

OCAM

4X4
ACCESSORIES



OCAM DC-DC BATTERY CHARGER

25A ■ 40A ■ 50A

USER MANUAL

BUILT FOR **ADVENTURE**

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01 Safety Information

PLEASE READ THROUGH ALL SAFETY AND OPERATION INFORMATION BEFORE INSTALLING OR USING THIS PRODUCT. INCORRECT USAGE OR INSTALLATION OF THIS PRODUCT CAN LEAD TO DAMAGE TO THE UNIT, VEHICLE AND VEHICLE SYSTEMS, INJURY OR DEATH.

OCAM 4x4 recommends this DC - DC charger, batteries, and solar panels are installed by a qualified auto electrician.

Ensure this document is read carefully and all information contained within is understood and all instructions and guidelines are followed.

Keep this document nearby to the DC - DC charger for future reference.

Disclaimer

1. Do not disassemble or modify the charger, doing so may result in electrical shock, fire, serious injury or death, and may void any warranty.
2. Do not use the charger in an environment where flammable fumes or gasses are present (such as gas bottles, petrol engines, or led acid battery compartments etc.)
3. This charger is only suitable for use battery types listed in this document. It is not to be used for other purposes.
4. Ensure the correct battery charging profile for the auxiliary battery type is set on the charger. Using the incorrect charging profile may cause damage to the battery or result in fire. For assistance selecting the correct charging profile consult your battery's manufacturer.
5. Only use fuses and wiring as recommended in this guide, using anything other than these may result in damage to the charger or connected components, electrical shock, fire, injury or death.
6. Ensure the battery charging voltage does not exceed the auxiliary battery's maximum charging voltage. If you are unsure of the battery's maximum charging voltage, consult your battery's manufacturer.
7. Ensure the continuous output current of the charger does not exceed the auxiliary battery's maximum charging current. If you are unsure of the battery's maximum charging voltage, consult your battery's manufacturer.
8. For use with lithium batteries ensure the battery is equipped with a Battery Management System (BMS) that features under and over voltage protection with cell balancing. Failure to do so may result in damage to battery, fire, injury or death. For more information on BMS consult your battery's manufacturer.
9. Batteries will off gas as a part of normal usage, this gas is flammable and as such, batteries should be mounted in a well ventilated area and avoid sources of ignition such as smoking or sparking.
10. Do not use to charge batteries known to be damaged, faulty, or if condition is unknown. Charging a faulty battery can lead to fire, damage to property, serious injury or death.

02 Product Features



Wide Battery Compatibility

Compatible with Lead Acid, AGM, Gel, Calcium, LiFePO4 and Lithium batteries



12V & 24V Battery Support

Supports 12V and 24V battery systems with recommended capacities for 25A, 40A and 50A DC-DC charger models



MPPT Solar Charging

Built-in 25A/40A MPPT solar regulator supports unregulated solar panels from 9–32V up to 200W



Dual Input Charging

Charge from both your vehicle's alternator and solar panels for maximum flexibility



High Charging Efficiency

Delivers up to 95% charging efficiency for faster and more reliable battery charging



Built Tough

Designed for harsh environments with an IP68-rated enclosure for protection against dust, water and vibration



Smart Alternator Compatible

Works seamlessly with both traditional and smart alternator vehicle charging systems



Advanced Protection

Integrated Low Voltage, Over Voltage, Over Temperature and Reverse Polarity protection for safe operation

03 Specifications

Specification	25A DCDC	40A DCDC	50A DCDC
Max Charging Current	25 Amps	40 Amps	50 Amps
Recommended Battery Capacity	≥125Ah (STD/GEL/AGM/CAL) ≥50Ah (LiFePO4)	≥200Ah (STD/GEL/AGM/CAL) ≥80Ah (LiFePO4)	≥250Ah (STD/GEL/AGM/CAL) ≥100Ah (LiFePO4)
Vehicle Input Voltage	11.5-32V		
Solar Input Voltage	9-32V (Unregulated only)		
Recommended Fuse Size (Input and Output)	40A	60A	60A
Standby Current	<10mA		
Suitable Battery Types	Standard Lead Acid, Gel, AGM, Calcium, Lithium & LiFePO4		
Operating Temperature	-20°C to +80°C		
IP Rating	IP68		
Product Dimensions	163 x 125 x 40 mm	188 x 125 x 40 mm	228 x 125 x 40 mm
Product Weight	1.1 kg	1.28 kg	1.5 kg



04 Installation

Ensure you have read and understood all safety information before beginning installation.

Mounting

Mount the DC - DC charger in a secure position as near to the auxiliary battery as possible while ensuring it has suitable ventilation and a solid base. Do not mount directly to the battery and avoid heat sources. Consider the product dimensions and wiring requirements when choosing a mounting point for the charger.

Wiring

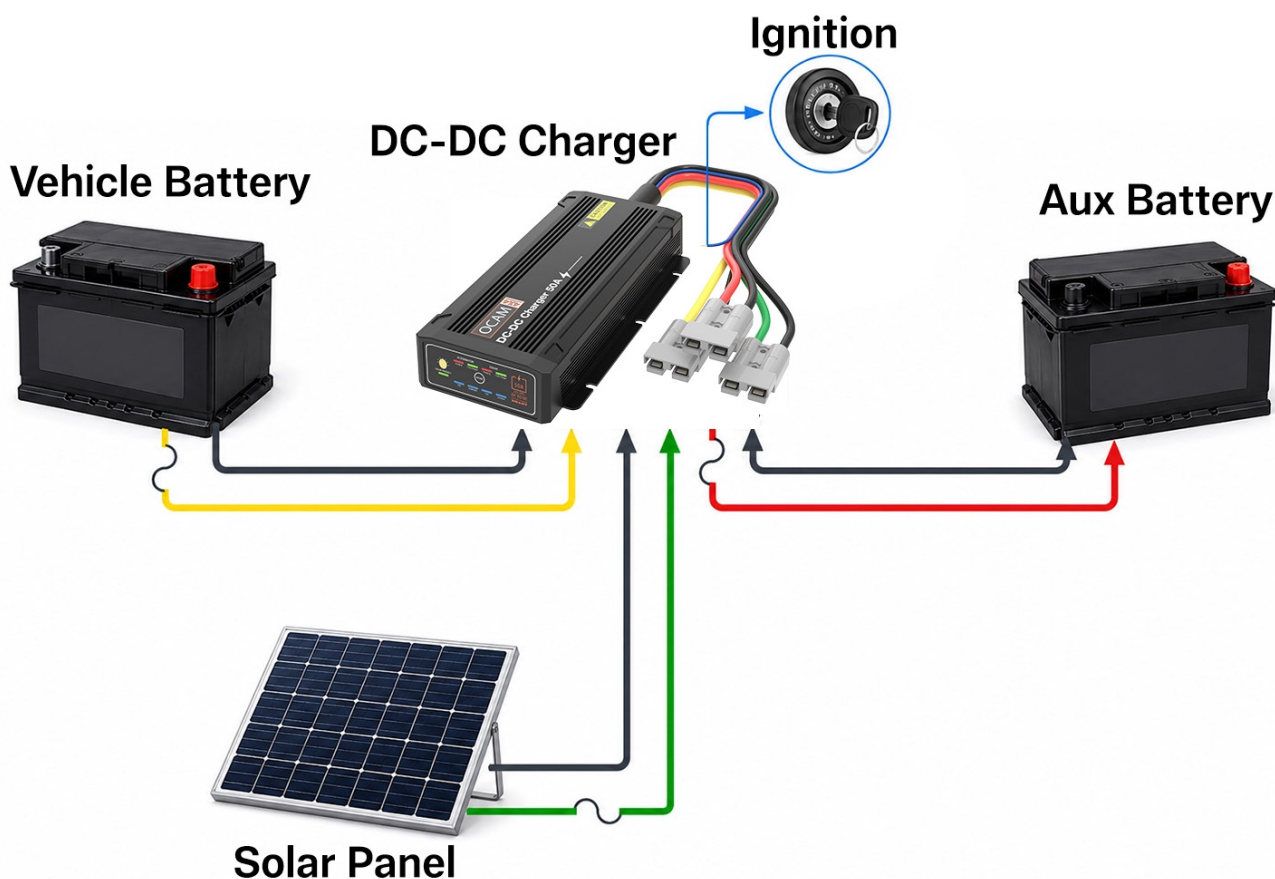
Refer to the table below when choosing what cables to use and what size fuses to use. When running wiring it is important to ensure that all cables are secured correctly and are kept away from any moving parts or heat sources (drive shafts, suspension components, exhaust pipes, etc.).

Charger	DC-DC 25A		DC-DC 40A/50A	
	Cable length			
Input	<5m	<10m	<5m	<10m
	Cable size required			
Solar Input	8 mm2 (8AWG)	13 mm2 (6AWG)	13 mm2 (6AWG)	20 mm2 (4AWG)
Alternator Input				
Auxiliary Battery Output	Fuse Size Required			
Ground	40A		60A	
	Cable size required			
Ignition (Blue)	0.5 mm2 (20AWG)	0.5 mm2 (20AWG)	0.5 mm2 (20AWG)	0.5 mm2 (20AWG)
	Fuse Size Required			
	3A			

04 Installation

Wiring diagram

The wiring diagram below of a standard installation is to be used as a guide and may not reflect the ideal or correct installation for your use case. If you are unsure consult a qualified auto electrician.



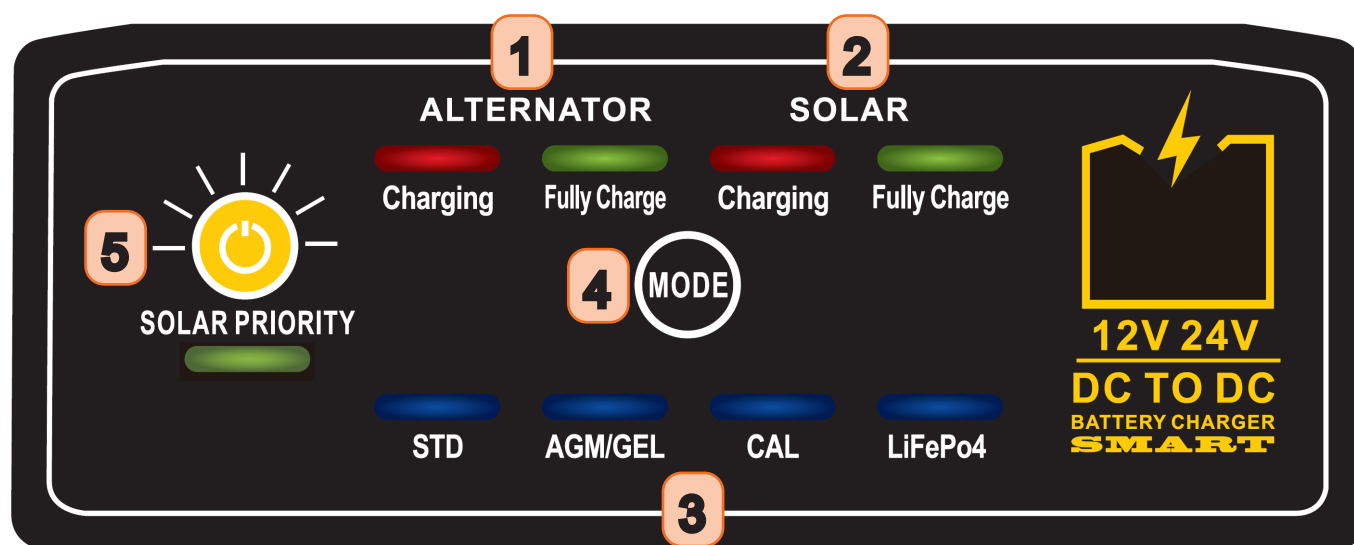
Wiring Guide

Wire Function	Wire Colour
Alternator Input	Yellow
Solar Input	Green
DC-DC Charger Output	Red
Return/Ground	Black
Ignition (for use with smart alternators)	Blue

05 User Guide

Display Panel

1. Alternator charging indicator (shows the charge state from vehicle alternator)
2. Solar charging indicator (shows the charge state from the solar panel)
3. Battery charge profile indicator (shows which charge profile is currently selected)
4. Mode button (used to select charge profiles)
5. Solar priority button (used to activate/deactivate solar priority charging)



Setting Charge Profile

To set the charge profile to the correct battery type, press and hold the 'MODE' button for at least 3 seconds, when you release the 'MODE' button the LED will light the next battery profile. Continue until the LED indicates the correct battery type for you auxiliary battery.

Setting Solar Priority Charging

To activate or deactivate solar priority charging, press and hold the 'SOLAR PRIORITY' button for at least 3 seconds. Solar priority charging is active when the indicator is illuminated.

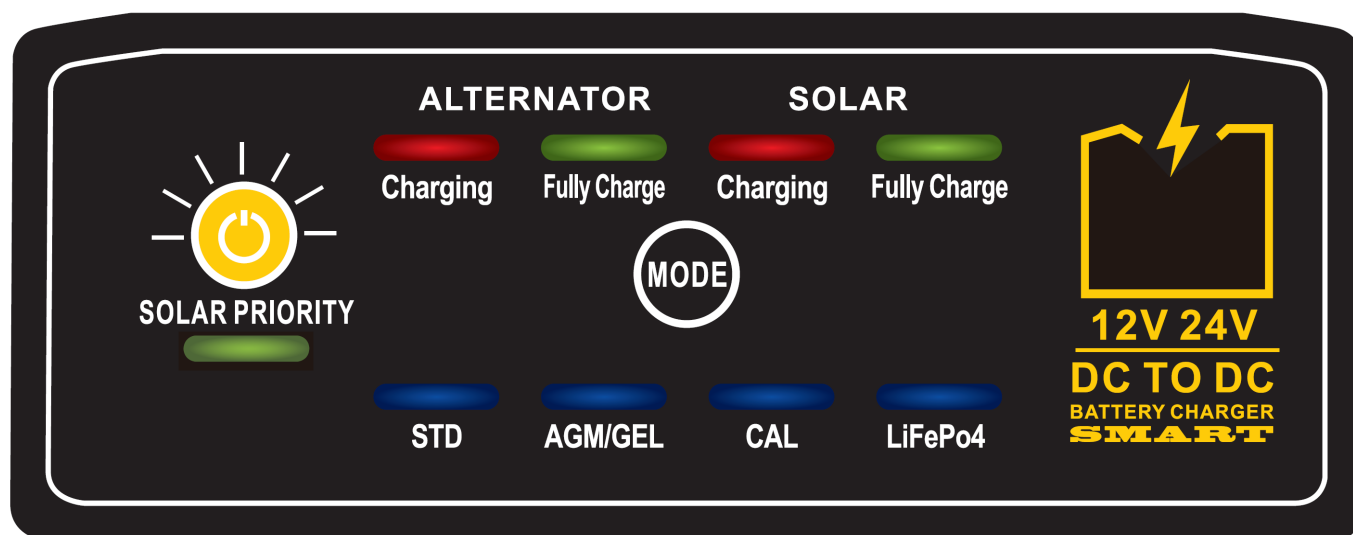
Note: Solar charging has a lower power input and is recommended only when there is a small power draw on the auxiliary battery.

Note: It may take up to 2 minutes for the DC-DC charger to begin charging the auxiliary battery after the charging profile is changed.

05 User Guide

Understanding LED Indicators

Alternator/Solar LED	LED Colour	Charging State
Quick Flash (0.5 seconds)	RED	Under Voltage
Slow Flash (1.5 seconds)	RED	Charging
Solid On	GREEN	Full Charge



06 Trouble Shooting

LED Fault Indicators

Alternator LED	Solar LED	Battery Type LED	Fault	Solution
		Fast Flash (Blue)	Abnormal voltage detected at output	Check auxiliary battery voltage. Check auxiliary battery cables for damage and correct connection.
Fast Flash (Red)			Low/High voltage detected at alternator input	Check alternator charging voltage. Check vehicle battery cables for damage and correct connection.
	Fast Flash (Red)		Low/High voltage detected at solar panel input	Check solar panel charge voltage. Ensure no solar panel regulator. Check solar panel cables for damage and correct connection.
Fast Flash Green			Alternator is charging and the charger is over temp (95°)	Allow the charger to cool, ensure charger is well ventilated and not covered. Relocate charger if required.
	Fast Flash Green		Solar is charging and the charger is over temp (95°)	Allow the charger to cool, ensure charger is well ventilated and not covered. Relocate charger if required.

06 Trouble Shooting

Further Assistance

If you require further assistance trouble shooting any issues with this DC-DC Charger consult a qualified auto electrician for further diagnosis.

For clarification on any information contained with in this guide or questions this guide does not answer please contact our after sales team on 0481 614 611 or email hello@ocam.com.au.

07 Warranty

For your total confidence, OCAM 4X4 Accessories offers a 1-year warranty on this product.

The warranty is limited to manufacturing and materials defects. Not including damage caused by adverse weather, wind, misuse or abuse, wear and tear, incorrect installation or set up and/or incorrect application.

We place a high value on customer service and aim to ensure you are completely satisfied with your purchase. If you require any assistance with your product, please contact us.