



CANOPY POWER SYSTEM WITH 40A DCDC-MPPT CHARGER - WIRED SWITCHING

OWNER'S MANUAL

KA40A8CPSL

V1:2

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CONGRATULATIONS ON PURCHASING YOUR NEW KICKASS KA40A8CPSL

WHY KICKASS?

KickAss is focused on bringing the luxury of home to the outdoors. Your one stop shops for 12V products. All our products are designed to be plug and play, for the ultimate camping experience.

DESIGNED BY THE KICKASS TEAM

Our team of dedicated engineers test every product to make sure they stand up to the tough Australian outback. The new KickAss KA40A8CPSL is no different! Customised to include the highest quality cables, wired switch panel, 40A DCDC charger, Remote display unit, 5 Anderson input/outputs, 7 free digital switched outputs, 2 x USB-C 45W PD and 2 x USB-A QC3.0.

IMPORTANT SAFETY WARNINGS

DISCLAIMER: KICKASS accepts no liability for any injury, loss or property damage that may occur from the improper or unsafe installation or use of KA40A8CPSL.

- Batteries can produce harmful vapour and explosive gases when being charged. Ensure batteries are mounted and stored in an area with good ventilation.
- This product should not be used for any medical purposes, life sustaining equipment, safety applications, or any application where equipment failure can cause injury, death, fires or any other hazard.
- Do not operate the Switch Panel to control movable items whilst under the influence of alcohol or drugs. Doing so may result in personal injury or property damage.
- The lid of the unit must remain always shut when the battery is connected to the KA40A8CPSL.
- Any 12V installation work should be done by a professional, failing to do this may result in damage to your unit or vehicle.

- Ensure suitable gauge wiring is used. Always replace blown fuses with the same size.
- Do not allow any loose metal objects to fall inside the KA40A8CPSL or enter the ports.
- It is the customers responsibility to ensure the unit is adequately mounted using the given brackets.
- Ensure the KA40A8CPSL is shut, and the screws are tight before attempting to power any devices.
- To prevent an accumulation of heat, ensure there is adequate ventilation to the KA40A8CPSL.
- Do not expose the KA40A8CPSL to excessive moisture or dust.
- Never smoke or allow sparks or flames near a battery
- Ensure the manual and warnings are understood.

PRODUCT SPECIFICATIONS

40A DCDC CHARGER

OPERATING CONDITIONS	
Input Voltage Range	5-32V DC
Alternator Input Voltage Range	9-32V DC
Solar Input Voltage Range	10-32V DC
Maximum Input Current	47A
Maximum Continuous Charging Current	40A
Maximum Output Power	500W
Fuse Size	60A
No Load Current Draw	<15 mA
Efficiency	Approx. 93% when full load
Ambient Operating Temperature	20 °C to +80 °C
MECHANICAL	
Dimensions	192*120*44mm
Weights	950g
IP Rating	IP66
Certifications	PROP65   
BATTERY CAPACITY GUIDE	
Lead Acid (WET,GEL,AGM,CAL)	200 – 500Ah
LiFePO ₄	50 – 500Ah

BATTERY					
Compatible Battery Type	GEL	WET	AGM	CAL	LiFePO4
Absorption Voltage	14.1V	14.4V	14.7V	15.3V	14.5V
Float Voltage	13.5V	13.4V		13.6V	
Minimum Auxiliary Battery Voltage	9V				0V

INTERGRATED ISOLATOR CONTROL					*30 SEC DELAY BEFORE THE CHARGER WILL CUT IN OR OUT
Input voltage	12V		24V		
Cut in / Cut out Voltage (Ignition override OFF)	CUT IN 13.2V	CUT OUT 12.6V	CUT IN 26.4V	CUT OUT 25.2V	
Cut in / Cut out Voltage (Ignition override ON)	CUT IN 12.2V	CUT OUT 10.5V	CUT IN 24.4V	CUT OUT 21.0V	

8-GANG SWITCH PANEL

KAWLSWPANEL-8	
Specification	8 Gang
Voltage	12V DC
Max Power	720W at 12V
Maximum Current	50A Total
Operating Temperature	-40°C to 85°C
Standby Power	<3mA
Weight	2Kg
Dimensions	12.7 X 6.9 X 1.4 CM
Certification	EN 6100

REMOTE SCREEN

KARDUV2	
Operating voltage	12Vdc Nominal
Operating Current	40mA
Standby Current	10mA
Operating Temp range	32°F~10°F / 0°C~50°C
Voltage Accuracy	±0.1V
Current Accuracy	±0.1A
Dimensions	67 x 126 x 23mm
Weight	10g
Com Port	RJ45 (Supported KickAss Lithium Batteries)

FRONT CONNECTIONS

USB	2 x USB-C PD45W 2 x QC 3.0 (10A Shared Fuse)
Input/Output	2 x 50A Anderson (Shared 50A Max)
Cig Socket	1 x Output (10A Fused), the 3rd switch on the switch panel controls this output

Note: The front 2 x 50A Anderson and 8 X switch panel loads share a combined 50A max fuse.

REAR CONNECTIONS

DC Input/Output	3 x 50A Anderson (Shared 50A Max)
Solar	1 x 50A Anderson (Direct to DCDC)
Alternator	1 x KickAss 3 Pin Anderson (Direct to DCDC)
Battery	1 x 175A Anderson

CANOPY SYSTEM DIMENSIONS

Product Height (cm)	32cm
Product Width (cm)	16cm
Product Length (cm)	44cm
Product Weight (kg)	9.35kg



PRODUCT FEATURES

- **Charging and DC distribution integrated into a single unit:** Simplifies your DC installation with integrated DC charging, digitally switched hardwired outlets, Anderson, cig socket, and USB outputs. Designed specifically for hassle-free canopy installation.
- **Integrated 40A DCDC Charger with plug-and-play charging:** The unit has Anderson inputs for both alternator and solar inputs for Plug-and-play charging.
- **Integrated Digital Switching:** The canopy system has an integrated digital switching module built into the unit, allowing you to connect all your hardwired inputs to directly to the unit, and control them via the LED backlit digital switching panel on the front of the unit. Select the individual switched function of each switched output - ON/OFF, Momentary, or pulsed.
- **Power up to 17 devices simultaneously:** The canopy system has 5 Anderson input/outputs, 7 free digital switched outputs (1 is used to switch the cig socket on the front), 2 x USB-C 45W PD, and 2 x USB-A QC3.0
- **KickAss battery integration:** Get real-time monitoring with direct integration to the KickAss Ultra-X and Smart series batteries. Get the State of charge, voltage, current, time to empty, and time to full from your canopy system
- **Integrated safety protection:** The canopy system has internal auto-resettable circuit breakers and individual fuses for each switched output.
- **Robust design - built for harsh environments:** The system has been designed specifically for a canopy environment. Whether you're off-road or on the tools, the canopy system is built to last. Constructed from powder-coated steel, it features an innovative design that reduces weight while maintaining strength.
- **Optional AC charger:** The canopy system comes with mounting to hardware to directly connect the KickAss 32A charger directly to the top of the canopy system.
- **Multiple mounting options:** Simple installation for both left and right-side canopies. Mounting brackets are included.

INCLUDED COMPONENTS

CANOPY POWER SYSTEM



2AWG/175A 1.6 METER LONG AUXILIARY BATTERY CABLE



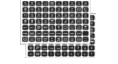



RJ45 CABLE



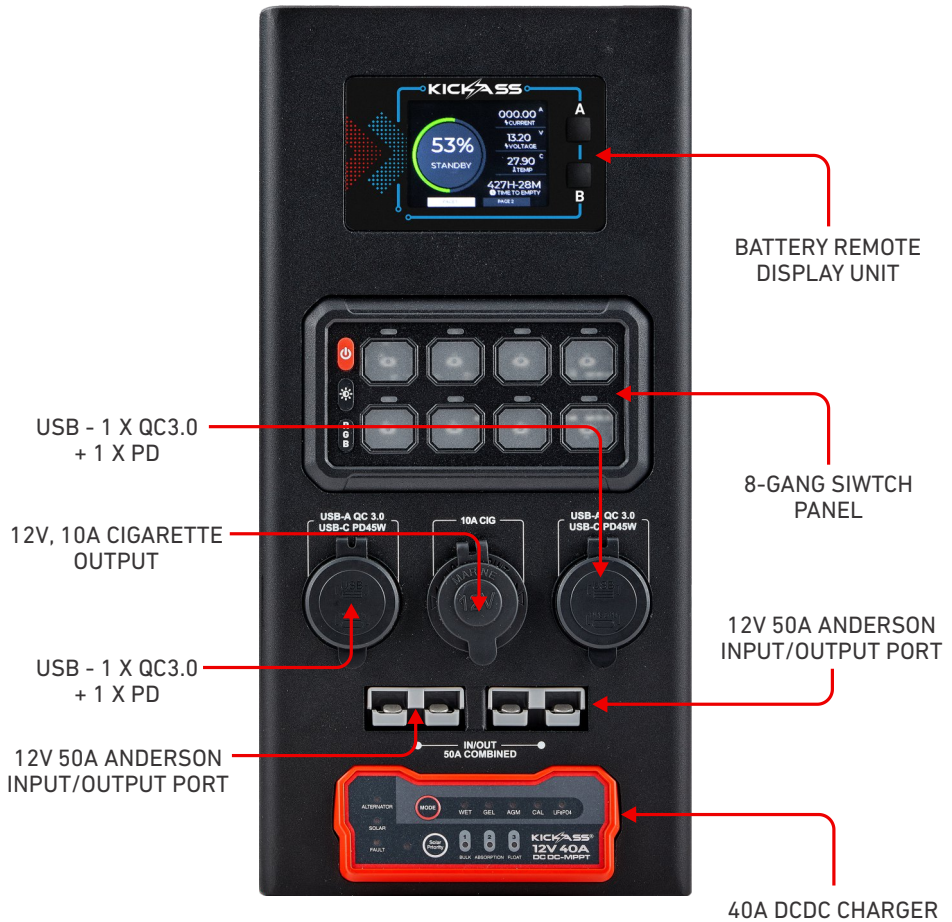
MOUNTING KIT



SWITCH PANEL COMPONENTS

ACCESSORIES	QUANTITY	DESCRIPTION	ACCESSORIES	QUANTITY	DESCRIPTION
	2	Switch Panel Sticker Sheet		1	Screw Driver
	10	Zipties		1	Allen Key

PRODUCT OVERVIEW



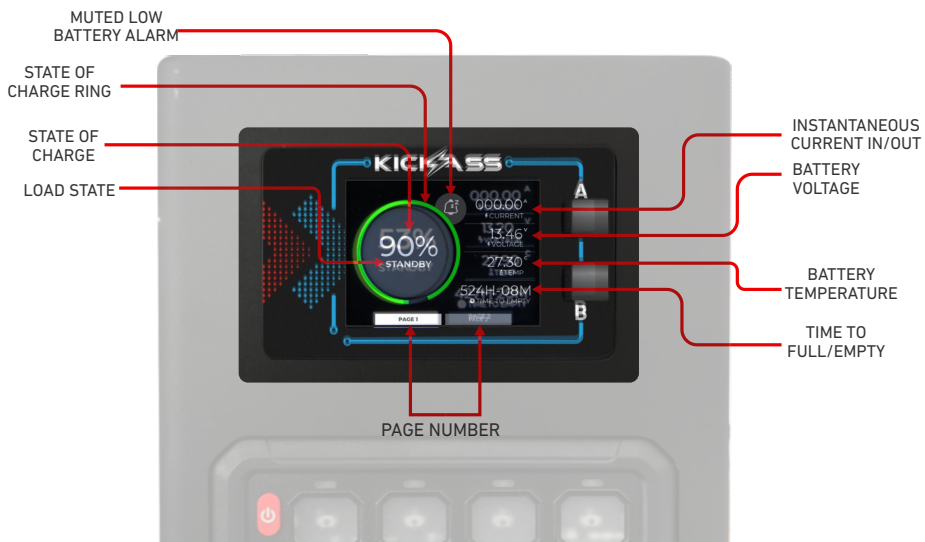
WARNING:

1. Exceeding 10A current rating on cigarette socket will blow the cigarette fuse
2. Exceeding 50A combined current rating on one Anderson bank will blow the fuse.



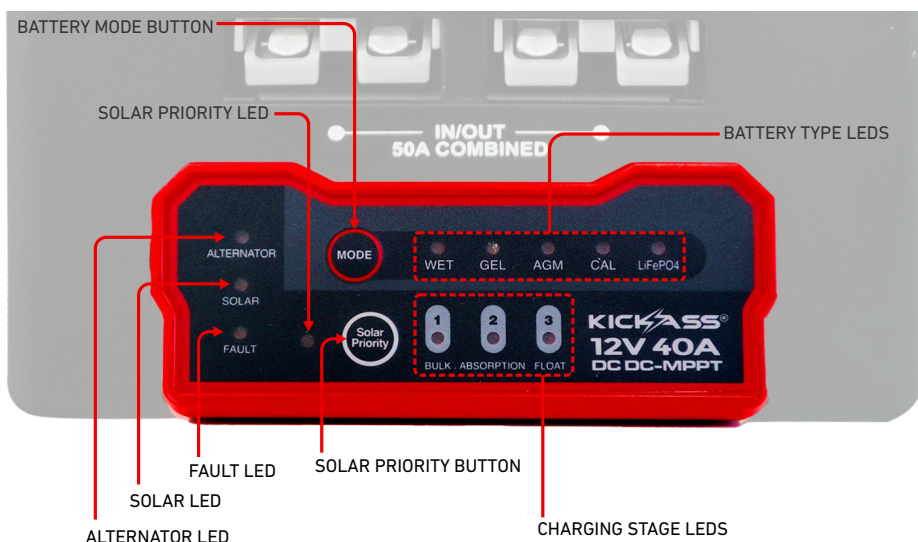
WARNING:

1. Please check product specifications if connecting multiple charging sources.
2. Do not use an external charger while the DC-DC Charger is operating.
3. Exceeding 50A combined current rating on one Anderson bank will blow the fuse.



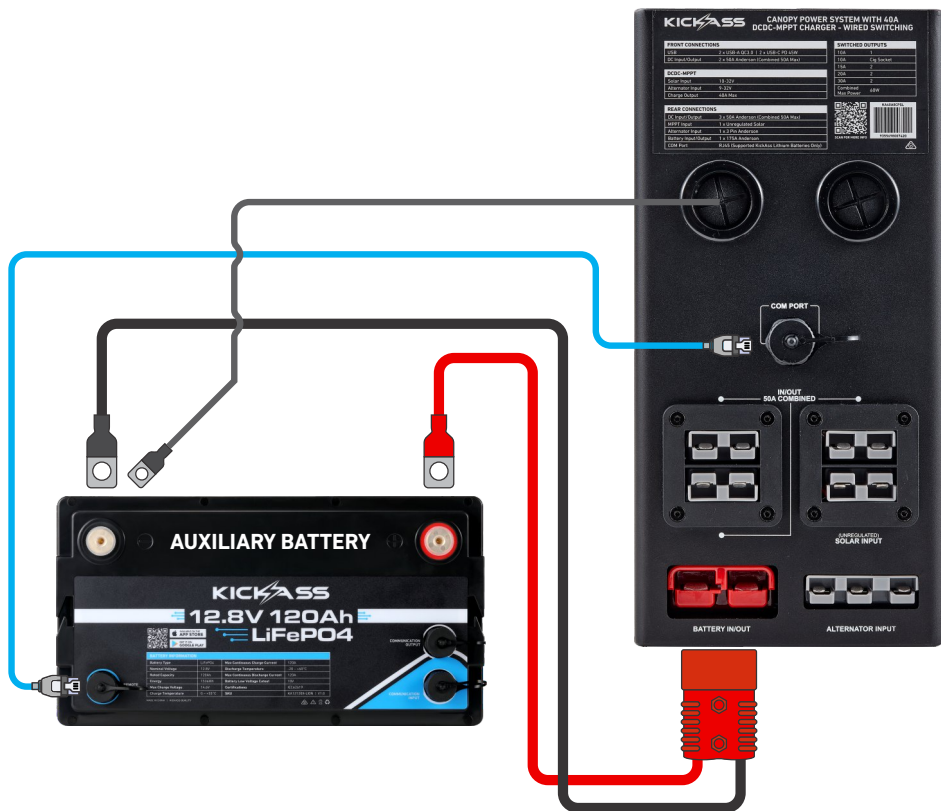


1. Red/Green/Blue LED indicator LED lights up to show the circuit powered on.
2. Area for DIY placement of the selected switch labels.
3. Switch panel backlight is activated when master ON/OFF button is pressed. Backlight colour is green by default.
4. ON/OFF button
5. Brightness level button with 5 Levels of brightness.
6. Backlight color adjustment button.



PRODUCT INSTALLATION

Wiring the Auxiliary battery and DCDC charger Temperature Sensor and Battery communications



Connecting DC loads to the Switch Panel Control box:

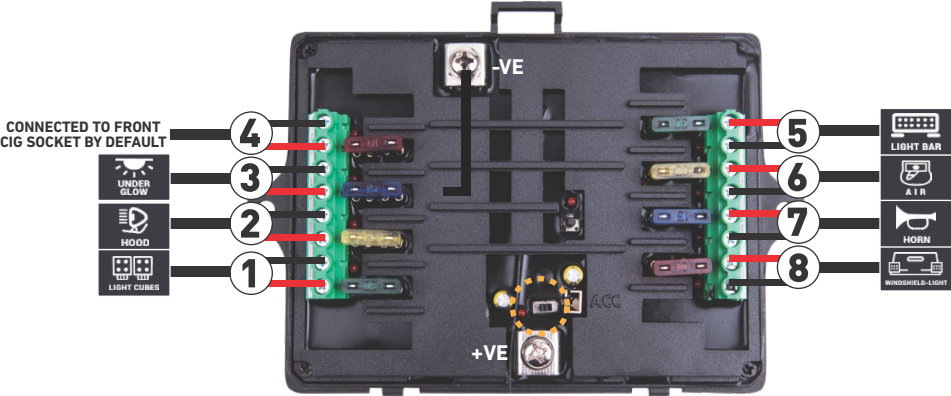
Using the Philips head screwdriver remove the cover.



Locate the Switch Panel Control box and remove the top cover:



SWITCH PANEL WIRING DIAGRAM



8 CIRCUIT FUSE BLOCK

CIRCUIT 1	CIRCUIT 2	CIRCUIT 3	CIRCUIT 4
30A	20A	15A	10A
CIRCUIT 5	CIRCUIT 6	CIRCUIT 7	CIRCUIT 8
30A	20A	15A	10A



Use the O-ring seal caps on the unit to route your DC load cables

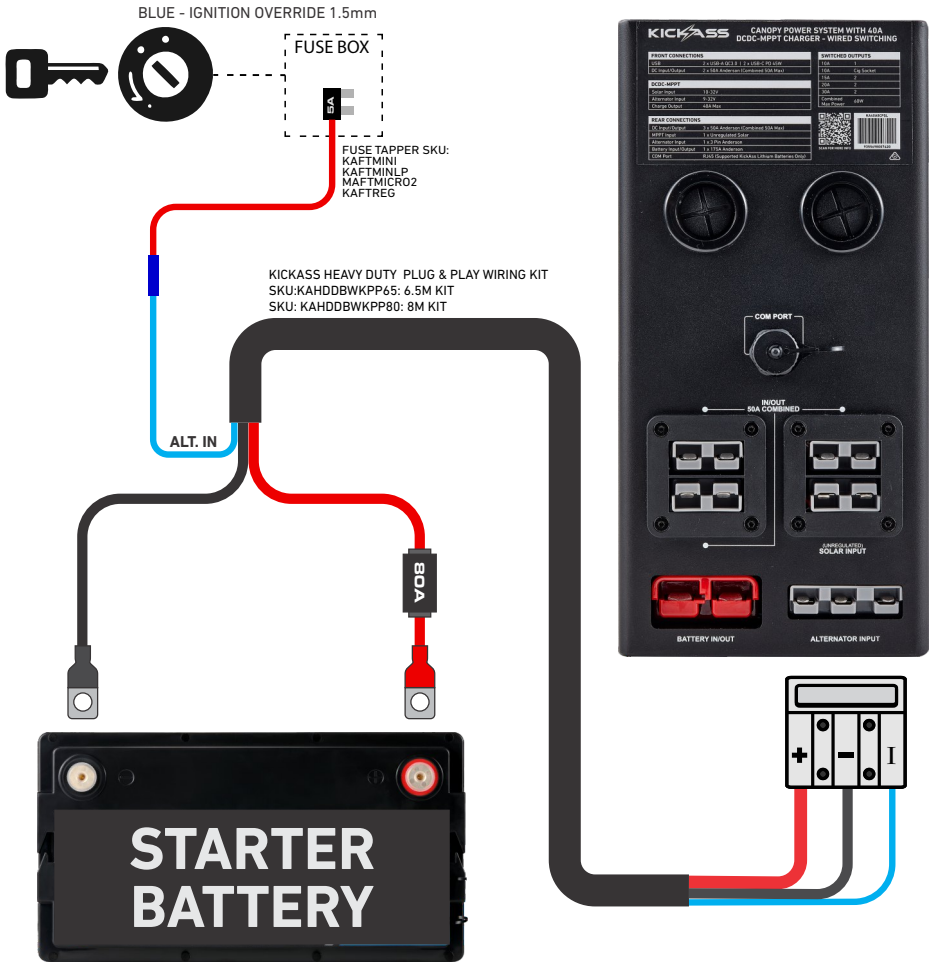


Use the Philips head screwdriver to put the cover back



DCDC CHARGER INPUT CONNECTIONS:

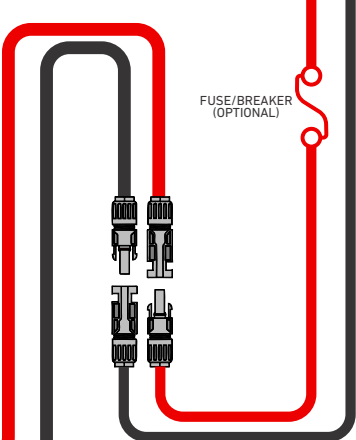
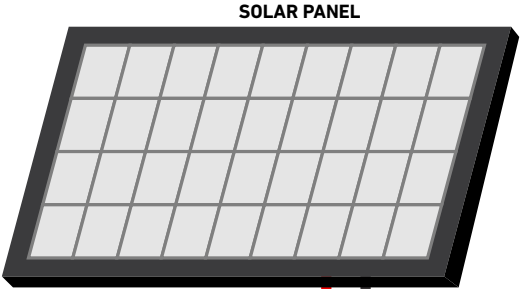
ALTERNATOR WIRING



WARNING:

1. Please check product specifications if connecting multiple charging sources.
2. Do not use an external charger while the DC-DC Charger is operating.

SOLAR WIRING



MOUNTING

Our advanced canopy system is designed with ultimate versatility in mind, offering the ability to mount on the left, right, or upright side of your vehicle, structure, or workspace. This unique flexibility allows you to choose the most practical and efficient configuration to suit your needs, whether you're looking to maximize space, optimize functionality, or protect your equipment from the elements.

UPRIGHT MOUNTING

Remove the side cover, locate the dedicated holes, and bolt the screws directly to the surface below.



LEFT SIDE MOUNTING

To install the system on the left side, remove the side cover, locate the dedicated holes, and bolt the screws.



RIGHT SIDE MOUNTING

To install the system on the right side, use the provided brackets, fit four into the dedicated holes, and bolt the screws.



OPTIONAL AC CHARGER INSTALLATION

Locate the 3 mounting hole on the top, align your AC Charger on top and screw it down securely.



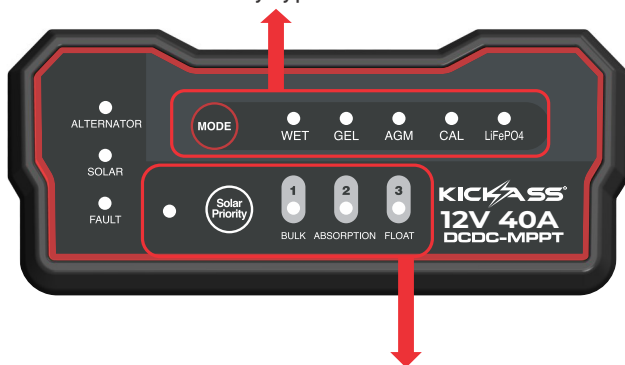
Suitable Chargers:
KACHG1232
KACHG1216



PRODUCT CONFIGURATION

40A DCDC CHARGER - CHOOSING THE BATTERY TYPE






The battery type setting must be confirmed during device installation. When the auxiliary battery is connected, press and hold the Mode button for 2 ~ 4 seconds, upon releasing the button, the battery type LED will move to the next position. Repeat the steps until required battery type LED is selected. Battery type setting is now programmed. The selected battery type will be saved as the new default.



40A DCDC CHARGER - CHARGING STAGE PROFILE

STAGE	DESCRIPTION				
BULK	GEL 100% Current Until 14.1 V	AGM 100% Current Until 14.7 V	WET 100% Current Until 14.4 V	CALCIUM 100% Current Until 15.3 V	LifePO4 100% Current Until 14.5 V
ABSORPTION	Constant 14.1 V Until 2.6A	Constant 14.7 V Until 2.6A	Constant 14.4 V Until 2.6A	Constant 15.3 V Until 2.6A	Constant 14.5 V Until 2.6A
FLOAT	13.5V at 100% Current Max	13.4V at 100% Current Max	13.4V at 100% Current Max	13.6V at 100% Current Max	13.6V at 100% Current Max

40A DCDC CHARGER - UNDERSTANDING SOLAR, ALTERNATOR & CHARGING LIGHTS

<p>Standby Mode</p> <p>No inputs detected. Once the Aux battery has been connected and is within the detectable voltage range, the battery type LED will short flash to indicate the device is in standby mode and no input sources are detected</p>	
<p>Battery type selection mode</p> <p>Press and hold the Mode button for 2 ~ 4 seconds, upon releasing the button, the battery type LED will move to the next position. Repeat the steps until required battery type LED is selected. Battery type setting is now programed and charger will return to Standby mode after a short time.</p>	
<p>Standby Mode Alternator input detected</p> <p>With no Solar connected or detected and the Alternator is the only available input source, the input LED will short flash to indicate input voltage is below the set cut-in voltage. Charger is still in Standby mode and has not begun to charge the battery.</p>	
<p>Standby Mode Alternator and Solar inputs detected</p> <p>Both input sources are detected but neither has reached the set cut in voltage range. By default Alternator input has priority and will provide power to charge the battery. Solar priority has not been selected and indicator LED is on.</p>	
<p>Charging with Alternator or Solar only</p> <p>Once the input source reaches the set cut-in voltage, charging will begin. The battery type LED will turn solid and the active charge stage LED will come on and remain solid, while the input source LED will continue to flash.</p>	
<p>ALTERNATOR ONLY</p> 	<p>SOLAR ONLY</p> 

40A DCDC CHARGER - ABSORPTION CHARGE STAGE

ALTERNATOR ONLY



SOLAR ONLY



Float stage

Input source LED will change to a long flash sequence when charging stage transfers to float. Battery is now fully charged.

ALTERNATOR ONLY



SOLAR ONLY



Charging with Alternator as priority (default)

Once the Alternator input voltage reaches the set cut-in voltage, charging can begin. The battery type LED will turn solid and the active charge stage LED will come on and remain solid, while the input source LED will continue to flash. Solar input LED will remain solid while source is available. The charger will transition through the different charging stages as previously shown, until the battery is full.



Charging with Solar as priority - Setting Solar Priority mode

The function of Solar Priority mode is to allow the charger to check for available solar input before choosing the alternator as the input source. To do this, the charger will assess the state of charge of the battery and decide if the available solar can effectively supply enough charge or choose the alternator as the best input source.

The Solar Priority function can be set at any time, once the Aux battery has been connected. To set Solar Priority, press and hold Solar Priority button for 2 ~ 4 seconds, then release the button, to change the priority. The Solar Priority indicator LED will start to flash.



Lithium BMS Sleep Mode & Recovery Feature:

Most lithium batteries are built with a Battery Management System (BMS) inside to protect the battery from over charging, over discharging and extreme temperature changes.

One of the key functions of the BMS is to protect your battery by internally disconnecting the load¹ when voltage drops below specific parameters, this will then result in the battery entering into a “sleep” mode.

¹ (Load includes any accessories and/or device/s drawing charge from the battery.
Eg: fridges, pumps, food sealers, etc)

The KickAss DCDC MPPT Solar Battery Controller has a lithium battery recovery function. This function has been designed to recover lithium batteries from a sleep mode.

Lithium Battery Recovery Mode Procedure

First disconnect any load connected to the lithium battery. Secondly connect Alternator Input or Solar Input to the KickAss DCDC Charger with MPPT Solar Controller. Thirdly connect the output from the DCDC charger to the lithium battery. When the DCDC Charger with MPPT Solar Controller input charging voltage reaches the relevant cut in voltage, the DCDC Charger with MPPT Solar Controller will automatically try to activate the battery every minute. When DCDC Charger with MPPT Solar Controller attempts to activate the battery, if a open-circuit or short-circuit error is detected, the DCDC Charger with MPPT Solar Controller will enter standby mode until the next activation attempt. If the activation attempt is successful, DCDC Charger with MPPT Solar Controller will initiate the regular three stage charging sequence.

Once the DCDC Charger with MPPT Solar Controller indicates the battery has reach the FLOAT charge state, the battery has been fully recovered and loads reconnected.

SWITCH PANEL BACKLIGHT COLOR & BRIGHTNESS

ON/OFF

Switch with memory function, remember last setting automatically

SHORT PRESS

5 level brightness adjustment (100%, 75%, 50%, 25%, 10%)

LONG PRESS

Enter the setting mode, and choose between momentary mode and strobe mode, long press again to exit the setting mode.



SHORT PRESS

Switch single color (loop from 1-8 in order)

- | | |
|-----------|-----------|
| 1. RED | 5. STAN |
| 2. ORANGE | 6. BLUE |
| 3. YELLOW | 7. PURPLE |
| 4. GREEN | 8. WHITE |

LONG PRESS

Switch between Gradient/Jump/Breathing (loop from 9-11 in order)

9. GRADIENT: RED-ORANGE-YELLOW-GREEN-CYAN-BLUE-PURPLE
10. JUMP: RED-ORANGE-YELLOW-GREEN-CYAN-BLUE-PURPLE
11. BREATHING: RED-ORANGE-YELLOW-GREEN-CYAN-BLUE-PURPLE

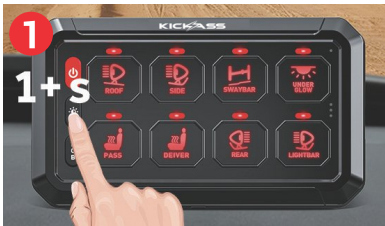
SWITCH PANEL CONTROL MODE SETTINGS

1. CONSTANT LIGHT:



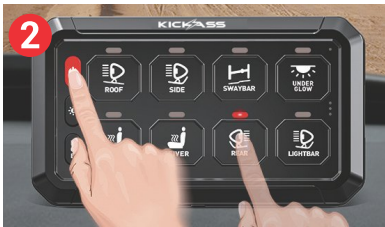
Default constant light, you do not need to set it.

2. MOMENTARY MODE:



Long press the brightness adjustment button for 1 second.

When the red backlight flashes, it enters the Momentary setting state.



Press the button you want to set (you can choose from 8 buttons for Momentary Mode), then press the ON/OFF button to confirm, now the setting is successful.



Press the ON/OFF button again to exit the setting mode.

3. STROBE MODE



Long press the brightness adjustment button for 1 second, and the red backlight flashes.

(note: this is the Momentary setting state, please refer to its specific steps)



Then short press the brightness adjustment button.

When the blue backlight flashes, it enters the Strobe setting state.



Press the button you want to set (you can choose from 8 buttons for Strobe Mode), then press the ON/OFF button to confirm, now the setting is successful.

USING THE REMOTE DISPLAY UNIT

Turning the screen on/off

The screen can be turned on/off by clicking Button B. To save power, the screen will turn off automatically after prolonged inactivity. To set the duration of the screen "On" time before turning off, hold Button B for five seconds until the Screen time menu appears. Navigate through the menu using the buttons. To confirm selection, wait 5 seconds for the home screen to return.

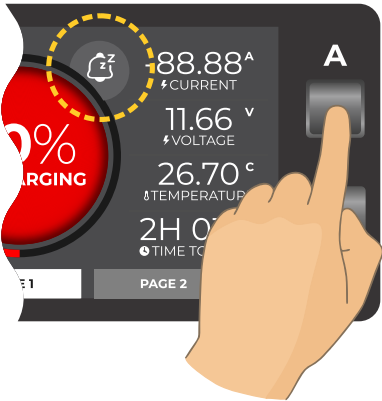
Switching between Displays

The display can be switched between Page 1 and Page 2 by clicking Button A.

Low Battery Alarm & Muting Feature

A low battery alarm will sound when the battery's state of charge falls below 10%. To mute the alarm, press and hold button A for 5 seconds or until the muted symbol displays on page 1 of the display. The alarm will stay muted for 8hrs or until the battery is charged sufficiently.

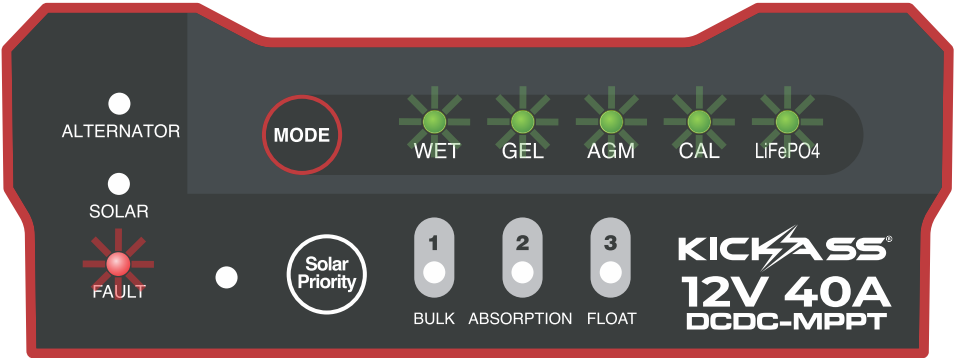
PRESS AND HOLD
FOR 5 SECONDS



TROUBLESHOOTING





















40A DCDC CHARGER FAULT CODES

If the fault light is flashing, please refer to the fault codes below for diagnostics.
Note: Only the selected battery type LED will flash when the device detects a fault condition.



Alternator (green)	Solar (green)	Battery Type (green)	Solar Priority (Green)	Fault (red)	Fault	Solution
					Over voltage detected at alternator input	Check alternator battery voltage
					Over voltage detected at solar input	Check solar panel open circuit voltage
					Over voltage detected at output	Check auxiliary battery voltage
					Over temperature	Let the unit cool down for some time or improve ventilation

The following table provides some additional fault finding advice should any potential issues arise with the system installation, or unexpected system behavior is identified after normal operation.

Alternator (green)	Solar (green)	Battery Type (green)	Solar Priority (Green)	Fault (red)	System Behavior	Recommended Troubleshooting Procedure
					No voltage detected at alternator and solar input	<ul style="list-style-type: none">▪ Check alternator and solar panel voltages.▪ Check system wiring for potential connection issues.
					Low voltage detected at alternator input (Voltage is below cut-in range)	<ul style="list-style-type: none">▪ Check alternator battery voltage.▪ Check system wiring for potential connection issues.▪ Check alternator operation.
					Low voltage detected at solar input (Voltage is below cut-in range)	<ul style="list-style-type: none">▪ Check solar panel voltage.▪ Check system wiring for potential issues.
					Low voltage detected at alternator or solar input (Voltage is below cut-in range)	<ul style="list-style-type: none">▪ Check alternator battery voltage.▪ Check system wiring for potential connection issues.▪ Check alternator operation.▪ Check solar panel voltage.▪ Check system wiring for potential issues.

SWITCH PANEL TROUBLESHOOTING

1. If the loads are not tuning On, it is always better to check the respective fuses on the control box as well as the circuit breaker
2. Always make sure that the connected battery’s continuous discharge current supports powering up all your loads otherwise you either damage your battery or the battery goes into over-discharge current protection and shuts down your loads.
3. Do not draw more than 60A from the 8 Gang Switch Panel otherwise the circuit breaker trips.

KICKASS PRODUCTS PTY LTD. WARRANTY DISCLAIMER

At Kickass Products Pty Ltd., we stand behind the quality and durability of our outdoor and camping products. Our product team rigorously tests every item in demanding conditions to ensure performance in normal use environments.

Limited Warranty Coverage

Kickass Products Pty Ltd. warrants that our products are free from manufacturing defects in materials and workmanship for the applicable warranty period. If a defect arises within this period, we will, at our discretion, repair, replace, or provide an appropriate remedy in accordance with Australian Consumer Law (ACL).

Exclusions

Warranty does not cover:

- Normal wear and tear
- Misuse, abuse or improper installation
- Damage caused by accidents, modifications, or lack of proper maintenance
- Consumable parts, unless a defect in materials or workmanship is present

Making a Warranty Claim

To initiate a claim, please retain your proof of purchase and contact our customer service team with details of the defect. We will guide you through the process, including potential return or assessment requirements.

Your Rights Under Australian Consumer Law

This warranty is in addition to any rights or remedies you may have under the ACL and does not exclude, restrict, or modify them.

Thank you for choosing Kickass Products Pty Ltd. We are committed to ensuring your outdoor adventures are backed with confidence.



**KickAss is a registered trademark of
KickAss Products Pty Ltd**

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KickAss Products Pty Ltd
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Australia**

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