



# POWER OAK

## PS 2 USER MANUAL

### ATTENTION:

Strictly follow this user manual and pay close attention to all warnings. Please DO NOT operate before reading this USER MANUAL.

## NOTICES

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## PRODUCT CERTIFICATION

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PowerOak guarantees this product conforms to the national and industrial standards or that the standard conformance certification is in progress.

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## Introduction

### ➤ Foreword

This Manual provides a detailed introduction regarding the use of the generator. Please read the user instructions thoroughly in order to benefit from all the possibilities your generator can offer.

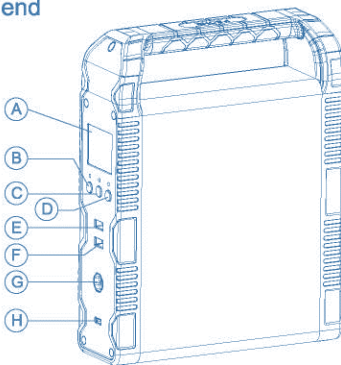
### ➤ Applicable

By reading this manual, the user can understand the usage and operation of the generator. Should any questions arise during installation, please contact your installer or customer support (see page 8).

### ➤ Product Description

This portable solar generator is developed by PowerOak, it's a smart, portable, home and camping, solar generator battery. This PowerOak generator has an integrated MPPT solar charge controller, inverter, system controller, lithium battery, DC 12V, USB QC3.0, USB-C PD2.0 and BMS. Store green solar energy in the battery for later use. This item is perfect for when the homes main power fails, the generator can be used for powering computers, mobile phones and small appliances. This product is safe, reliable, and easy to use.

#### ■ Legend



- A LCD
- B POWER
- C DC ON
- D AC ON
- E USB PORT
- F USB 3.0
- G DC OUT
- H TYPE C PORT
- I AC IN
- J AC OUT

## Safety Precaution

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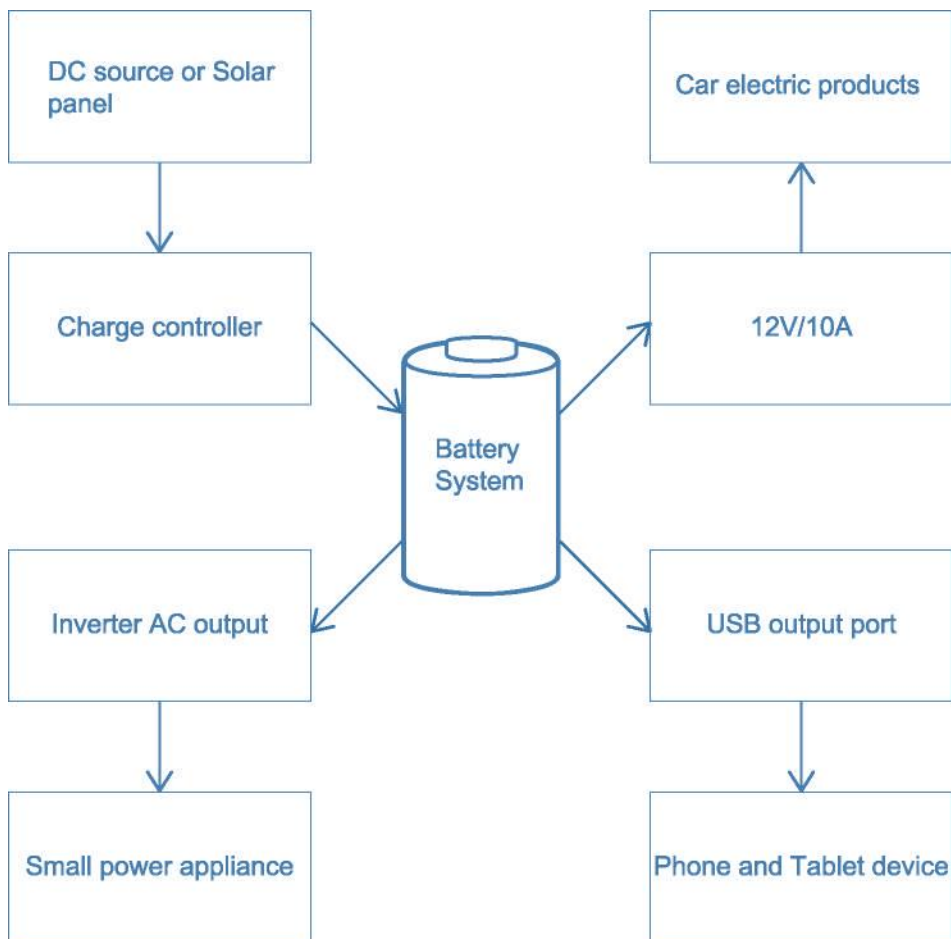
1. Please read the “Safety Precautions” before use to ensure safe and proper operation of PS TWO. Keep this manual in a safe and secure place. Warranty will be null and void if the user fails to follow all warning and cautions in this manual.
2. Please follow all warnings when operating this unit.
3. Keep the generator away from direct sun, rain, and humid conditions.
4. Keep the generator away from heat sources like, electric heaters, ovens, furnaces, etc.
5. Keep a safe distance, approximately 4-6 inches, for ventilation and follow the manual when installing.
6. Please power off and use dry cloths when cleaning.
7. In the event of electrical fire, only use dry powder fire extinguisher. There is a danger of electric shock if a liquid fire extinguisher is used.
8. DO NOT open the case or touch any internal parts or wiring. Only connect cables to the provided external ports.
9. Please contact PowerOak or a certified electrician for any maintenance needs. (See page 8 for contact information)

## Usage and Maintenance

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1. Working and storage conditions will affect the batteries overall life and reliability, please follow the environmental conditions stated below:
  - Only operate when temperatures are between 0°C~40°C with relative humidity between 5%~90%.
  - Avoid places with constant vibrations or shocks.
  - Avoid environments with metal dust, corrosive substances, salt, or flammable gases are present.
2. Please place the generator in an area where there is good ventilation, away from water, flammable gases, corrosive materials, and other dangerous goods.
3. For extended storage, place unit in dry environment, with temperatures between 0°C~+35°C.

## Work Diagram of the Generator



## Unpacking

### ➤ Unpack Checking

Please check if the box has been damaged before opening. After unpacking, please check if product appearance is damaged, or if there are any missing parts. If so, please contact PowerOak. (See Page 13)

NO.	ITEM.	QUANTITY
A	PowerOak PS TWO	1
B	AC wall charger (with AC charging cable)	1
C	solar charging cable (7909 to MC4)	1
D	Type-C cable	1
E	cigarette lighter adapter (6530 to	1
F	F manual, warranty card, certificate of	1

## Operation Instruction

### ➤ Power on and Power Off

Main functions of POWER ON/OFF button

1. POWER ON: Press the POWER button. The LED lights up. Screen turns on.
2. POWER OFF: Press the POWER button for 2 seconds. The screen turns off. LED lights off.

Main functions of DC ON/OFF button

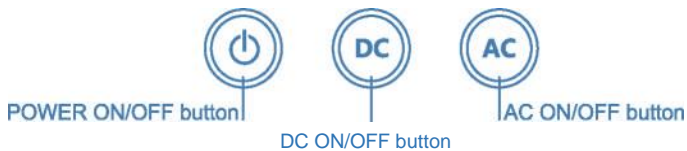
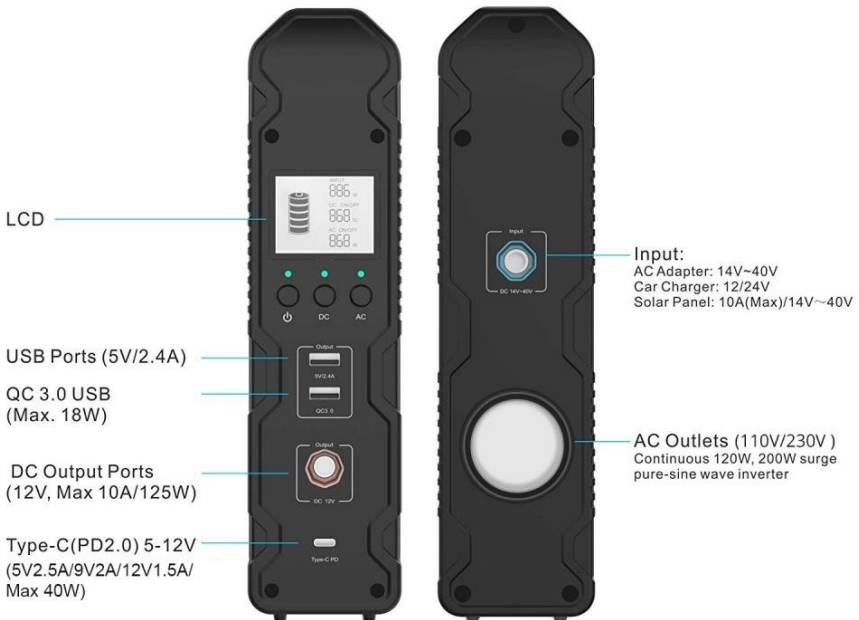
1. Turn on the DC power: Press the DC ON/OFF button for 2 seconds. LED lights up, and screen shows "DC ON".
2. Turn off the DC power: Press the DC ON/OFF button for 2 seconds. LED lights off, and the screen shows "DC OFF".

Main functions of AC ON/OFF button

1. Turn on the AC power: Press the AC ON/OFF button for 2 seconds. Back LED lights up, and screen shows "AC ON".
2. Turn off the AC power: Press the AC ON/OFF button for 2 seconds. Back LED lights off, and the screen shows "AC OFF".

**NOTICE:** Before turning on the POWER ON/OFF BUTTON, both DC ON/OFF button and AC ON/OFF button don't work. After turning on the POWER ON/OFF BUTTON, both DC ON/OFF button and AC ON/OFF button are in OFF status.

## ➤ Display





**NOTICE:**

1. When a function fails, the error code will show on “Charging power”, “DC output power”, “AC output power”.
2. Screen backlight will turn off after a while with no operation, and it will turn on again when pressing any button.

## Trouble Shooting

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This generator has been fully tested prior to shipping. Contact PowerOak customer service if any failure occurs. During a call, please provide us with the following information.

**Failure Description**

- Serial No.
- Model No.
- Information shows on screen
- Describe in detail what error is happening.
- Is it possible to repeat the problem, if so, what are the steps?
- Did it happen before? Why did it happen?

**Solar panel used to charge the generator**

- Manufacturer name and model
- Output power of PV
- Output voltage of PV
- Output voltage of MPPT
- Output current of MPPT
- How many solar panels are hooked up?

## ➤ System Failure Diagnosing

<b>Failure code</b>	<b>Cause</b>	<b>Solution</b>
<i>E01</i>	Over Temperature Protection	Check that the ambient temperature is not higher than 45°C.
<i>E02</i>	Battery pack Over Voltage Protection	Disconnect the charger and restart the unit.
<i>E03</i>	Battery Damage Protection	Contact PowerOak.
<i>E10</i>	Too low temperature when discharging	The temperature of the battery is too low. Increase battery temperature.
<i>E11</i>	Battery Low Voltage Protection	Please charge immediately. Fully charge unit then restart.
<i>E12</i>	Inverter Over Current Protection	Check if the AC output overloaded or short-circuited.
<i>E13</i>	Inverter Over Load Protection	Check if the AC output overload, please refer to the technical spec for overload ability.
<i>E14</i>	Inverter Short - Circuit Protection	Check if the AC output overloaded or short-circuited.
<i>E16</i>	Charging Over Voltage Protection	Check if the input voltage exceeds the maximum value.
<i>E17</i>	Too low temperature when charging	The temperature of the battery is too low. Increase battery temperature to charge.
<i>E21</i>	12V 10A Output Over Current Protection	Check if the output overloaded or short-circuited.
<i>E22</i>	12V 10A Output Over Load Protection	Check if the output overload.

**E27** Total output power overloaded Reduce the load power.

<b>E28</b>	Over temperature when charging	The unit is too hot. Continue charging once the temperature gets lower.
<b>E29</b>	Over temperature when discharging	The unit is too hot. Continue discharging once the temperature gets lower.

## Specification

Model		PSTWO-P2	PSTWO-P3
Battery capacity		300Wh	300Wh
<b>Output Spec</b>			
AC output	Rated Output Power	120W	120W
	Max. Output Power	300W(1s)	300W(1s)
	Rated Output Voltage	110Vac	230Vac
	Rated Frequency	50/60HZ	50/60HZ
	Power Factor	1	1
	THDV	<3%	<3%
	Overload ability	125W< Load <150W@10s 150W< Load <180@5s 180W< Load <200W@1s	
	No-load consumption	<8W	<15W
>70% load power) Max. efficiency	90%	90%	
DC12V output	Output Voltage Range	10-12.6V	10-12.6V
	Rated Output Current	10A	10A
	Overload Current	>11A	>11A
USB-A1 output	Fast charge support devices	BC1.2, Apple, Samsung	BC1.2, Apple, Samsung
	Output Voltage Range	510.25V	510.25V
	Rated Output Current	2.4A	2.4A
	Overload Current	2.6-3.5A	2.6-3.5A
USB-A2 output	Fast charge devices	QC3.0	QC3.0
	Output Voltage Range	5-12V (Default 5v)	5-12V (Default 5v)
	Rated Output Current	5V/2.5A, 9V/2A, 12V/1.5A	5V/2.5A, 9V/2A, 12V/1.5A
	Overload Current	2.6-3.5A	2.6-3.5A
USB-C output	Fast charge Support	PD protocol	PD protocol
	Output Voltage Range	(Default 5v)	5-20V (Default 5v)
	Rated Output	5-20V/2.25A	5-20V/2.25A
	Overload Current	2.25-3.5A	2.25-3.5A
<b>PV Input</b>			
Max Input Power	60W		60W
Input voltage range	14-40Vdc		14-40Vdc
MPPT Input Voltage	15-40Vdc		15-40Vdc
Max. Input voltage	40Vdc		40Vdc
MPPT Efficiency	99.50%		99.50%
Max Efficiency	>90%		>90%
Solar Charging Mode	MPPT		MPPT
<b>Battery</b>			
Rated Voltage	11.1 Vdc		11.1 Vdc
Rated capacity (Wh)	200Wh		200Wh
Cell type	Li-ion		Li-ion
Configuration	3S8P		3S8P
Max Voltage	12.6V	12.6V	
Min. Voltage	10.0V	10.0V	
The max. working temperature	40r	40 r	
The min. working temperature	or	or	
<b>General</b>			
IP	IP 21		
Working condition	Relative Humidity: 5%-90%		
	Temperature: 0-40°C		
Warranty	One year		
Dimension	256*65*255mm		
Weight	3.8Kg (Net Weight)		

## Contact us

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Should you have any technical or other questions, please contact PowerOak with following information

1. System model
2. System serial No.
3. System failure Code
4. Displaying information

Kanaaldijk Noord 111 | 5642 JA | Eindhoven | Nederland  
M +31 (0) 40 240 5888 | E [info@poweroak.nl](mailto:info@poweroak.nl) | W [www.poweroak.nl](http://www.poweroak.nl)

Volg ons op:



KvK: 65077687  
BTW: NL.8559.71.289.B.01

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