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VEVOR UY1500-LF1260

VEVOR 12V 80A LiFePO4 Lithium Battery Charger Instruction Manual

Model: UY1500-LF1260 | Brand: VEVOR

1. Introduction

This manual provides essential information for the safe and efficient operation of your VEVOR 12V 80A LiFePO4 Lithium Battery Charger. This smart charger is designed specifically for 12V (12.8V) LiFePO4 batteries, delivering a 14.6V DC charging voltage and 80A charging current. It features a 4-stage intelligent charging curve, 0V activation function, and multiple safety protections. Please read this manual thoroughly before use and retain it for future reference.

2. Safety Instructions

Always observe the following safety precautions to prevent injury or damage to the charger and battery:

- **Read all instructions:** Before using the charger, read all instructions and cautionary markings on the charger, the battery, and the product using the battery.
- **LiFePO4 Batteries Only:** This charger is designed exclusively for 12V (12.8V) LiFePO4 batteries. Do not use it with lead-acid, Ni-Cd, Ni-MH, or any other battery types, as this may cause damage, fire, or explosion.
- **Ventilation:** Ensure the charger is operated in a well-ventilated area. Do not cover the charger during operation.
- **Avoid Moisture:** Do not expose the charger to rain, moisture, or operate it in damp conditions.
- **Proper Connection:** Connect the charger to the battery terminals correctly (positive to positive, negative to negative). Reverse polarity can cause damage.
- **Power Source:** Connect the charger only to a 100-120V AC, 60Hz power outlet.
- **Damaged Equipment:** Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damaged.
- **Children and Pets:** Keep the charger and battery out of reach of children and pets.
- **Disconnect Power:** Always disconnect the AC power from the outlet before making or breaking connections to the battery.

3. Product Overview

The VEVOR 12V 80A LiFePO4 Lithium Battery Charger is built with a durable aluminum alloy shell and features an ergonomic handle for portability. It includes an Anderson connector for easy setup and clear LED indicators to display charging status.



Figure 3.1: VEVOR 12V 80A LiFePO4 Lithium Battery Charger with a connected battery.



Figure 3.2: Close-up of the charger showing the handle, LED indicators, and caution labels.

4. Setup

Follow these steps to set up your VEVOR LiFePO4 Battery Charger:

1. **Prepare the Battery:** Ensure the 12V LiFePO4 battery is in a stable, well-ventilated area.
2. **Connect to Battery:** Use the provided 1.4 ft 120A Anderson-M8 terminal adapter cable. Connect the red terminal to the positive (+) post of the battery and the black terminal to the negative (-) post of the battery.
3. **Connect Anderson Connector:** Plug the Anderson connector from the adapter cable into the corresponding Anderson port on the charger. Ensure a secure connection.
4. **Connect to Power:** Plug the charger's AC power cord into a standard 100-120V AC, 60Hz wall outlet.

The charger will automatically begin the charging process. The LED indicators will show the current status.



Figure 4.1: Connection diagram for the VEVOR LiFePO4 Battery Charger.

5. Operating Instructions

5.1. Charging Process (4-Stage Intelligent Charging Curve)

The VEVOR LiFePO4 charger utilizes a 4-stage intelligent charging curve to optimize battery life and charging efficiency:

1. **T0: Reverse Connection Detection:** The charger first checks for correct polarity. If reversed, it will indicate a fault.
2. **T1: Precharge Stage:** Wakes up low-voltage batteries by applying a small current until a safe voltage is reached.
3. **T2: CC Stage (Constant Current):** Rapid charging phase where the charger delivers a constant 80A current until

the battery reaches approximately 80% of its capacity.

4. **T3: CV Stage (Constant Voltage):** The charger maintains a constant voltage of 14.6V DC while the current gradually decreases to avoid overcharge.
5. **T4: Battery Full Stage:** Once the battery is fully charged, the output current cuts off, and the charger enters a maintenance mode.

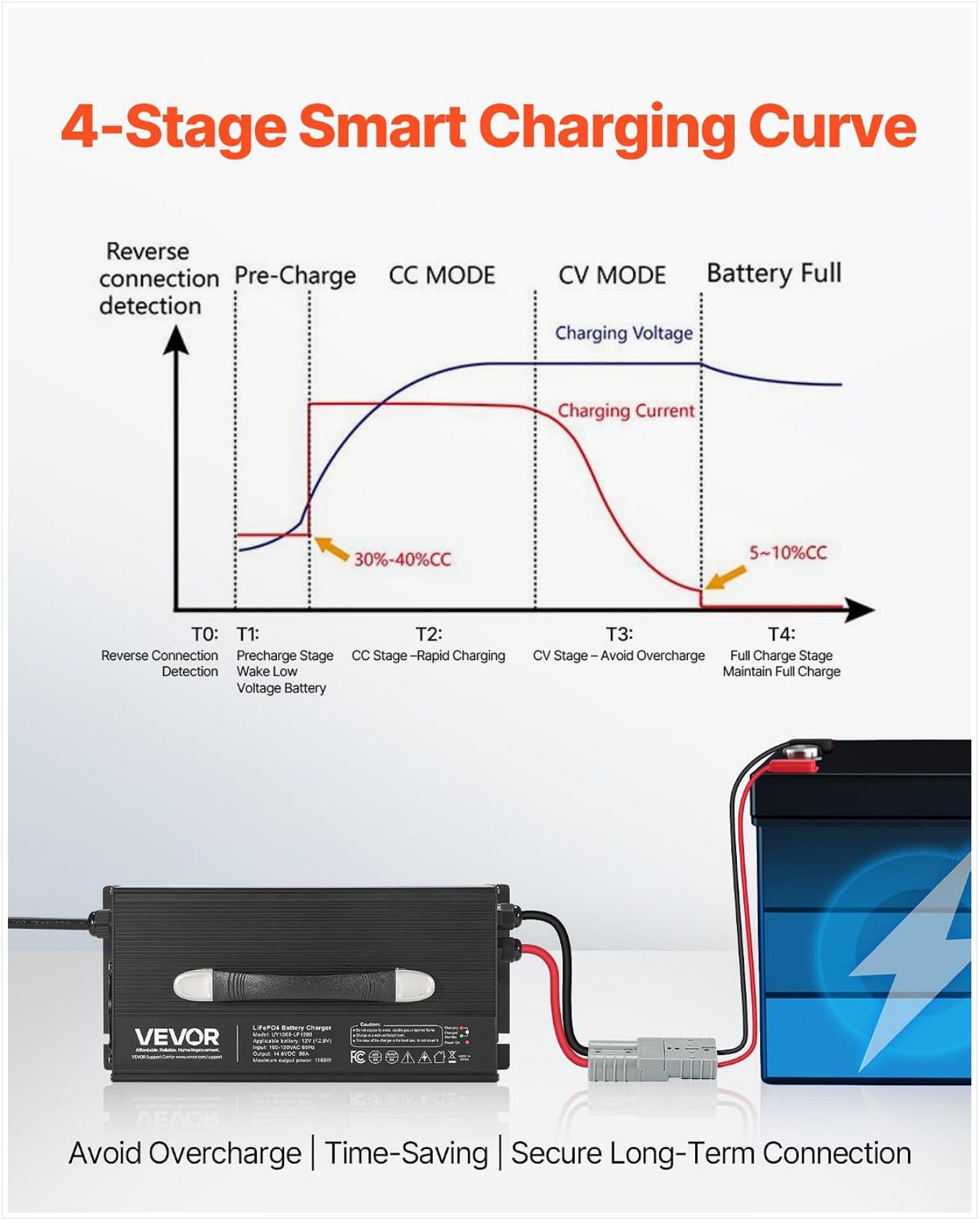


Figure 5.1: Illustration of the 4-stage intelligent charging curve.

5.2. LED Indicators

The charger features LED indicators to display the charging status:

- **Always On Red:** Charging in progress.
- **Always On Green:** Battery fully charged.
- **Flashes Green:** Standby mode.
- **Flashes Red:** Fault state (e.g., reverse polarity, short circuit).

5.3. 0V Activation Function

The 0V activation function allows the charger to wake up LiFePO4 batteries that are in BMS (Battery Management System) protection mode due to prolonged low voltage or over-discharge. This feature helps restore the battery to a secure voltage level without requiring additional tools.

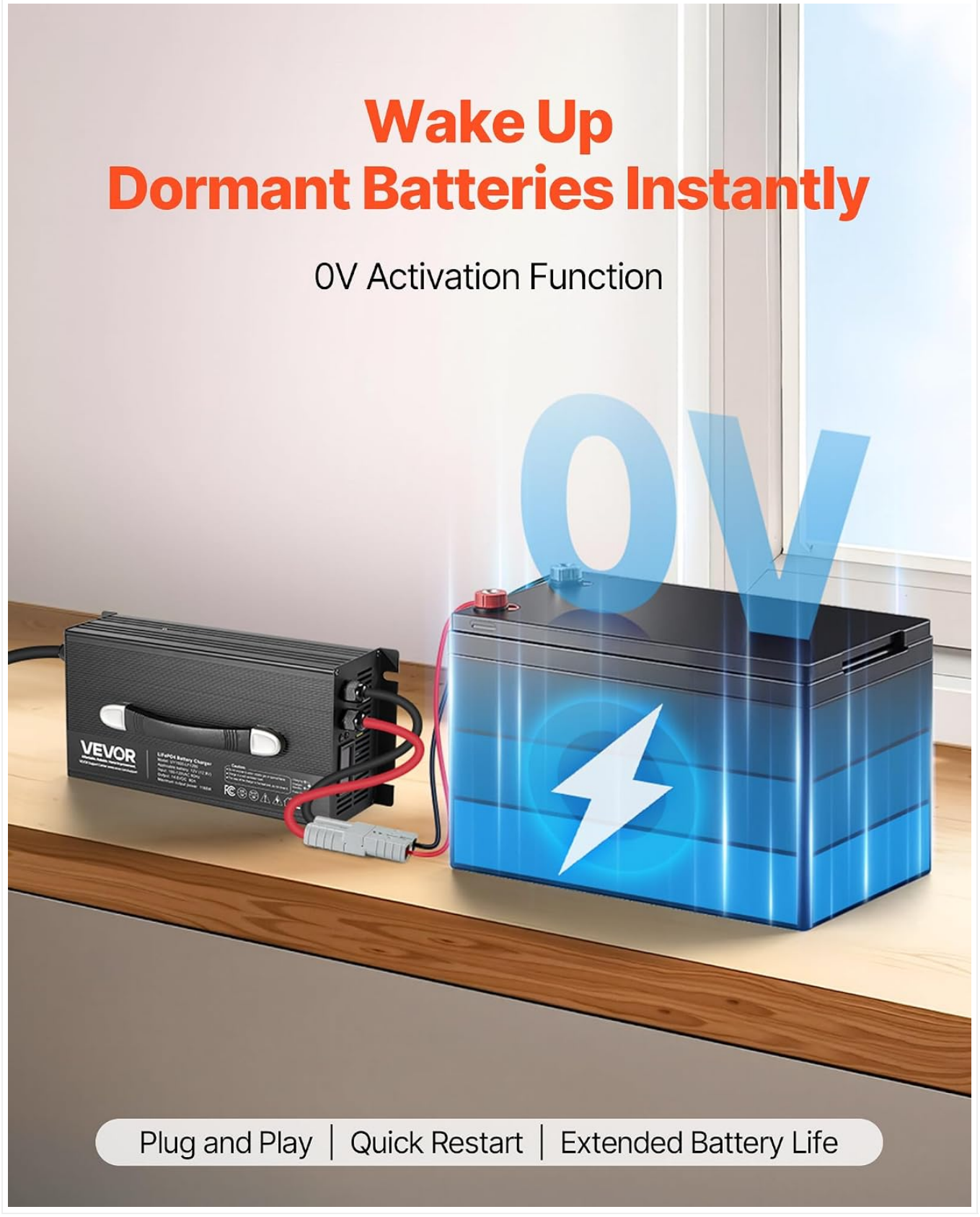


Figure 5.2: The 0V activation function helps wake up dormant batteries.

6. Maintenance

Proper maintenance ensures the longevity and optimal performance of your charger:

- **Cleaning:** Disconnect the charger from both AC power and the battery before cleaning. Use a dry, soft cloth to wipe the exterior. Do not use solvents or abrasive cleaners.

- **Storage:** Store the charger in a cool, dry place when not in use. Ensure all cables are neatly coiled and not kinked.
- **Cable Inspection:** Regularly inspect the AC power cord and battery connection cables for any signs of damage, fraying, or loose connections. Replace damaged cables immediately.
- **Ventilation:** Keep the cooling fan and ventilation openings clear of dust and debris to ensure proper heat dissipation.

7. Troubleshooting

Refer to the table below for common issues and their solutions:

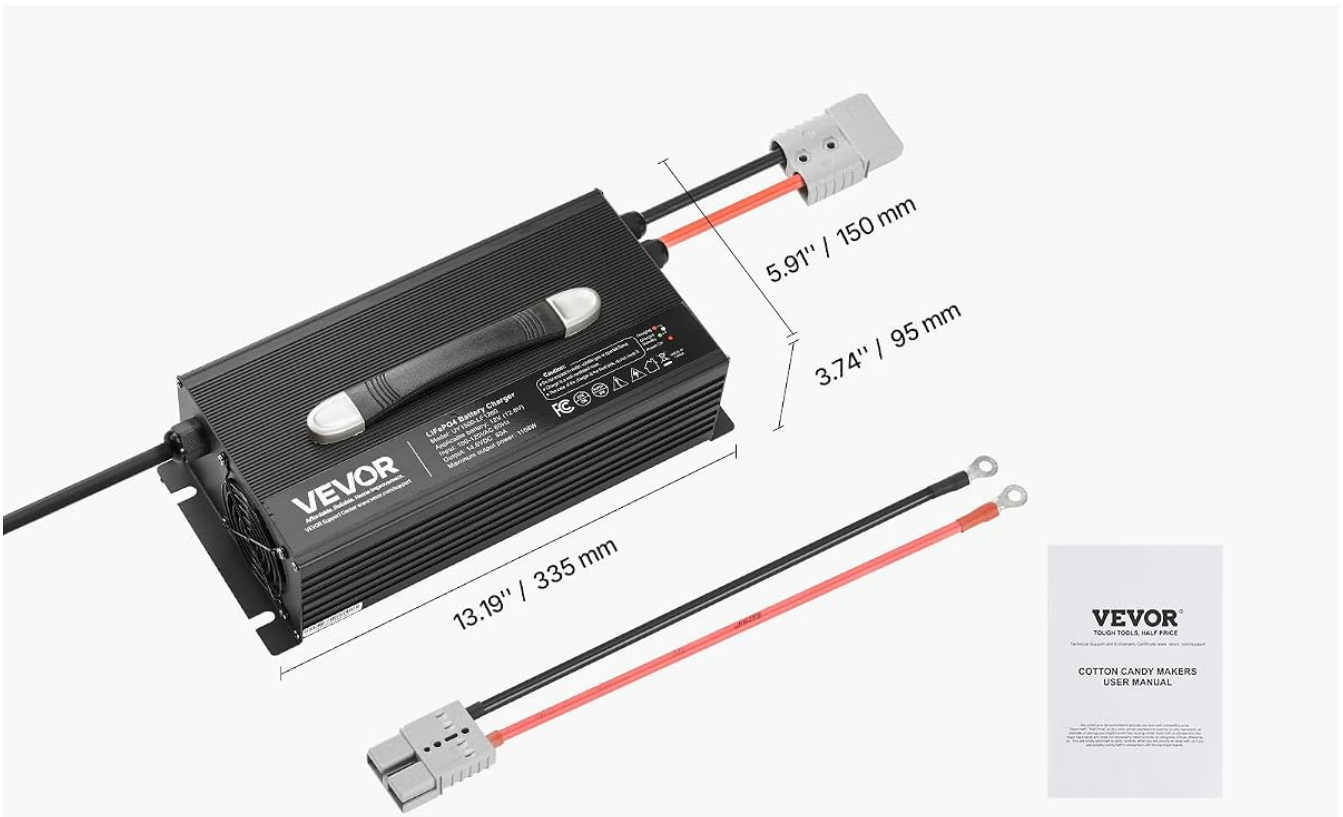
Problem	Possible Cause	Solution
Charger not turning on / No LED activity	No AC power; Faulty power cord; Internal fault.	Check AC outlet and power cord connection. Try a different outlet. If issue persists, contact support.
Flashes Red LED (Fault State)	Reverse polarity; Short circuit; Overvoltage; Overheat.	Disconnect immediately. Check battery connections for correct polarity. Inspect cables for damage. Allow charger to cool if hot. If fault persists, contact support.
Battery not charging / Charging slowly	Incorrect battery type; Poor connection; Battery deeply discharged (0V); Battery fault.	Ensure battery is 12V LiFePO4. Check all connections. The 0V activation function should handle deeply discharged batteries. If not, battery may be faulty.
Charger gets hot during operation	Normal operation; Insufficient ventilation.	Some heat is normal. Ensure charger is in a well-ventilated area and cooling fan is not obstructed. If excessively hot or fault LED flashes, disconnect and contact support.

8. Specifications

Technical specifications for the VEVOR 12V 80A LiFePO4 Lithium Battery Charger:

Feature	Specification
Model Number	UY1500-LF1260
Compatible Battery Type	12V (12.8V) LiFePO4
Input Voltage/Frequency	100-120V AC / 60Hz
Output Voltage	14.6V DC
Charging Current	80 Amps
Maximum Output Power	1168W
Battery Charge Time (150Ah)	Approximately 2 Hours

Feature	Specification
Main Material	Aluminum Alloy
Product Dimensions (D x W x H)	5.91" x 13.19" x 3.74" (150 x 335 x 95 mm)
Item Weight	8.2 Pounds (3.7 kg)
Power Cord Length	4.92 ft (1.5 m)
Output Cord Length	39.37 in (1 m)
Adapter Cable Length	16.54 in (0.42 m)
Safety Certification	FCC



Item Model Number : **UY1500-LF1280**
Main Material : **Aluminum Alloy**
Compatible Battery : **12V (12.8V) LiFePO4**
Input Voltage/Frequency : **100-120VAC/60Hz**
Charging Voltage : **14.6V DC**
Charging Current : **80A**
Power Cord Length : **4.92 ft/1.5 m**
Max Output Power : **1168W**
Output Cord Length : **39.37 in/1 m**
Adapter Cable Length : **16.54 in/0.42 m**
Net Weight : **8.16 lbs/3.7 kg**
Product Dimensions : **13.19 x 5.91 x 3.74 in/335 x 150 x 95 mm**
Accessories : **1 x 120A Anderson to M8 Terminal Adapter Cable**
1 x Power Cord

Figure 8.1: Product dimensions and included accessories.

9. Warranty and Support

For warranty information or technical support, please refer to the official VEVOR website or contact VEVOR customer service directly. Ensure you have your model number (UY1500-LF1260) and purchase details available when seeking support.

VEVOR Support Center: www.vevor.com/support

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