

**PROJECTA**

# POWER-HUB

12 VOLT PORTABLE POWER STATION



P/No. PH125

## **WARNINGS**

- Risk of explosive gas. Working in the vicinity of a lead-acid battery can be dangerous
- Batteries might release explosive gases during normal operation and charging
- Before using the product, read and follow the instructions carefully. Follow all manufacturer's instructions
- Do not smoke, use matches, use a cigarette lighter, or allow a spark or flame near the battery
- Do not allow metal to bridge the battery posts. It may spark or short-circuit the battery and cause an explosion
- Remove rings, bracelets, necklaces and watches when working with a lead-acid battery
- Before accessing the battery leads (Red for positive and black for negative), disconnect all devices or power sources from the sockets and DC terminals of the Power-Hub
- Ensure correct polarity when connecting to the battery leads
- Do not submerge the product in water or expose to rain
- Not recommended to use the product for critical power backup application
- Designed to work with 12V lead acid batteries (including Calcium, Gel and AGM) only
- Not recommended to house, wet or normal car battery
- Do not insert objects into the sockets

## **ACKNOWLEDGEMENT**

Thanks to Century Yuasa Batteries Pty Ltd and Mr Jason Hill who provided valuable help and support in development of this product.

## Overview

The Projecta Power-Hub (PH125) is a battery box which is designed to house high capacity batteries, equipped with advanced battery fuel gauge. The Power-Hub provides all the necessary connections to power portable fridges and electronic devices. It has the following features.

- Suitable for popular deep cycle AGM lead acid battery
- 300W Pure Sinewave Inverter (no early shutdown issue)
- Provides 10 popular power outlets which include:
  - 2 x 10A Accessory Sockets
  - 2 x 15A Merit Sockets
  - 2 x 2A USB Sockets
  - 1 x 10A Engel Type Socket
  - 1 x 50A Heavy Duty Socket
  - 1 x DC Terminal for high current requirements
  - 1 x 240V AC Outlet
- All outputs via Accessory, Engel Type, Merit and 50A Heavy Duty are protected by a resettable fuse
- 2.4" full colour LCD display
- Configurable Low battery capacity and battery health alarm
- Using patented technology to monitor battery characteristics like battery state of charge and state of health
- Glass reinforced plastic casing

## QUICK START

1. Unscrew the top section of the unit with the Allen Key provided



2. Place the top section next to the main body of the unit



3. Place the battery into the main housing



4. Secure the battery with horizontal and vertical straps provided



5. Use the pre-cut packaging foam to secure the battery



6. Connect the black battery lead to the negative terminal of the battery



7. Connect the red battery lead to the positive terminal of the battery



8. Put the top section back onto the main body



9. Secure the top section with the screws provided



10. Press enter to acknowledge the Welcome message on the LCD screen



11. Enter the battery capacity in Ah



12. Enter value for the low battery alarm and Ah



13. Enter the value for battery health warning alarm in Ah



14. Fully charge the battery with any multistage battery charger (e.g. IC1000, PC1600 etc)



15. Disconnect the battery charger when the battery is full
16. Unit is ready to use

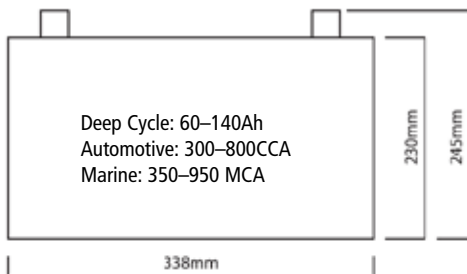


## SPECIFICATIONS

Part No.	PH125
<b>Inverter</b>	
Input Voltage Range	10.5V – 15.0 Vdc
Input Current	≤ 32A
Open Circuit Output Voltage	240±5% Vac
Full Load O/P Voltage	240±5% Vac
Output Frequency	50±0.5Hz
Continuous Output Power	300VA
Surge Output Power	600VA for 0.2s
Output Waveform	Pure Sinewave
<b>Protection</b>	
Overload with Auto-recovery	360 – 450VA
Input Overvoltage	15.5±0.5Vdc
LVD	10.5±0.2VDC
Reconnect Input Voltage after LVD	12±0.2VDC
Overtemperature	Auto-recovery
Reverse Polarity	By Fuse
<b>Battery Fuel Gauge</b>	
Input Voltage Range	6.0 – 17.0 Vdc
Display Resolution	
Current	0.1 A
Voltage	0.1V
Battery Capacity	0.1Ah
Type of Battery Supported	Lead Acid
<b>Power Outlets</b>	
2 x 10A Accessory Socket	Resettable Fuse Protected
2 x 15A Merit Socket	Resettable Fuse Protected
1 x 10A Engel Type Socket	Resettable Fuse Protected
1 x 50A Heavy Duty Battery Connector	Resettable Fuse Protected
1 x DC Terminal	–
2 x 2A USB Ports	Short-circuit protected
1 x 300VA AC Socket	Overload and Short-circuit Protected
<b>Physical Characteristics</b>	
Weight	5.5 kg
External Dimension	390mm (L) x 235mm (W) x 337mm(H)
Maximum Battery Dimension Allowed	230mm x 177mm x 338mm*
Operating Temperature	0 to 50°C
<b>Compliance</b>	
EMC	Certified to meet AS/NZS 61000.6.3
Safety	Tested to meet AS/NZS 4763

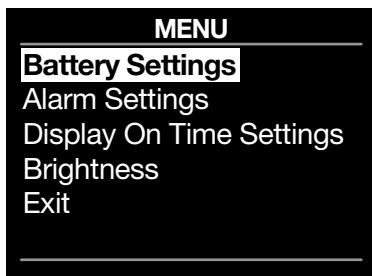
\*See drawing over the page

Maximum Battery Dimension Allowed:



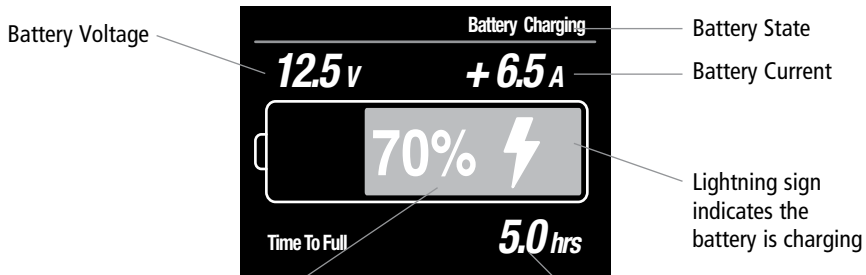
## BATTERY GAUGE USER INTERFACE

### MAIN MENU



Function	Description
Battery Settings	Set Battery Capacity
Alarm Settings	Set Low Battery Capacity and Battery Health Alarms
Display On Time Settings	Set the LCD Display On Time (10 mins as default on time)
Brightness	Set the brightness of the LCD Display (50% as default value)
Restart Learning Cycle	Force Battery Gauge to restart Battery Profile Learning Cycle
Exit	Exit Menu Screen and return to Default Screen

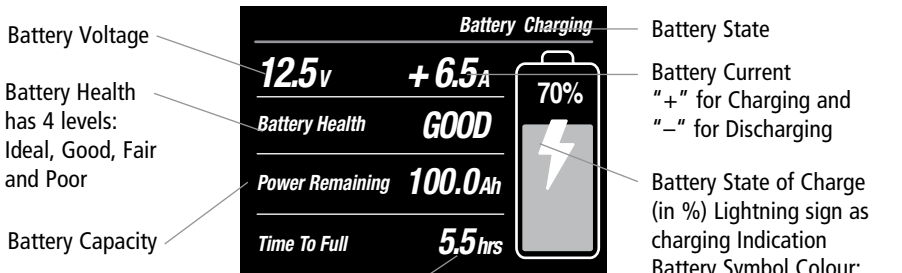
## DEFAULT SCREEN



Battery State of Charge (SOC) in %  
 Battery Symbol Colour:  
 Green:  $50\% < SOC < 100\%$   
 Orange:  $20\% < SOC \leq 50\%$   
 Red:  $SOC < 20\%$

Time to Full when the battery is charging or time to empty when the battery is discharging or displays System Idle

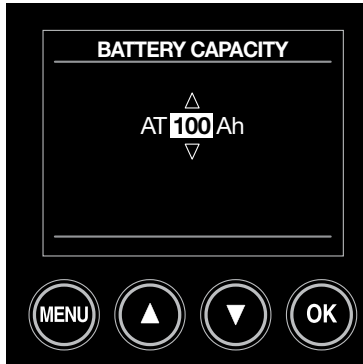
## ADVANCED SCREEN



Time to Full when the battery is charging or time to empty when the battery is discharging or displays System Idle

Battery Symbol Colour:  
 Green:  $50\% < SOC < 100\%$   
 Orange:  $20\% < SOC \leq 50\%$   
 Red:  $SOC < 20\%$

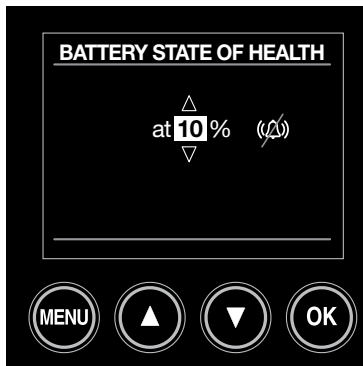
## BATTERY SETTINGS



Use Up and Down buttons to change the value of battery capacity which is marked on the battery case. Press OK button to apply the changes. The default value is 100Ah.

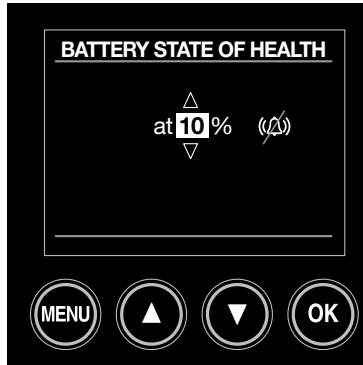
## ALARM SETTINGS

### LOW BATTERY CAPACITY



Use Up and Down buttons to change the value of low battery capacity alarm. Reduce the value to 0 to disable the alarm. Press OK button to apply the changes. The default value is 10Ah.

## BATTERY STATE OF HEALTH



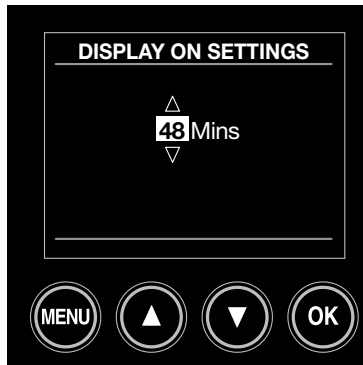
Use Up and Down buttons to change the value of battery state of health alarm. Reduce the value to 0 to disable the alarm. Press OK button to apply the changes. The default value is 30%.

When the battery state of health diminishes to the set level, an audio alarm is activated. The audio alarm can be muted by pressing any button.

## DISPLAY ON TIME SETTING

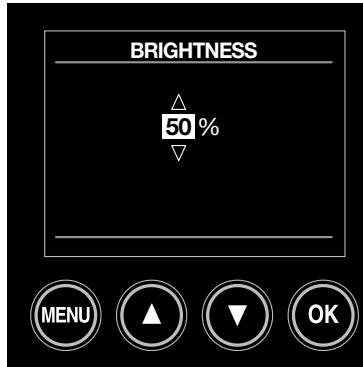
Use Up and Down buttons to change the time the LCD display remains on without user action. Press the OK button to apply change. The default value is 10 mins.

After the display screen is turned off, it can be re-activated by pressing the menu button.



## BRIGHTNESS

Use Up and Down buttons to change the brightness of LCD display. Press OK button to apply the changes. The default value is 50%.



## BATTERY HEALTH

It is an indicator to show if the battery requires rejuvenation or replacement.

Indication	Description
Ideal or Good	No action is needed
Fair	Try to rejuvenate the battery
Poor	Try to rejuvenate the battery as soon as possible. If the battery health indicator is still Poor after rejuvenation, the battery is close to its end of life, replace the battery as soon as possible

## RESTART LEARNING CYCLE

Through restarting the learning cycle, the battery fuel gauge re-learns the battery characteristics and selects the best profile to predict the battery characteristics like battery state of charge and state of health. Here are the steps for restart learning cycle:

- Step 1: Press the menu button, use the down button to select 'Restart Learning Cycle' and press 'OK' to confirm selection.
- Step 2: Connect a multi-stage battery charger with reverse polarity protection to any sockets or terminals, except AC socket.
- Step 3: Fully charge the internal battery and the Learning Cycle is completed.

## **FREQUENTLY ASKED QUESTIONS**

**Q. What is state of charge (SOC)?**

A. It is the remaining battery capacity expressed as a percentage of full charge capacity.

**Q. What is State of Health (SOH) or Battery Health?**

A. It is expressed as a percentage of the ratio of predicted full charge capacity over the design capacity. The PH125 uses 4 levels to represent the battery health: Ideal, Good, Fair and Poor. Please look at the battery health section for more detail.

**Q. What is the low battery capacity alarm for?**

A. The unit uses an audible alarm to remind the user that the battery capacity is reduced to a set level. This allows the user to recharge before the battery is fully discharged.

**Q. What is the battery health alarm for?**

A. The unit also uses an audible alarm to remind the user that the battery's health has reduced below the set level. This allows the user to recondition the battery before it is too late or change the battery if required.

## **WARRANTY STATEMENT**

Brown & Watson International Pty. Ltd. ("BWI") of 1500 Ferntree Gully Road, Knoxfield, Vic., telephone (03) 9730 6000, fax (03) 9730 6050, warrants that all products described in its current catalogue will under normal use and service be free of failures in material and workmanship for a period of one (1) year from the date of the original purchase by the customer as marked on the invoice (see elsewhere for specific warranty period). This warranty does not cover ordinary wear and tear, abuse, alteration of products or damage caused by the purchaser.

To make a warranty claim the consumer must deliver the product at their cost to the original place of purchase or to any other place which may be nominated by either BWI or the retailer from where the product was bought in order that a warranty assessment may be performed. The consumer must also deliver the original invoice evidencing the date and place of purchase together with an explanation in writing as to the nature of the claim.

In the event that the claim is determined to be for a minor failure of the product then BWI reserves the right to repair or replace it at its discretion. In the event that a major failure is determined the consumer will be entitled to a replacement or a refund as well as compensation for any other reasonably foreseeable loss or damage.

This warranty is in addition to any other rights or remedies that the consumer may have under State or Federal legislation.

### **IMPORTANT NOTE**

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 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.

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