

Clarke®



AUTOMATIC BATTERY CHARGER / MAINTAINER

MODEL NO: CBO3-12

PART NO: 6267015

OPERATION & MAINTENANCE INSTRUCTIONS



ORIGINAL INSTRUCTIONS

GC0421 - rev 1

INTRODUCTION

Thank you for purchasing this CLARKE product.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service.

GUARANTEE

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

ENVIRONMENTAL RECYCLING POLICY



Through purchase of this product, the customer is taking on the obligation to deal with the WEEE in accordance with the WEEE regulations in relation to the treatment, recycling & recovery and environmentally sound disposal of the WEEE.

In effect, this means that this product must not be disposed of with general household waste. It must be disposed of according to the laws governing Waste Electrical and Electronic Equipment (WEEE) at a recognised disposal facility.

SAFETY INSTRUCTIONS



WARNING: DO NOT USE ON ANY OTHER BATTERIES APART FROM THOSE MENTIONED IN THE SPECIFICATION TABLE ON PAGE 10 .

WARNING: DISCONNECT THE CHARGER FROM THE MAINS POWER BEFORE MAKING OR BREAKING DC CONNECTION, SERVICING OR PERFORMING ANY MAINTENANCE.

WARNING: ENSURE THERE ARE NO SOURCES OF IGNITION NEAR THE WORK AREA I.E. NAKED FLAMES, SPARKS, CIGARETTES, FLAME HEATERS ETC AS THE CHARGING PROCESS PRODUCES EXPLOSIVE GASES.



- Always keep the charger in good condition.
- Keep the charger clean.
- Always keep the work area clean and tidy and make sure that there is sufficient lighting.
- Use eye protection (standard spectacles are not adequate) and protective clothing. Do not touch your eyes while working with batteries.
- Remove loose clothing, watches, and any jewellery, and contain long hair. A lead acid battery can cause a short-circuit current sufficient to weld metal to metal, which will cause dangerous burns.
- Read the vehicle manufacturers instruction manual for specified battery charging instructions.
- Disconnect the battery and move it to a safe, dry level area for charging. If the battery cannot be removed, refer to manufacturers handbook.
- Clean the clamps and battery terminals to remove oxidation.
- When you connect the clamps to the battery, make sure that you follow the correct polarity. Red is Positive (+) and Black is Negative (-).
- DO NOT pull or lift the charger by its cables.
- DO NOT pull plugs from the sockets by the power cable.
- DO NOT try to charge a non-rechargeable battery.
- DO NOT use the charger for something other than that for which it is designed.
- DO NOT let the clamps touch each other when the power is on.
- DO NOT get the charger wet or use it in damp or wet locations or areas where there is condensation.

- DO NOT operate the charger if there is any visible damage.
- DO NOT try to modify or open the charger.
- DO NOT charge the battery with the engine running.
- DO NOT charge a frozen battery.
- When not in use disconnect the charger from the power supply and keep in a safe, dry area.
- DO NOT let untrained persons operate the charger. It is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given instruction concerning the use of the charger and are supervised by a person responsible for their safety.
- Keep children and unauthorised persons away from the working area.
- Follow these instructions and those of the battery and vehicle manufacturers.

PERSONAL PRECAUTIONS

- Ensure there is another person within hearing range of your voice, or close enough to come to your aid, should a problem arise.
- Have fresh water and soap nearby in case battery acid contacts skin, clothing or eyes.
- Wash immediately with soap and water if battery acid contacts skin or clothing. If acid enters the eye, flush the eye immediately with cool, clean running water for at least 15 minutes and seek immediate medical attention.
- DO NOT smoke or allow a flame in the vicinity of battery or engine.

SAFETY SYMBOLS

	<p>Read all instructions before use</p>		<p>For indoor use only.</p>
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ELECTRICAL CONNECTIONS



WARNING: READ THESE ELECTRICAL SAFETY INSTRUCTIONS THOROUGHLY BEFORE CONNECTING THE PRODUCT TO THE MAINS SUPPLY.

Connect the mains lead to a standard, 230 Volt (50Hz) electrical supply through an approved BS1363/A plug fitted with a BS1362 fuse.

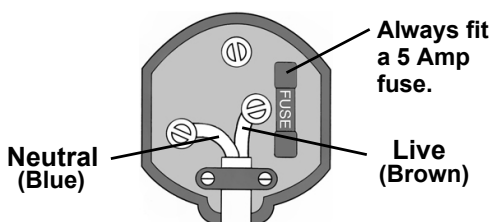
If the plug has to be changed because of damage, it must be removed and a replacement fitted, following the wiring instructions shown below. The old plug must be discarded safely, as insertion into a power socket could cause an electrical hazard.



WARNING: WIRES IN THE MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE: BLUE = NEUTRAL, BROWN = LIVE.

- The BLUE wire must be connected to the terminal which is marked N or coloured black.
- The BROWN wire must be connected to the terminal which is marked L or coloured red.

Plug must be BS1363/A approved.



Ensure that the outer sheath of the cable is firmly held by the clamp

We strongly recommend that this machine is connected to the mains supply via a Residual Current Device (RCD)

If in any doubt, consult a qualified electrician. DO NOT attempt any repairs yourself.






This symbol indicates that this is a Class II product, and does not require an earth connection.

CONNECTIONS

1. The charger should be connected to the battery or the vehicle accessory (cigar lighter) socket, before connecting it to the mains supply.

IMPORTANT: Check the vehicle handbook and note whether the vehicle has a positive earth or negative earth.

2. The output cable from the charger terminates in a socket. Connect one of the following leads into this socket.

 A black cable with a standard power socket connector at one end and two alligator clips (one red, one black) at the other end.	<p>Crocodile clips - for connecting direct to the battery terminals, positive (Red) and negative (Black).</p>
 A black cable with a standard power socket connector at one end and a cigarette lighter plug at the other end.	<p>Cigar lighter lead - when you want to charge the battery through the vehicle accessory (cigar lighter) socket.</p> <p>NOTE: Not all vehicles allow charging this way, and doing so can damage the vehicles electronic systems, see the vehicle handbook for details on recommended methods of charging the battery.</p>
 A black cable with a standard power socket connector at one end and two eyelets (one red, one black) at the other end.	<p>Lead (C) is for semi permanent connection to the battery via eyelets. For motorcycles, Boats, ATVs, Quad bikes and Scooter.</p>

CHARGING A NEGATIVE EARTHED BATTERY

1. Make sure that the black clamp is not touching the battery or the fuel line.
2. Connect the positive (+) red clamp to the positive (+) battery post
3. Connect the negative (-) black clamp to the negative (-) battery post or vehicle chassis.

CHARGING A POSITIVE EARTHED BATTERY

1. Make sure that the red clamp on the clamp lead is not touching the battery or the fuel line.
2. Connect the negative (-) black clamp to the negative (-) battery post.
3. Connect the positive (+) red clamp to the positive (+) battery post or vehicle chassis.

BATTERY NOT IN A VEHICLE

1. Connect the (+) red clamp to the positive (+) battery post.
2. Connect the (-) black clamp to the negative (-) battery post.

PERMANENT CONNECTION TO VEHICLE USING EYELET LEAD

1. Connect the eyelet on the red (+) wire to the positive (+) battery terminal.
2. Connect the eyelet on the black (-) wire to the negative (-) battery terminal.

THE 3-STAGE CHARGING PROCESS

Stage	Description
1	Bulk/Rapid Start Charge (20%-70% charge). The charger delivers maximum charging amperage to re-energise the battery.
2	Absorption Charge (70%-90% charge) Maintains the charge at a safe voltage, which remains constant while the current requirement diminishes.
3	Maintenance (90%-100% charge) Voltage is automatically maintained with pulsing low input current. Occasional monitoring only required.

OPERATION

1. Connect the charger to the battery as instructed on page 6 before connecting to mains power supply.

CONNECT CHARGER TO MAINS POWER SUPPLY

1. Insert the plug into the mains power supply.
2. Switch on the power supply.
 - The "POWER" LED will illuminate.
 - Depending upon the charger status, either the "CHARGING" LED or the "FULL" LED will also illuminate.
3. When the "FULL" LED is lit and maintenance mode is not required, disconnect the charger from the power supply, remove the clamps from the battery in the reverse order they were fitted and keep in a safe, dry area.

MAINTENANCE



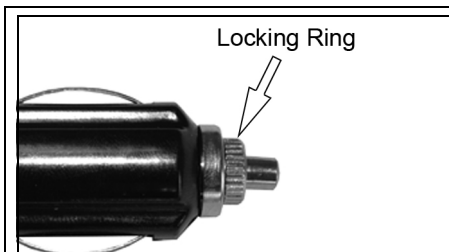
WARNING: DISCONNECT THE CHARGER FROM THE MAINS POWER BEFORE SERVICING OR PERFORMING ANY MAINTENANCE.

Other than cleaning, this charger does not require any specific maintenance.

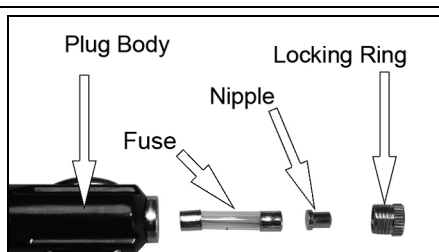
CLEANING

Only use a dry cloth to clean the charger. DO NOT use solvents or cleaning agents on the casing.

CHANGING THE FUSE IN THE CIGAR LIGHTER CONNECTION



1. Unscrew the locking ring, making sure that you don't lose the nipple



2. Replace the 15A glass fuse and reassemble the plug.

SPECIFICATION

Input Voltage	230V
Battery Voltage	12V
Compatible Battery Types	Lead acid: SLA, WET, AGM, VRLA
Charging Current	2 Amp
Input Current	0.32 Amp
Charge Type	3-Cycle
Ambient Temperature	-20°C to +50°C
Dimensions (D X W X H)	75 x 145 x 40 mm
Weight	0.5 kg

DECLARATION OF CONFORMITY



Clarke[®]
INTERNATIONAL
Fitzwilliam Hall, Fitzwilliam Place, Dublin 2

DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following directive(s):

- 2014/30/EU Electromagnetic Compatibility Directive.
- 2014/35/EU Low Voltage Equipment Directive.
- 2011/65/EU Restriction of Hazardous Substances, (amended by 2015/863).

The following standards have been applied to the product(s):

- EN 60335-2-29:2004+A2:2010, EN 60335-1:2012+A11:2014, EN 62233:2008, EN 61000-3-2:2019, EN 61000-3-3:2013+A1:2019, EN 55014-2:2015, EN 55014-1:2017.

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2013

Product Description: Smart charger / Battery optimiser
Model number(s): CB03-12
Serial / batch Number: N/A
Date of Issue: 04/03/2021

Signed:

J.A. Clarke
Director

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Clarke[®]
INTERNATIONAL
Hemmel Street, Epping, Essex CM16 4UG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

We hereby declare that this product(s) complies with the following UK legislation:

- Electromagnetic Compatibility Regulations 2016.
- Electrical Equipment (Safety) Regulations 2016.
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

The following standards have been applied to the product(s):

- EN 60335-2-29:2004+A2:2010, EN 60335-1:2012+A11:2014, EN 62233:2008, EN 61000-3-2:2019, EN 61000-3-3:2013+A1:2019, EN 55014-2:2015, EN 55014-1:2017.

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned legislation has been compiled and is available for inspection by the relevant enforcement authorities.

This product was placed onto the market: 2013

Product Description: Smart charger / Battery optimiser
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Signed:

J.A. Clarke
Director

UKCA 14-0145) CB03-12 Smart Charger (v 0) INCL 002 UK

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