



THE PHOENIX GENERATOR USER GUIDE



IMPORTANT SAFETY INSTRUCTIONS

Important Symbols



Indicates potentially dangerous conditions that could result in personal injury



Indicates conditions or practices that could result in damage to the unit or other equipment



Indicates procedure or function that is important for proper and safe operation of the unit or other equipment

- Before using the unit, read **ALL** of the instructions and information in the user guide.
- Do **NOT** submerge the unit under water. The unit is not waterproof, however it is water-resistant as long as the accessory door is closed.
- Do **NOT** store or place the unit near fire or places that can achieve higher temperatures. Doing so may cause damage to the unit internals, and or battery explosion.
- Do **NOT** leave the unit outside when raining.
- Do **NOT** over-load the AC or DC outputs. Follow the power and current ratings mentioned in this manual.
- Clean the built-in solar panels with window cleaner or with a wet cloth when dirty.
- Store the unit in a dry place free from moisture, heat, and water.
- Ensure the solar panels are exposed to sufficient light – ideally position them to face the sun directly.
- Only use wires and accessories provided by the manufacturer.
- Unplug the unit if it will not be in use for an extended period of time. Make sure to charge once every 2-months to preserve battery life.
- Keep the unit away from small children.
- Do not dismantle or modify the system, doing so might cause irreversible damage and void warranty.

TABLE OF CONTENTS

GENERAL INFORMATION	3
GEAR OVERVIEW	4
CHARGING YOUR PHOENIX	6
OPERATING YOUR PHOENIX	9
TROUBLESHOOTING / FAQ	13
TECHNICAL SPECIFICATIONS	14
DIMENSIONS	14

GENERAL INFORMATION

PORTABLE

Lightweight and gripped with a sturdy handle, the Phoenix is designed to be a traveler's companion for mobile or off-grid applications.

DEPENDABLE

The Phoenix provides up to 210Wh of energy, an LED flashlight and multiple ports for your power needs.

RENEWABLE

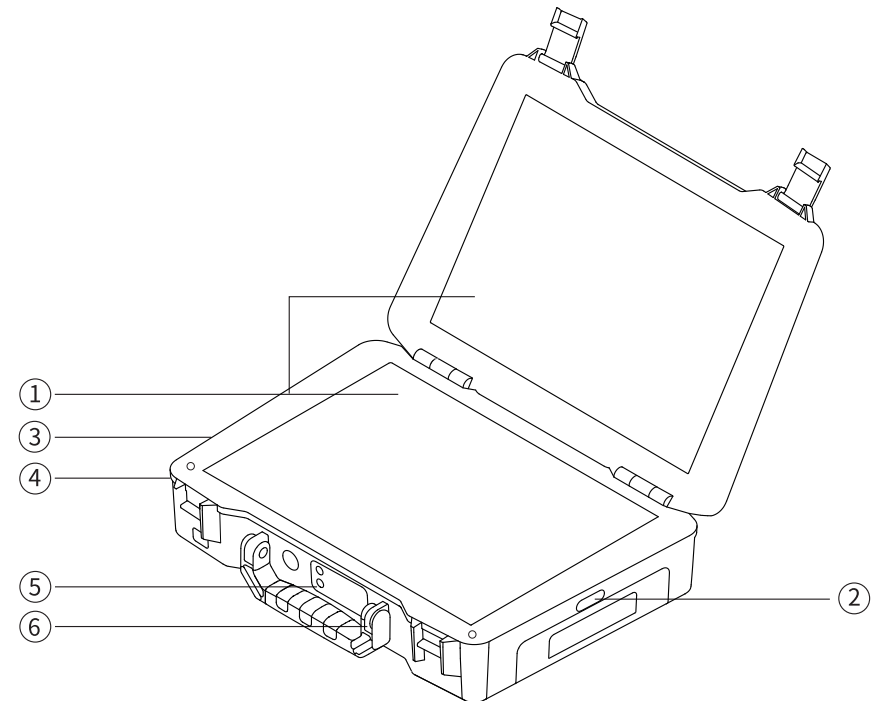
No wall outlet? No problem! Conveniently replenish the Phoenix back up using the integrated solar panels eliminating dependency on grids.

EXPANDABLE

Equipped with a PV terminal, the Phoenix allows users to expedite solar charging time by allowing them to connect up to 100W of external solar power.

GEAR OVERVIEW

MAIN OVERVIEW



- 1. Integrated Solar Panels
- 2. Output Port Side
- 3. Input Port Side

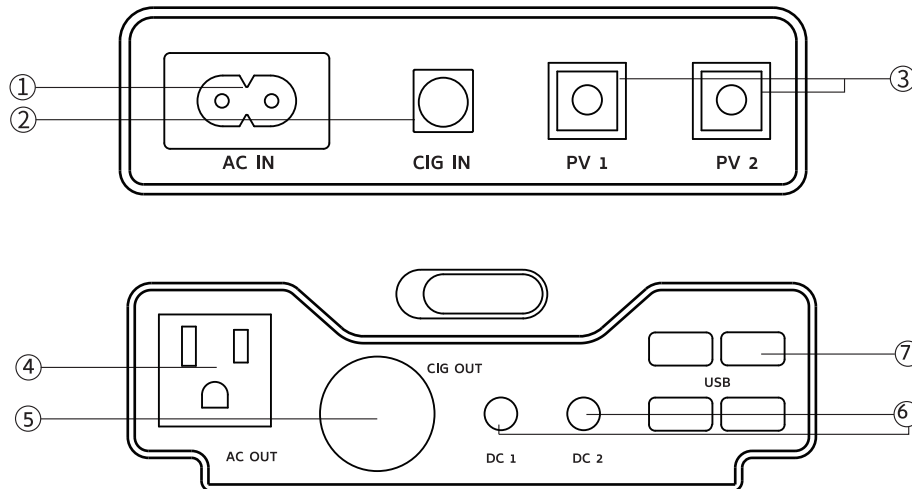
- 4. 3W LED Flashlight
- 5. LCD
- 6. Firm Grip Handle

GEAR OVERVIEW

WHAT'S INCLUDED

AC Charge Cord	MC4 to 4.5mm DC IN Cord	CIG to 4.5mm DC IN Cord	5.5mm DC to Light Bulb Socket
----------------	-------------------------	-------------------------	-------------------------------

GETTING TO KNOW YOUR PHOENIX



- 1. AC Charging Port
- 2. CIG Charging Port
- 3. PV Charging Port
- 4. AC Port
- 5. CIG Port
- 6. DC Ports
- 7. USB Ports

CHARGING YOUR PHOENIX

NOTE

Be sure to charge your Phoenix to 100% before operating. This will maximize total battery life and keep your battery healthy

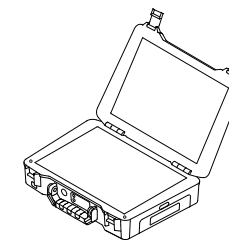
For healthy battery maintenance, charge the Phoenix once every two months. If the Phoenix will not be used for an extended period of time, such as a month, remove the battery and properly store it until the Phoenix is in use again.

CHARGING VIA SOLAR + ADDITIONAL PANELS

NOTE

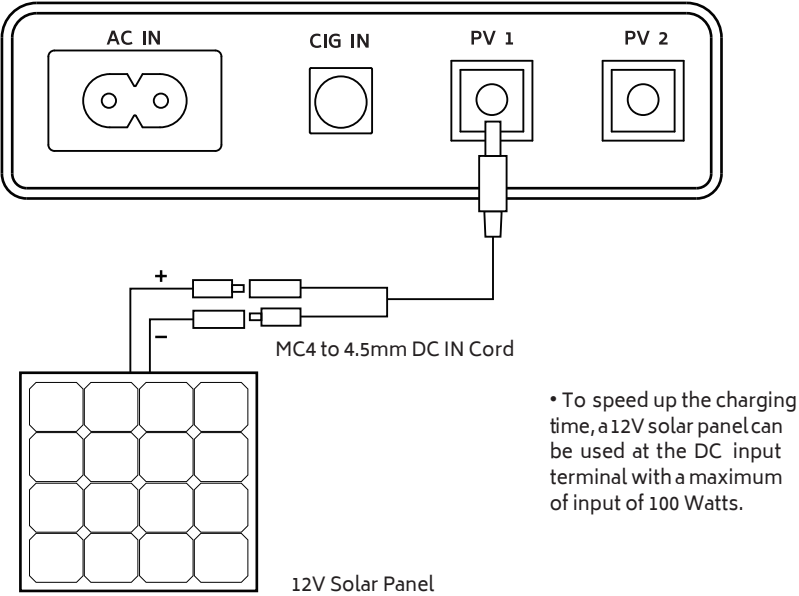
If the Phoenix is not in operation while charging, make sure to turn the main power off. It will maximize charging and expedite the process. Charging via solar requires as much sunlight as possible. Make sure to steer clear of trees or branches that could cause shading and slow down the charging process. Charging from 0% to 100% will take approximately 15 hours with only the integrated solar panels. Charge frequently to maximize overall battery life.

To charge, simply put the Phoenix in an open area, unlatch the unit, close the doors, and expose the solar panels to commence charging. It is recommended to have the input and output doors closed when charging through the built-in solar panels.



Charging via solar panels

Charging is also possible through compatible additional solar panels and using the MC4 to 4.5mm DC IN cord included with your Phoenix. The following represents approximate charge times from 0% to 100%.



Compatible Solar Panels

- Renogy 10w Mono
- Renogy 20w Mono
- Renogy 30w Mono
- Renogy 50w Mono
- Renogy 50w Poly
- Renogy 60w Suitcase
- Renogy 100w Mono
- Renogy 100w Eclipse
- Renogy 100w Poly
- Renogy 100w Suitcase

Additional Solar Panel	Charging Time
10W	10 hours
20W	6 hours
30W	5.5 hours
40W	5 hours
50W	4 hours
60W	3.5 hours
100W	2.5 hours

Make sure the Voc of the solar panel does not exceed 25V. Heating will slow a charging process, therefore, it is recommended to have the Phoenix placed in the shade when charging via external solar panels.

CHARGING VIA AC

WARNING

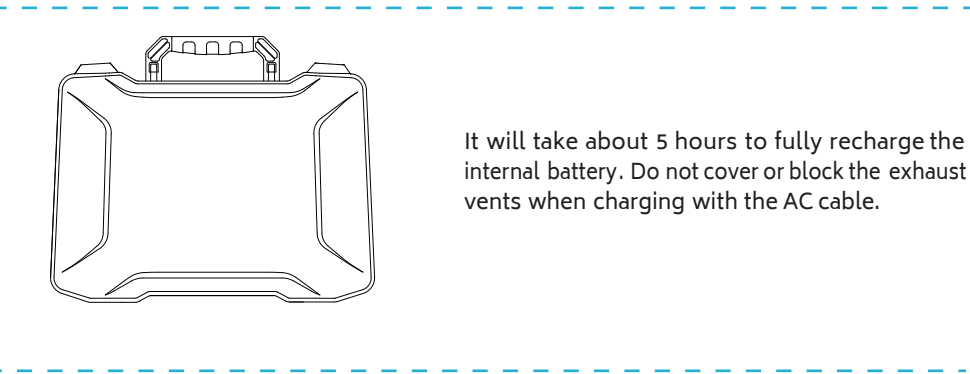
Electrical shock can occur if the AC cord is damaged or frayed. NEVER use a damaged cord. Contact the manufacturer if the cord is damaged.

NOTE

Turn off the main power

When charging via AC 2-pin inlet, it is recommended that the power button be in the OFF position and the AC and DC output terminals not be used.

Connect the 2-pin inlet AC cable that is included with the unit. The unit can be charged in the vertical or horizontal position.



CHARGING VIA CAR / CIG PORT

WARNING

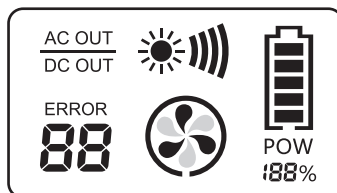
Electrical shock can occur if the cord is damaged or frayed. NEVER use a damaged cord. Contact the manufacturer if the cord is damaged.

Use the provided CIG to DC Cable in order to charge the Phoenix through a 12V DC Source or your car. It will take about 5 hours to fully recharge the internal battery.

OPERATING YOUR PHOENIX

LCD INFORMATION

The Phoenix is equipped with a 2 button LCD display. The user can select AC mode, DC mode, or have both modes on at the same time.



INDICATOR		
	MODE	
	When pressing the AC or DC button, the mode will be displayed on the LCD. If using both AC and DC, the icon will be as it is pictured above.	
	PV	
	The number of bars demonstrate the strength of the solar irradiance ranging from 0 to 4 bars. More bars indicate better solar insolation and a better charging effect	
	BATTERY	
	The battery displays segments (20% increments) and a percentage SOC for more exact battery information. As the Phoenix charges, the battery segments will flash and upon complete charge, the battery segments will remain solid.	
	FAN	
	The fan icon will display only when the Phoenix is attempting to cool itself down. The fan will have a motion appearance.	
	ERROR CODE	
	The error code is not present during normal operation. Upon abnormal operation, the Phoenix will flash a numerical code to let the user know the error. The user can then troubleshoot the issue accordingly or contact Technical Support.	
	1	Battery over-voltage
	2	Battery low-voltage
	3	12V outputs over-voltage
	4	BMS stops discharging
	6	USB over-voltage
	7	Battery over-voltage charging error

INDICATOR	
8	Battery over-voltage when operating AC output
9	Inverter over-load
10	Inverter over-temperature
11	inverter short-circuit
12	Inverter output over-voltage
13	Inverter output low voltage
14	Charging amperage over-current
16	12V charging amperage over-current
18	Battery over temperature during charging
19	Battery low temperature during charging
20	BMS detecting battery damage
21	Inverter output over-temperature
22	12V outputs low voltage
23	USB outputs low voltage
24	USB outputs over-current
25	Battery high temperature while discharging
26	Battery low temperature while discharging
27	12V #1 output over-current
28	12V #2 output over-current
29	Over-load protection
30	Abnormal BMS communication detected
31	AC charging amperage over-current
32	CIG charging amperage over-current
33	Additional PV charging amperage over-current
34	Built-in PV charging amperage over-current
35	CIG input low power
36	BMS prohibits charging

USING THE FLASHLIGHT



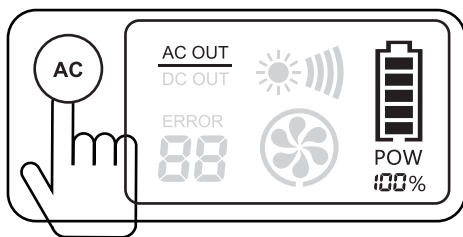
The Phoenix is equipped with a 3W LED Flashlight that encompasses different modes: Head Light, Dimmer Head Light and Flashing.

Press the flashlight button once to activate the head light mode. Press the button again to activate a dimmer Head Light. Press the button a third time to activate Flashing mode and press the button again to turn off the flashlight

USING AC OUTPUT

NOTE

The AC outlet is powered using the Phoenix's internal pure sine wave inverter. Enjoy up to 150W of continuous output power.

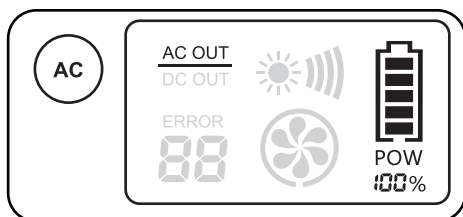


Press the main power button. You will know it is on upon seeing the lit blue ring. Plug in your AC appliance and then simply press the AC button to start using your appliance.

CAUTION

Do not over-load the AC outlet. Doing so may damage the unit. When not in use, turn off the AC mode to maximize battery life. Inverters have an idle draw and turning it off maximizes battery life.

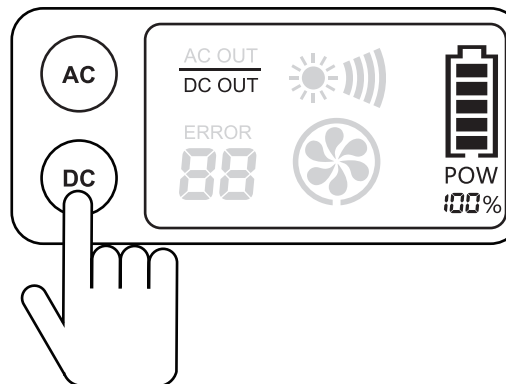
The following displays "AC OUT" when the AC outlet is turned on and ready for use



USING DC OUTPUT

CAUTION

Do not over-load the DC outputs. Doing so may damage the unit.

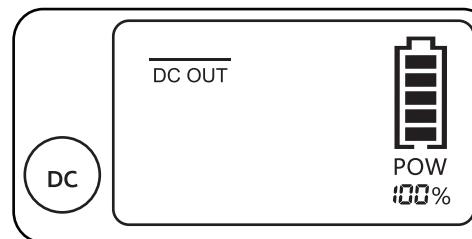


Press the main power button. You will know it is on upon seeing the lit blue ring. Plug in your DC appliance and then simply press the DC button to start using your appliance.

CAUTION

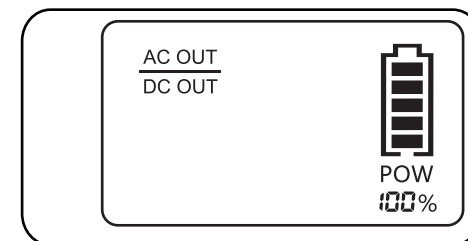
The following displays "DC OUT" when the DC outlets are turned on and ready for use.

Simply press the DC button to start operating the DC ports on the Phoenix. Once the Phoenix is powered on, press the AC button to use the Phoenix's AC outlet.



NOTE

The following is displayed when both the AC and DC ports are turned on.



TROUBLESHOOTING / FAQ

NOTE

For further questions, consult our technical support team by emailing us at techsupport@renogy.com or by calling 800-330-8678.

1. Why won't my Phoenix turn on?

Press the metal power button to turn the Phoenix on. The blue lit ring around the power button indicates the Phoenix is ready to power. If the blue lit ring is not visible, make sure to fully charge your Phoenix using the provided AC cable or through the integrated solar panels. Charging will be in effect even if the LCD display is not turned on. Check for error codes.

2. Can I leave my panels connected to the Phoenix for it to trickle charge? (This applies to leaving the AC outlet connected as well)

The Phoenix is equipped with a lithium polymer battery pack. Lithium batteries are not meant for trickle charging and therefore, it is not recommended to leave the power source (integrated solar panels or AC cable) connected for extended periods of time beyond estimated charge times. Check for error codes.

3. When I plug the AC power cord into Phoenix, it does not charge, what do I do?

The Phoenix can charge even if the LCD is not turned on. Turn on the Phoenix while charging to check if the battery icon is displaying a charging motion. This should indicate charging. Check for any error codes and if the problem persists, contact our technical support team.

4. Why does the Phoenix battery not last very long?

Different devices operate on different wattages. The Phoenix has a 210 watt-hour (Wh) capacity. Double check your device wattages and if possible start using more energy-efficient devices. Check for any errors codes.

5. How many panels can I connect to my Phoenix?

The Phoenix can accept a total of two panels and a total of 100 watts from the combined PV port. The Phoenix is equipped with one MC4 to DC-IN Adaptor for pairing with Renogy solar panels.

6. Is the Phoenix waterproof?

The Phoenix is not waterproof, but definitely water-resistant as long as the accessory doors are closed.

7. Is the battery replaceable?

The Phoenix offers replacement batteries. Consult our technical support team for more information.

8. What do I do when I get an error code?

Make sure the devices do not exceed the Phoenix's technical specification. In some cases, powering off the Phoenix and disconnecting all connections should reset the error code. All other questions please consult our technical support team.

9. Why do I get error code 36 when charging through the ac outlet?

Error code 36 behaves like an over-charge electronic protection. If the battery management system detects full charge it will not let you charge the Phoenix if it is 95%-100% charged.

Technical Specifications

Battery

Type	Li-ion Battery Pack
Voltage	14.8V
Capacity	16Ah
Cycle Life	1500
Max Charging Current	9A

Output Ports

Inverter Wave Form	Pure Sine Wave, 150W
AC Outlet Voltage	110V
USB (4)	5V, 2.4A Max (6 A total)
CIG Out	12V, 12.5A Max
DC Out (2)	12V, 3A Max (6 A total)

Input Ports

PV Input Voltage Range	17-30VDC
Max Additional PV Input	100W

General System

Operating Temperature Range	14°F to 104°F
Charging Temperature Range	32°F to 104°F
Storage Temperature Range	-4°F to 140°F
Method of Cooling	Fan + Convection
Dimensions	16.24 x 11.95 x 3.94 inches
Weight	12.8 lbs.
Certifications / Standards	FCC, UN38.3 Standard, CE

DIMENSIONS

