BESTEK

500W Pure Sine Wave POWER INVERTER

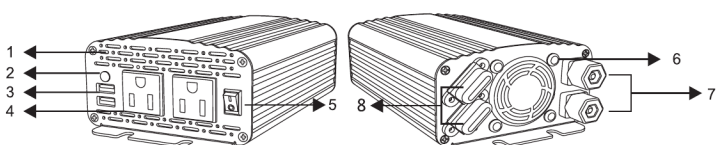
Model: MRZ5011BU

Thank you for purchasing BESTEK vehicle series products!
Please read the instructions carefully before using and operate strictly according to the instructions.

Introduction

Whether you are at home, outdoors, or at any travel place, you can trust BESTEK portable and backup power solutions, for the traveler on-the-go to keep your important devices powered up. Put BESTEK power in the palm of your hand to keep you safe, productive and entertained, anytime and anywhere. This power inverter is ideal for those who frequently on the road. The 500W DC-AC Pure Sine Wave Power Inverter with DUAL USB charging ports is designed for all major brand notebook computers, digital portables like video camcorder, digital camera, iPad, iPod, cell phone, PSP, DVD player & etc.

Parts Diagram



1:Air Inlet
2:LED Power Indicator
3:USB Charging Port (0-2.4A)
4:AC Output Socket x2
5:AC Power Switch
6:Cooling Fan
7:Binding Post
8:Fuse

Advantages of Pure Sine Wave Inverters

- Output voltage wave form is pure sine wave with very low harmonic distortion and clean power like utility-supplied electricity.
- Inductive loads like microwave ovens and motors run faster, quieter and cooler.
- Reduces audible and electrical noise in fans, fluorescent lights, audio amplifiers, TV, Game consoles, Fax, and answering machines.
- Prevents crashes in computers, weird print out, and glitches and noise in monitors.
- BESTEK Pure Sine Wave Inverter powers the following devices that will normally not work with modified sine
- Laser printers, photocopiers, magneto-optical hard drives
- Certain laptop computers (you should check with your manufacturer)

- ✧Some fluorescent lights with electronic ballasts
- ✧Power tools employing "solid state" power or variable speed control
- ✧Some battery chargers for cordless tools
- ✧Some new furnaces and pellet stoves with microprocessor control
- ✧Digital clocks with radios
- ✧Sewing machines with speed/microprocessor control
- ✧X-10 home automation system
- ✧Medical equipment such as oxygen concentrators

Features

- The product's input is vehicular DC cigarette lighter joint and the output is two American Standard AC sockets.
- This product converts DC12V to AC 115V/60Hz pure sine wave output after transformer boost.
- This product transforms DC12V into 5V/4.2A USB output. USB with intelligent identification chip 0-2.4A can automatically identify and match the charging current of your equipment, so that the charging speed can be faster. What's more, the smart-USB drive circuit with stabilizing technology always maintains a fast charging status when charging.
- This product has overload, over-current and short-circuit protection, which fully protects your electrical appliances.

Overload Protection Point

- The input voltage is 12V. It begins to protect when the AC output is over 600W.
- USB output is 5V/4.2A; Overload protection occurs when USB output current is more than 7~8A. After overload protection, **the product will automatically restore 5 times.** After five times, if there is still an overload, the system will detect the fault and make a locking protection.(The protection point is in critical state and does not lock, the product always try to start your electrical device.)

Short-circuit Protection Point

Twice is allowed(The time of short-circuit is more than 1 second every time) and then get into the locking status and the red light is always on. If you want to use it. **When you turn off the power, you should wait for the red light to turn off before restarting. The green light is always on when working normally.**

Under-voltage Protection Point

Under-voltage protection comes with restoration function, **which** the under-voltage protection point is 10V~11V **when it's in no-load condition, and monitoring time is** more than 0.5 second. **The recovery voltage is 11-12V.** Starting up host at under-voltage point, the system defaults the voltage of **battery as too low to start up and makes it under lock status,** not allows to start up. At the same time, the green indicator light flashes slowly.

Over-voltage Protection Point

Over-voltage protection comes with restoration function, **and the over-voltage** protection point is 15~16V **when it's in no-load condition.** The recovery voltage of **over-voltage** is 14~15.5V. **The green indicator light flashes slowly when in over-voltage protection.**

Fan speed	Power start point	Reduced power conversion point	Temperature start point (℃)	Transition point of temperature drop(℃)
at low speed	0~100W	30~50W	60~75	45~55
at medium speed	100~280W	200~250W	75~90	70~80
at full speed	280~500W		90~95	80~90
Over heat protection(after the temperalure falls below 60℃, the fan stops)	/	/	>95	80~90

Usage Steps

1. Open the package box and fetch the product out.
2. Make sure the voltage of your battery match the input voltage labeled in the product.
3. Link the Red clamp to the positive terminal and Black clamp to the negative terminal of battery, and check them again if fixed tightly.
4. Connect the clamps into the battery before the power switch is ON.(the Red clamp to the positive terminal and Black clamp to the negative terminal.
5. Start the inverter after connected to the battery, the load voltage should match the labeled voltage.
6. Keep the 20cm distance from the inverter workspace in order to dissipate heat. Please keep it away from dust, high pollution and other adverse conditions.

- Check if the LED lamp is green and then it can be used normally. If it is abnormal, please refer to Item 9 (troubleshooting) or contact the customer service team to help you solve it.
- Connect your devices to AC or USB ports.
- When you need to replace the fuse, please take down the fuse cover (do not need to unscrew the screw), then use the pliers to pull out the fuse and replace it with a spare fuse(40A/32V).



Specification Parameter

DC Input Rated	DC 11-15V
AC Output Rated	AC 100-120V 60Hz
USB Output	5V⎓4.2A, 5V⎓0-2.4AX2
Rated Total Output Power	500W
Built-in Protection	Output short-circuit protection, input overvoltage protection, output overload protection, over-current protection, over temperature protection, input under-voltage protection, USB output over-voltage protection, input anti-reverse-connection function.
Voltage of High Voltage Protection and Turn off	DC 15-16V
Voltage of Low Voltage Protection and Turn off	DC 10-11V
Insulation Strength	1.5KV/5mA/1min
Efficiency Rate	≥85%
Working Environment	Temperature: -5~40℃, Humidity: 10~90%RH
Storage Humidity	Temperature: -20~80℃, Humidity: 5~95%RH
Size	223mm×110mm×62mm
Weight	1005g

Safety Precautions

- Do not use for any device with dangerous voltage warning.
- Do not use it with over 16V DC input.
- Make sure to provide adequate ventilation to the inverter.
- **Never place the inverter in an enclosure or near heat sources such as heat vent of cars and do not expose to sunlight directly.**
- Do not use the inverter near any flammable liquid or gases.
- **Do not expose to places of liquid or moisture.**
- Do not handle it with wet hands.
- This inverter's working temperature is -10℃-40℃（14℉-104℉）
- Do not put metal fragment (such as wire) inside.
- Do not attempt to dissemble.
- Keep out of the reach of children.

Troubleshooting and Solutions

In order to facilitate customers to troubleshoot the use of the product, please refer to the following table of LED status.

Type of indicator light	Status	Reason	Solutions
LED indicator light	The green light is always on	The inverter works properly	
	Green light flashes	Low voltage or over voltage	Please check the car battery capacity. In this case, USB works normally.
	Red light flashes	Overload protection	1. Pull your devices out. When the LED turns to show a solid green light, the inverter will work properly. 2. Unload. If the LED light is not restored to be green, then you need to restart the switch. 3. In this case USB ports can work.
	The red light is always on	Short-circuit protection	1. Turn off the inverter by pressing the button, restart after the red light has gone out. The inverter will work after it has a solid green light. 2. In this case USB ports can work normally.
	Green and red light alternatively flashes	Overheat protection or fan does not run	1. Pull your devices out. wait for 3-5 minutes to restart. When the LED turns to show a solid green light, the inverter will work properly. 2. If the inverter doesn't work after being restarted, please wait for a few minutes until the temperature inside turns to be normal. 3. Plug out or turn off your devices, allow the fan to run for 3-5 minutes. When the LED turns to show a solid green light, the converter will work properly. 4. In this case USB ports can work.
	off	The inverter hasn't been started up or doesn't work, or fuse blew	1. Check whether the switch is turned on. 2. Check whether the cigarette lighter port is damaged or unable to supply power. 3. Neither the USB nor AC ports work in this case.