

KINGS ADVENTURE

USER MANUAL



**PLEASE READ AND UNDERSTAND THIS MANUAL
COMPLETELY BEFORE USING THIS PRODUCT.**

DCDC BATTERY CHARGER

SKU: AKEP-DCDC25A_01 & AKEP-DCDC40A_01

1. SAFETY INFORMATION

Please read the user manual and safety instructions carefully before using the appliance.

- For 12V Lead Acid based and Lithium LiFePO4 Batteries recommended battery capacity (25A Model 60 - 250Ah) (40A DCDC Model - 120 - 400Ah). For other Lithium-Ion batteries refer to section "Charging Voltage Limits" to confirm if charging Voltage is applicable.
- Suitable for unregulated solar panels 10-32 Volts, up to 300 Watts for 25 Amp model and 500 Watts for 40 Amp model.
- NOT for under bonnet installation
- Install AWAY from flammable fumes, external heat sources, liquids and protected from oil, grease, combustible material, dust & weather
- Ensure good VENTILATION around the unit
- Isolate the vehicles power source before installation of DCDC Charger
- **Not recommend to cut or damage Temperature Sensor or wire, this may damage the DCDC Charger.**
- Ensure the unit is well secured to the inside of the vehicle
- Fuses are NOT supplied
- **WARNING:** The unit may get hot during operation
- Required minimum air gap, 150mm around unit

2. TECHNICAL DATA

SPECIFICATIONS TABLE		
	25A DCDC Model	40A DCDC Model
Max Charging Current	25 Amps	40 Amps
Recommended Battery Capacity	60 - 250 Ah	120 - 400 Ah
Vehicle Input Voltage	9 - 32 Volts	
Solar Input Voltage	10-32 Volts	
Solar Input Capacity	300 Watts	500 Watts
Recommended Fuse Size	30 Amps	50 Amps
Idle Current Draw	Under 15 mA	
Suitable Battery Types	Lead Acid, AGM, Calcium, LiFePO4, GEL	
IP Rating	IP66	

OPERATION MODES		
	25A and 40A Models	
Vehicle Charging System	Turn On	Turn Off
12 Volt Standard Alternator	Above 13.1 Volts	Under 12.8 Volts
24 Volt Standard Alternator	Above 26.2 Volts	Under 25.6 Volts
12 Volt Smart Alternator	Above 12.0 Volts	Under 11.8 Volts
24 Volt Smart Alternator	Above 24.0 Volts	Under 23.6 Volts

3. LEDS & FAULTS INDICATIONS

3.1 LED CHARGE INDICATOR

Alternator / Solar LED	Battery Type LED	Charging Stage
Short flash GREEN	Solid GREEN	Bulk or Absorption
Long flash GREEN	Solid GREEN	Float

Long Flash = 1s off, 2s on, 2s off

Short Flash = 0.5s off, 0.5s on, 0.5s, off

SOLID ON = light on continuously

3.2 LED STATUS INDICATORS

Alternator (Green)	Solar (Green)	Battery Type (Green)	Fault (Red)	Trouble	Solution
Quick flash	Off	Quick flash	Off	Low voltage detected at alternator input	Vehicle is OFF, or if vehicle is ON - check alternator input voltage
Off	Quick flash	Quick flash	Off	Low voltage detected at solar input	No sun on solar, or if sun is on solar - check solar input voltage
Quick flash	Quick flash	Quick flash	Off	Low voltage detected at alternator and solar input	Vehicle is OFF + no sun on Solar. If vehicle is ON and sun is on Solar - check the input voltage of both
Quick flash	Off	Off	Quick flash	High voltage detected at alternator input	Check alternator input voltage
Off	Quick flash	Off	Quick flash	High voltage detected at solar input	Check solar input voltage
Off	Off	Quick flash	Quick flash	High voltage detected at output	Check auxiliary battery battery voltage
Off	Off	Off	Quick flash	Over temperature	Let the unit cool down for some time or get better ventilation

N.B. When the DCDC is on standby mode (connected but not charging from alternator or solar) the battery type LED, Alternator LED (and Solar LED) will flash indicating the unit is connected but not actively charging. This is normal.

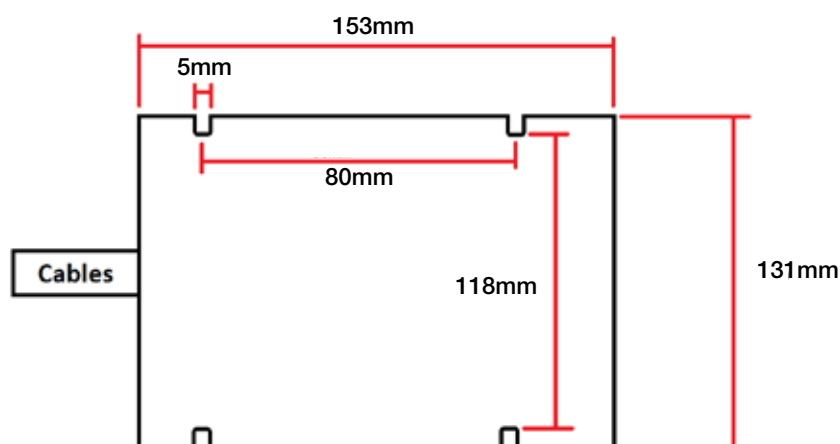
Quick Flash = 1.8s off, 0.2s on, 1.8s, off

4. CHARGING VOLTAGE LIMITS

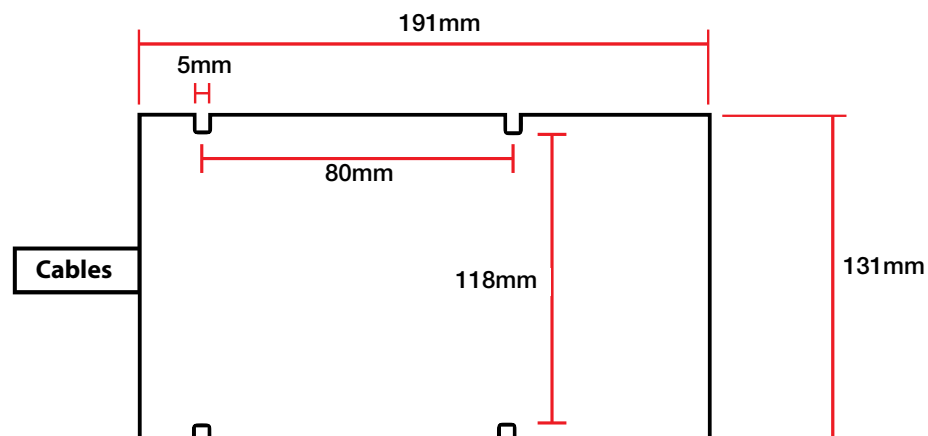
BATTERY TYPE	CHARGING VOLTAGE AT 25°C	FLOAT VOLTAGE AT 25°C
STD (WET LEAD ACID)	14.4V	13.4V
GEL	14.1V	13.5V
AGM	14.7V	13.4V
CALCIUM	15.3V	13.6V
LITHIUM (LIFEPO4)	14.5V	13.6V

5. MOUNTING DIAGRAMS

25A Model

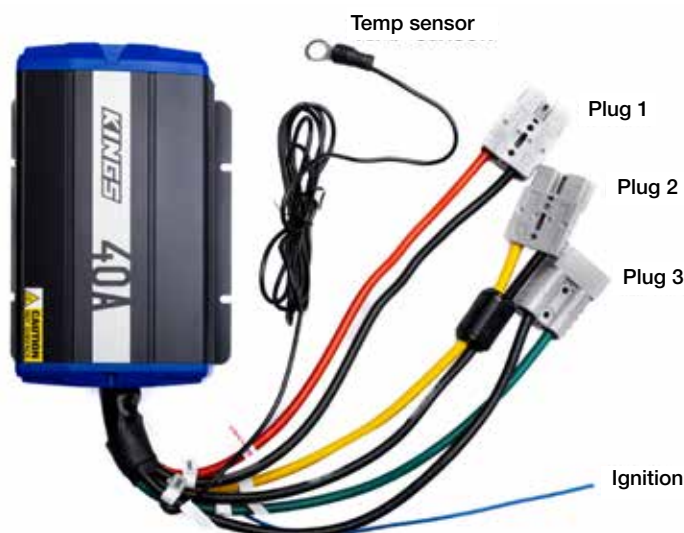


40A Model



6. WIRING GUIDE

In order to prevent accidental short circuit during installation, it is recommended to turn off the car during the installation and the negative pole of the starter battery should be disconnected. Please note that disconnecting the negative of the main battery may reset some memory functions in the vehicle and the vehicles head unit or other functions may need a reset code once power is restored, check your vehicles manual or manufacturer for further details.



PLUG 1 (Red and Black wires)

1. The OUTPUT (Red) is connected to the positive pole of the auxiliary battery.
2. The GROUND (Black) is connected to the negative pole (-) of the auxiliary battery.

PLUG 2 (Yellow and Black wires)

3. The ALTERNATOR (Yellow) is connected to the positive (+) pole of the starter battery.
- 4a. The GROUND (Black) is connected to the negative pole (-) of the starter battery.
- 4b. For vehicles with a smart alternator the black cable must be connected to where the negative cable from the start battery is connected to the chassis.

PLUG 3 (Green and Black wires)

5. The SOLAR (Green) is connected to the positive pole (+) of the solar panel (if fitted).
6. The GROUND (Black) is connected to the negative pole (-) of the solar panel.

If a solar panel is not fitted, leave PLUG 3 disconnected.

7. The IGNITION (Blue) affects the cut in / cut out point of the charger and should be connected to a 12V positive (+) ignition power source. A 12V (+) ignition source is a power source that has 12V+ when the vehicle is 'ON' and no power when the vehicle is 'OFF'. Depending on the vehicle this can be sourced from the fuse box or an accessory socket.
8. The TEMP SENSOR (Thin Black) Should be connected to the negative terminal of the auxiliary battery for the best and most accurate temperature reading. NOTE: If it cannot reach the terminal, the sensor can be affixed to the battery case itself - using a small amount of removable adhesive.

9. Restore the negative connection of the battery. Confirm the charger begins to operate properly. If anomalies occur, disconnect the negative battery connection and check / confirm all other connections are correct before starting again.
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7. OPERATION

1. To change battery type, press and hold the 'MODE' button for 2 seconds then release to cycle through and select different battery types.
 2. Every 2 minutes the unit stops charging and measures auxiliary/second battery voltage for 2 seconds. This is normal operation and offers precise charging. This can mean once the unit is connected, it may take up to 2 minutes to start charging.
 3. If LiFePO4 battery setting is selected the charger automatically features a lithium 'wake' feature - when connected the charger will send out a pulse of power every minute - if it detects a battery, charging will continue. If no battery is detected or a short circuit is detected, the Charger will change to standby mode.
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8. WARRANTY

12 MONTH LIMITED WARRANTY

WARRANTY PERIOD:

Full 12 month warranty from date of purchase against all manufacturing defects.

WHAT DOES THE WARRANTY COVER?

Under normal usage conditions, this warranty covers:

- a. Any defect in design or manufacture which results in the product failing to perform substantially as described in authorised advertising or literature.
- b. We will either repair or replace the product at our discretion providing that the fault is found to have been caused by a design or manufacturing defect and not misuse or tampering.

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 for 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. The benefits provided to you as the consumer by this warranty are in addition to other rights and remedies available to you under the law.

THE WARRANTY DOES NOT COVER:

- a. Any damage resulting from improper use
 - b. Faulty installation or modification made during installation
 - c. The cost of removing and reinstalling the product
 - d. Travel and /or other expenses due to customer's remote location
 - e. Transport charges and damage in transit. It is your responsibility to deliver and pick up your product, including any costs associated with the postage of your repair or replacement product. If you do freight your product we recommend that you insure against loss or damage.
 - f. Any loss directly or indirectly associated with the product failing to operate.
 - g. Damage caused by mould, insects, animals, misuse, incorrect operation, adverse weather, accidents and fair wear and tear
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TO MAKE A CLAIM, PLEASE ENSURE YOU RETAIN YOUR SALES RECEIPT OF PURCHASE

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