



USERS MANUAL

Battery Charger WBC-Handy 20



Fully automatic charger for all types of lead-acid batteries.

Suitable for cars, trucks, motor bikes, boats, caravans, campers etc.

Power supply for 1-40Ah lead-acid batteries



- **Advanced 5 step** + charge algorithm: adapted charging for WET, AGM and GEL batteries, for a perfect charge of your battery.
- **Self adjusted temperature compensation** for hot and cold environment, assuring cold start in winter and preventing from overcharging during the summer.
- **Easy battery size selection** and power supply function enabling forced float charge.
- Equipped with **Charging Status Interface**, indicating charge phase at a glance.
- **Reverse polarity protection**
- Standard supplied with permanent installation kit, for fixed installations.

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- **PLEASE READ THIS USER GUIDE CAREFULLY BEFORE USING THE CHARGER.**
- **USE PROTECTIVE EYEWEAR WHEN HANDLING BATTERIES.**

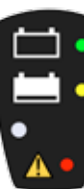
1 INTRODUCTION

Thank you for choosing a professional quality product from SMPower! This advanced and user-friendly battery charger will optimize performance and lifetime of your battery.

This intelligent and fully automatic charger can be used to charge any type of lead-acid batteries, including AGM and GEL types from 1 to 20Ah.

For more information about WhisperPower and our products, visit www.whisperpower.com. *for larger batteries of approx. 180Ah or more, the over-charging protection feature may interrupt charging.

2 GETTING STARTED



1. Connecting the charger: The battery terminal not connected to the chassis has to be connected first. The other connection is to be made to the chassis, remote from the battery and fuel line. The battery charger is then to be connected to the supply mains. The red clamp should connect to the positive (+) pole of the battery and the black clamp to the negative (-) pole.

For stand-alone batteries: Connect the red clamp to the battery's positive (+) pole, and then the black clamp to the battery's negative (-) pole. Then connect the battery charger to the supply mains.

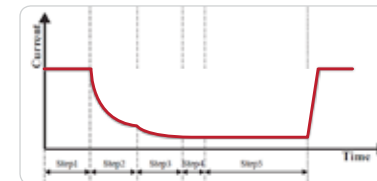
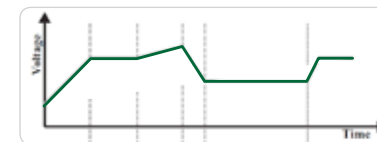
2. A constant green light means the battery is fully charged.

3. After charging is complete, the charger will switch to a maintenance mode to keep the battery fully charged as long as charger is plugged in to the mains

3 INSTRUCTIONS

- Connect the charger as explained in GETTING STARTED, point 1, above. After a couple of second the yellow light will be flash shortly and the charger is ready to start charging. After detection of a battery, yellow light will flash slowly three times, and then change to steady yellow light. If the charger does not start charging, please check the 3-pole cable connection that it is fastened firmly. If the battery clamps are connected with wrong polarity, red light will be lit. Please remove clamps and connect them correctly.
- When charging is complete the light will be constant green. After charging, disconnect the battery charger from the supply mains. Then remove the chassis connection and then the battery connection.
- For stand-alone batteries: After charging, disconnect the charger from the supply mains. Then remove the black clamp and then the red clamp.
- By leaving the clamps on the battery after charging, and mains plugged in, the charger will automatically switch to 13.7V maintenance mode as long as it is connected to the mains.
- To stop or interrupt charging, unplug the supply mains, at any time, and then remove clamps.

4 CHARGING CURVE



Reference charging time (hours) to 85 % capacity. Time varies with different batteries and conditions. 1.2Ah: 1.5h 7Ah: 6h 12Ah: 9h 20Ah: 15h Notes: min charge time is 6h. If left connected after step 5, it is programmed to restart from Step0 after 7 days, to refresh the battery.

5 SAFETY

- This charger is made for charging 12V lead-acid batteries. Do not use it for other purposes or with other battery types.
- Do not try to recharge non-rechargeable batteries.
- Do not use the charger if its casing, terminals, clamps or cables are damaged.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Use protective eyewear when handling batteries, and connecting or disconnecting it.
- Battery acid is corrosive. If it comes in contact with skin or eyes – rinse with plenty of water and contact a doctor immediately.
- During charge, a battery can emit explosive gases. Make sure there are not sparks or flames close to it, and ensure good ventilation.
- Never charge a battery that is frozen.
- Do not place the charger on top of the battery.
- Do not cover the charger.
- The charger is protected against overheating. If the ambient temperature is too high, the charging current is reduced.



- During the charge, the charger may intermittently provide a 15V charge voltage. Ensure that no equipment that may be damaged by this voltage level is connected to the battery during charging.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Make sure that the charger switched to maintenance mode after normal charging is completed, if you want to leave it unattended and connected for a long time. If it does not leave charge mode after maximum time, disconnect charger from the battery. See technical specifications below for info about time limit.
- All batteries will eventually fail. If that happens during charging, the charger will detect it, but there may be some rare faults in the battery, so do not leave it charging unattended for longer periods of time.
- Do not allow children to play with any part of this product.
- You need to have read and understood the full context of this user guide before you start using the battery charger.

6 SPECIAL FEATURES

Temperature sensor: The temperature affects the batteries ability to receive charge. This product has a sensor in the battery cable connector, which compensates for temperature variations to give optimal charge in cold as well as warm conditions, avoiding the common problem of insufficient charging in cold weather and over-charging at high temperatures.

Storage and travel: To make it easy to bring the charger with you, and for compact storage, you can wind the cables around the charger's holders in the back and front, and then lock them together with the included strap.

2. TROUBLESHOOTING AND FAULT INDICATIONS:

If red led is lit solid, it means that battery clamps has been connected with wrong polarity to the battery. Remove the clamps and connect them correctly according to instructions for using the charger point 2.

If red led is flashing it means:

- A. Battery temperature has exceeded 50-55C. Please try again after a couple of hours or replace the battery. The sensing is made inside the black clamp that is connected to the battery or
- B. Charging time out (>20 hours). After 20 hours, if battery still receives high current, the charging stops, and shuts off without any maintenance. Please check for parallel loads or keep track of the battery performance in the next period of time. There is a possibility that it needs to be replaced

8 MAINTENANCE

The charger is entirely maintenance-free. It has no user-serviceable parts. Opening the charger will void the warranty. The case may be cleaned using a soft, damp cloth. The charger must be disconnected from the mains when being cleaned.

9 ACCESSORIES

The charger comes with clamp cables and a set of ring terminal cables, which can be used for fixed installations. To change cables, press the unlock flange on the connector and pull it out. Connect the desired new cable. Push it all the way. The flange should lock it.

10 TECHNICAL SPECIFICATIONS

Model	WBC-Handy 70
Type	Switch mode, microprocessor controlled charger.
For battery types (12V)	Lead-acid (incl. AGM, GEL)
For battery capacity	1 .. 20Ah
Input voltage	220 .. 240 VAC ± 10%
Input current	0.3A
Back current	≤1mA
Charging Voltage	13.7 .. 15VDC
Charging Voltage Supply	13.7VDC (up to 7A load)
Charging current	Max 2A
Ripple voltage	Max 70mV
Ambient temperature	-40 .. +50°C
Cooling	Convection
Spark protection	Yes (except in 13.7V mode)
Temperature sensor	Yes (≈0.3V/10°C)
Temperature cut-off	Yes, approx. +50°C
Timeout error (bad or too big batt.)	6 hours (appr.)
Max charging time	24 hours (appr.)
Charging type	5 step; IUJU + pulse, or 13.7V maintenance/float
Battery DC cable length	1300 mm
Power cable 2x0.75 mm ²	1000 mm
Dimensions (L x W x H)	157 x 33 x 34mm
International Protection class	IP44
Weight	0.35 kg (net)

11 CE MANUFACTURER DECLARATION

Product: Battery charger Handy 20. WhisperPower guarantees that the unit complies with the relevant standards.



12 LIMITED WARRANTY

WhisperPower guarantees the quality of this product. It is made to meet high industrial production standards for electronics. This limited warranty is made to the original purchaser of this product, and is valid from the date of purchase, meeting the mandatory warranty rights for the country of purchase. If the product has workmanship defects or damages relating to manufacturing or distribution, contact the store where you purchased the charger for warranty claims. The warranty is void if the unit has been damaged due to careless handling, abuse or unauthorized repair, or has been opened, or screws and/or labels have been removed. WhisperPower is not responsible for any consequential costs, or shipping- or handling costs for the return to the place of purchase. Nor is WhisperPower liable under any other warranty than this one. This warranty is not transferrable.

Note: Measurements such as time, %, lengths etc are approximates.

Art. Nr.	Item
61112901	WBC-HANDY fixed installation kit
61112911	WBC-HANDY battery fast connect clamps

