

POWER DISTRIBUTION PANEL (PDP) 12VDC



PDS002

POWER DISTRIBUTION SYSTEM



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1. SAFETY INSTRUCTIONS

Please read the following safety instructions carefully before installation or operation. Improper use may result in equipment damage, fire, or personal injury.

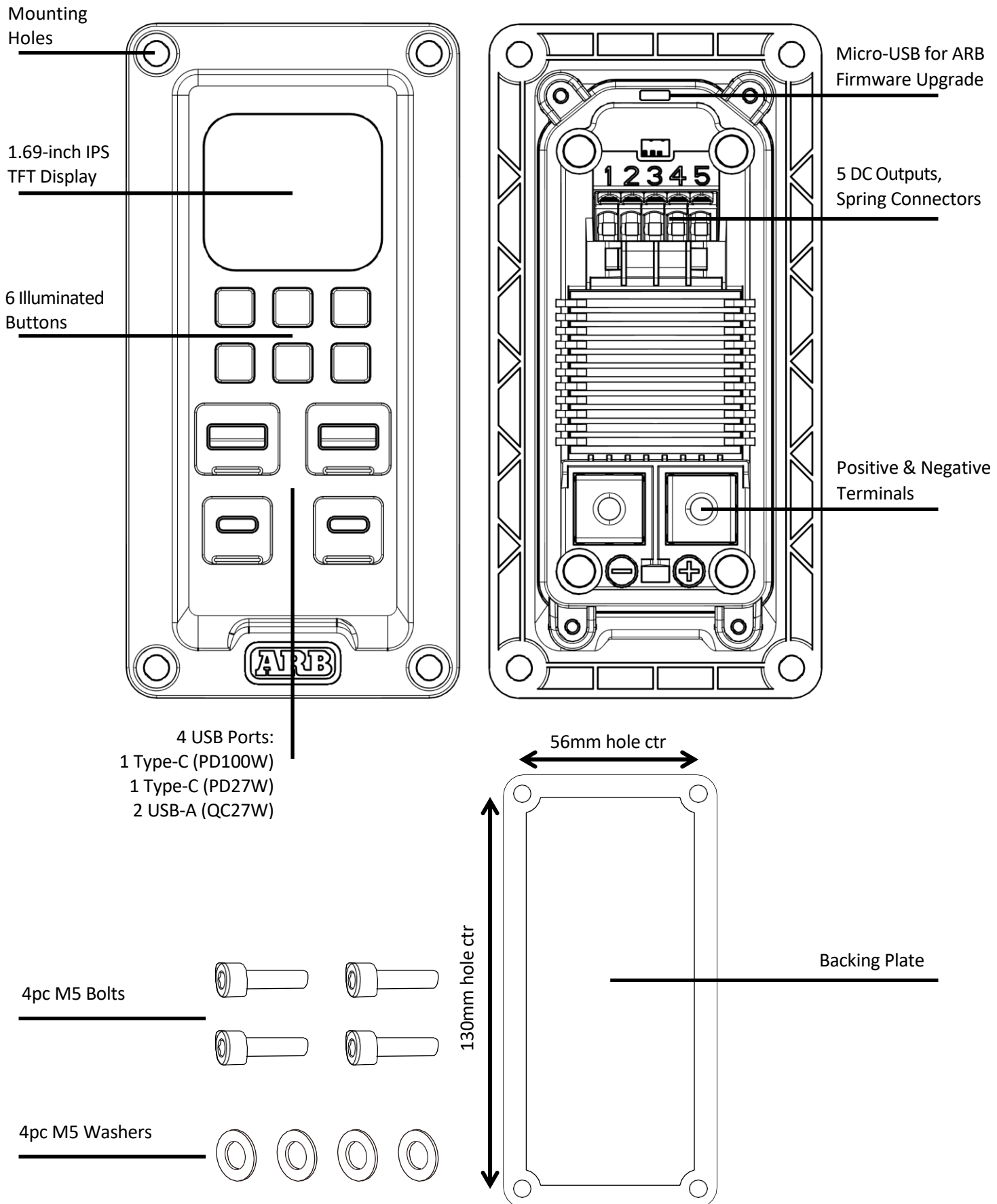
- This product is intended for use with 12VDC automotive battery systems only. Do not use with other voltage sources.
- Installation and maintenance should be performed by qualified personnel.
- Disconnect the power source (vehicle battery) before installation or service.
- Input voltage must remain within 10–16VDC. Overvoltage may damage internal components.
- Do not exceed 15Amp on any single DC output or 60Amp total system current.
- Avoid connecting faulty or incompatible equipment.
- Ensure all wiring is properly insulated and securely connected. Incorrect wiring may result in overheating or failure.
- Maintain correct polarity on all input and output terminals.
- Mount the unit securely on a flat, vibration-resistant surface away from heat sources or water ingress.
- Use wires and connectors rated for the expected current load. Loose or undersized wiring may lead to fire hazards.
- Avoid exposure to moisture, direct sunlight, or dust.
- Do not connect devices that exceed the rated output of each DC output or USB port.
- Do not apply excessive force to the buttons. Use only for switching or settings as indicated.
- OTA updates must be performed via the Micro-USB port using ARB firmware only.
- If smoke, heat, or abnormal odor is detected, disconnect power immediately and discontinue use.
- In case of electric shock, cut off power and seek medical help.
- Do not modify or open the casing of the device. Unauthorized disassembly voids warranty.

2. GENERAL CARE AND MAINTENANCE

This Power Distribution Panel (PDP) has been rigorously tested. To keep this Power Distribution Panel in optimal condition, it is important to follow the below Safety Warnings and the Care and Maintenance recommendations:

- Check all input/output terminals and wiring for looseness, corrosion, or wear.
- Inspect the housing, buttons, and display screen for signs of physical damage or contamination.
- Ensure the device is not exhibiting unusual heat buildup during operation.
- Power off the system and disconnect the battery before cleaning.
- Use a soft, dry cloth to wipe the panel surface. Do not use alcohol, solvents, or water.
- When not in use, store the unit in a clean, dry environment within -20°C to 65°C .
- Do not apply pressure to the buttons or screen with sharp or hard objects.
- If abnormal operation, fault messages, or overheating occurs, discontinue use and contact qualified service personnel.
- Respect the individual DC output limits of 15Amp per output and the overall 60Amp system limit to avoid overheating or damage.

3. PRODUCT OVERVIEW



4. SPECIFICATIONS

ITEM	SPECIFICATION
Input Voltage Range	10 ~ 16V
Sleep Current	<1mA
Voltage Accuracy	±0.1V
Current Accuracy	±0.1A
Operating Temperature	-10°C ~ 45°C
Storage Temperature	-20°C ~ 65°C
Relative Humidity	0% ~ 90%
5 DC Outputs	
Max Continuous Load per DC outlet	15A
Max Continuous Total Load	60A
Spring Connectors, required Wire Size	Max 4.0mm ²
Spring Connectors, required Wire Strip Length	10mm
USB Outputs	
USB-A Max Output (27W Port), 2pc	QC 27W (9V 3A)
Type-C Max Output (27W Port), 1pc	PD 27W (9V 3A)
Type-C Max Output (100W Port), 1pc	PD 100W (20V 5A)

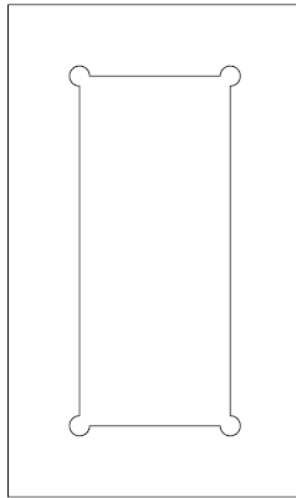
5. OPERATION INSTRUCTIONS

A. INSTALLATION

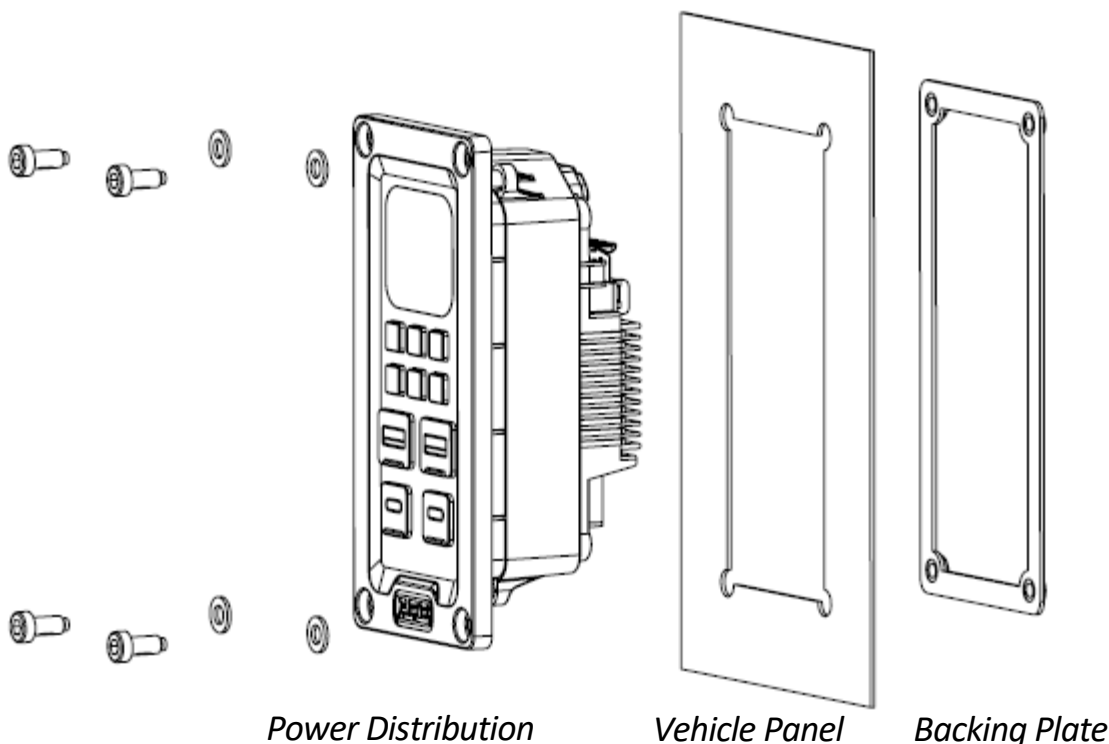
Select an installation location that is dry, well-ventilated, and allows easy access for future maintenance.

Ensure there is a safe distance from surrounding components to prevent interference, overheating, or damage during operation.

For the vehicle panel hole cut, use the backing plate as a template, mark the four outside holes. Remove template and drill out the four holes to $\varnothing 6\text{mm}$. Cut straight lines between the four holes as shown below.



Install the backing plate behind the vehicle panel. Pass the PDP through the vehicle panel and secure the PDP to the backing plate using the supplied screws and flat washers.

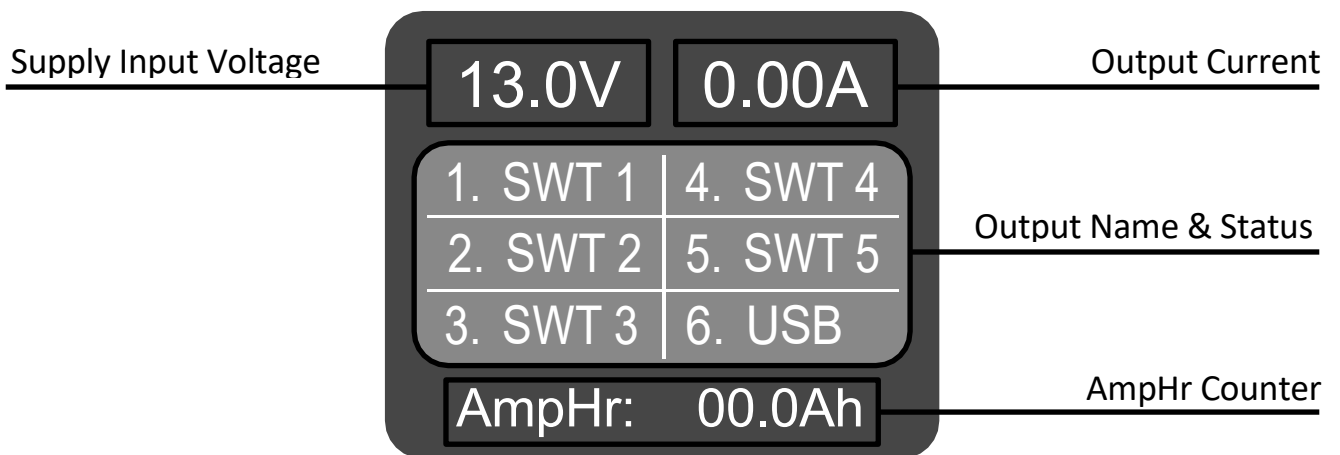


For alternative mounting options, ARB have developed a series of brackets for mounting. Please visit ARB stores for more information.

B. POWER ON

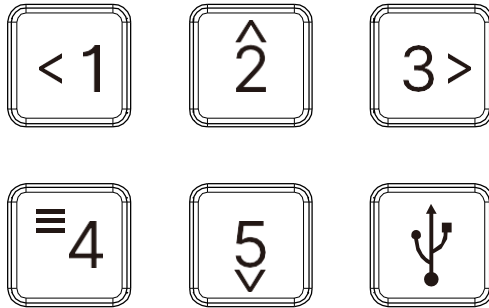
Connect a 12V power supply to the positive and negative terminals. Upon power-up, a startup screen will be displayed for 2 seconds.

C. SCREEN OVERVIEW



D.BUTTON OPERATION

The six buttons have two applications; to power ON the DC Output and to navigate the Settings Menu.



1. To power ON the DC Outputs, the PDP screen must be on the home page.

- Buttons 1–5 control the ON / OFF state of DC Outputs. Press the button number to turn ON the corresponding DC output number.
- The USB button controls the ON / OFF state of 4 USB ports. Press the USB button to turn ON the 4 USB ports.
- The button will illuminate (SOLID) when the corresponding DC Output is ON.
- The button will illuminate (FLASH) when the corresponding DC Output is protected.

2. To navigate the PDP the Settings Menu, the button functions are reassigned as follows:

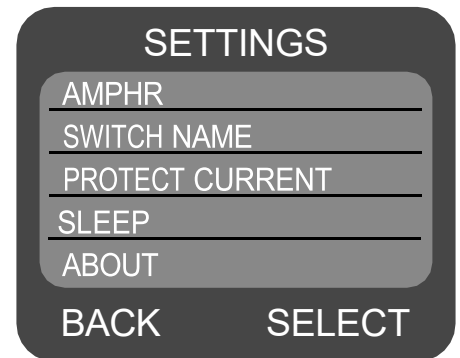
- Button 1: Left (←)
- Button 2: Up (↑)
- Button 3: Right (→)
- Button 5: Down (↓)

6. SETTINGS MENU

The PDP has a configuration menu where various settings can be customised.



To enter the Settings Menu, push & hold Button 4 on the home page. Use ↑ and ↓ to navigate through the options, and ← and → to return or confirm selections.

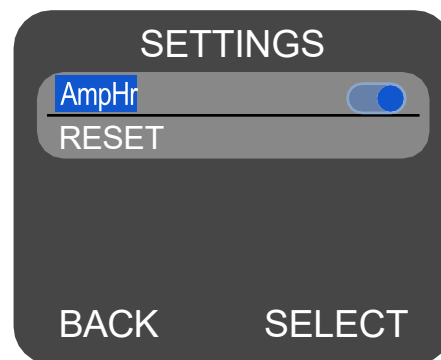


A. AMPHR COUNTER

The PDP has an Amp Hour (AmpHr) counter which measures the AmpHr output.

To change the AmpHr counter configuration, navigate to the Settings Menu and scroll to the AMPHR, press → to enter the page.

The AmpHr on the home page can be hidden. To hide or unhide the AmpHr counter, select the toggle box, press → to change.



Hides / displays the AmpHr counter

Resets AmpHr counter to zero.

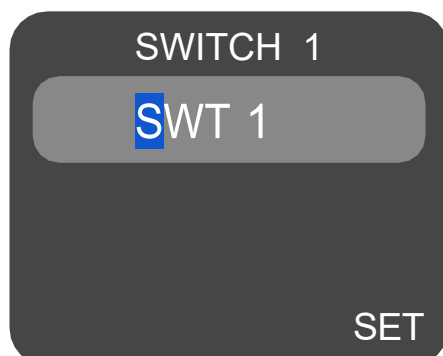
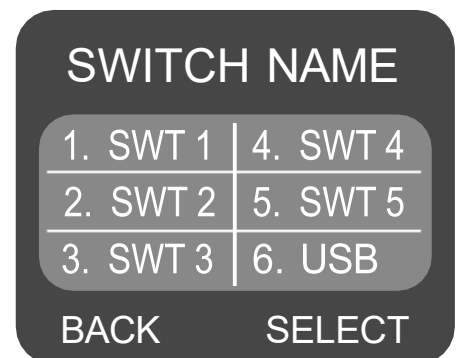
To reset the AmpHr counter to zero, select the RESET selection, press → to reset.

B. SWITCH NAMES

The switch names on the display can be renamed to suit various equipment installed on the vehicle.

To change the switch name, navigate to the Settings Menu and scroll to SWITCH NAME, press → to enter the page.

With the ↑ and ↓ buttons, select the switch name required to be changed, press → to edit the switch name.



The switch name can be up to six characters, including uppercase letters, numbers, and special characters.

Use ↑ and ↓ to switch characters.

Buttons 4 and 6 to toggle character types.

Use → to move the cursor to the next character.

To set, move to the final character, then push & hold → to confirm the switch name.

C. CURRENT PROTECTION

The 5 DC Outputs can be current limited to suit various equipment or wire specification.

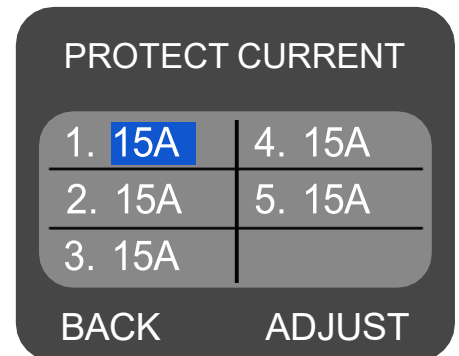
To change the current protection limits, navigate to the Settings Menu and scroll to PROTECT CURRENT, press → to enter the page.

With the ↑ and ↓ buttons, select the DC output required to be changed.

Press the → button to change between the various current options. Changes are automatically saved.

Options are: 5A, 10A and 15A.

Press ← to return to the Settings Menu.



D. SLEEP MODE

The PDP has a low current draw sleep mode feature. This can be activated to avoid excessive battery discharge.

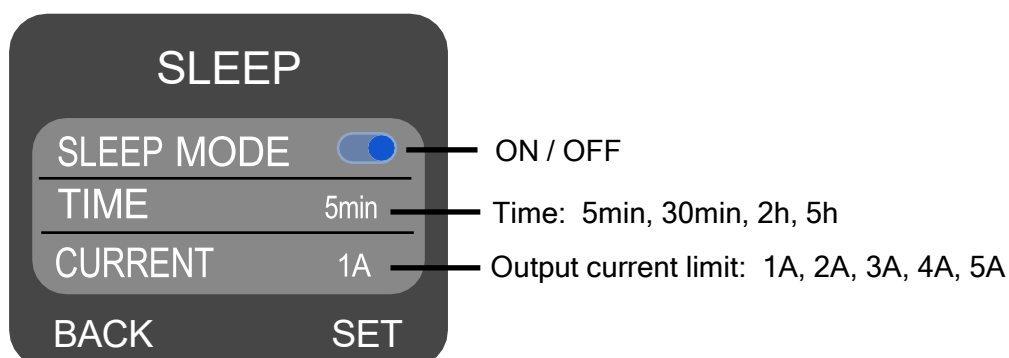
Sleep mode will activate after a length of time and with low output current. The time and output current limit can be adjusted. The output current includes the 5 DC Outputs only, not including the 4 USB ports.

To change the sleep mode settings, navigate to the Settings Menu and scroll to SLEEP, press → to enter the page.

The sleep mode can be enabled or disabled (ON / OFF). To enable or disable sleep mode, select the toggle box, press → to change.

To adjust the sleep mode time; with the ↑ and ↓ buttons, select the TIME and press → to adjust. Available options are 5min, 30min, 2hr and 5hr. Sleep mode will activate after this length of time.

To adjust the sleep mode output current limit; with the ↑ and ↓ buttons, select the CURRENT and press → to adjust. Available options are 1A, 2A, 3A, 4A and 5A. Sleep mode will activate if the output current is below this limit.



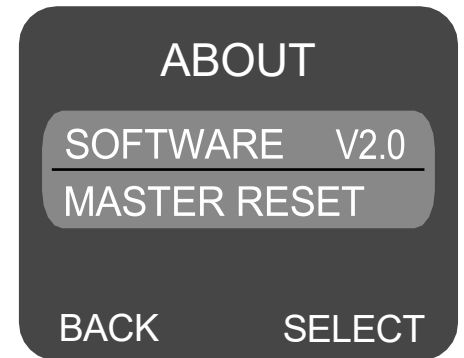
E. ABOUT

The PDP has information about its software version and can complete a master reset.

To change enter the ABOUT page, navigate to the Settings Menu and scroll to ABOUT, press → to enter the page.

To complete the master reset, with the ↑ and ↓ buttons, select the MASTER RESET and press → to action. Follow the prompts to complete the reset.

The master reset will adjust the AmpHr settings, switch names, protect current and sleep settings to the factory default settings.



7. COMPLIANCE

- CE
- UKCA
- ECE R10
- RCM
- FCC
- ROHS
- IP64
- ISO 16750-3

8. TECHNICAL SPECIFICATIONS

Description	Details	Behaviour	Response
Reverse Polarity Protection	Input polarity is reversed	Device will not operate.	Correct the input positive and negative cables.
Undervoltage Protection	Input voltage is <10V	All outputs shut down Display message: Low voltage protection active.	Automatically restored when voltage returns to 10.5V–15.5V.
Overvoltage Protection	Input voltage is >16V	All outputs shut down Display message: Over voltage protection active.	Automatically restored when voltage returns to 10.5V–15.5V.
DC Output Short Circuit	Short circuit	Hardware disables DC outputs and 500ms later, software disables it. Display message: Circuit x protection active, press button x to reset.	Press the corresponding DC output button to reset. DC output remains off until reset.
DC Output Overcurrent	Current exceeds user-set limit for > 2s	DC output shuts down. Display message: Circuit x protection active, press button x to reset.	Press the corresponding DC output button to reset. Output remains off until reset.
Total DC Overcurrent	Total current across all DC outputs > 60A	All DC outlets shut down. Display message: Device protection active, press any button to reset.	Press any button to reset.
USB Short Circuit Protection	Short circuit detected on any USB port	Affected USB port shuts down. Display message: USB protection active.	Automatically restores after short circuit is resolved.
DC Overtemperature Protection	DC output PCBA temperature > 80°C	All DC outputs shut down. Display message: Outlets over temperature.	Automatically resumes when temp < 70°C.
USB Overtemperature Protection	USB output PCBA temperature > 80°C	All USB outputs shut down. Display message: USB over temperature.	Automatically resumes when temp < 70°C.

9. TROUBLESHOOTING

Notification	Issue	Solution
Low voltage protection active	Input undervoltage	Charge the battery to raise the input voltage above 10.5V.
Over voltage protection active	Input overvoltage	Lower the input voltage below 15.5V.
Circuit x protection active, press button x to reset	DC outlet x protection active	1. Check circuit connections. 2. Reduce the DC output current. 3. Adjust current protection limit.
Device protection active, press any button to reset	Total output current too high	Reduce the total DC output current.
USB protection active	Any USB port overcurrent	Reduce the USB output current.
Outlets over temperature	DC output over temperature	Wait for temperature to drop below 70°C and reduce DC output load.
USB over temperature	USB output over temperature	Wait for temperature to drop below 70°C and reduce USB load.

10. WARRANTY

ARB PRODUCTS WARRANTY AGAINST DEFECTS

ARB warrants the ARB Products against defects in workmanship and materials for the Warranty Period. If defective workmanship or materials become apparent in the Warranty Period, ARB will replace or repair the defective Product. The benefits to the customer given by this warranty are in addition to other rights and remedies of the customer under a law in relation to the goods or services to which the warranty relates.

1. In this warranty:
 - a. ARB means ARB Corporation Limited (ABN 31 006 708 756) of 42-44 Garden St, Kilsyth Victoria 3137
 - b. ARB Outlet means an outlet which has been authorised by ARB to sell and fit ARB Products
 - c. ARB Product means products which ARB manufactures or for which ARB is the exclusive supplier
 - d. Product Information means the information about the relevant ARB Product which may be contained in any of: documentation provided with the ARB Product, owner's manual, operating manual, service manual or the manufacturer's manual or labels attached to the ARB Product
 - e. Warranty Period means, in respect of an ARB Product, the period that this warranty against defects applies and which is set out in paragraph 8.
2. To be entitled to claim the warranty, the customer must:
 - a. Have the ARB Product fitted in accordance with the Product Information
 - b. Carry out normal care and maintenance of the ARB Product, including any required by the Product Information
 - c. Provide proof of purchase of the ARB Product
 - d. Make the claim in the Warranty Period.
3. The warranty will not apply in circumstances where the defect is caused by:
 - a. Unusual, improper or negligent use or misuse of the ARB Product
 - b. Incorrect fitting of the ARB Product other than at an ARB Outlet
 - c. Use of non-genuine ARB components in or with the ARB Product
 - d. Use of the ARB Product outside of the requirements of the Product Information.
4. The procedure for the customer to claim the warranty is:
 - a. Return the ARB Product to the nearest ARB Outlet or contact ARB to arrange a time to bring a vehicle fitted with the ARB Product to an ARB Outlet for inspection. Contact details are in paragraph 7 below if further information is required Regarding local outlet details
 - b. Bring proof of purchase of the ARB Product to the ARB Outlet
 - c. ARB will review the ARB Product and advise whether the conditions of this warranty have been met
5. Where ARB accepts a customer's warranty claim, ARB will rectify any defective workmanship or materials at its own expense.
6. Expenses incurred by the customer in claiming the warranty are to be borne by the customer.
7. This warranty is given by:

ARB Corporation Limited
42-44 Garden Street
Kilsyth VIC 3137, Australia
Phone: 03 9761 6622.
Fax: 03 9721 9090.
www.arb.com.au
8. The period within which a defect in the ARB Products must appear if the customer is to be entitled to claim the warranty is 3 years starting on the date of purchase unless:
 - a. The ARB Product is used in Commercial Use. Commercial Use means use in industry or commerce including (without limitation) use in the mining industry or as a hire vehicle. In this case, the Warranty Period is 1 year
9. The warranty against defects contained in this document replaces any other warranty against defects or voluntary warranty given in relation to the Products.

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 reasonable 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.



POWER DISTRIBUTION SYSTEM



ARB 4x4 ACCESSORIES

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