



# powerpack

The original 12v smart charger battery box

## Operating Instructions

Before operating this product  
please read this manual thoroughly  
and retain it for future reference



Part no. DA10W

12V  
**1500mA**  
CHARGING POWER

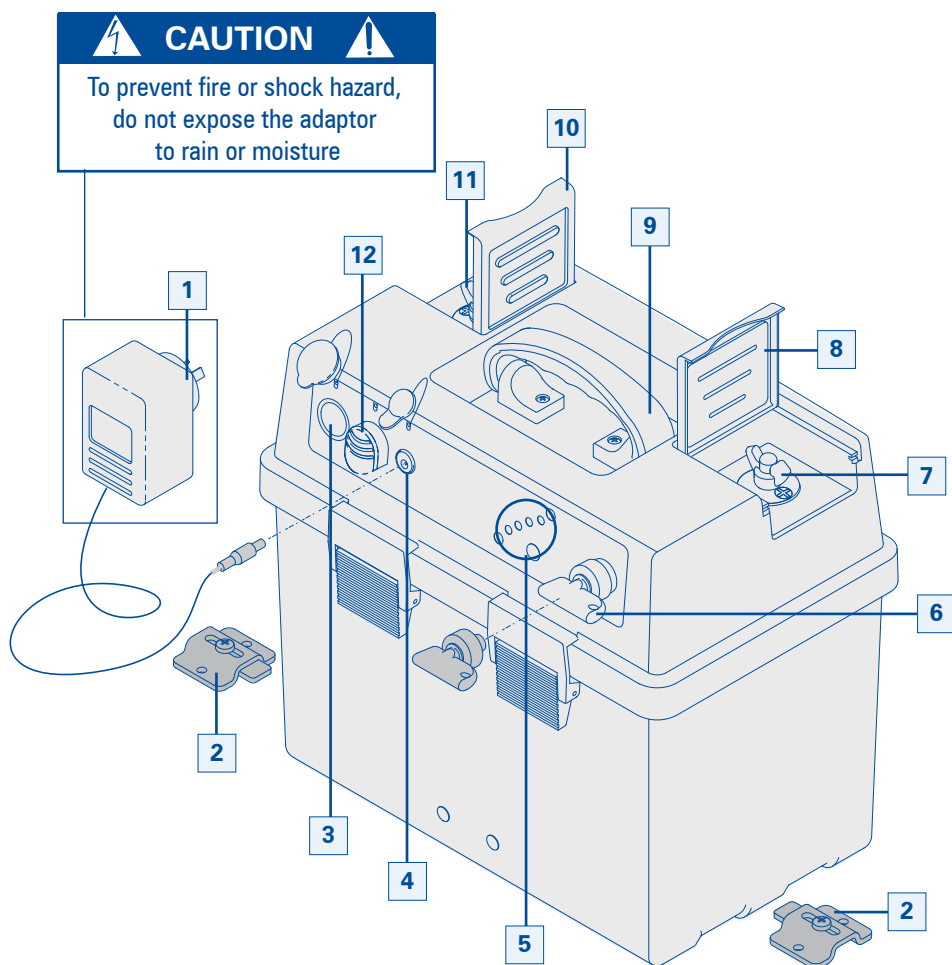


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# Identifying the parts

- |   |                                      |    |                                |
|---|--------------------------------------|----|--------------------------------|
| 1 | Powerpack adaptor                    | 7  | Positive high current terminal |
| 2 | Stainless steel brackets             | 8  | Positive terminal cover        |
| 3 | 12V DC 10A accessory port with cover | 9  | Carry handle                   |
| 4 | Charger input with cover             | 10 | Negative terminal cover        |
| 5 | LED condition/charge indicator       | 11 | Negative high current terminal |
| 6 | Battery isolator switch              | 12 | Ventilation fan                |



**13** Accessory port 10A fuse

**14** Lid

**15** Negative battery cable (black)

**16** Positive battery cable (red)

**17** Internal battery securing strap

**18** Base

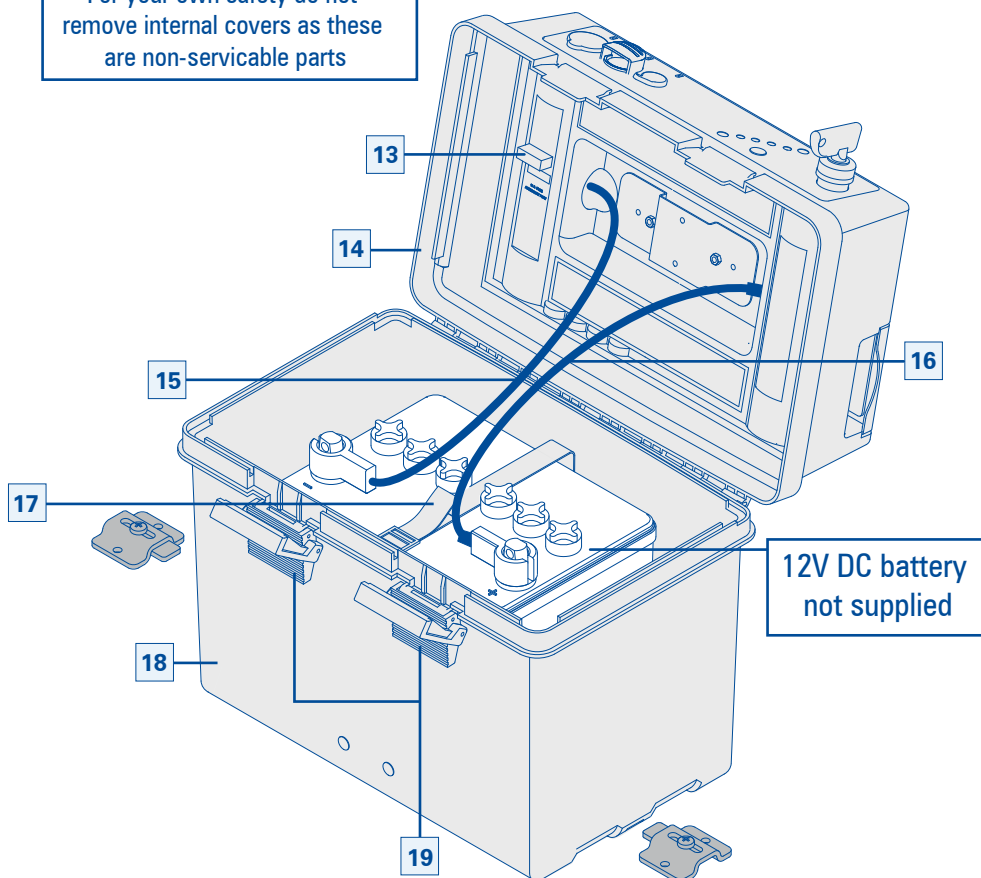
**19** Latches



## CAUTION



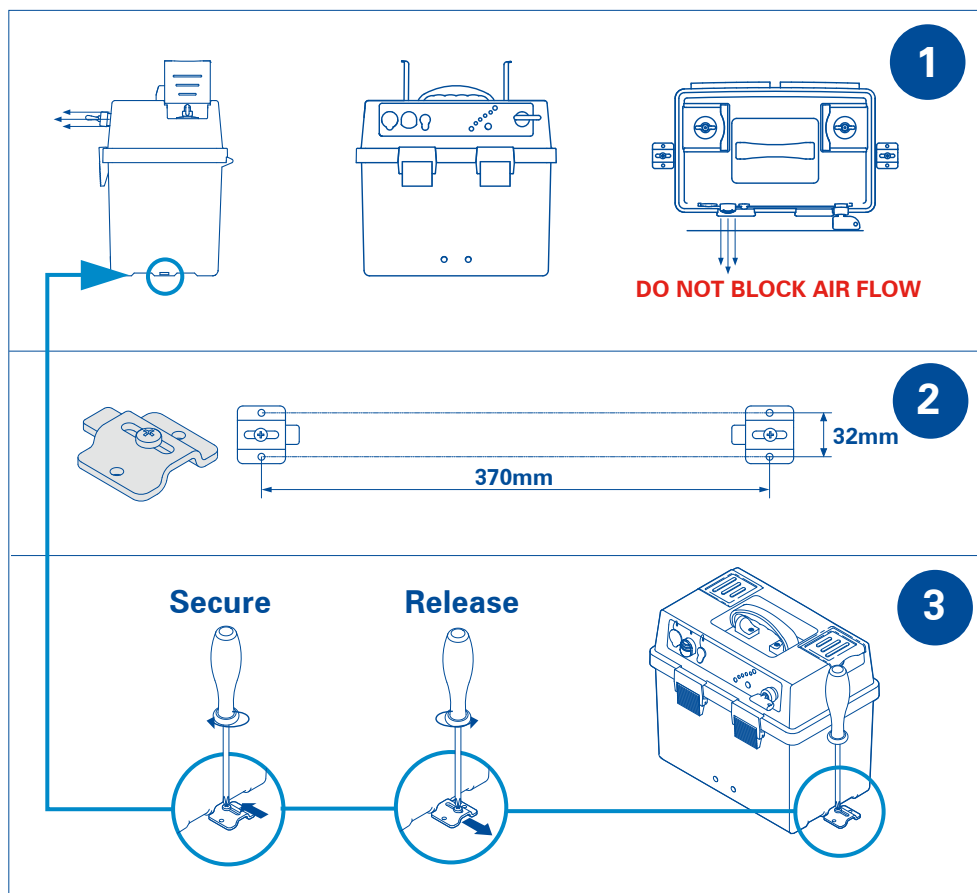
For your own safety do not remove internal covers as these are non-servicable parts



# 1 Powerpack mounting

It is recommended that the Powerpack be securely mounted with the supplied quick release mounting brackets.

- 1 Place the Powerpack in a suitable location with adequate air ventilation and easy access.
- 2 Mark bracket mounting holes as indicated, then fasten mounting brackets securely with screws provided.
- 3 Locate Powerpack between brackets, slide bracket tongue into Powerpack cavity and tighten screws securely.



## 2

## Connecting the battery

The Powerpack is suitable for most 12V DC batteries, we recommend AGM (sealed batteries).

Powerpack internal dimension:

330mm L x 180mm W x 240mm H

External dimension: 360mm L x 240mm W x 320mm H

- 1 Place the battery into the Powerpack base **18** and fasten via the internal battery securing strap. **17**  
If the battery is small in size we suggest to pack suitable foam around the battery to stop battery movement.
- 2 Ensure Powerpack switch isolator **6** is in the off position and the Powerpack adaptor **1** is not connected.
- 3 Connect the positive red cable **16** to the positive (+) battery terminal post and the negative black cable **15** to the negative (-) battery terminal post. If the charging and conditioning LED flashes 1 sec on 1 sec off, this indicates reverse polarity connection or a short in the battery.
- 4 Fasten the terminals securely.
- 5 Close the lid **14** and fasten the latches. **19**

Please note that your battery terminals position may differ from the illustrated view.

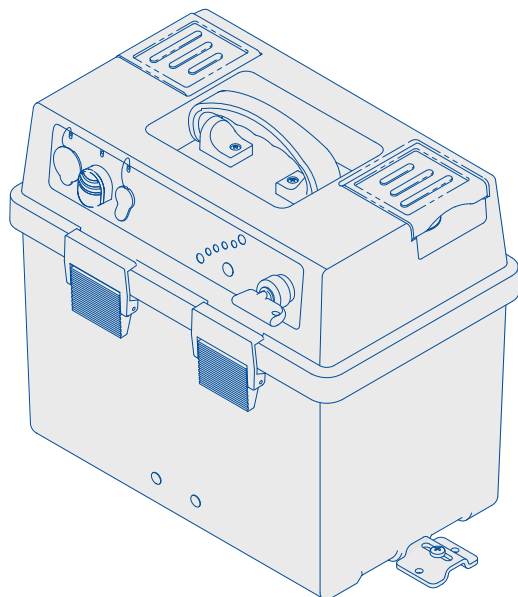
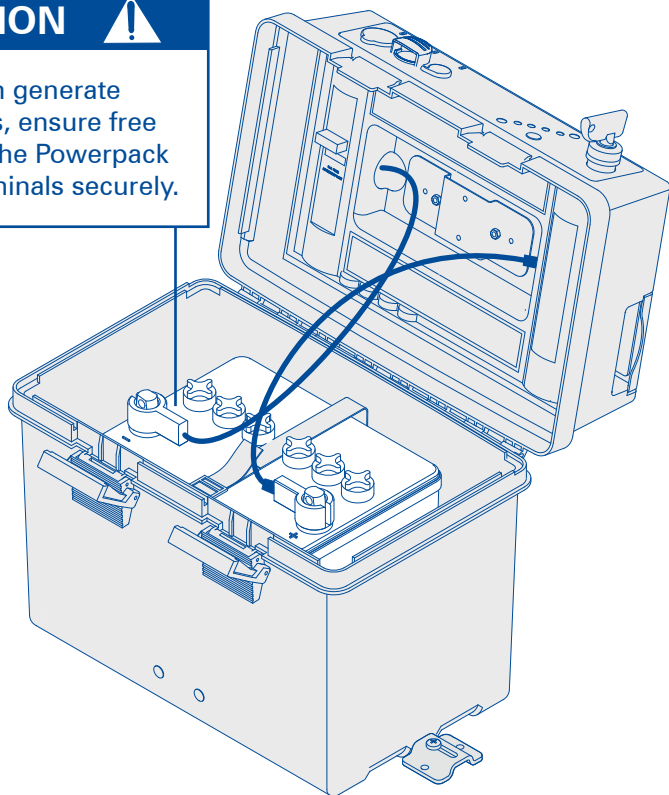
Turn over for illustration



## CAUTION



Batteries can generate explosive gases, ensure free air flow around the Powerpack and tighten terminals securely.





# 3

## Connecting the load

There are two output connection options:

The positive and negative high current terminals **7** **11** or the accessory port **3**

Both the high current terminals **7** **11** & the accessory port **3** can be disconnected by the battery isolator switch **6**

Note: a battery is a high current device. For your safety never connect a device or load to the high current terminals **7** **11** without turning the battery isolator switch **6** to the off position.

- 1 To connect a device or load to the Powerpack high current terminals, **7** **11** undo red and black wing nuts.  
Note: do not remove powerpack terminal washers. Washers must be below the terminals.
- 2 Connect positive cable (red) of the device to the positive (+) Powerpack high current terminal **7** and tighten red wing nut securely.
- 3 Connect negative cable (black) of the device to the negative (-) Powerpack high current terminal **11** and tighten black wing nut securely.
- 4 Turn the isolator switch **6** to the 'on' position when current is required.
- 5 The accessory port **3** is protected by a 10A replaceable fuse. **13** Should this fuse fail, turn battery isolator switch **6** to the off position & replace fuse. The isolation switch **6** has a removable key for extra security.

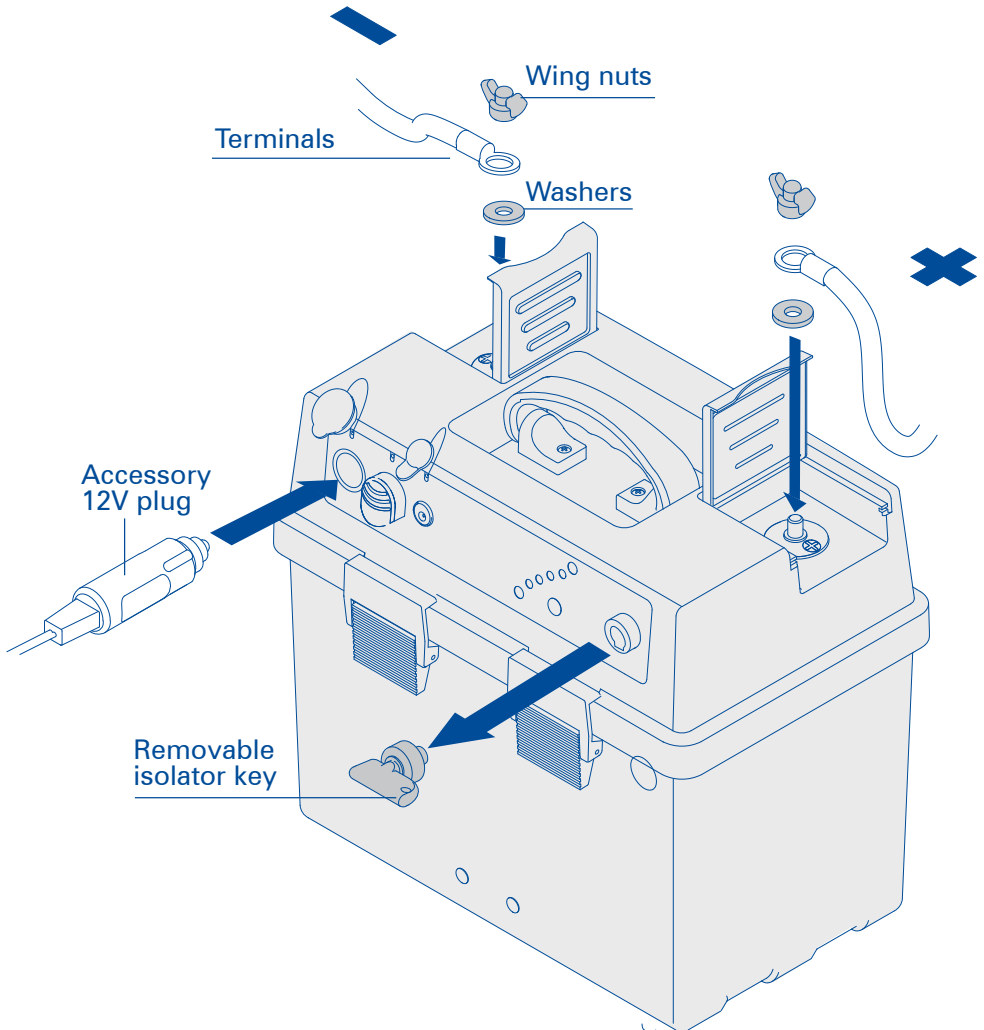
Turn over for illustration



## CAUTION



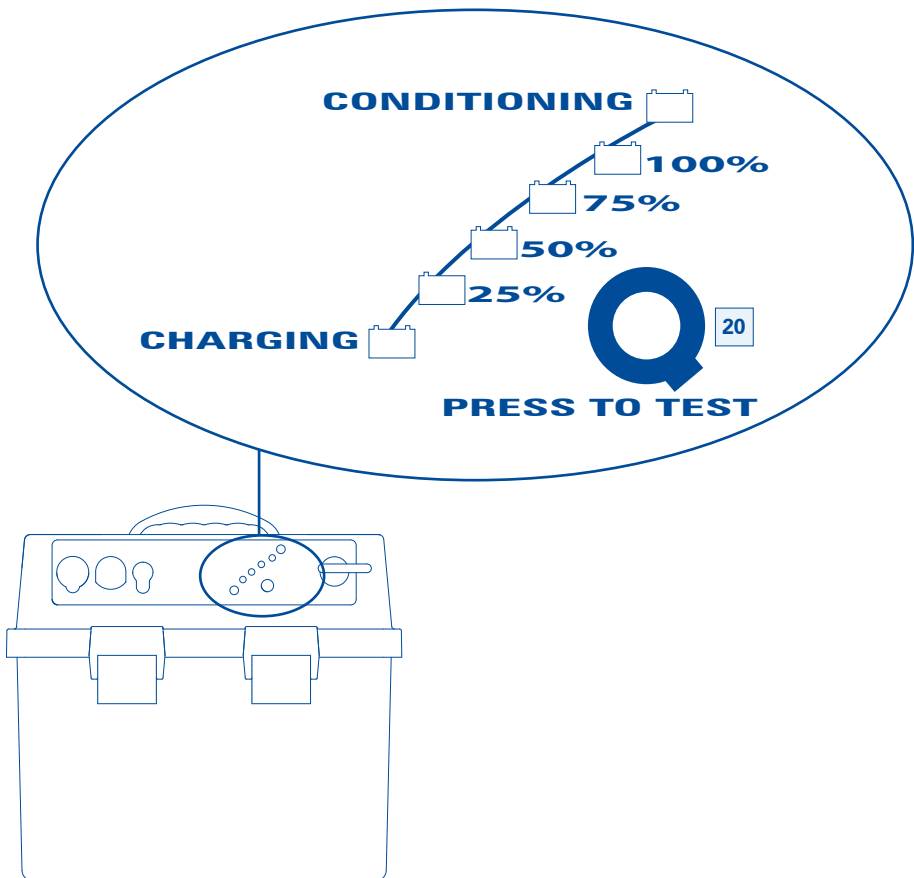
Always check polarity  
when connecting to Powerpack.  
Incorrect termination may  
cause damage



## 4 Energy indicator

- 1 The Powerpack is fitted with advanced electronics to monitor the energy level at all times. The battery energy level can be monitored via the LED condition/ charge indicator 5
- 2 To view the battery condition charge level press & hold down the “press to test” button 20

### Battery condition charge display



# 5

## Using smartcharge

The Powerpack smart charge is based upon an advanced software program that monitors your battery. Smart charge will select from the following auto charge cycles to optimise your battery's performance.

The auto charge cycles are as follows:

### 1 Charge

Recovers a flat battery to a peak voltage. Charges the battery until it reaches 12.5V.

- ✓ If reaches 12.5V will proceed to bulk. 2
- ✗ If fails to reach 12.5V after a period of 125 hours.

Will proceed to conditioning. 5

Conditioning indicator will flash 5 secs on 2 secs off, this indicates that your battery is very weak or may have a faulty cell. You can decide to repeat charge cycle by pulling out and replacing the power adaptor 1 or check battery with your supplier.

### 2 Bulk

Tops up battery for extra capacity. Raises battery voltage to 13.8V.

- ✓ If reaches 13.8V will proceed to boosting. 3
- ✗ If fails to reach 13.8V after a period of 125 hours of charging time, will move to conditioning. 5

### 3 Boosting

Peak charge for maximum performance battery charge is maintained at 13.8V for 5 hours to boost the battery then proceeds to rest. 4

#### 4 Resting

Allows the battery to consolidate after boosting. Charger ceases charging to allow the battery to rest while allowing voltage to normalize at 12.8V. Then proceeds to conditioning. 5

#### 5 Conditioning

Maintains performance and prolong battery life. Battery charge is maintained at 12.8V. at 0.1A the battery is continually monitored and the charging current is automatically adjusted to maintain battery voltage at 12.8V for a period of 500 hours then proceeds to re-waken.

#### 6 Re-waken

Exercising the battery and avoiding sulphation build up. After 500 hours of conditioning the charger cycle will automatically return to step 1 (charging).

Note: at any time you can reset auto charge cycle by removing & replacing Powerpack adaptor 1 depending on the size & condition of your battery, charge times may vary.



## **Installing the Powerpack as part of a Dual Battery System**

The Powerpack can be used in a dual battery set-up. The best method to do this is to connect the Powerpack to a dual battery wiring loom (not supplied) using the positive/negative external terminals. **7 11** Note: Using these methods the smart charge system is bypassed so the Powerpack cannot control the charging voltage. A voltage sensitive relay/solenoid must be used to ensure priority is given to charging the vehicle's main starting battery. The main isolator switch on the Powerpack must be switched on. See FAQs for more information.

## **Charging the Battery using Solar Panels (not supplied)**

You can charge the battery via the external terminals using a solar panel array. To do this the isolator switch must be in the 'on' position. The smart charge PCB will be bypassed with this configuration so there will be no control over battery voltage. If the battery is overcharged it may caused permanent damage. It is recommended to use an external voltage regulator (not supplied) when using solar panels.

# FAQs

## What size battery can it take?

The Powerpack can accept up to 130Ah battery.

## How long will it last?

Depends on the overall current draw, we tested the Powerpack fitted with a 130Ah battery and it ran a 40L Waeco fridge for up to 6 days.

## What is the built-in charger?

The built in charger is a 1.5amp smartcharger designed to charge, condition and maintain the battery over prolonged periods of time. This charger works from 240V mains power only.

## What types of batteries are compatible with the Powerpack?

The Powerpack can accept Lead Acid, GEL, Calcium and AGM batteries.

## Can I connect an inverter to the Powerpack?

Yes, you can connect an inverter directly to the external terminals [7](#) [11](#) you can also connect an inverter to the accessory port [3](#) as long as the inverter current draw from the Powerpack does not exceed 10A.

## Can I charge from my vehicle's 12V outlet?

No, there is no charge cable available to charge directly from your vehicle's 12V accessory outlet because the vehicle accessory socket has a 10A-15A fuse it is not a suitable power source for the Powerpack.

## Can I charge from Solar Panels?

Yes, you can refer to charging the battery using solar panels, page 11.

## Can I charge from my vehicle's alternator?

Yes, you can charge from your vehicle's alternator by setting up the Powerpack as an auxiliary battery through a dual battery system, this method charges the battery directly and bypasses the built in charger. The Battery Isolator must be in the "on" position.

## Can I charge from a generator?

Yes, you can charge from a generator using the 240V adaptor [1](#) or if the generator has charging leads you can connect them to the external terminals on the Powerpack.

## Can I charge and use the Powerpack at the same time?

When charging with the built-in charger, it is not recommended to charge and use the Powerpack at the same time.

If you are charging from Solar panels or from your vehicle, you can charge and use the Powerpack at the same time because you are bypassing the built in charger.

## Can I jumpstart vehicles with the Powerpack?

Yes, you can jumpstart from the Powerpack only if the battery you place in the Powerpack has high cold cranking amps which are designed to start vehicles.

## Q. How long will the Powerpack take to charge my battery?

A. It depends on the battery size and how much charge it has. For a completely flat 100Ahr battery the Powerpack will take about 3 days. To calculate the charge time in hours for a flat battery, divide the battery size (Ahr) by 1.5.

For example  $100\text{ahr} \div 1.5 = 66.66$  hours ( or 2.77 days).

# Important. Please read.

- Ensure Powerpack isolator switch is in the off position while the battery is charging, except when charging through the external terminals.
- Keep clear of naked flame, spark or conductive material, while the battery is charging.
- Ensure that the Powerpack ventilation fan is operating while the battery is charging.
- Always turn the Powerpack isolator switch in off position when the battery is not in use.

Australian Innovation Patent No.2003100766  
Australian Patent No.2003258369  
Canadian Patent No.2538378  
United States Patent No.7573229  
United States Design Patent No. D495994  
Canadian Registered Design No.104258  
European Registered Design No.000076799-0001

