

AWILCO

PORTABLE ENERGY SYSTEM ES-500

LITHIUM POWERPACK

500W-50AH

ES-500, EUROPE (230V)

ES-500UK, UNITED KINGDOM (230V)

OWNER'S MANUAL, ENGLISH



SAFTY NOTICE



This symbol means **HIGH** potential danger



This symbol means **MEDIUM** potential danger



This symbol means **LOW** potential danger

Potential danger indicates severe or fatal Injuries if not well protected.

Thank you for purchasing our portable energy system, please read this user manual carefully before using.

The product should be installed by experienced technician. User should strictly follow the user manual to ensure proper operation.

The product should avoid contacting corrosive gas over a long time period, and not be installed in humid environment.

Do not place the product in environment of humid, rainy, heavily dust, vibrating, corrosive, or of intense electromagnetic interference.

Be aware of environment surroundings before usage. The systems performance will suffer under poor ventilation conditions. The cabinet must never be covered due to ventilation.



Do not open the case when the system is active, or when components are connected.



Repair or replacement! Faulty repair can cause personal injured or product damage! Please disconnect all electrical devices before any repairing operation.

Note: If the product is damaged or faulty, it must be returned to AWILCO for repair. If the product has been opened, or repairs have been attempted by others than AWILCO technician, the warranty will be lost.

Warning: All the safety labels, warning label and nameplate on the product must be clear and visible, and may not be removed or covered.

PRODUCT NUMBERS

ES-500	AWILCO Portable Power Station 500W EU
ES-500UK	AWILCO Portable Power Station 500W UK

DOCUMENT PART NUMBER

ES-500 User Manual English Rev A

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TABLE OF CONTENTS :

1. PRODUCT INFORMATION	4
2. PRODUCT APPLICATION	4
3. MAIN TECHNICAL PARAMETERS	5
4. PRODUCT OVER VIEW	6-7
5. SAFETY NOTICE	8
6. WARNINGS	9
7. WORKING ENVIRONMENT	10
8. AFTER SALES SERVICE	11



1. PRODUCT INFORMATION

This energy system uses a digital intelligent operating system that insures a controlled, flexible and powerful power output. It is possible to switch between AC and DC circuits due to the safety isolation between the input and output circuit. This ensures a safe, reliable and steady operation. This product uses pure sine wave 220V AC output, which insures maximum effect from the connected components. It can power inductive load and all other types of ordinary AC load components, such as refrigerator, TV, radio and other equipment without any interference or noise and no impact on the performance and life of connected equipment.

2. PRODUCT APPLICATION

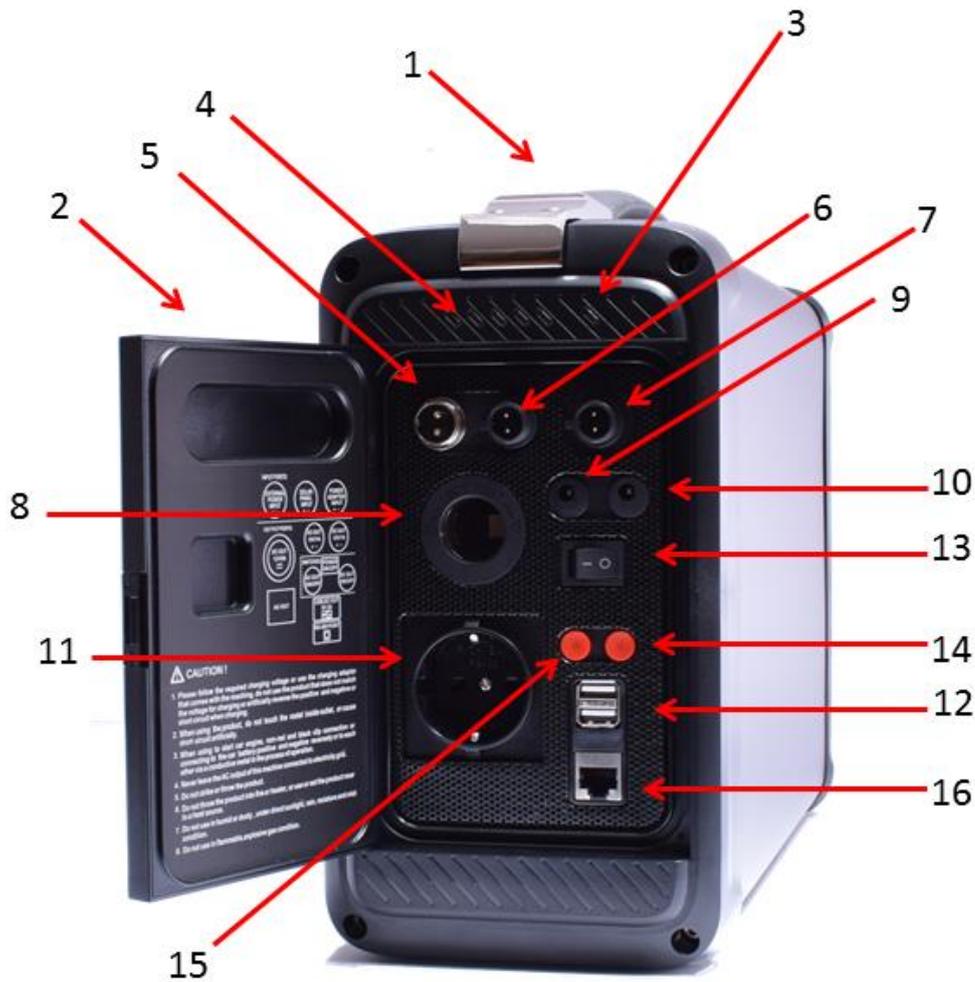
The function of this portable energy system is to store the solar energy and electric energy into the built-in lithium battery. When in need, the battery voltage can be used for a wide variety of electrical equipment. With its compact structure, discreet design and multiple functions, this product is an ideal electric device for activities such as outdoor living, travel and construction.

3. MAIN TECHNICAL PARAMETERS

Article no.	ES-500
Battery type	12V 50Ah Lithium battery
DC Charge	Voltage: 12,6V-20V Current: 5A
Solar Charge	Voltage: 18V Current: >10A
AC adapter Charge	Voltage. 13,5V Current: 6A
AC Output	Continues Output Power: 400W Voltage: 230V AC Output Frequency: 50HZ Output Waveform: Pure sine wave
DC 12V Output	Voltage: 12V±5% Current Max 8A
USB 5V DC Output	Voltage: 5V±5% Current Max 2A
Overheat protection	>65 C
Heat-dissipating method	Air cooled
Safety function	Low voltage protection. High Voltage protection. Overload protection Short circuit protection. Overheating protection
Dimensions	D358mm*H280mm*B150mm
Weight	9,2kg
AC Output short circuit current	Max 100A withstand 1ms
DC Output short circuit current	Max 10A
Operating temperature range	-10°C – +45°C
Storage temperature range	-10°C – +45°C
System IP protection class	Closed hatch: IP55 Open hatch: IP30

4. PRODUCT OVERVIEW

Please do not use the system before you have read the following product overview closely, and understand all of its functions.



1. Handle. 2. Front door cover. 3. Status indicators. 4. Battery indicators. 5. DC charge port. 6. Solar charge port. 7. AC Adapter charge Port. 8. DC 12V car cigarette lighter port. 9. DC 12V Output Port. 10. DC 12V Output Port. 11. AC 230V Output socket. 12. Dual USB DC 5V Output Port. 13. Power switch. 14. AC Output control button. 15. DC Output control button. 16. Communication Interface.

4. PRODUCT OVERVIEW – CONTINUED

1. Handle: Easy to carry.
2. Front door cover: When not in use, please close the door cover to prevent damage to the system.
3. Status indicators: When charging this indicator will flash green. When in use, the indicator will light green. If the indicator lights red, it means that the system is not operating properly.
4. Battery indicator: These 5 lights indicate how much power is on the system. Each light represents 20% of the battery capacity. 1 light = 20% 2 lights =40% and so forth. If all 5 lights are on, it means that the battery is fully charged.
5. DC charge port: connect the included cigarette charging cable between the energy system and the cigarette lighter port. Make sure that you are only charging when the engine is running.
6. Solar charge port: connect the included solar charging plug between the energy system and a 12V solar panel. When connecting, please pay attention to the positive and negative polarity on the solar panel.
7. AC adapter charge port: connect the included AC adapter between the energy system and a 230V socket.
8. DC 12V cigarette lighter port: This port can be used for mini refrigerators and other 12V appliances.
9. DC 12V Output Port: This port can be connected to 12V low power LED.
10. DC 12V Output Port: This port can be connected to 12V low power LED.
11. AC 230V Output Port: This port can be used 230V AC appliances.
12. Dual USB DC 5V Output Port: These 2 USB ports are ideal for charging cell phones, tablets, digital cameras and more.
13. Power Switch: Turns the system ON/OFF. Note that the system will keep charging, even if the system is turned OFF.
14. AC Output control button: This button controls the 230V AC. Press the button to turn AC output ON/OFF.
15. DC Output control button: This button controls the DC 12V and DC 5V. Press the button to turn DC output ON/OFF.
16. Communications Interface: The interface communicates with a computer via RS485.

5. SAFETY NOTICE

1. Overcharge current protection: When the charge current is greater than 10A, the system shut off the charging, and status indicator will turns red. When charge current is less than 10A, the system will resume charging automatically.
2. Low voltage protection: This products lithium battery has a preset low-voltage protection. When the battery voltage is lower than 9.2V, the battery will be protected and cut off output. The status indicator then turns red. Turn off the power switch, and remove any appliances. Once recharged and the battery voltage is above 9,2V the product is ready for use.
3. High-voltage protection: This products lithium battery has a preset high-voltage protection. If charging current is higher than 16,8V, the system will automatically shut down.
4. Overload protection: If the output power or start up power of applications is too high, the system enters overload protection. The status indicator lights red. After an overload protection, the system will not automatically recover. The system needs to be turned off, and then turned back on in order to reset.
5. Short circuit protection: The AC and DC output has a short circuit protection. The system shut off all output is a short circuit occurs, and the status indicator lights red. After the fault has been corrected, the system will not automatically recover. The system needs to be turned off, and then turned back on in order to reset.
6. Overheating protection: If the systems internal temperature exceeds + 65°C, the system will shut off all outputs, and the status indicator lights red. After the temperature drops, the system will not automatically recover. The system needs to be turned off, and then turned back on in order to reset.

6. WARNINGS

1.  Warning! Only use required voltage or the built-in adaptor when using AC charge. Do not charge from unmatched voltage or from short circuit.
2.  Warning! Do not touch the internal metal of the output ports or short-circuit same.
3.  Warning! Do not connect AC output to electrical grid.
4.  Warning! Do not shower or immerse the product. It should be placed in a cool and dry environment.
5.  Warning! Do not set in/near fire, heater or other areas with high temperatures.
6.  Warning! Do not bang or throw the product.
7.  Warning! It is prohibited to use this product in places of strong static electricity and strong magnetic fields. Doing so will damage the safety protections of the product.
8.  Warning! This product is fitted with safety protection features but please exercise caution when using, to avoid wrong installments and short- circuits, as this may cause personal injuries.
9.  Warning! Non-professional personnel must not open the products and remove/repair components, ignoring this is at own risk.
10.  Warning! Due to the large output power of this product, there is a chance that a slight spark might occur in the output port when connecting appliances with a high power demand. Therefor do NOT place or use the product in flammable environments.
11.  Warning! The AC output of this product is standard 230V sine wave. It must be treated with caution in order to avoid electric shock.
12. Please turn off the energy system when it is not in use over a longer period of time. Please charge the energy system at least every three months to extend the battery life time.

7. WORKING ENVIRONMENT

1. This product should only be used in a dry, clean and ventilated environment.
2. Avoid exposing the product to high temperatures, rain, damp, dust, and fog during usage.
3. Do not use the product in environments with flammable and explosive atmosphere. Always shield the product from flames and sparks
4. Applicable external temperature $-10^{\circ}\text{C}\sim 45^{\circ}\text{C}$;
5. Relative air humidity is no higher than 85% ($25^{\circ}\text{C}\pm 5^{\circ}\text{C}$).

8. AFTER SALES SERVICE

AWILCO provides 12 month free warranty service, please read the warranty circumstances bellow.

If there is any damage or malfunctions to the product, and the AWILCO technician stats that the product has been used under normal circumstances, our company will provide free repairing or component replacement within the warranty period. AWILCO will retain any and all damaged products/components after repairs, within the warranty period.

Under the following conditions, the warranty will be automatically invalid.

1. The malfunction or damage is caused by accident, man-made factor, environment factor, or other factors deviating from the user manual.
2. Opening, repairing or refitting the product by other any technicians other than those appointed by AWILCO.
3. A malfunction or damage caused by force majeure such as natural disaster (earthquake, fire, tsunami, etc.).
4. The warranty period is expired for the product or components.
5. The malfunction or damage is caused by using non original parts.

Statement: AWILCO reserves all the rights to update the products with no further notice!

