

Clarke®



12V/24V 15A BATTERY CHARGER

MODEL NO: BC2

PART NO: 6267023

OPERATION & MAINTENANCE INSTRUCTIONS

UK
CA | CE



ORIGINAL INSTRUCTIONS

DL1025

INTRODUCTION

Thank you for purchasing this CLARKE Battery Charger.

Please read this manual thoroughly, before attempting to operate this product and carefully follow all instructions given.

It is vitally important that ALL precautions are taken, as specified, which will not only provide protection for yourself and that of others around you, but will also ensure that the battery charger will give you long and satisfactory service.

GUARANTEE

This CLARKE product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt 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.

SPECIFICATIONS

Model Number	BC2
Operating Voltage & Frequency	230 V, 50Hz
Battery Charging Voltages:	12V & 24V
Min./Max. Charging Battery Size	4 - 300Ah
Start Voltage	3V
Maximum Input Power	300W
Battery Types	Standard Lead Acid (STD) Absorbent Glass Mat (AGM) Lithium Iron Phosphate (LiFePO4)
Charging Current	Max: 15A 12V STD: 14.5V / 15A 24V STD: 29V / 8A 12V AGM: 14.8V / 15A 24V AGM: 29.9V / 8A 12V LFP: 14.6V / 15A 24V LFP: 29.2V / 8A 12V M: 14.4V / 2A 24V M: 28.8V / 2A
Charging Steps	6 steps
IP Rating	IP20
Protection Class	Class II
Operating Temperature Range	0°C to 40°C (32°F to 104°F)
Dimensions (L x W x H)	150mm x 100mm x 240mm
Power Cable Length	1.5m
Charging Clamp Cable Length	1.5m
Weight	1.08kg

SAFETY PRECAUTIONS



WARNING: ALWAYS SWITCH OFF THE CHARGER WHEN CONNECTING OR DISCONNECTING LEADS TO AVOID SPARKING AS HIGHLY INFLAMMABLE HYDROGEN GAS CAN BE RELEASED IN THE PROCESS OF BATTERY CHARGING

PLEASE READ BEFORE USING THIS UNIT

1. **DO NOT** use this charger/maintainer on Lithium Ion batteries.
2. Batteries can generate explosive gases during normal operation. **ALWAYS** use in well ventilated area.
3. **DO NOT** smoke, strike a match or cause a spark in the vicinity of the battery or engine. Avoid explosive gas, flames and sparks.
4. Remove all personal jewellery, such as rings, bracelets, necklaces and watches while working with a vehicle battery. These items may produce a short circuit and could cause severe burns.
5. Be extra cautious to reduce the risk of dropping a metal tool onto the battery. It may spark or short circuit the battery or other electrical hardware which may cause an explosion or fire.
6. Wear complete eye protection, hand and clothing protection. **AVOID** touching eyes while working near a battery.
7. Study all battery manufacturers specific precautions, such as removing or not removing cell caps while charging and recommended rates of charge.
8. Clean battery terminals before connection with the charger. If there is corrosion on the terminals, **AVOID** eye contact.
9. When it is necessary to remove the battery from the vehicle to charge, **ALWAYS** remove grounded terminal from the battery first. Make sure all accessories in the vehicle are switched off in order to prevent an arc.
10. This charger is **NOT** intended to supply power to an extra low voltage electrical system or to charge dry cell batteries. Charging dry cell batteries may cause the battery to burst and cause injury to person or property.
11. **NEVER** charge a frozen, damaged, leaking or non rechargeable battery.
12. If battery electrolyte contacts skin or clothing, wash **IMMEDIATELY** with soap and water. If electrolyte enters your eye, **IMMEDIATELY** flood eye with running clean cold water for at least 15 minutes and seek medical attention immediately.
13. **DO NOT** place the charger in the engine compartment, near moving parts or near the battery. Place as far away from them as the cable permits.

14. **NEVER** place the charger directly above the battery being charged, gases or fluids from the battery will corrode and/or damage the charger.
15. **DO NOT** cover the charger while charging.
16. **DO NOT** expose to rain or wet conditions.
17. Connect and disconnect the DC output connections only after disconnecting the charger from the mains power supply.
18. Use of an attachment not recommended or sold by the manufacturer may result in a risk of fire, electric shock or injury to persons.
19. **DO NOT** overcharge batteries by selecting the wrong charge mode.
20. To reduce the risk of damage to the electric plug and cord, pull by the plug rather than the cord when disconnecting charger from mains power supply.
21. To reduce risk of electric shock, unplug charger from mains power supply before attempting any maintenance or cleaning.
22. Operate with caution if the charger has received a direct hit of force or been dropped. Have it checked and repaired if damaged.
23. **NEVER** attempt any repairs yourself. If you have a problem with your charger contact your local CLARKE dealer or contact service@clarkeinternational.com
24. When charging is complete, ensure that the vehicle battery leads are secured to the proper terminals which should be clean, and lightly smeared with petroleum jelly to prevent corrosion. Finally, re-check the electrolyte level.

SYMBOLS

	Before Use, Read The Instructions Fully		For Indoor Use Only
	Class II Appliance		Wear Eye Protection
	Wear a Protective Mask		Wear Protective Gloves

ELECTRICAL CONNECTIONS



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

Before switching the product on, make sure that the voltage of your electricity supply is the same as that indicated on the rating plate. This product is designed to operate on 230VAC 50Hz. Connecting it to any other power source may cause damage.

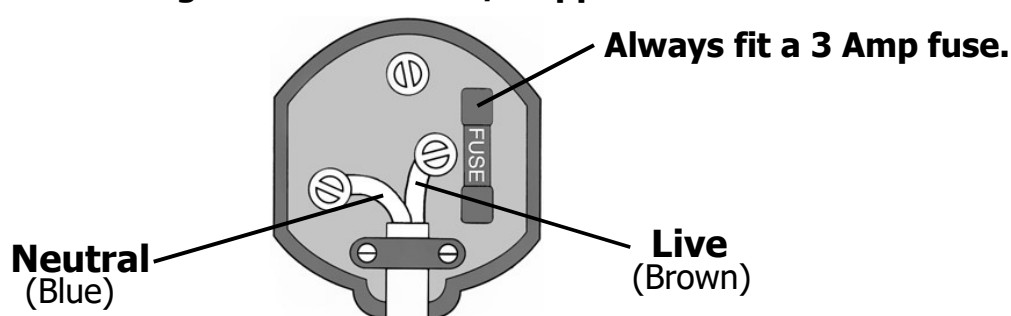
This product may be fitted with a non-rewireable plug. If it is necessary to change the fuse in the plug, the fuse cover must be refitted. If the fuse cover becomes lost or damaged, the plug must not be used until a suitable replacement is obtained.

If the plug has to be changed because it is not suitable for your socket, or due to damage, it should be cut off and a replacement fitted, following the wiring instructions shown below. The old plug must be disposed of safely, as insertion into a mains socket could cause an electrical hazard.

If the colours of the wires in the power cable of this product do not correspond with the markings on the terminals of your plug, proceed as follows.

- The **Blue** wire must be connected to the terminal marked **N** or coloured **Black**.
- The **Brown** wire must be connected to the terminal 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

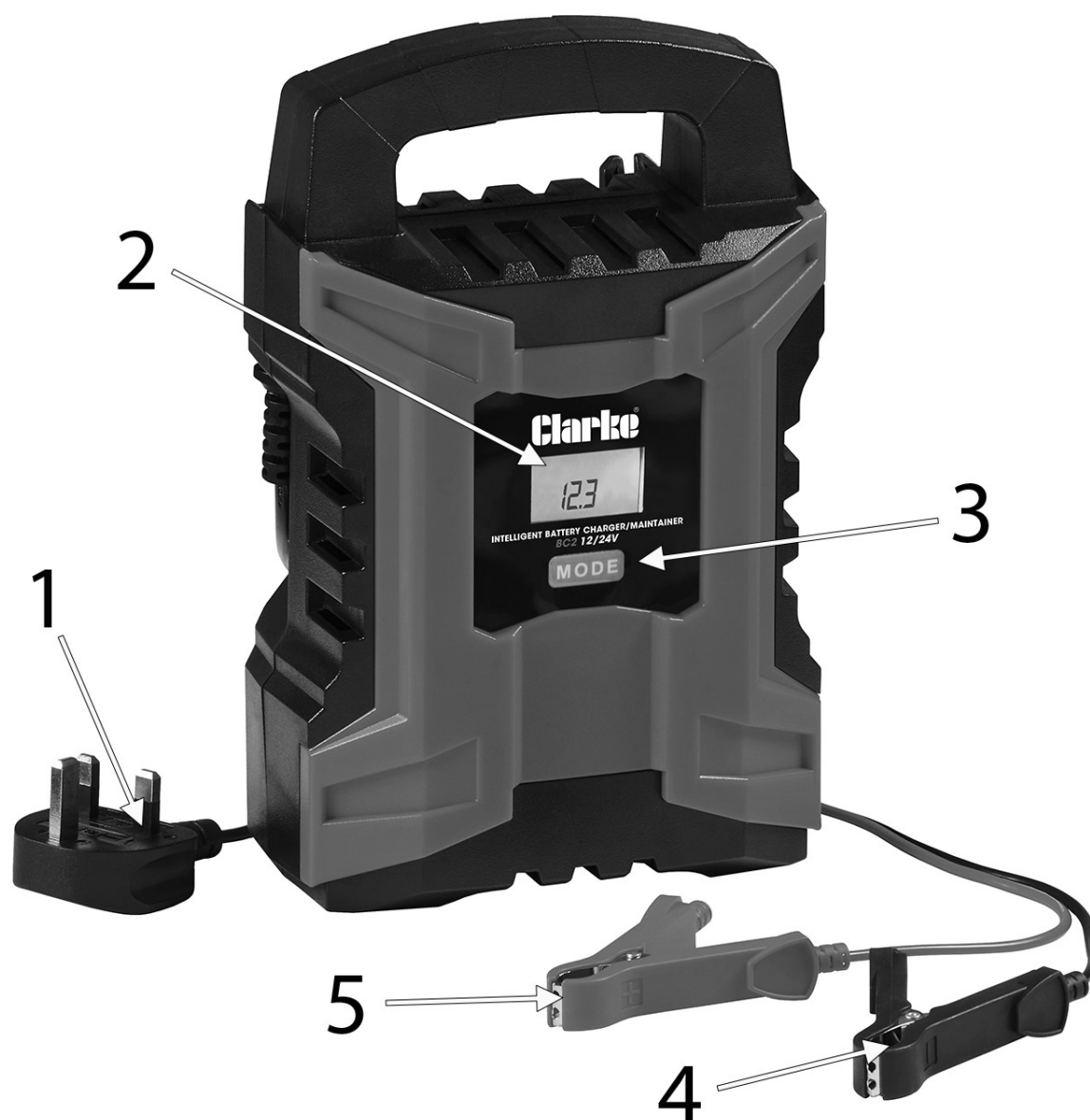
We strongly recommend that this machine is connected to the mains supply via a Residual Current Device (RCD)

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.

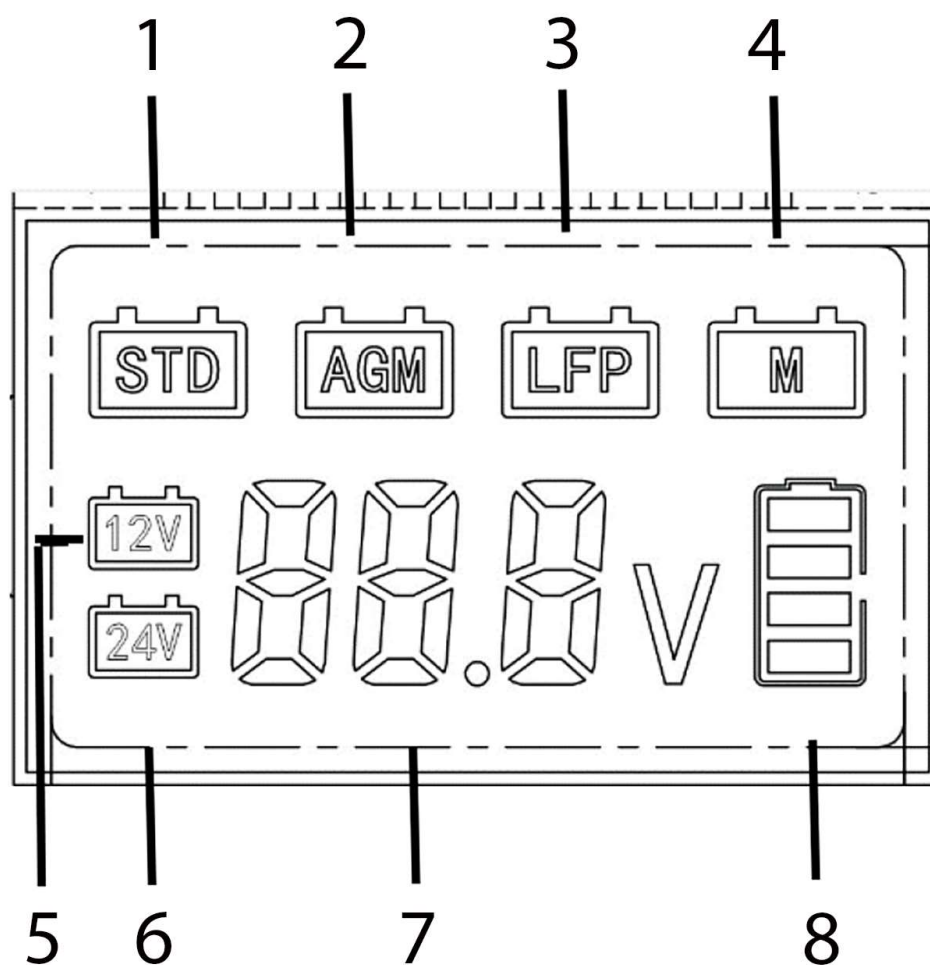
OVERVIEW



1	Power Cable/Plug	4	Charging Clamp Negative (Black)
2	LCD Display Screen	5	Charging Clamp Positive (Red)
3	Mode Button		

NOTE: The charger will intelligently recognize if it is a 12V or 24V battery. Then press the 'MODE' button to select among the four normal charge modes (Battery Types): STD (Standard Lead Acid), AGM (Absorbent Glass Mat), LFP (Lithium Iron Phosphate) or M (Maintenance)

BATTERY CHARGER DISPLAY



	Description
1	12V STD, Up to 14.5V, Charging a 12V Standard Lead Acid Battery 24V STD, Up to 29V, Charging a 24V Standard Lead Acid Battery
2	12V AGM, Up to 14.8V, Charging a 12V AGM Battery 24V AGM, Up to 29.6V, Charging a 24V AGM Battery
3	12V LFP, Up to 14.6V, Charging a 12V LifePO4 Battery 24V LFP, Up to 29.2V, Charging a 24V LifePO4 Battery
4	12V M, Up to 14.4V, Charging a 12V Battery for Maintenance Purpose 24V M, Up to 28.8V, Charging a 24V Battery for Maintenance Purpose
5	The Charger will Automatically Recognise the 12V Mode
6	The Charger will Automatically Recognise the 24V Mode
7	Battery Voltage Indicator. Accurate to 0.1V. Fully Charged: FUL Connected with Reverse Polarity/Short Circuit at the Clamps: Err
8	Charging Indicator. Indicate the Charging Process, Each Bar Represents Approximately 20%

OPERATION

This product is designed to charge and maintain 12V/24V lead acid batteries with a capacity of 4-300Ah. The charger has been optimised to maintain the battery of your vehicle when it is not being used over longer periods of time, for example over the winter. The charger is designed to charge Lithium Iron Phosphate (LiFePO₄), AGM and Standard Lead Acid batteries.

NOTE: DO NOT use to charge other types of Lithium batteries.

Any use other than described in this manual may damage this product and involves the risk of short circuits, fire and/or electric shock.

CHARGER LOCATION

1. Place the charger as far away from the battery as possible. **NEVER** place the charger on the battery or the battery on the charger.
2. **DO NOT** position the charger above the battery during the charging procedure. Gases from the battery may corrode and damage the charger.
3. **DO NOT** let battery acid drip on the charger when reading a hydrometer for specific gravity or when you fill the battery.
4. **DO NOT** use the charger in an enclosed space with reduced airflow.
5. During charging, if the temperature of the battery exceeds 40°C, the charging current will be reduced. If the temperature exceeds 45°C, the charger will stop. Charging will not recommence until the battery temperature reduces to safe limits.

PREPARING TO CHARGE

1. If it is necessary to remove the battery from the vehicle to charge, always remove the grounded terminal from the battery first. Make sure all accessories in the vehicle are off, so as not to cause an arc.
2. Make sure the area around the battery is well ventilated while the battery is being charged.
3. Clean the battery terminals. Be careful to keep corrosion from coming in to contact with eyes.
4. Add distilled water to each cell until battery acid reaches level specified by the battery manufacturer. **DO NOT** overfill. For a battery without removable cells caps, such as valve regulated lead acid batteries, carefully follow the manufacturers recharging instructions.
5. Study all battery manufacturers specific precautions while charging and recommended rates of charge.
6. Determine voltage of battery by referring to the vehicles manual and make sure the output voltage mode is correct.

CONNECTION

To avoid sparks which could cause an explosion, the mains supply should always be disconnected before making or breaking the battery connections. Connect the battery clips to the battery in the following order:

1. Connect the positive charging lead (RED) to the positive post of the battery (marked with +/+ve or P).
2. For vehicles with the battery still installed: Connect the negative charging lead (BLACK) to the vehicle chassis (marked -/-ve or N), well away from the battery, fuel line and hot or moving parts.
3. For batteries removed from the vehicle: Connect the negative charging lead (BLACK) to the negative post of the battery (marked -/-ve or N).
4. After connecting the clips, rotate them slightly so as to remove any dirt or oxidization, thus ensuring a good contact.

CHARGING

1. First make sure your battery is a 12V or 24V battery. **DO NOT** charge batteries with different operating voltages.
2. Connect the battery charger to the battery with the correct polarity, see 'CONNECTION' section above. If connected with reverse polarity or short circuit at the clamps, 'Err' will be lit on the display.
3. Connect the battery charger to the power supply.
4. Select the appropriate charging mode for your battery with the 'MODE' button (see page 8 for different charging modes).
5. This battery charger is equipped with an automatic memory function, i.e. whenever the AC supply is connected, it starts in the last selected mode.
6. After the charging process, disconnect the battery charger from the mains supply. Then remove the clamp from the negative terminal first and then the positive terminal.

NOTE: 12V/24V LiFePO4 Battery Charging: Make sure that your battery is on awake status.

SAFETY FEATURES

This battery charger is fitted with the following safety features:

- Short Circuit Protection
- Overload Protection
- Reverse Polarity Protection
- Overcharging Protection
- Over Temperature Protection

CHARGING TIME

The charging time depends on the charge status of the battery. The below times are approximate and guide only.

BATTERY SIZE	15A 12V	8A 24V
4 Ah	19 Mins	35 Mins
10 Ah	47 Mins	1 Hour 28 Mins
20 Ah	1 Hour 34 Mins	2 Hours 56 Mins
40 Ah	3 Hours 8 Mins	5 Hours 53 Mins
80 Ah	6 Hours 16 Mins	11 Hours 46 Mins
160 Ah	12 Hours 33 Mins	23 Hours 32 Mins
320 Ah	25 Hours 6 Mins	47 Hours 3 Mins

CARE & MAINTANENCE

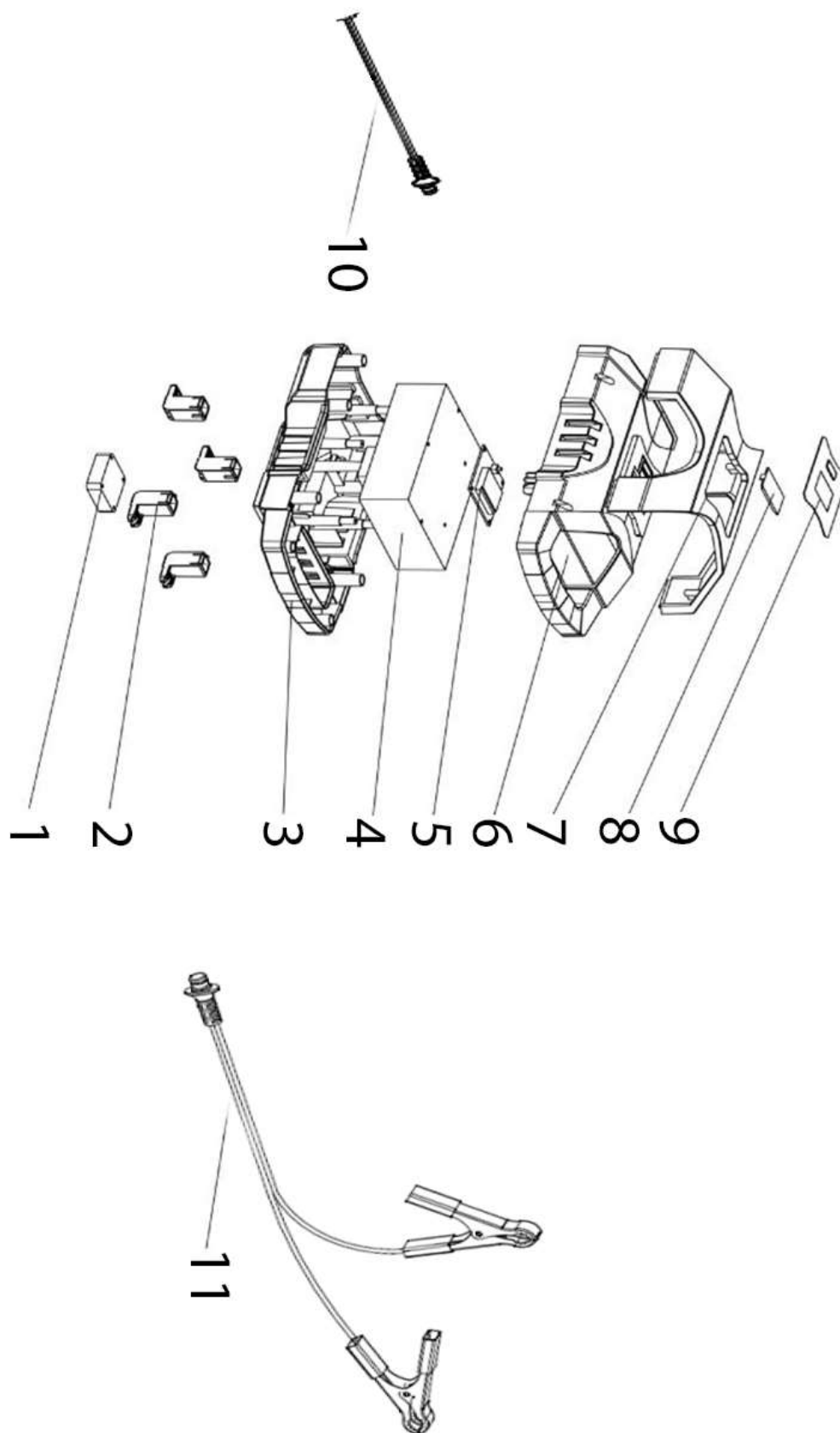
This battery charger requires minimal maintenance. As with any appliance or tool, a few common sense rules will prolong its working life.



WARNING: ALWAYS BE SURE THE CHARGER IS UNPLUGGED BEFORE PERFORMING ANY MAINTENANCE OR CLEANING. ANY REPAIRS MUST BE DONE BY A QUALIFIED SERVICE TECHNICIAN.

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1. Store in a clean, dry place.
 2. Wind up the leads when not in use. Examine the leads at regular intervals for damage and have them replaced if necessary.
 3. Clean the case and leads if necessary with a moist cloth and clean any corrosion from the clamps with a solution of water and baking soda.

PARTS DIAGRAM



PARTS LIST

No	DESCRIPTION	No	DESCRIPTION
1	Fan	7	Decorative Cover
2	Cable Storage Hooks	8	LCD Transparent Cover
3	Base Cover	9	PVC Label
4	Large PCB Board	10	Power Cable
5	Small PCB Board	11	Charging Leads
6	Top Cover		

DECLARATION OF CONFORMITY - UKCA



Hemnall Street, Epping, Essex, CM16 4LG

DECLARATION OF CONFORMITY

This is an important document and should be retained.

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

2014/30/EU	<i>Electromagnetic Compatibility Directive</i>
2014/35/EU	<i>Low Voltage Directive</i>
2011/65/EU	<i>Restriction of Hazardous Substances (RoHS) Directive</i>

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

*IEC 60335-2-29:2016+AMD1:2019, EN IEC 55014-1:2021, EN IEC 55014-2:2021, IEC 62321-8:2017,
IEC 60335-1:2010+COR1:2010+COR2:2011+AMD1:2013+COR1:2014+AMD2:2016+COR1:2016,
EN 61000-3-3:2013+A1:2019+A2:2021, EN IEC 61000-3-2:2019+A1:2021*

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.

The UKCA mark was first applied in: 2025

Product Description:	Battery Charger
Model Number(s):	BC2
Serial/Batch Number:	Refer to product/packaging label
Date of Issue:	11/03/2025

Signed:

J.A Clarke

Director

DECLARATION OF CONFORMITY - CE



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 legislation:

2014/30/EU	<i>Electromagnetic Compatibility Directive</i>
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The following standards have been applied to the product(s):

*IEC 60335-2-29:2016+AMD1:2019, EN IEC 55014-1:2021, EN IEC 55014-2:2021, IEC 62321-8:2017,
IEC 60335-1:2010+COR1:2010+COR2:2011+AMD1:2013+COR1:2014+AMD2:2016+COR1:2016,
EN 61000-3-3:2013+A1:2019+A2:2021, EN IEC 61000-3-2:2019+A1:2021*

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.

The CE mark was first applied in: 2025

Product Description:	Battery Charger
Model Number(s):	BC2
Serial/Batch Number:	Refer to product/packaging label
Date of Issue:	11/03/2025

Signed:

J.A Clarke

Director

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