

FAQ

+ How long will my charger last?

Several factors that affect battery life including weather, temperature, frequency of use and additional external variables like vibration, shock, and humidity. Essentially, your charger is a basic Switching Power Supply like any other piece of electronic hardware – when in doubt cool and dry and the charger should last the life of the battery barring unforeseen external influences.

+ What batteries can charge with my charger?

These chargers are two-stage CC/CV (Constant Current/Constant Voltage) chargers designed specifically for Li-ion NMC chemistry batteries that come as standard with an integrated BMS/PCM battery management module that features internal cell balancing. This charger is not a smart charger and will not internally balance cells. The cell balancing is handled by the BMS unit. DO NOT use this charger with other chemistries and/or other batteries that do not come as standard with a BMS system as doing so will damage that battery.

+ My charger is acting up; can I fix it myself?

We do not recommend doing so. The Plastic Case chargers are ultrasonically welded at the seams and is not conducive to forced-opening. The Metal Case charger is possible to disassemble, but opening either unit will result in voiding of warranty. If you have any trouble with the charger, please return it to Aegis Battery and our experts will sort out any issue(s).

+ Can I safely use my charger with a higher voltage outlet?

Our chargers come with a recommended safe voltage range covering 110V-220V within which the charger will operate at a constant optimal rate. Exceeding the voltage requirements will not offer any benefits regarding charging speed and excess voltage will damage the charger.

+ Can I make the charger charge faster?

No. The charger is factory set and designed to output a specific Constant Current rating optimized for a specific Li-ion NMC battery range at a pre-specified Constant Voltage. The circuit board itself was scaled specifically to work optimally at said output range. The charger cannot be modified or motivated to exceed its operational thresholds, but if you require faster charging you will need a larger charger with higher output provided it is compatible with your battery's maximum input.

+ My charger won't charge my battery, what's wrong?

This will vary from situation to situation but usually it can be one of two things: 1) your battery is already fully charged (you should see a [GREEN indicator](#)) or 2) you plugged in the charger in the wrong order (yes, there is a [correct sequence](#)). We recommend attaching your battery/device to the charger first and then attaching the charger to the wall. This is for all electronic devices, not just for our batteries. If it still will not charge it could be a charger issue, contact us immediately.

CONTACT

Aegis Energies, INC. (dba: Aegis Batteries)
13321 Garden Grove Blvd, Unit F
Garden Grove, CA 92843

Phone: +1 (657) 296-6981
Email: contact@aegisbattery.com
Website: www.aegisbattery.com

WARRANTY

Repairs and/or exchanges may be accepted within 2 Years of purchase and are subject to 30-day money back guarantee for any initial quality issues originating from Aegis Battery, issues resultant from negligent and/or abusive use not inclusive. Returns are subject to a 10% Restock Fee + Shipping Cost Charge. Exchanges are subject to a Shipping Cost Charge. Any and all Shipping Costs are as determined by location and level of service.

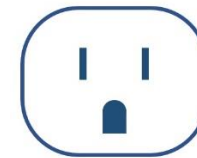
REV10102019



AEGIS BATTERY

YOUR BATTERY SPECIALISTS

14.6V, 20A
CRF-012020M
LFP Battery Charger
User Manual



USE WITH 110VAC 50/60HZ US STANDARD OUTLETS ONLY!

 **DO NOT USE WITH 220VAC OUTLETS!**

***Subjects of this content pertains to compatible usage with Aegis Battery Li-ion LFP Batteries only and not with any other type, chemistry, make, and/or model of battery thereof.**

INTRODUCTION

Thank you for purchasing an Aegis Battery product. It is advised to read and familiarize with the contents of this manual prior to use as failure to do so may result in degraded charger performance.

The model you have purchased is the **CRF-012020M 14.6V, 20A Charger** rated for Li-ion NMC Batteries only and features a CC/CV Constant Current, Constant Voltage Dual-Phase Switching Power Supply Charging profile optimized for batteries with an integrated BMS system. This charger was assembled in our ISO 9001 Certified production facilities and as such you can expect performance and consistency from this product and every other product you may be using or have used.

CONTENTS

- + 1 Li-ion LFP CC/CV Dual-Phase Switching Power Supply Charger + AC Cable
- + Optional Accessory Cable(s) (NOT SUPPLIED AS STANDARD, *only if Accessories were purchased*)
- + 1 Copy User Manual



SPECIFICATIONS*

Product Configuration	Metal Case
Open Circuit Voltage (V)	14.6V
Open Circuit Current (A)	20A
Compatible Battery Type	12V Batteries Only
Weight	1.35 kg (2.98 lbs.)
Dimension (L x W x H)	180 mm x 90 mm x 60 mm 7.1 in. x 3.5 in. x 4.3 in.
Charge Mode	Dual-Phase CC/CV
Phase 1	CC Constant Current Charging
Phase 2	CV Constant Voltage Balancing
Charger Type	Switching Power Supply
Charger Output Connector	Alligator Clips
Charger Input Range	110VAC
Charger Frequency	50/60Hz
Operational Temperature Range	0°C to 45°C
Operating/Storage Humidity	60±25%R.H
Integrated Protections*	Low Voltage Disconnect Over Voltage Disconnect Short Circuit Protection Reverse Polarity Protection Cell Balancing

*Protections integrated into Battery BMS

(*For full specifications, please visit www.aegisbattery.com)

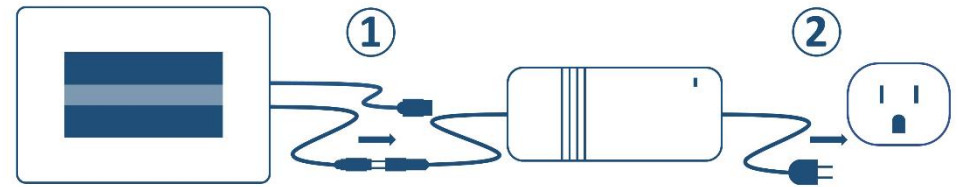
CHARGING

! PRIOR TO INITIAL USE, ENSURE BATTERY HAS TAKEN FULL CHARGE AND IS IN A FULLY CHARGED STATE. OUR BATTERIES MAY NOT BE SHIPPED FULLY CHARGED!

! MAKE SURE THE CHARGER'S INDICATOR LIGHT HAS TURNED GREEN AND WAIT FOR 30 MIN. ELAPSE BEFORE UNPLUGGING, CHARGE TIME VARIES FROM MODEL TO MODEL!

When charging your battery, please follow the provided sequence below:

1. Attach Battery Charging Connector to Charger (This will vary depending on your selected model and configuration of battery)
2. Attach Charger to 110VAC Outlet, **DO NOT use 220VAC Outlet!**
3. When Charging you should observe a **RED** LED Indicator: this indicates that the battery is currently in the Constant Current (CC) charging phase
4. Wait for a **GREEN** LED Indicator: this indicates the battery is currently in the Constant Voltage (CV) charging phase
5. Wait 30 MINUTES before unplugging in reverse order: unplug the Charger from the 110VAC Outlet **FIRST** and then disconnecting the Battery from the Charger **SECOND**



CHARGING SERIES/PARALLEL CONNECTED BATTERIES

In the event that multiple batteries are connected in either Series or in Parallel, DO NOT attempt to charge all the batteries simultaneously if you are not using a special Multi-Bank Charger.

- Series:** Each battery must be charged separately and given a full charge individually.
- Parallel:** Each battery must be charged separately and given a full charge individually.

SAFETY GUIDELINES

Please adhere to the following Safety Guidelines in addition to all disclosed information when using your charger. Any damage incurred as a result of a failure to adhere to the recommended usage guidelines as collectively disclosed may result in a partial or complete voiding of the warranty as provided upon purchase of this charger product. **Additional Safety Guidelines are as follows.**

1. Do not disassemble and/or attempt self-repair
2. Do not short circuit positive and negative terminals
3. Do not use with other battery types, makes or models herein
4. Do not dispose in normal refuse bin, recycle this product only at designated facilities
5. For long term storage, please keep the unit in a cool and dry environment devoid of humidity
6. Do not leave the charger unattended in the presence of children and/or pets
7. Do not use the charger in or expose the battery to extreme temperatures

