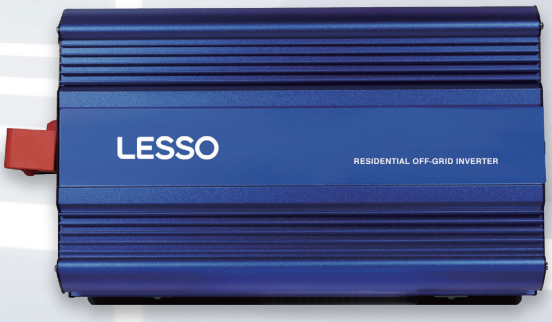
LESSO GROUP
STOCK CODE: 2128.HK

LESSO

RESIDENTIAL OFF-GRID INVERTER
User Manual

LSOT300-3000W



*1. The pictures are for reference only, and the actual product shall prevail.
*2. Information is subject to update without prior notice.

DIRECTIONS FOR USE

1. Be sure to read this instruction carefully before using.
2. The equipment must be installed and operated by professionals.
3. Good grounding must be ensured during installation.
4. Do not operate in high humidity or temperature, volatile gas or flammable environment.
5. Overloading is prohibited to avoid power failure.
7. The machine should be handled with care.
8. Open the package and check the accessories.If you find any missing parts or damage during transportation, please contact us in time.
9. The company reserves the right not to provide warranty service if the equipment is damaged due to failure to install according to the instructions in this manual.

PRECAUTIONS FOR SAFE USE

1. Input voltage should not exceed the voltage value marked on the equipment.
2. Do not exceed rated power use.
3. Pay attention to the ventilated and dry position of the use environment, which helps to prolong the service life of the equipment.
4. Do not block the heat dissipation system with foreign objects.
5. Do not connect the mains to the equipment to cause damage or danger.
6. Do not connect the positive and negative terminals of the battery input to the opposite.
7. Do not place the device in a position that may be soaked with rain or water
8. There is high voltage inside the equipment (non-professional maintenance personnel should not open it privately).
9. If you have any questions about the use of the equipment, please contact the seller or after-sales service in time.

THE PRODUCT APPLICATION

Pure sine wave inverter is the direct current energy (battery, storage battery) into alternating current (generally 110V /220V, 50 Hz/60Hz sine wave). It consists of inverter bridge, control logic and filter circuit. With the high popularity of cars both domestically and internationally, it is now possible to connect inverters to drive batteries and various tools while traveling or working. Car inverters, which are powered by the cigarette lighter, come with power specifications ranging from 20W, 40W, 80W, 120W to 150W. There are also some inverters that are connected directly to the battery using a connecting line. By connecting household appliances to the output end of the power converter, various electronics can be used in the car, such as mobile phones, laptops, digital cameras, game consoles, lighting, car refrigerators, as well as various travel, camping, and emergency medical devices.

Pure sine wave inverters convert AC power to the same as mains power and carry all household appliances. Choose different power inverters according to different power of load electrical appliances.

PRODUCT INTRODUCTION

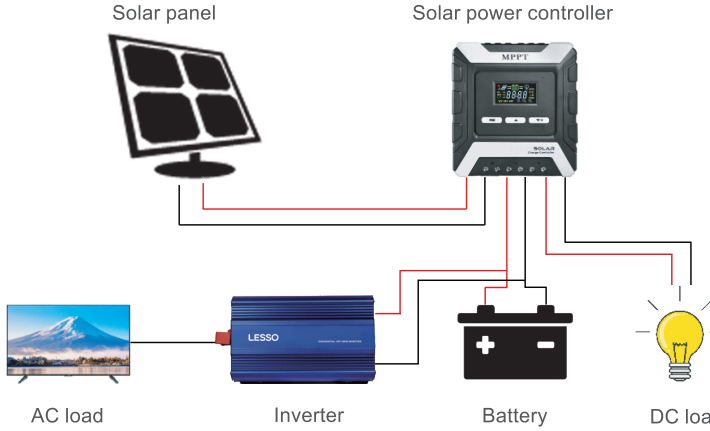
1. Appearance

Aluminum alloy shell, fireproof

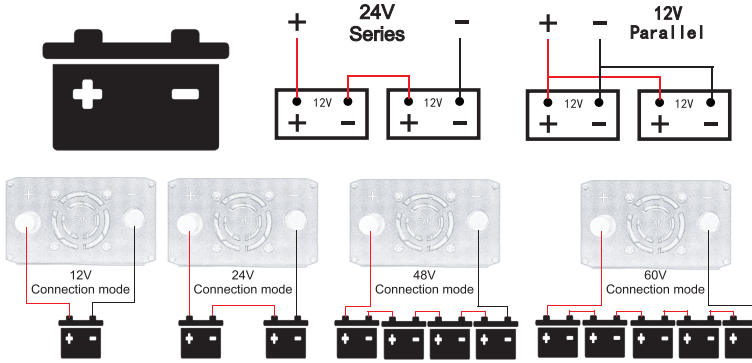
1.LED display
2.One button switch
3.QC2.0/5V USB interface
4.AC socket

2. Connection diagrams for using

(1) Solar connection diagram



(2) Battery connection diagram



How to select the appropriate battery for inverter

Working time =

u (Voltage of Battery(batteries) × I (battery capacity) × 0.8× 0.9 ÷ Household Appliance Power

Example: a 12V 50ah storage battery with a 220V 100W bulb

Working time = 12V × 50AH × 0.8 × 0.9 ÷ 100W = 4.32 (hours)

Note: 0.8 is the battery discharge coefficient (constant), and 0.9 is the conversion efficiency (constant) of the inverter.

How long it can be used is also related to the old and new performance of your battery.

3. Operation steps

(1) Unpack the device and take out the battery cable.
(2) Check whether the input voltage, output voltage and other related parameters of the equipment are consistent with the label.
(3) Before connecting the battery, pay attention to the working voltage of the equipment, such as 12V, 24V, 48V, must choose the corresponding voltage of the battery, otherwise the equipment will be damaged or dangerous. Please follow the specified input and output voltage. The voltage and power of the battery must be replaced by the battery input connection wire according to the factory configuration parameters.
(4) When connecting the battery, pay attention to check the positive and negative poles of the battery and the device, and check whether the fixing screws of the fixed connection line are tightened.Do not connect the battery incorrectly, otherwise the device will be damaged and the device can not be used normally.
(5) Connect the input connection line, open the switch, and the work indicator lights up. At this time, the internal heat dissipation fan of the device will turn once as a self-test function, and the output voltage value will be displayed on the front panel.
(6) Connect our electrical equipment or plug and use, pay attention to the power of the electrical equipment should not exceed the rated power of the equipment, otherwise, the device will activate the overload protection function and the internal buzzer will sound an alarm. To restore normal operation, it is necessary to disconnect the overloaded load for 10 seconds before it can automatically recover.
(7) Do not connect the mains to the device, otherwise it will be damaged or dangerous (except for UPS uninterruptible power models).
(8) When connecting the off-grid photovoltaic power system, please install the solar photovoltaic panels and the solar charging controller properly. After that, reconnect the battery installation position and connect it to the photovoltaic panel. Make sure that the input lines of the solar controller, battery, and inverter are correctly connected to the battery (note that the negative terminals of the battery and inverter should not be reversed). Turn on the inverter switch and connect the electrical devices after it is operating normally. This is to avoid abnormal usage caused by poor load or incorrect circuit connection.

4. Main features

(1) The front and rear stage dual control chip and drive chip adopt the new imported intelligent control chip, better anti-interference ability, more stable and durable performance, more stable and accurate parameters.
(2) The power device adopts the new imported IGBT-MOS tube, with guaranteed quality, stronger performance and stronger impact resistance.
(3) The heat dissipation effect of independent aluminum alloy radiator is better, so as to achieve the purpose of higher conversion efficiency.
(4)Heat dissipation fan adopts double ball high-speed fan for faster heat dissipation and longer service life;
5) The transformer coil adopts a pure copper strip winding system, which ensures a high conversion efficiency. It undergoes rigorous quality testing and control according to strict requirements.
(6) USB charging function of the device built-in fast charging protocol chip to improve the charging speed, and there is a built-in output overvoltage protection circuit to protect our charging equipment.

5. Protection function

(1) Input overvoltage, undervoltage protection function
a. the protection voltage range of 12V models is 9.5V/15.5V
b. the protection voltage range of 24V models is 19.5V/30.5V
c. the protection voltage range of 48V models is 39.5V/60V

(2) Undervoltage alarm prompt function
a. 12V undervoltage warning is 10.5V
b. 24 V undervoltage warning is 20.5V
c. 48 V undervoltage warning is 40.5V

(3) Buzzer alarm prompt function
a. low pressure warning: drop 1, stop for 3 seconds, keep circulating
b. low pressure protection: long sound for 3 seconds, drop 1, has been circulating
c. overvoltage protection: long sound 3 seconds, 2 drops, has been circulating

d. overload protection: long sound 3 seconds, 3 drops, has been circulating
e. short circuit protection: long sound 3 seconds, drop 4, has been circulating
f. over temperature protection: long sound 3 seconds, 5 drops, has been circulating
g. overload lock protection: long ring for 3 seconds, drop 6 times, has been circulating
h. LED state: Red LED flashing when failure occurs

(4) Overtemperature protection
a. overtemperature protection occurs when the internal temperature of the device is higher than 75℃
b. when the internal temperature of the equipment is lower than 75°C, it will resume normal operation

(5) AC output overload protection
when the output power of the device is 120% higher than the rated output power, the device is in overload protection mode (reduce the output load or disconnect the overload load). The internal buzzer prompts. After 5 seconds, the device automatically restores to normal output

(6) Intelligent fan control function
a. when the fan of the device is turned on, the fan performs a self-check function to indicate whether the fan does not work or some foreign matter is stuck. The heat dissipation system of the device affects normal operation.
b. when the internal temperature of the device is higher than 40 °C, the fan starts to dissipate
heat.
c. when the internal temperature of the device is lower than 40 °C, the fan shuts down

(7) AC output short circuit protection function
a. when the load short-circuit phenomenon occurs during the use of the equipment, the output short-circuit protection function of the equipment takes effect to protect the equipment from being damaged.

When the output short-circuit occurs, the equipment buzzer will give an alarm. It is necessary to disconnect the bad load in time and restore the normal output automatically after 10 seconds

b. If the load cannot be disconnected in time and the output is in short-circuit state for 1minute, the device will enter the short-circuit protection lock state, and the red indicator light will blink at this time. It is necessary to disconnect the output load and shut down the device again

(8) USB charging function
a. support full protocol quick charging function
b. output short-circuit protection
c. output overpressure protection (5.5V)
d. output parameters (5V 3A)

(9) Upgrade function
a. add liquid crystal display function to the original function
b. remote control function (used in large, small trucks or saloon cars)
c. wireless remote control function

6. Parameter

Types	LSOT300	LSOT600	LSOT1K	LSOT1K5	LSOT2K	LSOT2K5	LSOT3K
Output Power (W)	300	600	1000	1500	2000	2500	3000
Peak Power (W)	600	1200	2000	3000	4000	5000	6000
Input Voltage (V)	12/24/48/60						
Output Voltage (V)	100/110/120/220/230/240						
Output Frequency (Hz)	50/60						
Output Wave	Pure sine wave						
Convert Efficiency	95%*						
Dimensions (mm)	230x120x70	250x119x70	310x216x95	350x216x95	426x216x95	426x216x95	520x218x95
Voltage							
12VSeries	Operating voltage range 9.5V - 16V						
24VSeries	Operating voltage range 20V - 30V						
48VSeries	Operating voltage range 40V - 60V						
60VSeries	Operating voltage range 48V - 72V						

Parameter interpretation. According to the bought model, series, frequency, such as LSOT600 12V/220V/ 50HZ.The parameters are: input DC is 12V, operating voltage range is 9. 5V - 16V, output is 220V 50Hz AC, continuous load power 600W, machine size 220 mm* 95 mm* 55 mm

*Under certain conditions, this product can reach the maximum efficiency value

Maximum load capacity for different types of loads:

1. For electric kettle type loads, the maximum load is 120% of the rated power.
2. For motor type loads, the maximum load capacity is 40% of the rated power.
3. For LCD TV type loads, the maximum load capacity is 40% of the rated power.