

AWILCO

PURE SINE WAVE POWER INVERTER

1000W

AW1210EU-R

AW1210UK-R

USER MANUAL



Please be sure to read and save the entire manual before using the product. Misuse may result in damage to the unit and/or cause harm or serious injury.

**PLEASE KEEP THE MANUAL
FOR FUTURE REFERENCE**

SERVICE CONTACT INFORMATION

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Phone: +45 56 56 54 00

Web: awilco.dk

 **AWILCO**
FLEXIBLE POWER SOLUTIONS

Thank you for purchasing this high-frequency pure sine wave inverter. This unit converts DC power from 12V battery to 240Vac with advanced features and functions:

1. Input and output complete electrical isolation design.
2. Adopt SPWM technology, pure sine wave output.
3. Anti-surge current design, suitable for lithium battery power supply system.
4. Compatible with non-resistive load, such as microwave oven, washing machines, and motors.
5. 2.5kW mains power switching input, switching time <30ms to ensure uninterrupted use of electrical appliances.
6. Independent 20A solar charging function, convenient to supplement energy to the battery.
7. Select high-efficiency amorphous magnetic core to ensure high efficiency and stability of products.
8. Low no-load power loss, low standby power loss, and low total harmonic distortion (<3%).
9. Input reverse connection/under-voltage/over-voltage protection, output overload/short circuit protection, over temperature protection.
10. Speed adjustable and silent fan based on load and temperature control.
11. USB charging port 5V2A, able to supply power to small electronic devices.
12. RJ12 communication interface, support optional remote display.

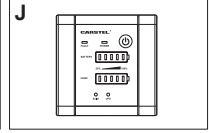
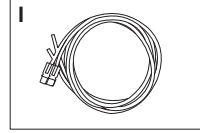
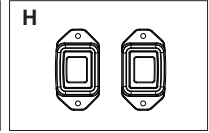
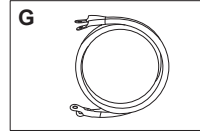
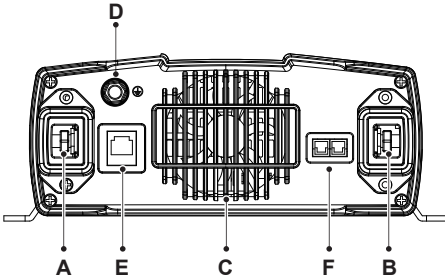
WARNINGS & CAUTIONS

Please read this manual carefully before using the inverter. Failure to follow these instructions may result in damage to the unit and could also result in serious injury to users. Always consult your licensed dealer/retailer for any repairs or spare parts services.

1. Do not use under wet weather and the inverter is for indoor use only.
2. Do not place any objects on the inverter or battery.
3. The inverter and battery shall avoid direct sunlight, external heat source, corrosive chemicals, flammable fumes or gases.
4. Please ensure all ventilation vents and fan vents are not obstructed in any way.
5. Double check battery negative and positive posts before making any connection; a wrong connection (reverse polarity) will cause the fuses to blow and may damage the inverter.
6. Do not use substandard or damaged wiring with this inverter, it may cause fire or a shock hazard. Ensure that all the DC connections are tight.
7. A small spark (arc) can occur when making the final battery connection, this is most common when the inverter has not been used for some time. To minimize this, make the last connection quickly and completely.
8. Connect 240Vac appliances that are in safe condition only. When the inverter is working, please have someone nearby in case of an emergency.
9. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with a battery.
10. If battery acid contacts skin or clothing, wash immediately with soap and water. If acid enters eye, immediately flush eye with running cold water for at least 20 minutes and get medical attention immediately.
11. For risk of electric shock: Do not attempt to open, disassemble or repair the inverter if damaged. Please keep away from children and pets to touch the inverter.

PRODUCT OVERVIEW

DC Input Side:

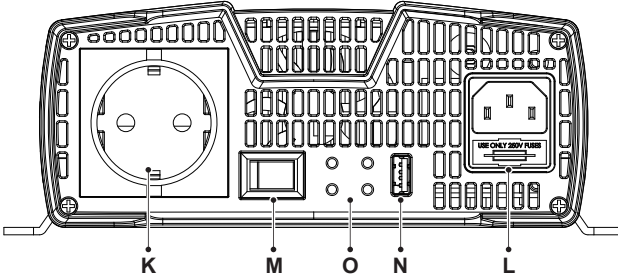


- A: Negative Input Terminal
- B: Positive Input Terminal
- C: Cooling Fan
- D: Chassis Ground

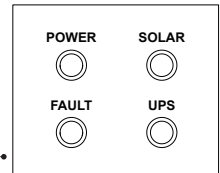
- E: Remote Port
- F: Solar Input Ports
- G: Battery Cables (Option)
- H: Protective Caps

- I: Solar DC Input Cables
- J: Remote (Option)

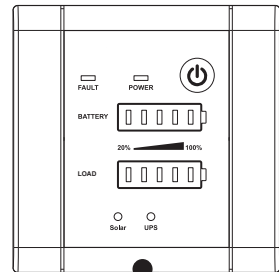
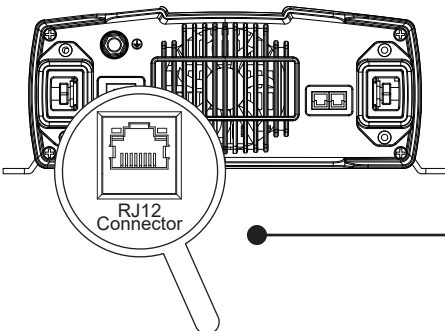
AC Output Side:



- K: AC Socket
- L: UPS Socket
- M: ON/OFF Switch
- N: USB Port
- O: LED Indicators

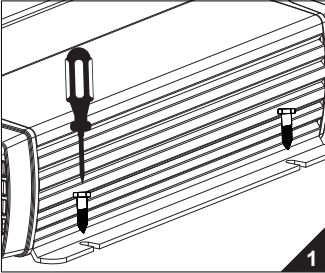


Remote Control (Optional):

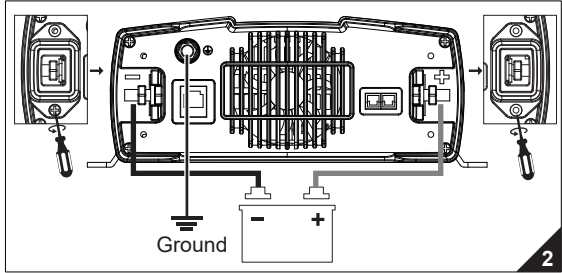


Size: 86x86x22mm
Power ON/OFF Button

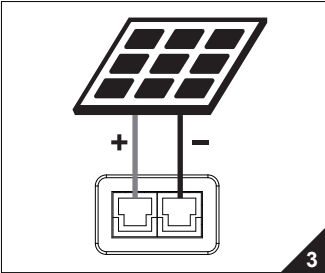
INSTALLATION STEPS



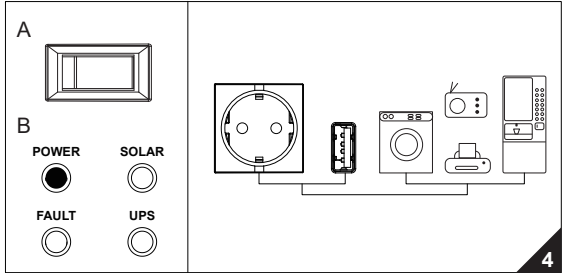
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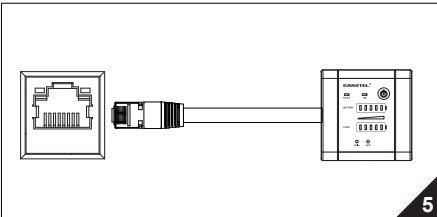
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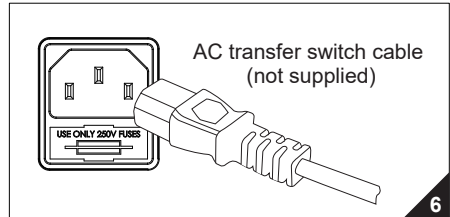
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Step.1: Position screws into mounting holes to fix the inverter properly.

Step.2: Use battery DC input cables to connect inverter with battery. Double check battery negative and positive terminals before connection and ensure its tightness. For safety reason, it is necessary to connect GND cable (not supplied) from inverter to vehicle chassis ground.

Step.3: If solar resource/system device is available, you can use solar input cable to connect it with solar input ports on the inverter to replenish energy for the battery.

Step.4: Turn on the inverter by ON-OFF switch, the POWER LED will be light on. Plug your appliances into the AC output socket. Now It is time to enjoy the output function. USB port 5V2A output is also available!

Step.5: You can also connect the inverter with a remote to control the inverter in a distance.

Step.6: If mains electricity is available, you can use AC transfer switch cable (not supplied) to connect it with UPS socket on the inverter to enjoy uninterrupted use of electrical appliances.

INVERTER FUNCTIONS

Function	Details
240V Pure Sine wave Output	<ul style="list-style-type: none"> ● When 10.5V to 15.5V input voltage is available: Turn on the ON/OFF switch, rated 240V pure sine wave will output in 5 seconds.
Charging from Solar Panels	<ul style="list-style-type: none"> ● The inverter has built-in PWM charge controller and compatible with 15~45V, Max 20A solar panel. Connect solar panel properly with the inverter, the SOLAR LED will be light on, and: <ul style="list-style-type: none"> ● If the battery voltage is less than 13.5V: The solar panel will start to charge the battery in 10 seconds and SOLAR LED will flash to indicate charging process. ● When the charging current is over 20A for 5 consecutive seconds: The charging will immediately stop and restart charging in 15 seconds. ● When the battery reaches 14.4V (Max voltage): The charging current will be less than 1A and charging is now finished. SOLAR LED will stop flash. <p>Please Note:</p> <ul style="list-style-type: none"> ● When the inverter is switched OFF: Connecting with solar panel will automatically turn on the inverter and start charging the battery. If the solar panel is then disconnected, the inverter will be automatically turned off. ● When the inverter is switched ON: Connecting with solar panel will start charging battery. AC Socket can normally output. If the solar panel is then disconnected, the inverter still remains turned on.
UPS Mode (AC Transfer Switch Input)	<ul style="list-style-type: none"> ● When connecting the mains power to UPS Socket: The inverter will detecting 220-240Vac/50Hz and the inverter AC load will be automatically supplied by the mains. The UPS LED will light on. ● But when improper mains voltage or frequency is detected: The inverter AC load will be supplied by the battery system. The max. switch time is 30ms. Fuse from the mains is 10A.
Protection	<ul style="list-style-type: none"> ● Over-voltage and Low-voltage Protection ● Reverse Polarity Protection ● Output Short Circuit Protection ● Over-temperature Protection ● Over-load Protection <p>See the below trouble-shooting for how these protection work.</p>

POWER & FAULT LED INDICATION

LED Indicators for Operation

Inverter Condition	POWER LED (Green)	FAULT LED (Red)
Switched ON	Flashes once/1s	Flashes once/1s
In use	Light on	Light off
Overload	Light on	Flashes once/1s
Switched OFF	Light off	Light off

LED Indicators for Faults (Protection Mechanism)

POWER LED	FAULT LED	Trouble	Automatic or Manual Solutions
Light off	Flashes once/5s	“Over voltage or Under voltage” Fault. The fault occurs when input voltage <10.5V or >15.5V.	The inverter will beep-alarm and stop output then take 1 minute to detect voltage to check if it has reached threshold voltage for automatic recovery: When threshold voltage >12.0V: The inverter will automatically recover from under-voltage protection. When threshold voltage <14.5V: The inverter will automatically recover from over-voltage protection.
Light off	Flashes twice/5s	AC Output Short Circuit Fault	The inverter will beep-alarm and stop output. Please unplug and check your appliance, then restart your inverter manually.
Light off	Flashes 3 times/5s	Over temperature fault when the fans malfunction or ambient temperature is over 50°C.	The inverter will beep-alarm and stop output. Please turn off the inverter and unplug your appliance. Leave the inverter for cooling and wait until the temp below 50°C, then restart your inverter manually.
Light off	Flashes 4 times/5s	Over-load Running	The inverter will beep-alarm and will stop output in several seconds. Please unplug and check your appliance, then restart your inverter manually.
Light Off	Flashes 5 times/5s	Internal Fault	Try to restart your inverter several times. If the inverter still fails to work normally, please consult and send it back to your licensed dealer/retailer for any repairs or spare parts services.

SPECIFICATION

Basic Specifications	
Model	30.01.1000 (PURE SINE WAVE)
Power	1000W Continuous, Peak Power: 2000W
DC Input	10.5-15.5Vdc
AC Output	240Vac, 50Hz
USB Output	USB-A 5V/2A
Back Drain Current	Normal <1.1 A
Total Harmonic Distortion	<3%
Efficiency	>89%
Working Temp	-20°C ~ 45°C
IP Rating	IP22
Battery Type	STD, GEL, AGM, LiFePO4
Inverter Size	378*209*79 mm
Weight	3kg
Solar Charging Function	
Charging Mode	PWM
PV Input	15-45Vdc, Max.20A
AC Transfer Switch Function	
Input Maximum Power	2500W
Acceptable Voltage	220-240Vac
AC Transfer Switch Fuse	10A
AC Transfer Switch Time	<30ms

