%
Power factor:	⩾0.75

3 Operating Environment

Altitude:	⩽2000 Meters
Temperature:	-30°C ~ 55°C
Installation Stress:	⩽ level 5
Humidity:	5% ~ 70% RH - Non Condensing, keep away from exposure to moisture
Storage environment:	-30°C ~ 60°C - Keep away from combustible materials

4 Features:

4.1 Output short circuit protection

4.2 Over temperature protection:

Temperature less than 83°C	- Full charging power
Temperature is 85°C to 95°C	-Power reduced to 50%
Temperature is greater than 95°C	-No output

4.3 Reverse polarity protection: charger will not turn on if the battery pack is connected backwards (or less than 5V).

4.4 A switch on the charger marked "Override" is used to select either external or internal controlled charging.

Override Off -Use with EMS system, either CAN or digital input

Override On -Charger program based on pack voltage only (recommended for testing purposes only, do not use for normal charging).

4.5 When external control is selected and a CAN signal is used, if any cell reaches the recharge set point (default 3.7V as signaled by the EMS) the charger will automatically enter the final recharge cycles.

4.6 Recharge cycles. When the EMS detects any cell has reached the recharge set point (default 3.7V) or above, the charger reduces the charge current to zero amps for five minutes to allow the EMS to balance the battery pack. The charge will resume after five minutes at half the previous charge current and will again charge until it receives a signal from the EMS that a cell has reached the recharge set point. These recharge cycles continue until the charging current reaches the minimum charging current to complete the charging process.

4.7 Digital alarm input:

0.0V -2.0V: Charging stopped

2.5V -12.0V: Enable charging or resume charging

4.8 When both CAN and the digital control signals are available the charger is controlled by the CAN communication signal.

4.9 Smart indicator

4.9.1 Reverse polarity or low voltage: Red light blinking, 20% light on

4.9.2 Charger over heating: Red light blinking, 40% light on

4.9.3 Ambient temperature too high: Red light blinking, 60% light on

4.9.4 Charging time out: Red light blinking, 80% light on

4.9.5 Over Voltage Protection: Red light blinking, 100% lights on

4.9.6 BMS alarm/charging interruptions All LED's blinking

4.9.7 Shutdown status: Six lights blinking

4.9.8 Battery presence not detected: Red light blinking, 20% light on

4.9.9 Charging stage: Percent light indicating pack voltage vs. max charging

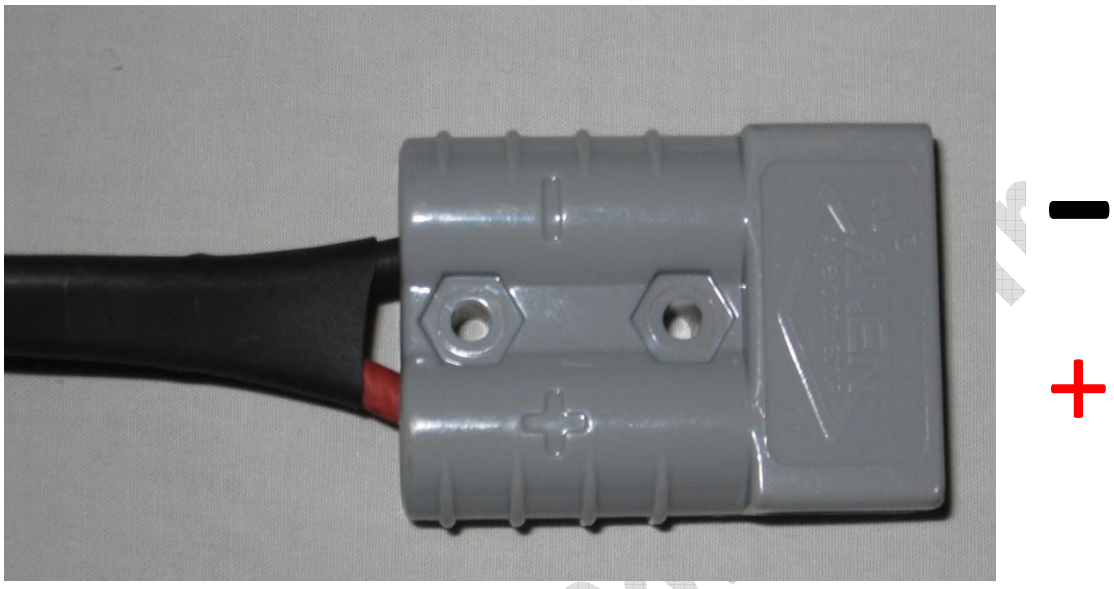
4.9.10 Charging complete: All green lights on

4.9.11 Fan cooled to prevent from overheat.

5 Connection:

5.1 Anderson SB50 Connector

EMC Chargers with output greater than 10A come with an Anderson SB50 style connector for the output. These connectors are labeled "+" and "-". A mating connector comes with the charger.



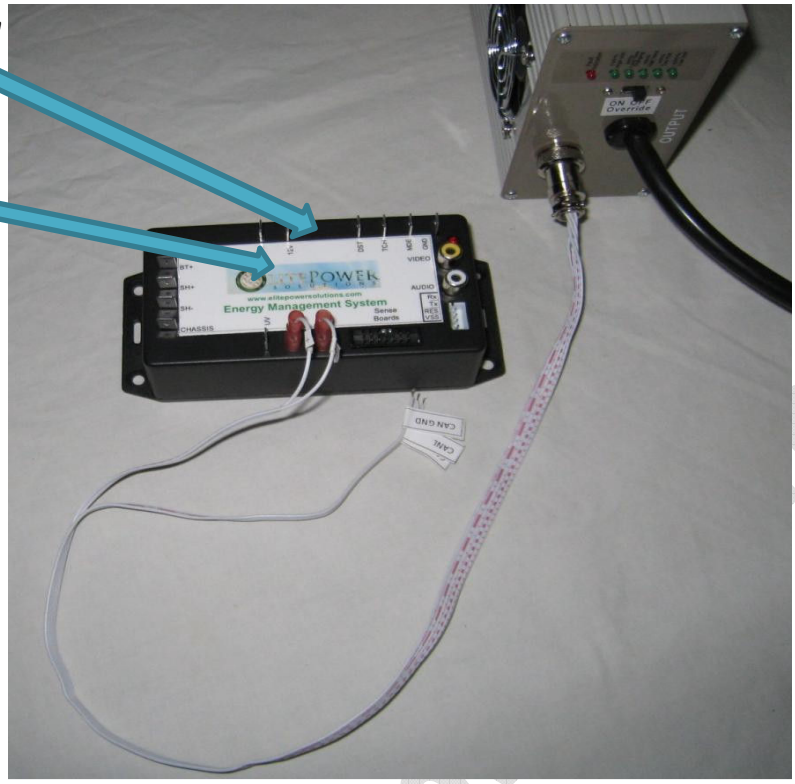
5.2 CAN and Digital Input Controls

A five wire connector connects to the charger for interfacing with the BMS. Three wires have a white connector attached, these three wires are the CAN interface. The other two wires are labeled "+ 12V" and "-12V", these wires are the digital input used to control the charger from the EMS CPU. Connect the "+ 12V" to the OV connection on the EMS CPU and the "- 12V" to the GND connection on the EMS CPU.

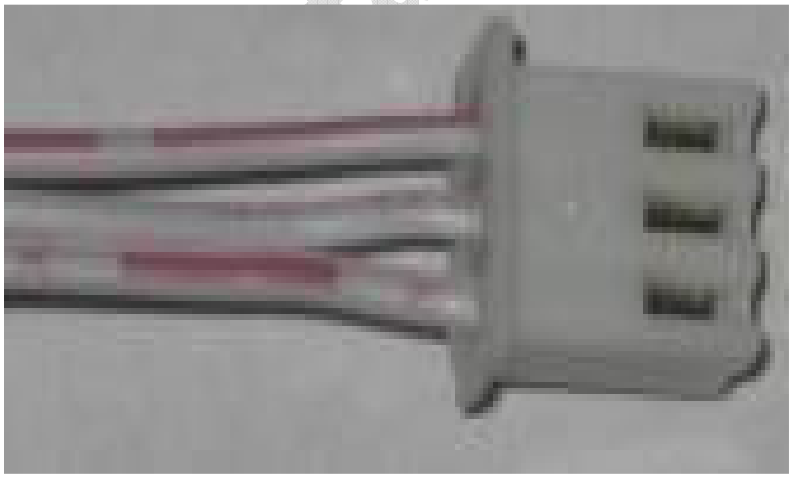
The EMS CPU will output a 12 volt signal from the "OV" terminal whenever a pack normal situation is detected. During charging if a cell exceeds the maximum voltage limit this will drop to 0 volts which will trigger the charger to temporarily pause charging until the high voltage cell can return to a normal voltage. All green LED's on the charger will flash when this occurs.

12V- Connects to"GND"

12V+ Connects to"OV"



5.3 For a CAN communication connection connect the CANH, CANL and CAN GND to the matching connection on the CAN connection on the EMS CPU. The white connector may be cut off of the cable; however, note which wires are which before doing so.

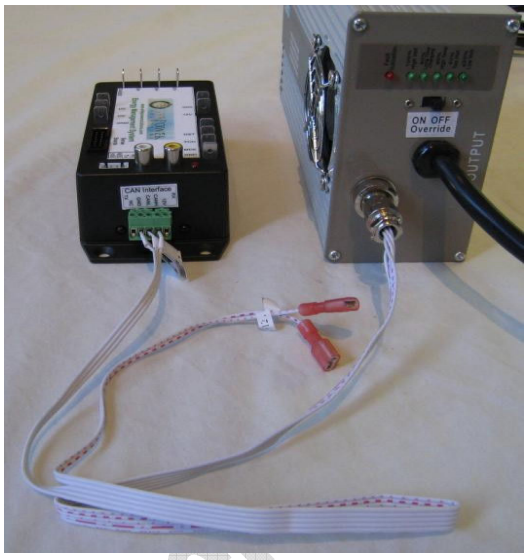


CANH

CANL

CAN

GND



5.4 If both the CAN communication and the digital inputs are connected CAN communications will take priority over the digital input for charge control. CAN communications requires the optional CAN board be installed on the EMS CPU.

6 Cautions

6.1 Make sure charger voltage output matches to the number of cells in the battery pack.

6.2 Make sure positive output of the chargers is connected to a positive connection to the battery pack, and the negative output of the charger is connected to a negative connection of the battery pack.

6.3 After a complete charge, disconnect the power source from the charger and then disconnect the connection between the charger and the battery pack.

6.4 A BMS system must be used during the charging process either through CAN communication or through the digital alarm input to prevent over charging.

7 Troubleshooting

7.1 The charger must be installed in a cool well-- - ventilated area which is free of dust

7.2 If the charger is not charging unplug the charger from the AC line and battery pack, then check for poor connections, short circuits, over heating conditions as well as alarm status from the Energy Management System.

7.3 If charger does not display any LED's when plugged in and charging does not occur the fuse may be blow. Unplug the charger from the battery pack and AC line and check the fuse by unscrewing the cap with a #2 Philips screw driver. If the fuse is blown replace with an

equivalent size fuse of the same voltage and amperage rating.

7.4 If the charger finishes charging too early make sure that the connection from the charge to the battery pack is good and does not have high resistance.