

FOVAL BC01B-1

FOVAL Automatic 12V 1000mA Smart Battery Charger and Maintainer User Manual

Model: BC01B-1

INTRODUCTION

Thank you for choosing the FOVAL Automatic 12V 1000mA Smart Battery Charger and Maintainer. This device is designed to efficiently charge and maintain 12V lead-acid batteries, including SLA, VRLA, GEL CELL, AGM, and WET types. It functions as a battery maintainer, trickle charger, float charger, and battery desulfator, employing a 4-step charging program to ensure optimal battery health and longevity.

Please read this manual thoroughly before using the charger to ensure safe and correct operation.

IMPORTANT SAFETY INFORMATION

Always observe the following safety precautions when operating the charger:

- **Risk of Explosive Gases:** Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal operation. Ensure adequate ventilation.
- **Eye Protection:** Always wear eye protection and protective clothing when working with batteries.
- **Avoid Sparks:** Never smoke or allow a spark or flame in the vicinity of the battery or engine.
- **Electrical Shock Hazard:** Do not expose the charger to rain or wet conditions. Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damaged.
- **Reverse Polarity Protection:** The charger includes built-in reverse polarity protection. However, always ensure correct connection to battery terminals (positive to positive, negative to negative).
- **Overcharge Protection:** The smart charging technology prevents overcharging, even if left connected for extended periods.
- **Temperature:** Avoid charging batteries in extremely hot or cold environments. The charger has over-temperature protection.
- **Children:** Keep the charger and battery out of reach of children.

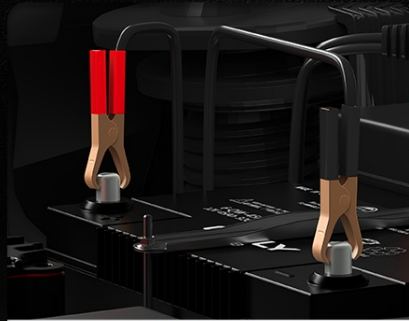
EASY TO USE

No settings needed, Simply plug in the battery and power, maintain and manage the battery safely and reliably throughout the winter.



Step 1

Connect and the cable connector



Step 2

Connect the alligator clip or ring terminal to the battery.



Step 3

Connect external AC source

Image: The FOVAL Automatic Battery Charger features ETL Safety Certification and 8 smart protections, including short circuit, overload, over discharge, reverse connection, overcharge, low voltage, over-temperature, and high voltage protection.

PACKAGE CONTENTS

Verify that all items are present in your package:

- FOVAL Automatic 12V 1000mA Smart Battery Charger (Model BC01B-1)
- DC Output Cable with Alligator Clips
- DC Output Cable with Ring Terminals
- AC Power Cable

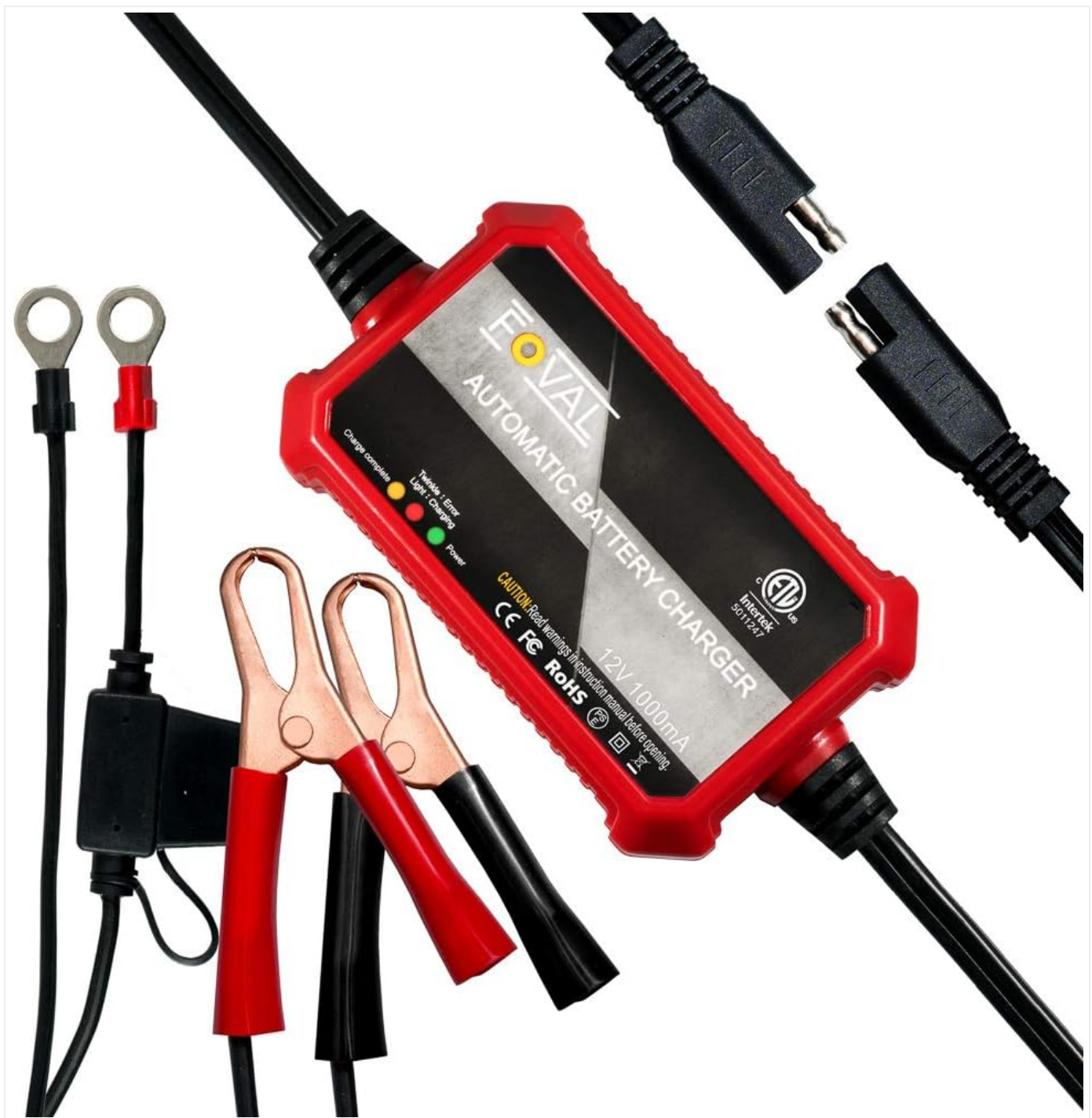


Image: The FOVAL Automatic Battery Charger unit shown with both the alligator clip and ring terminal connector options.

Compact and Easy to Storage, Space-Saving



Image: Diagram illustrating the cable lengths for the AC power cable (54 inches), DC output cable (27 inches), and the total length of the charger unit (3.9 inches long, 2.4 inches wide, 1.25 inches high).

SETUP INSTRUCTIONS

Follow these steps to connect your FOVAL battery charger:

1. **Prepare the Battery:** Ensure the battery terminals are clean and free of corrosion. If the battery is in a vehicle, ensure the vehicle's ignition is off and all accessories are disconnected.
2. **Select DC Output Cable:** Choose either the alligator clip cable or the ring terminal cable based on your battery's connection type.

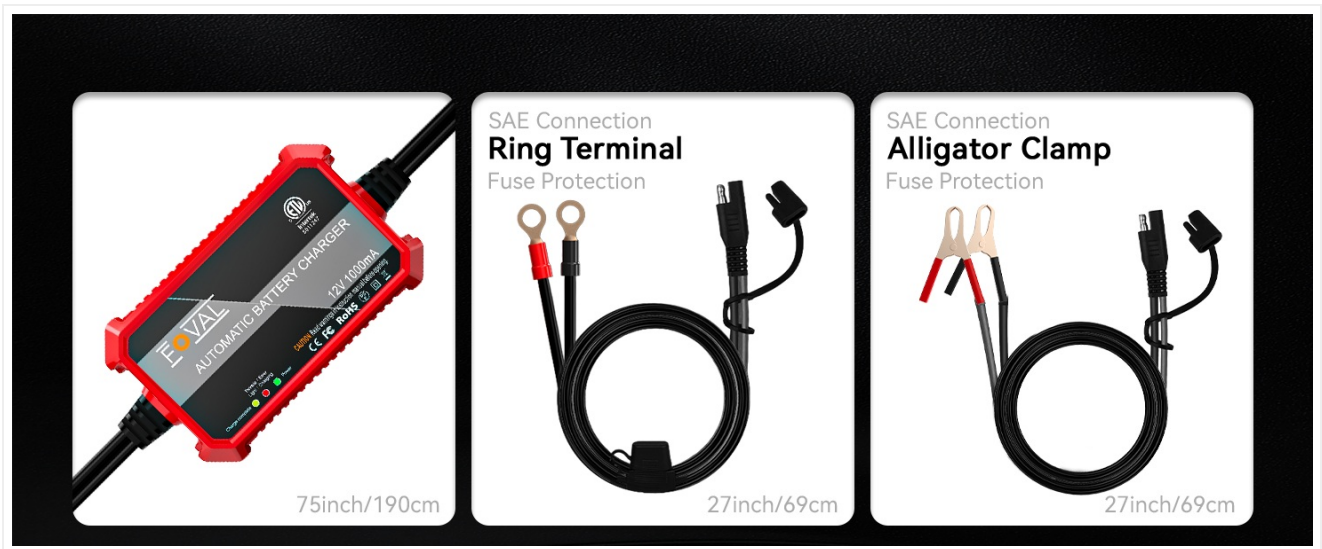


Image: Comparison of alligator clamp and ring terminal connections for different battery types.

3. **Connect DC Output Cable to Charger:** Connect the chosen DC output cable to the charger's DC output port. Ensure the connection is secure.

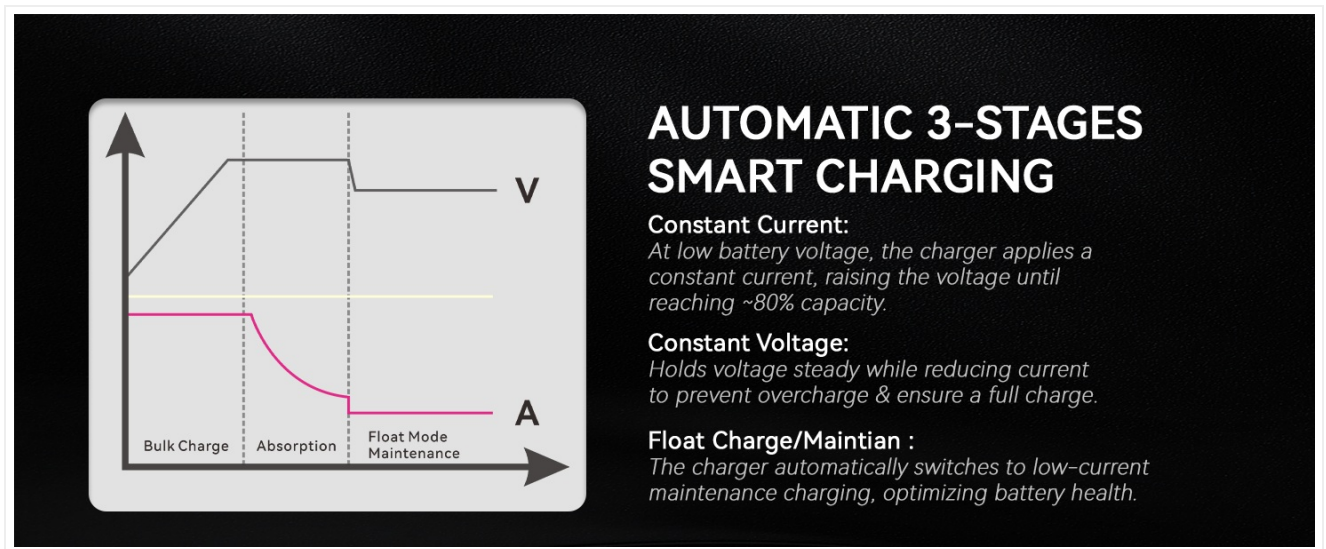


Image: Step 1 shows how to connect the DC output cable to the charger unit.

4. Connect to Battery:

- For **RED** positive (+) clip to the positive battery terminal. Connect the **BLACK** negative (-) clip to the negative battery terminal.
- For **RED** positive (+) ring terminal to the positive battery post. Secure the **BLACK** negative (-) ring terminal to the negative battery post.

Important: Ensure correct polarity. The charger has reverse polarity protection, but correct connection is always recommended.

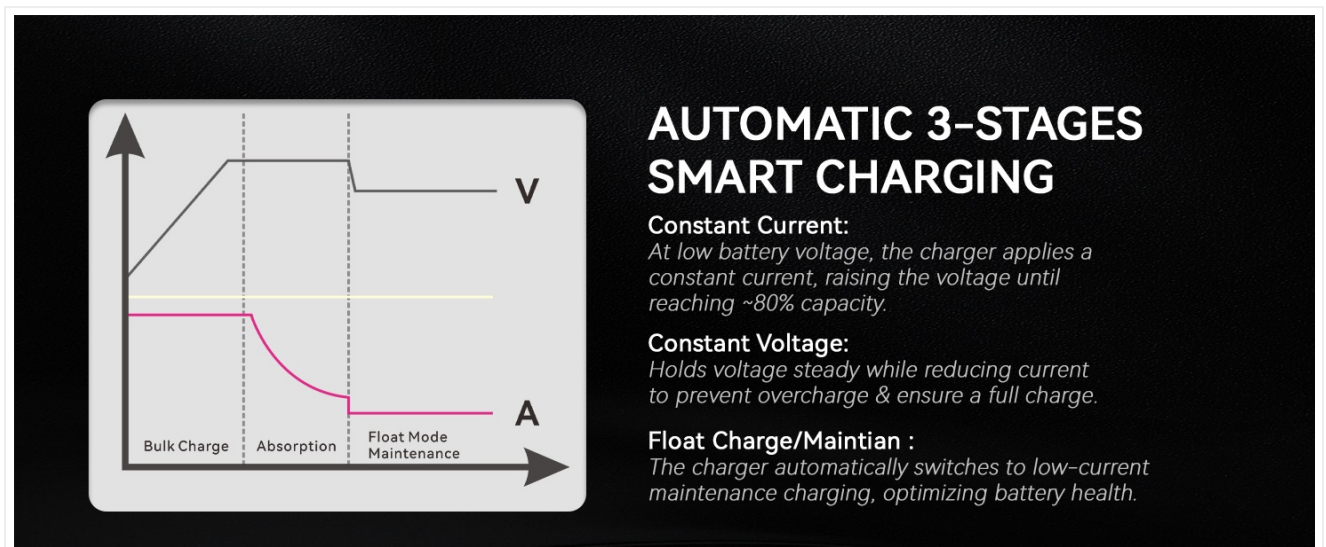


Image: Step 2 demonstrates connecting either the alligator clips or ring terminals to the battery posts.

5. Connect to Power Outlet: Plug the AC power cable into a standard 120V AC wall outlet.

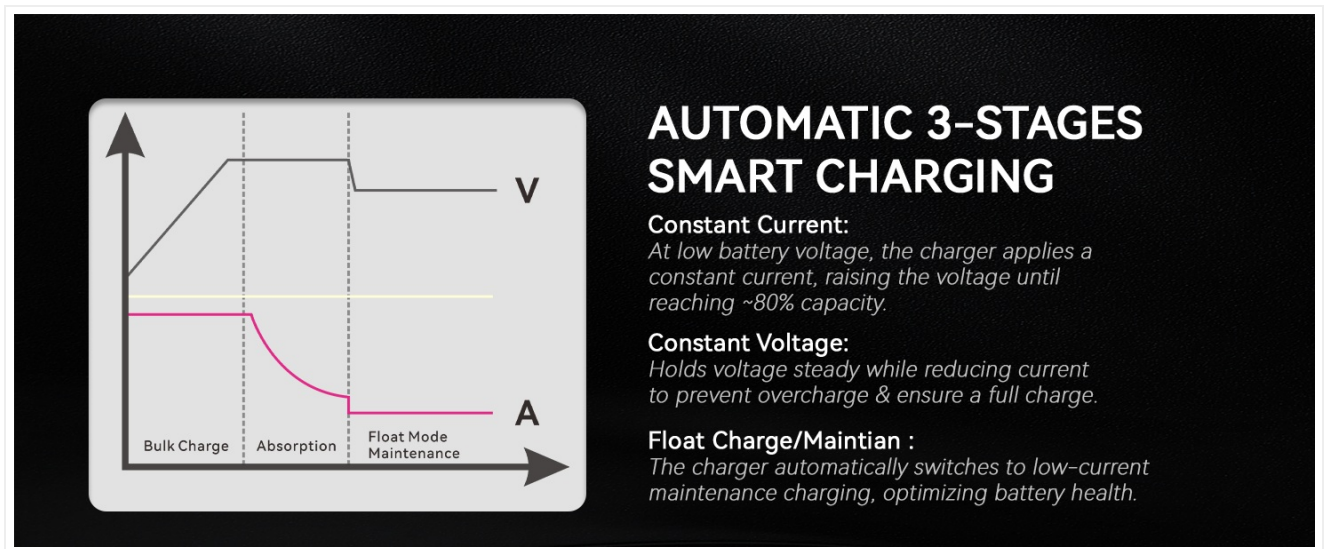


Image: Step 3 shows plugging the charger's AC power cable into a wall outlet.

OPERATING INSTRUCTIONS

The FOVAL charger operates automatically once connected. No manual settings are required.

Charging Process

The charger utilizes a 4-step smart charging program:

1. **Initialization:** The charger analyzes the battery's condition.
2. **Bulk Charge:** Charges the battery at a constant current until it reaches approximately 80% capacity.
3. **Absorption Mode:** Charges at a constant voltage, gradually reducing current to prevent overcharging and ensure a full charge.
4. **Float Mode (Maintenance):** Once fully charged, the charger automatically switches to a low-current maintenance voltage to keep the battery at optimal charge without overcharging. This mode is ideal for long-term connection.



Image: Graph illustrating the automatic 3-stage smart charging process: Constant Current (Bulk Charge), Constant Voltage (Absorption), and Float Charge (Maintenance).

LED Indicators

The charger features intuitive LED indicators to provide visual feedback on its status:

- **Green LED (Power):** Illuminates when the charger is connected to an AC power source.
- **Green with Red LED (Charging):** Indicates that the battery is currently being charged.
- **Green with Yellow LED (Fully Charged):** Indicates that the battery has reached full charge and the charger is in float (maintenance) mode.
- **Twinkle / Error Light:** Indicates a fault or error condition. Refer to the Troubleshooting section.

EASY TO USE

Easily connect the charger to the battery in just a few steps,
And automatically maintain and manage the battery safely throughout the winter.



Step 1

Connect and disconnect the cable connector



Step 2

Connect the alligator clip or the O terminal to the battery.



Step 3

Connect external AC source

Image: Close-up of the charger's LED indicators: Twinkle/Error, Charge Complete, Light/Charging, and Power.

COMPATIBILITY

This charger is suitable for 12V lead-acid batteries with capacities ranging from 2Ah to 120Ah. It is compatible with various vehicles and equipment, including but not limited to:

- Cars
- Motorcycles
- Lawn Mowers

- ATVs, UTVs
- Tractors
- Trucks, SUVs
- RVs, Boats, PWCs, Jet Skis
- Snowmobiles
- Golf Carts
- Children's Electric Toys

Note: This charger is **not** compatible with lithium batteries. It can only repair slightly damaged batteries, not completely dead ones.

Smart Charger & Maintain Battery Applicable Battery Capacity 2Ah - 120Ah



Lawn Mower



Motorcycle



Electric toy car



Car



SUV



Motorboat



Boat



Golf car

Image: Visual examples of vehicles and equipment compatible with the FOVAL Automatic Battery Charger, including lawn mowers, motorcycles, electric toy cars, cars, SUVs, motorboats, boats, and golf cars.

Proper maintenance ensures the longevity of your charger and batteries:

- **Charger Care:** Keep the charger clean and dry. Wipe with a soft, dry cloth. Do not use harsh chemicals or abrasives.
- **Cable Inspection:** Regularly inspect the AC and DC cables for any signs of damage, fraying, or exposed wires. Replace if damaged.
- **Storage:** Store the charger in a cool, dry place when not in use.
- **Battery Terminals:** Ensure battery terminals are clean and free of corrosion for optimal connection.
- **Long-Term Connection:** The charger is designed for long-term maintenance charging (float mode) to keep batteries fully charged during periods of inactivity.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Charger not turning on (No Power LED)	No AC power; faulty outlet; damaged AC cable.	Check AC power connection. Test outlet with another device. Inspect AC cable for damage.
Twinkle / Error Light is on	Reverse polarity connection; short circuit; battery voltage too low; damaged battery.	Disconnect and reconnect battery ensuring correct polarity. Check for short circuits. If battery voltage is extremely low, it may be beyond repair.
Battery not charging (Green with Red LED not on)	Poor connection to battery; battery already fully charged; battery fault.	Ensure secure connection to battery terminals. Check LED indicators for "Fully Charged" status. Test battery condition.
Charger feels hot	Normal operation during bulk charging; poor ventilation; excessive ambient temperature.	Ensure adequate ventilation around the charger. If excessively hot, disconnect and allow to cool. Avoid charging in direct sunlight or enclosed spaces.

SPECIFICATIONS

Feature	Detail
Model Number	BC01B-1
Output Voltage	12V DC
Output Current	1000mA (1A)
Battery Type Compatibility	12V SLA / VRLA / GEL CELL / AGM / WET Lead-Acid Batteries
Battery Capacity Range	2Ah - 120Ah
Charging Program	4-Step Automatic (Initialization, Bulk Charge, Absorption Mode, Float Mode)
Protections	Reverse Polarity, Over-Current, Overload, Over-Voltage, Short Circuit, Over-Temperature, Overcharge, Low-Voltage

Feature	Detail
Dimensions (L x W x H)	3.9 x 2.4 x 1.25 inches (10 x 6.1 x 3.2 cm)
Weight	10.6 ounces (300 grams)
Certifications	ETL Listed, CE, FCC, RoHS



Image: Diagram showing the dimensions of the FOVAL Automatic Battery Charger: 3.90 inches length, 2.40 inches width, and 1.25 inches height. Net weight is 0.65 lbs (295g).

WARRANTY AND CUSTOMER SUPPORT

FOVAL provides an **18-month warranty** for this product. For any questions, concerns, or support needs, please contact FOVAL customer service. We are committed to ensuring your satisfaction.

For further assistance, you may refer to the official User Guide PDF available at:[FOVAL User Guide \(PDF\)](#)

Related Documents - BC01B-1

[Schumacher XM1-5-CA Automatic Battery Charger/Maintainer Owner's Manual](#)

Owner's manual for the Schumacher XM1-5-CA Automatic Battery Charger/Maintainer, providing safety instructions, operating procedures, maintenance tips, troubleshooting, and warranty information.



[Century Battery Chargers, Jump Starters, and Maintainers - Product Guide](#)

Comprehensive guide to Century battery chargers, jump starters, trickle chargers, and battery maintainers. Features detailed specifications, model numbers, and applications for various vehicle and battery types.



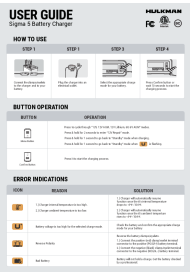
[NEXPEAK NC175 1.75A Smart Battery Charger User Manual](#)

User manual for the NEXPEAK NC175 1.75A Smart Fully Automatic Battery Charger Maintainer, Trickle Charger, and Battery Desulfator for 6V and 12V lead-acid batteries used in cars, lawn mowers, motorcycles, boats, and marine applications.



[SCA 1.5 Watt Solar Maintenance Charger Instruction Manual](#)

Comprehensive instruction manual for the SCA 1.5 Watt Solar Maintenance Charger (TPS-946-1.5). Covers safety warnings, first aid, features, technical specifications, charging instructions, troubleshooting, FAQs, and warranty information for 12V lead-acid, gel, calcium, and AGM batteries.



[Hulkman Sigma 5 Battery Charger User Guide](#)

Comprehensive user guide for the Hulkman Sigma 5 Battery Charger, detailing its operation, charging modes, error indications, technical specifications, and warranty information.



[PRO-LOGIX PL2112 Battery Maintainer Operator's Manual](#)

This manual provides essential safety instructions and operating procedures for the PRO-LOGIX PL2112 Battery Maintainer. Learn how to safely charge and maintain various battery types, including lead-acid, AGM, and LiFePO4, with detailed guidance on connection, charging settings, and maintenance.