

OPERATOR'S MANUAL / MANUAL DEL USUARIO

DieHard®

Mobile Power

100W Remote Power Inverter

Energía Movíl

100W Inversor de Energía Remota



Model / Modelo:
28.71524

CAUTION:

Read and follow all safety rules and operating instructions before every use of this product.

SAVE THESE INSTRUCTIONS.

ATENCIÓN:

Lea y siga todas las reglas de seguridad e instrucciones de uso antes de cada uso de este producto.

GUARDE ESTAS INSTRUCCIONES.

**Sears Brands Management Corporation,
Hoffman Estates, IL 60179 U.S.A.**

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DIEHARD® ONE-YEAR FULL WARRANTY

When operated and maintained according to all supplied instructions, if this DieHard® product fails due to a defect in material or workmanship within 1 year from the date of purchase, return it to any DieHard® outlet in the United States for free replacement.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sears Brands Management Corporation, Hoffman Estates, IL 60179

**FOR CUSTOMER ASSISTANCE OR REPLACEMENT PARTS,
CALL 1-800-SEARS-64 (1-800-732-7764) TOLL-FREE
FROM 7 AM TO 5 PM CT.**

DIEHARD® GARANTÍA TOTAL DE UN AÑO

Cuando se opere o maneje con las debidas precauciones de acuerdo a las instrucciones, si el DieHard® falla en alguno de sus componentes de fabricación durante un año contados a partir de la fecha de compra, regresarlo al autoservicio DieHard® en los estados unidos para reemplazar el aparato sin costo alguno.

Esta garantía le otorga derechos legales específicos, así como otros derechos, que varían de estado a estado.

Sears Brands Management Corporation, Hoffman Estates, IL 60179

**PARA ASISTENCIA AL CLIENTE O REPUESTOS,
LLAME GRATIS AL 7 AM-5 PM CT
LUNES A VIERNES: 1-800-SEARS-64 (1-800-732-7764)**

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IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS – This manual will show you how to use your inverter safely and effectively. Please read, understand and follow these instructions and precautions carefully, as this manual contains important safety and operating instructions.

WARNING: The inverter's output is 120V AC and can shock or electrocute, the same as any ordinary household AC wall outlet.

WARNING: Pursuant to California Proposition 65, this product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

- Do not cover or obstruct the inverter's vents.
- Use the inverter in a well-ventilated area.
- This inverter is not intended for use by children.
- Do not expose the inverter to rain or snow.
- Use only accessories recommended or sold by the manufacturer.
- Do not operate the inverter with damaged or undersized wiring.
- Do not operate the inverter if it has received a sharp blow, been dropped or otherwise damaged in any way; take it to a qualified service person.
- Do not disassemble the inverter; take it to a qualified service person when service or repair is required. Incorrect reassembly may result in a risk of fire or electric shock.
- Make sure the inverter is not close to any potential source of flammable fumes, gases or clothing.
- Do not place the inverter in areas, such as battery compartments or engine compartments, where fumes or gases may accumulate.
- Disconnect both AC and DC power from the inverter before attempting any cleaning.
- DO NOT operate the inverter if you, the inverter, the device being operated or any other surfaces that may come into contact with any power source are wet. Water and many other liquids can conduct electricity, which may lead to serious injury or death.
- Do not place the inverter in direct sunlight. The ideal air temperature for operation is between 50° and 80°F.
- Only connect the power inverter to a 12 volt accessory outlet.
- Do not attempt to connect the inverter to any other power source, including an AC power source.
- Do not modify the AC or USB receptacles in any way.
- Incorrect operation of your inverter may result in damage and personal injury.
- This device does not include an internal Ground Fault Circuit Interrupter (GFCI). For GFCI protection, use a Coleman Cable 02822 GFCI outlet.

FEATURES



BEFORE USING YOUR INVERTER

Do not use the inverter with a product that draws a higher wattage than the inverter can provide, as this may cause damage to the inverter and product.

When you turn on a device or a tool that runs on a motor, the device goes through two stages:

1. **Start Up** – Requiring an initial surge of power (commonly known as the “starting” or “peak” load).
2. **Continuous Operation** – Power consumption drops (commonly known as the “continuous” load).

The wattage (WATTS) or amperes (AMPS) can normally be found stamped or printed on most devices and equipment, or in the user’s manual. Otherwise, contact the manufacturer to find out whether the device you want to use is compatible with a modified sine wave.

To calculate the wattage: $\text{Wattage} = \text{AMPS} \times 120 \text{ (AC Voltage)}$.

To calculate the starting load: $\text{Starting Load} = 2 \times \text{wattage}$.

In general, the startup load of the device or power tool determines whether your inverter has the capability to power it.

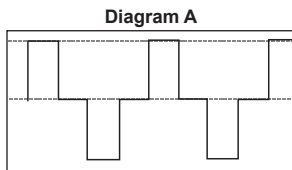
Always run a test to establish whether the inverter will operate a particular piece of equipment or device. In the event of a power overload, the inverter is designed to automatically shut down.

This safety feature prevents damaging the inverter while testing devices and equipment within the wattage range of the inverter.

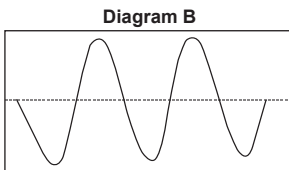
IMPORTANT: This inverter uses a modified sine waveform (diagram A) which is not quite the same as power company electricity (diagram B). For the following devices, we strongly recommend that you use caution and check the device's manual to make sure it is compatible with modified sine waveform.

1. Switch mode power supplies
2. Linear power supplies
3. Class 2 transformers
4. Line filter capacitors
5. Shaded pole motors
6. Fan motors
7. Microwave ovens
8. Fluorescent and high intensity lamps (with a ballast)
9. Battery chargers without transformers

Using the inverter with any of these devices may cause the device to run warmer or overheat.



**Modified sine waveform
produced by inverter**



**Pure sine waveform
typical of home AC outlet**

IMPORTANT: If you are using the power inverter to operate a battery charger, monitor the temperature of the battery charger for about 10 minutes. If the battery charger becomes abnormally warm, disconnect it from the inverter immediately.

NOTE: You may hear a “buzzing” sound being emitted from inexpensive sound systems when operated with the inverter. This is due to ineffective filters in the sound system’s power supply. Unfortunately, this problem can only be resolved by purchasing a sound system with a higher quality power supply or higher quality filter.

OPERATING INSTRUCTIONS

CONNECTING THE INVERTER

IMPORTANT: Make sure you connect your inverter only to a 12V power supply (ordinarily an automotive battery).

1. Remove the protective cover or cigarette lighter from the accessory outlet in the vehicle passenger compartment.
2. Push the 12 volt power plug firmly into the outlet.

ATTENTION: Failure to make the correct connections will result in blown fuses and permanent damage to the inverter.

3. The LED indicator lights should glow GREEN, verifying the inverter is receiving power.
4. Make sure the device to be operated is turned OFF.
5. Plug the device into the inverter's AC outlet or USB port.
6. Turn the device on.
7. To disconnect, reverse the above procedure.

NOTE: If more than one device is to be powered, start one device at a time, to avoid a power surge and overloading the inverter. The surge load of each device should not exceed the inverter's Continuous Operation wattage rate.

POWER SOURCE

Your average automobile or marine battery at full charge will provide an ample power supply to the inverter for approximately 2 hours when the engine is off. The actual length of time the inverter will function depends on the age and condition of the battery and the power demand being placed by the device being operated with the inverter.

Before starting the engine after using the inverter with the engine off, turn OFF the device plugged into the inverter and disconnect the inverter plug from the 12 volt accessory outlet. To maintain battery power, start the engine every 1 to 2 hours and let it run for approximately 10 minutes to recharge the battery.

Although it is not necessary to disconnect the inverter when turning over the engine, it may briefly cease to operate as the battery voltage decreases. While the inverter draws very low amperage when not in use, unplug it to avoid battery drain.

HOW POWER INVERTERS WORK

There are two stages involved in transforming 12 volt DC (battery) power into 120 volt AC (household voltage):

STAGE 1: The power inverter uses a DC to DC transformer, to increase the 12 volt DC input voltage from the power source to 145 volt DC.

STAGE 2: The inverter then converts the 145 volt DC into 120 volt AC (household voltage) using advanced MOSFET transistors in a full bridge configuration. A "modified sine wave" waveform is generated by this conversion.

LED INDICATOR AND SHUTDOWN PROTECTION

The LED glows GREEN automatically when plugged into a 12 volt DC source, but will not glow under the following conditions:

1. When the power input from the vehicle's battery drops to approximately 10 volts, low battery shutdown occurs and the inverter shuts off.
Recharge or replace the battery.
2. When the power input from the vehicle's battery exceeds 15 volts, high voltage protection occurs. *Reduce the voltage range to between 12 volts and 14 volts.*
3. The case temperature becomes hot (exceeds 145°F).
Allow the inverter to cool. Do not block the cooling slots or air flow over and through the inverter. Reduce the load on the inverter to the continuous rated output.

RESET: To reset after shutdown occurs, remove the 12 volt plug from the accessory outlet. Check the source of the problem and correct. Reinsert the 12 volt plug into the accessory outlet.

IF THE INVERTER'S FUSE BLOWS

Your power inverter is fitted with a fuse, which should not have to be replaced under normal operating conditions. A blown fuse is usually caused by reverse polarity or a short circuit within the device or equipment being operated.

If the fuse does blow:

1. Disconnect the device or equipment immediately.
2. Find the source of the problem and repair it.
3. Install a new 15 amp fuse. The fuse can be found on the end of the accessory plug on the inverter.
4. Do not overtighten the fuse cap; finger-tight is sufficient.

IMPORTANT: Do not install a fuse higher than 15 amps, as this may damage the inverter. Make sure to correct the cause of the blown fuse before using the inverter again.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	REASON/SOLUTION
LEDs do not light, or inverter does not function.	Poor contact at terminals.	Unplug and reinsert the 12 volt plug.
	Blown fuse.	Replace the fuse.
	Inverter has shut down.	See LED INDICATOR AND SHUTDOWN PROTECTION section.

PROBLEM	POSSIBLE CAUSE	REASON/SOLUTION
Green LED is flashing.	The continuous load demand of the device being operated exceeds the continuous load rating of the inverter.	Use a higher capacity inverter or a lower rated device.

SPECIFICATIONS

Maximum output.....	100W (90W 120AC, 10.5W USB) 30 min @ 13V input 90W (80W 120AC, 10.5W USB) 2 hours @ 13V input 85W (120AC only) continuous @ 13V input 85W (75W 120AC, 10.5W USB) continuous @ 13V input
Surge capacity (0.1 Second).....	200W
Full load input current.....	<10A
Optimum efficiency.....	85%
No load current draw.....	<0.5A
AC output frequency	60Hz±3Hz
AC output wave form.....	Modified sine wave
AC output voltage range	120V AC±5%
DC input range	10.5V DC-15.5 V DC
Low voltage shutdown.....	<10.5V DC±0.3V DC
High voltage shutdown.....	15.5V±0.3V
USB port current	Max. combined current 2.1A
Overload protection.....	Yes

REPLACEMENT PARTS

Replacement fuses can be purchased at most electronic component retailers.

BEFORE RETURNING FOR REPAIRS

When an UNKNOWN OPERATING PROBLEM arises, please read the complete manual and call the customer service number for information. This will usually eliminate the need for return.

**If the above solutions do not eliminate the problem,
or for information about troubleshooting,
call toll-free from anywhere in the U.S.A.
1-800-732-7764**

7:00 am to 5:00 pm CT, Monday through Friday