

HARDKORR



25A/40A DC-DC BATTERY CHARGER WITH MPPT SOLAR REGULATOR

V1.0.0 - October 2022

INSTRUCTION MANUAL



CONGRATULATIONS ON YOUR PURCHASE

In doing so, you now have the assurance and peace of mind that comes from purchasing a product that has been manufactured to the highest quality standards.

Our aim is for you to be completely satisfied with your purchase, and therefore your new Hardkorr product is backed by a comprehensive 2-year warranty and an outstanding after-sales customer service team.

We hope you will enjoy using this product for many years to come.

If you require technical support, or in the unlikely event your purchase appears to be faulty, please contact our support team for immediate assistance. Contact details for each country are contained within this user guide.

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INTRODUCTION

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This DC-DC charger comes with a built-in Bluetooth connection to monitor your batteries, solar panels and DC input with the free HARDKORR DC-DC Charger app.



PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE

Our 40A DC-DC Battery Charger with Solar Input is engineered to help you stay on the road for longer. Loaded with smart features, our product is designed with an intelligent charging algorithm and advanced protection measures. Coming standard with an inbuilt MPPT regulator, you'll produce power more efficiently than ever before – up to 15% faster than standard solar setups. Compatible with Lithium, AGM/Gel, Lead Acid and Calcium batteries, it's perfect for 4x4, camper or caravan setups.

CAUTION

This manual contains important safety instructions for your DC-DC Charger. Do not operate the device or modify the installation unless you have read and understood this user manual. Hardkorr recommends that the battery be installed by an appropriately qualified professional.

DISCLAIMER

While precaution has been taken to ensure the accuracy of the contents of this guide, Hardkorr assumes no responsibility for errors or omissions. Note that specifications and product functionality may change without further notice.

MODELS COVERED BY THIS MANUAL

HKPDCDC25BT - 25A DC-DC Charger

HKPDCDC40BT - 45A DC-DC Charger

CAUTION

- Children, those without the proper training or experience, or those under the influence of drugs or alcohol should not operate this unit.
- Before installing or using the product, ensure you have read and understood all of the warning and safety messages supplied with your product.
- Do not use or store this charger near heat sources such as fire or heaters or expose it to flammable chemicals, vapors or corrosive gasses.
- Only use this product as intended.
- Do not subject the device to impact.
- Inadequate ventilation may lead to overheating and inefficient charging.
- Please note that this DC-DC charger is not waterproof. Do not expose the charger to moisture or harsh environments.
- This product should be firmly fastened to prevent it from falling.
- Disassembling the charger could potentially cause harm to yourself or others and damage the unit. Doing so will void the warranty.
- Disconnect the charger before maintenance or cleaning.
- This DC-DC charger should only be repaired by a suitably qualified professional.
- Wear proper eye protection and avoid touching your eyes while working with batteries.
- Avoid dropping any metal tool or object on the battery. Doing so could create a spark or short circuit.
- Examine the battery charger periodically for damage. If the battery charger is damaged, it must not be used until it has been repaired.

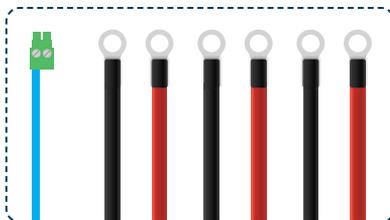
CONTENTS



1x 25A/40A DC-DC CHARGER

3x INPUT/OUTPUT CABLE SETS

1x IGNITION (ACC) INPUT LEAD



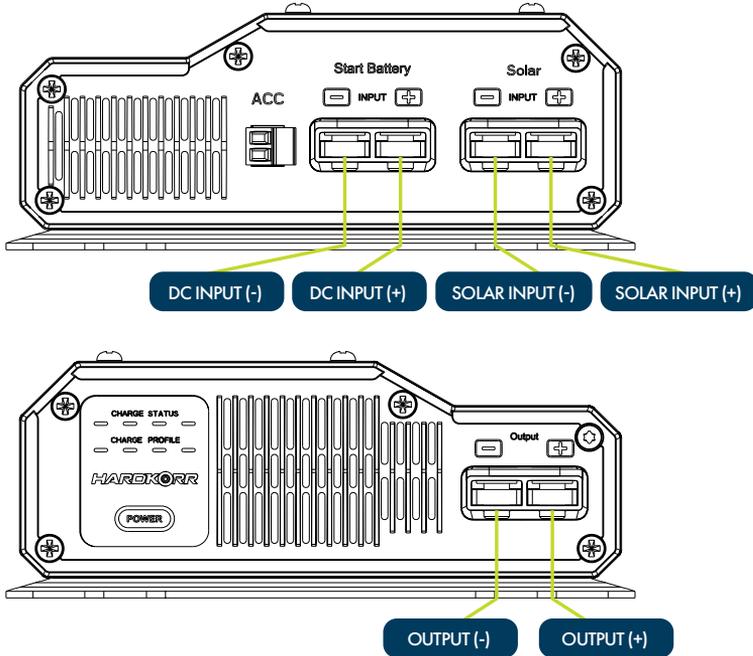
UNIT SPECIFICATIONS

	25A	40A
DC BATTERY INPUT	12.5-24V	12.5-24V
SOLAR INPUT	16-24V	16-24V
OUTPUT/CHARGING VOLTAGE	14.4-15.4V	14.4-15.4V
OUTPUT CURRENT (DC)	25A	40A
OUTPUT CURRENT (SOLAR)	25A	40A
MINIMUM START VOLTAGE	2.5V	2.5V
SOFT START	YES	YES
BULK CHARGE VOLTAGE	14.4V	14.4V
EQUALISATION	AUTO	AUTO
PRODUCT DIMENSIONS	225mm (L) 140mm (W) 55mm (H)	225mm (L) 140mm (W) 55mm (H)
GROSS WEIGHT	1 KG	1 KG
CERTIFICATIONS	CE, RCM, ROHS	

CHARGING VOLTAGE

	AGM/GEL	LEAD ACID	CALCIUM	LiFePO₄
BOOST	14.3V	14.0V	15.0V	14.0V
CHARGING	14.7V	14.4V	15.4V	14.4V

IDENTIFICATION OF COMPONENTS



CHARGE STATUS

Power On Charging Fully Charged Solar Charging

Lead Acid AGM/Gel Calcium LiFePO4

CHARGE PROFILE

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POWER

CHANGING SETTINGS

Hold the "power" button down for 3 seconds to enter selection mode. Once the LED indicator starts blinking, press the "power" button to select the appropriate charging status for your setup. Once selected, hold the "power" button for 3 seconds to exit selection mode. This product has a power cut memory function, it will remain on this battery type until it is changed.

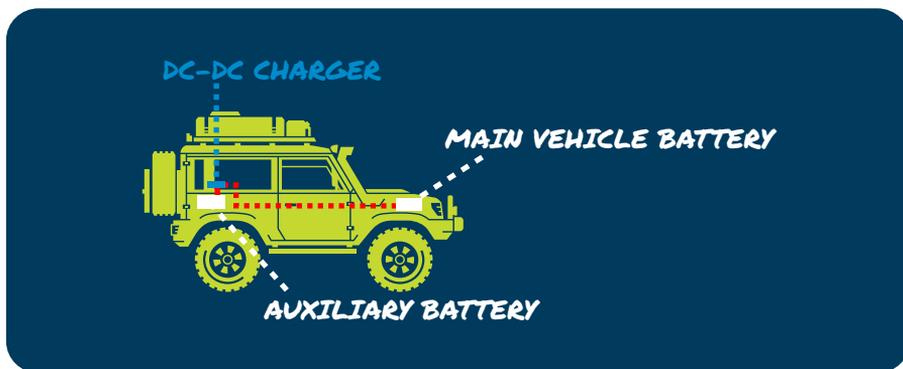
INSTALLATION TIPS**INSTALLATION SHOULD BE PERFORMED BY A LICENCED PROFESSIONAL.**

- Ensure the correct cable and fuse sizes are used when installing this device.
- This charger can be installed both horizontally and vertically.
- Ensure that the charger is installed as close as possible to the battery you are going to charge.
- The DC-DC charger should be installed in an area that is not susceptible to moisture, water, flammable gas, dust or high temperatures.
- When installed on a caravan or camper trailer, we recommend using an Anderson plug between setups (see diagram on Pg 7).
- The use of an appropriate gauge twin core cable is imperative when connecting the starter battery to the charger.
- We recommend installing a 60 Amp circuit breaker (not included in this package) between the unit and the starter battery, and 50 Amp circuit breaker (not included in this package) between the unit and the auxiliary battery.
- Before operating the unit, check whether all connections are clean and tight.
- The ACC line will trigger the DC-DC Charger to charge your auxillary battery when the vehicle key is switched on to the 'ignition on' position. The input voltage should be over 13.0V to start charging when the ACC line is not connected.

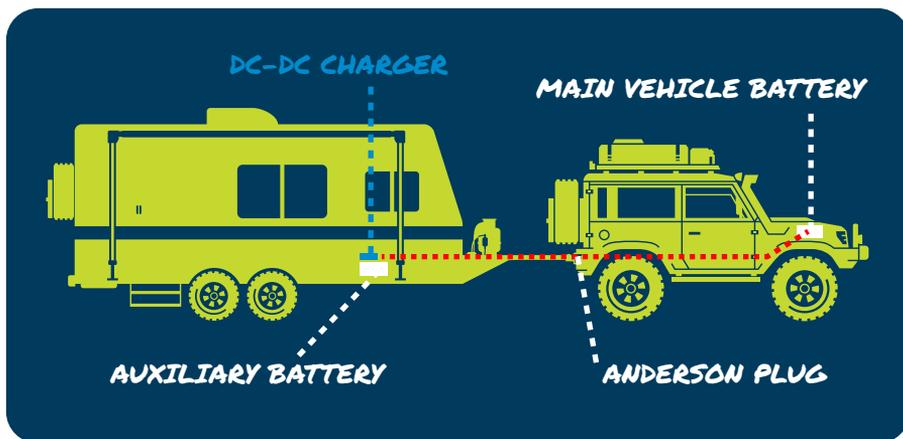
NOTE: the charger may discharge your main battery if the ACC line is connected but your key is not turned to the **START** position.

PERFECT FOR 4X4S, CAMPER + CARAVANS

SUGGESTED FITMENT TO VEHICLE



SUGGESTED FITMENT TO VEHICLE WITH CARAVAN/CAMPER



OPERATION**DC BATTERY**

- Prior to first using the DC-DC charger, ensure that the unit is configured to charge the correct battery type.
- Start your vehicle and let it idle.
- The charger will recognise that there is a charge being applied to the main starting battery.
- The charger will charge the auxiliary battery when the main starting battery has reached 13V (ACC line not connected). If the ACC line is connected, the main battery will start charging the auxiliary battery when the voltage is 12.5V or above.
- The charger will continue to operate even after the vehicle has been switched off until it detects that the main battery falls below 12.5V or below 10.8V when the ACC line is connected.

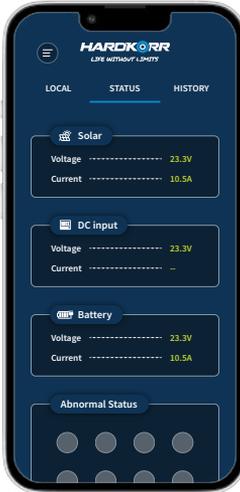
SOLAR INPUT

- Prior to first using the DC-DC charger, ensure that the unit is configured to charge the correct battery type. The charger will shift to solar charge mode when the input terminal is connected to the solar panel.
- Press "POWER" to select the corresponding battery type.
- Charging begins when the output of the solar panel reaches 16V. The panel will stop charging when its output is below 10V.

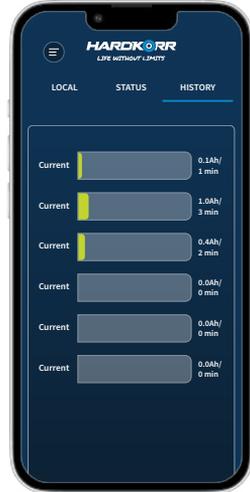
BLUETOOTH® APP



Connect to your device



View your charging status



View the device's charging history

BLUETOOTH® TECHNOLOGY

Connectivity: Bluetooth 5.1

Range: 90 meters (open field)

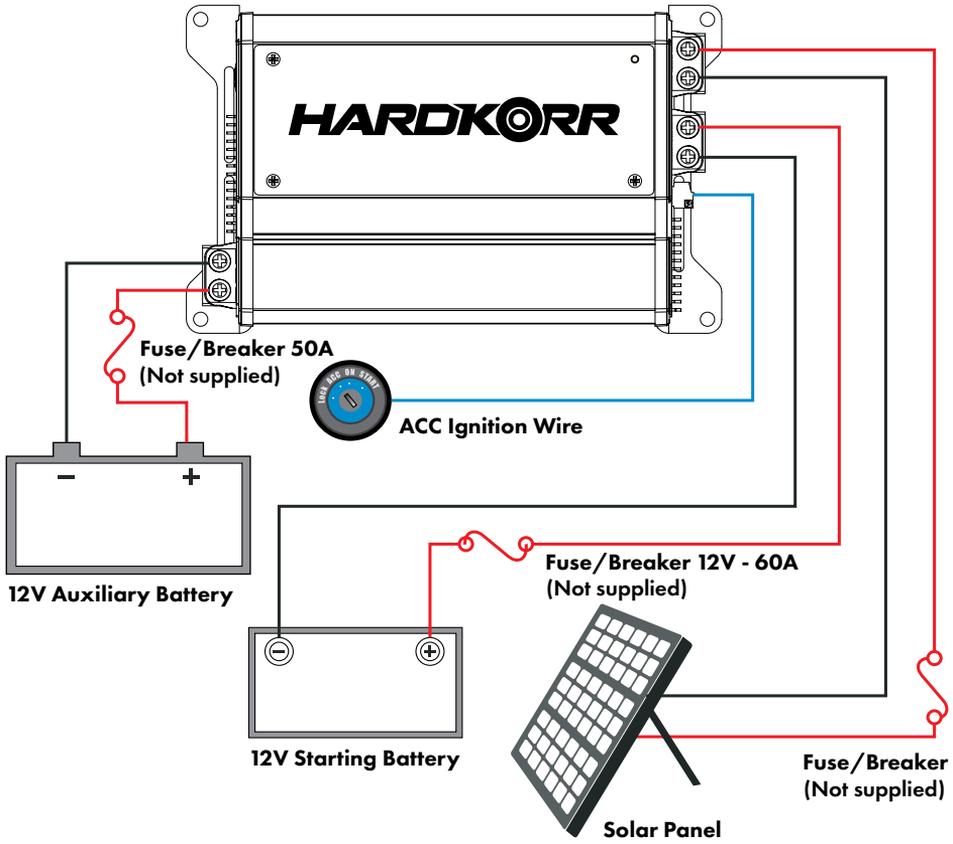
Unlike most competing products, the Hardkorr DC-DC chargers come with a built-in Bluetooth connection. This means you can monitor your batteries, solar panels and DC input on your smartphone with the free Hardkorr DC-DC Charger app.



HARDKORR DC-DC CHARGER APP NOW AVAILABLE



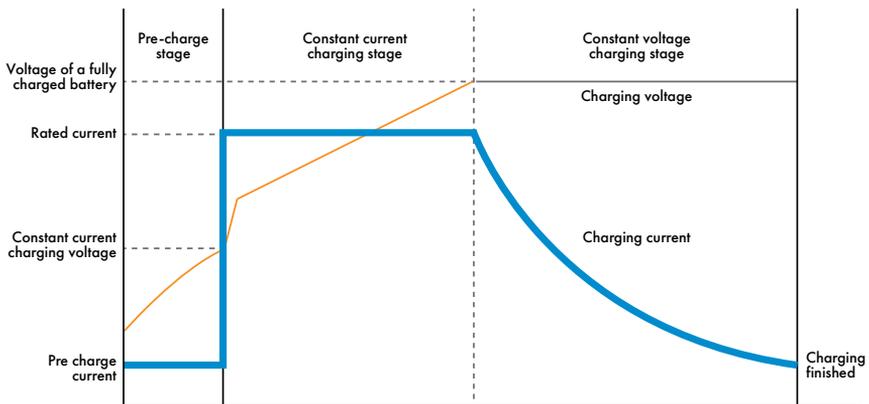
WIRING DIAGRAM



NOTE: First connect the ACC line to the ignition of your vehicle. Then turn your key to the 'ignition on' position. When the engine starts it will be detected by the DC-DC charger and your auxiliary battery will be charged via the main battery.

PROBLEM	CAUSE	SOLUTION
'Power On' indicator flashes once, stops for 3s.	Improper connection (input overvoltage/reverse connection) of the solar panel or DC power supply.	Reconnect the solar panel or DC power supply.
'Power On' indicator flashes twice, stops for 2s.	Over-temperature of the charger.	Install the charger in a more ventilated location.
'Power On' indicator flashes three times, stops for 1s.	Malfunction of the charger.	Cut off the power and restart the charger. If the same problem occurs, replace the charger.
Battery type indicator flashes once, stops for 3s.	Improper connection of the battery (bad battery/overvoltage/reverse connection/overcurrent).	Disconnect and reconnect the battery to the charger.
Battery type indicator flashes twice, stops for 2s.	Overtime protection.	Cut off the power and restart the charger. Make sure the battery is operating correctly.

CHARGING ALGORITHM



Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Hardkorr warrants that this product will be free from defects in material and workmanship for three years. The warranty commences on the date of purchase by the original purchaser, and is not transferable. To access the benefits of this warranty, you must retain your proof of purchase and follow any other direction we reasonably give you (e.g. completing and returning your warranty card if applicable).

TO BEGIN YOUR WARRANTY CLAIM

If you believe your Hardkorr product is defective, it must be returned to Hardkorr for inspection by our warranty claims department.

1. You must have a Return Authorization (RA) number. To get your RA number, please complete the form found on our website and wait for the warranty team to contact you.
2. Once you have an RA number, you must arrange for the product must be shipped at your own expense back to Hardkorr (keep your receipt). The address for shipment will be provided when we issue your RA number.
3. Please be sure that your RA number is clearly marked on the outside of the packaging used for shipping.

Completing the steps as mentioned will ensure a faster process of your claim, so that Hardkorr can get your product back to you as soon as possible.

Once we receive your returned product, our technicians will inspect it. We will then notify you of the outcome of your claim.

If we accept your warranty claim, we will either repair, replace or refund the goods at our discretion. We will also reimburse you for the shipping costs you incurred in sending the goods back to us. Any products that we choose to replace or refund become the property of Hardkorr.

If we do not accept your claim, we will advise you of the reason and hold your product for collection. You will need to arrange and pay for the product to be shipped back to you. If your product is not collected within 30 days of your warranty claim being finalised, we may destroy it.

Your warranty is voided if we (at our sole discretion) determine that there is evidence of one or more of the following:

- **Negligence:** Improper installation, improper or extreme use, use that contravenes this instruction manual, etc.
- **Abuse:** Road hazards, Damage beyond the limits of "normal wear and tear."
- **Unauthorized Repair:** Repair service performed by an unauthorised service centre.
- **Disassembly:** Any attempt to open, tamper with or otherwise compromise the integrity of the product.
- **Consequential damage:** damage to this product caused by the failure of another component of the vehicle or device in which this product is installed.

Exterior Finish: Hardkorr uses the highest quality materials available, but depending on location, environment and exposure, the colour of exterior surfaces can fade. We will not approve any warranty claims that relate to fade.

DISCONTINUED ITEMS

Discontinued items that are still under warranty will be reviewed by Hardkorr. If a discontinued item is covered under warranty it may be replaced by an equivalent or superior item. If an equivalent item is not available Hardkorr will determine terms of resolution on a case-by-case basis.



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LIFE WITHOUT LIMITS