

1. Overview

The Heagstat HEAG020 is a fully automatic, microprocessor-controlled battery charger and maintainer. It is designed to charge and maintain 12V lead-acid and 12V Lithium Iron Phosphate (LiFePO4) batteries.



Primary Functions:

- **Smart Charger:** Automatically manages the charging process.
- **Battery Maintainer:** Keeps a stored battery at full charge.
- **Trickle/Float Charger:** Provides a low, maintenance current after the battery is fully charged.

2. Features & Specifications

2.1 Key Features

- **Universal Compatibility:** Charges 12V Lead-Acid (Flooded, AGM, GEL, VRLA, Deep-Cycle) and 12V Lithium (LiFePO4) batteries.

- **4-Step Charging Program:** Initialization, Bulk Charge, Absorption Mode, Float Mode for optimal charging without overcharging.
- **Smart LED Indicators:** Provide state-of-charge feedback and diagnostic information.
- **Automatic Operation:** Switches to float/maintenance mode automatically after the battery is fully charged.
- **Safety Protections:** Includes spark-proof connection, reverse polarity protection, short-circuit protection, overcharge protection, and over-temperature protection.
- **Long Cable:** 12-foot output cable with multiple connection options.

2.2 Technical Specifications

Specification	Detail
Model Number	HEAG020
Input Voltage	100-120V AC, 50/60Hz
Output	12V DC, 2 Amp
Fully Charged Voltage	14.2V - 14.4V
Float Mode Voltage	13.2V - 13.6V
Battery Capacity Range (Charging)	10Ah to 100Ah (12V)
Battery Capacity Range (Maintaining)	Up to 150Ah (12V)
Dimensions (L x W x H)	3.78" x 2.32" x 1.42"
Weight	0.31 kg (0.68 lbs)

3. Package Contents

- Heagstat HEAG020 Battery Charger/Maintainer unit
- Alligator Clip Connectors
- O-Ring Terminal Connectors
- User Manual (this document)



4. Use Guide

4.1 Safety Warnings

WARNING: To prevent serious personal injury or material damage:

- **DO NOT** connect this charger to 6V, 24V, or other unsuitable batteries (e.g., NiCd batteries). It is for 12V batteries only.
- **DO NOT** use the charger as a general-purpose power supply.
- This unit is suitable for **12V Lithium (LiFePO4) batteries only**. It does NOT support other lithium battery chemistries (e.g., Li-ion, LiPo).
- Always work in a well-ventilated area, especially when charging lead-acid batteries.

- Read all instructions before use.

4.2 Connection Methods

The charger includes two sets of connectors for attaching to the battery.

1. For Direct Connection (Alligator Clips):

- Connect the RED alligator clip to the POSITIVE (+) terminal of the battery.
- Connect the BLACK alligator clip to the NEGATIVE (-) terminal of the battery or a solid, unpainted metal point on the vehicle chassis (ground).

2. For Permanent Connection (O-Ring Terminals):

- Disconnect the vehicle's battery cables.
- Attach the ring terminals directly to the battery posts. Connect RED to POSITIVE (+), BLACK to NEGATIVE (-).
- Reconnect the vehicle's cables over the ring terminals. The charger's quick-disconnect plug can remain connected to the battery for easy use.



4.3 Charging Process

1. Ensure the charger is unplugged from the AC wall outlet.
2. Connect the charger leads to the battery terminals as described in section 4.2.
3. Plug the charger into a standard 120V AC wall outlet.
4. The charger will automatically begin its 4-step charging program:
 - **Initialization:** Checks battery voltage and condition.
 - **Bulk Charge:** Delivers maximum current (2A) to raise battery voltage.
 - **Absorption Mode:** Holds voltage at a constant level while current tapers.
 - **Float Mode:** Maintains the battery at full charge with a low, steady voltage. The charger will remain in this mode indefinitely.

- When you need to use the vehicle, unplug the charger from the wall outlet first, then disconnect the clips or plug from the battery.

4.4 LED Indicator Status

The charger has smart LED lights that indicate its status.

- **RED (Flashing):** Charger is in initialization or diagnostic mode. Checking battery.
- **RED (Solid):** Battery is charging (Bulk/Absorption mode).
- **GREEN (Solid):** Battery is fully charged and charger is in Float/Maintenance mode.
- **GREEN (Flashing):** Battery voltage is too low or charger detects a problem (e.g., bad connection, reverse polarity). Check connections and battery condition.

5. Care & Maintenance

- Store the charger in a cool, dry place when not in use.
- Inspect cables and connectors periodically for damage, such as cracks or exposed wires. Do not use if damaged.
- Keep the charger clean and free of dust and moisture.
- The charger has a power-down memory function. If AC power is lost and restored, it will automatically resume the appropriate charging stage.

6. Troubleshooting

Problem	Possible Cause	Solution
Charger does not turn on (no LED).	No AC power. Loose connection.	Check that the wall outlet is live. Ensure the charger is firmly plugged in.
Green LED is flashing.	Battery voltage is too low. Reverse polarity. Poor connection.	Verify correct connection (Red to +, Black to -). Ensure clips have solid contact. Battery may be deeply discharged or faulty.
Charger stays in Red (Solid) mode for a very long time.	Battery is very large or deeply discharged.	This is normal. A large or flat battery can take many hours to charge at 2A. Allow the process to complete.
Charger gets warm during use.	Normal operation.	Some warmth is normal. Ensure the charger vents are not blocked.

7. Warranty and Support

This product is covered by a **2-year limited warranty** from the date of purchase for quality-related issues.

For product support or warranty service: Please contact the Heagstat seller customer service team directly through your point of purchase (e.g., Amazon order details).

Warning

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.