

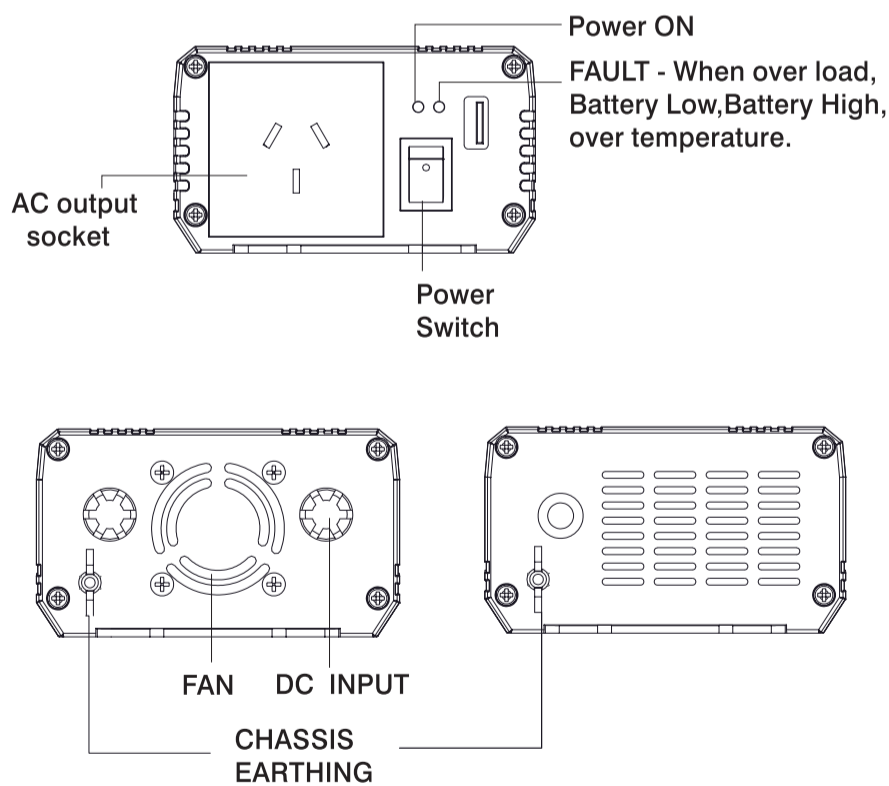
POWERTECH

DC to AC Power Inverter

12V 150W	MI-5130	(SOFTSTART)
12V 300W	MI-5132	
12V 400W	MI-5134	
24V 400W	MI-5135	
12V 600W	MI-5136	
12V 800W	MI-5138	

User Manual

Description



Connections

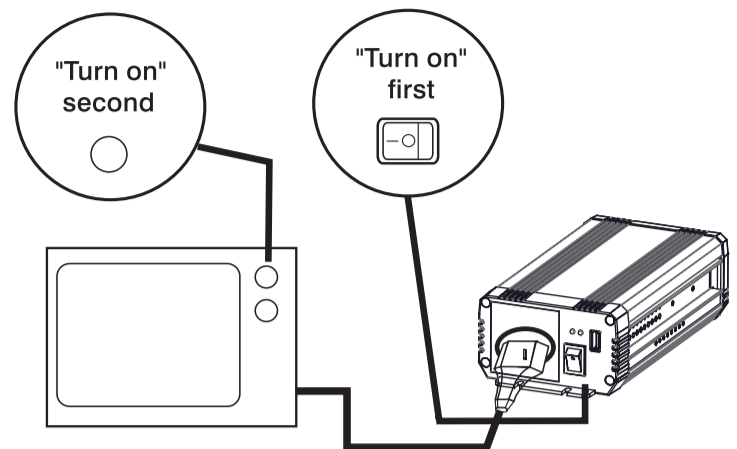
Connect the red cable from the "+" terminal (red terminal) of the battery to the + binding post (red connection) of the inverter and the black cable from the "-" terminal (black terminal) of the battery to the "-" binding post (black connection) of the inverter. For 150W inverter, use the cigarette lighter plug only.

Be sure to tighten the screws and avoid loose connection.

Cable length \leq 2m.

Operation

When connected to an appliance, remember to turn on the inverter before turning on the appliance. If the buzzer sounds during operation, this indicates that the battery voltage is very low and that the inverter will shut down in couple of minutes (depends on load and battery). When over load happens it will auto soft-start until user reduces loading.



Fuse

Please check the fuse in the cigarette plug if the blackout indicator is not lit during operation. When replace blown fuses, please refer to specifications on page 7 and 8.

Output Capacity

The inverter will switch off automatically if the total wattage of the electrical appliance exceeds the inverter's output capacity. This will also happen if the temperature of the inverter exceeds 55°C due to prolonged use.

Special Recommendations

- Unplug the AC inverter when not in use.
- Unplug the AC inverter when starting the vehicle's motor.
- If the AC inverter makes a beeping sound: Switch off your appliance, unplug the inverter and restart your vehicle's engine. The beeping sound is simply the low-battery warning which indicates that the voltage of your battery is getting low. Your inverter will shut down automatically if you do not restart your engine and continue the use of your inverter. This will leave your vehicle's battery at about 10.5VDC (21VDC when using 24V inverter / 42VDC when using 48V inverter), enabling you to start your engine and resume operation of the inverter. It also eliminates the possibility of being stranded with a dead battery.
- To avoid over-discharging the battery, it is advisable to let your engine run for 10 to 20 minutes after every 2-3 hours of using the AC inverter. This allows your vehicle's battery to recharge.

Please remember to connect the "+" wire to the "+" terminal and the "-" wire to the "-" terminal if you choose to use an adapter in order to establish a direct connection between the AC inverter and the battery terminals.

If you connect the wires to incorrect terminals, the polarity will be reversed and this will damage the fuse. Reversed polarity should be avoided.

Please remember to disconnect AC inverter before using the battery charger to replenish your battery's voltage. Failure to disconnect the inverter prior to connecting a charger may result in an input spike which will damage the inverter.

Connecting the inverter's input to a battery charger will void the warranty and may damage the inverter.

Make sure that the battery's voltage never exceeds 15VDC (30VDC when 24V version is used/60VDC when 48V version is used).

Connecting the inverter to a DC power source greater than 15VDC (more than 30VDC when you are using 24V inverter / more than 60VDC when you are using 48V inverter), the inverter will be shut down automatically.

Adding Extension Cords

We recommend that the buyer refrain from using an extension cord between the DC power source and the inverter's DC input. Connecting an extension cord to the DC input will create a voltage drop, entailing reduced efficiency and output. Instead, we recommend the use of an extension cord between the AC output and the AC appliance. You may use up to 100ft(30m) of high quality extension cord. A longer cord may result in reduced power.

Grounding Connection

WARNING: BEFORE USING THIS INVERTER YOU MUST PROVIDE A GROUND CONNECTION TO THE INVERTER.

- On the rear panel of the Inverter is a terminal fitted with a wing-nut. This terminal is connected to the case of the Inverter and also to the earth terminal of the AC output socket. The use of this terminal will depend on your particular installation. In any installation, heavy duty, insulated wire should be used for this connection.
- In a stationary land based installation, the earth terminal should be connected to a metal earthing stake driven into the ground to a depth of 1.2m or more. If the battery system powering the Inverter does not have a connection to ground, one of the battery terminals (commonly the negative terminal) should also be connected to the earthing stake.
- In a vehicle where the Inverter is wired directly to the battery, the earth terminal is simply connected to the vehicle chassis. If the Inverter is to be used in a vehicle on a temporary basis and will be powered via the cigarette lighter socket in the vehicle, the earth terminal should be connected via a short link to either the negative or positive DC input terminal of the Inverter, depending on whether the vehicle has a negative or positive chassis connection. However, when using the Inverter to power equipment used outside the vehicle, an earthing stake should also be used, as described above.
- In a boat, the earth terminal should be connected to the existing grounding system, which may be the hull of the craft, or a network of ground wires

Measuring AC Voltages

The output wave of the AC inverter is a MODIFIED SINEWAVE. If you choose to measure the AC output voltage, you must use an AUTHENTIC RMS VOLT METER. Using any other type of voltage measuring device will result in an AC voltage reading that is up to 20 to 30 volts lower than the rated value. The reading will only be accurate when using an authentic RMS voltmeter .

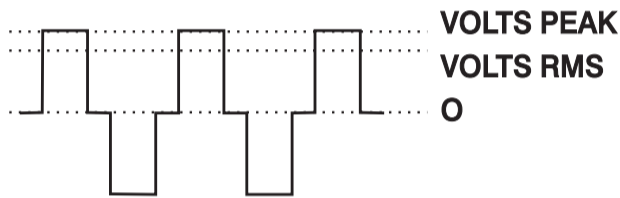
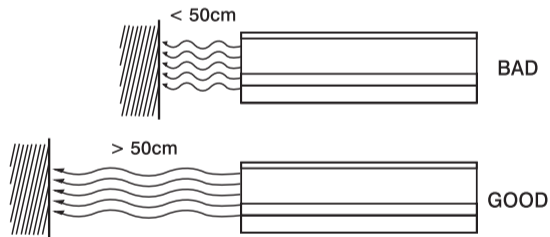


Figure 1: D/A Inverter-Modified Sinewave

Ventilation

IMPORTANT! During operation, make sure the fan keeps revolving. check the inverter for possible malfunctions if the fan does not work when this unit is being used.

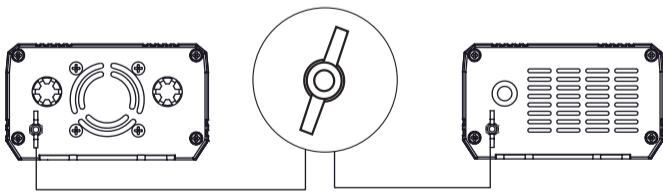
Make sure the fan is not blocked in order to avoid poor ventilation.



NOTE: The cooling fan automatically switches on and off as required to maintain safe working temperature.

Chassis Earthing

The chassis earthing lug should be connected to an earthing point, which will vary depending on where the power inverter is installed. In a vehicle, connect the chassis ground lug to the chassis of the vehicle. In a boat, connect to the boat's grounding systems. In a fixed location, connect to earth.



Caution

In case of trouble with the AC output, e.g. short-circuit, overload, the protection circuit will automatically cut off the output.

In such cases:

- Switch off the power at once
- Disconnect all units
- Check the connected devices
- Use the units again as soon as any problems concerning the connected devices have been solved

Always keep the inverter in an environment which is:

- Well-ventilated
- Not exposed to direct sunlight or any other heat source
- Inaccessible to children
- Safe from water/moisture, oil or grease
- Safe from any flammable substance

If the inverter is connected in the wrong way, this will void the warranty.

Maintenance

Very little maintenance is required to keep your Inverter operating properly You should clean the exterior of the unit periodically with a damp cloth to prevent accumulation of dust and dirt. At the same time, tighten the screws on the DC input terminals.

Note

All specifications typical at nominal line, half load & 25°C unless otherwise noted. Specifications subject to change without notice.

WARNING: Do not disassemble the unit. Hazardous voltage! Danger! Please return to the dealer if you find any problem with the unit.

Specifications

Model No.	MI-5130	MI-5132	MI-5134
DC Input Voltage	10-15VDC	10-15VDC	10-15VDC
Output Power	150W	300W	400W
Output Power Surge	450W	1000W	1200W
USB Power Output	5VDC/2.1A (Max.)	5VDC/2.1A (Max.)	5VDC/2.1A (Max.)
Low Battery Alarm	10.5±0.5V	10.5±0.5V	10.5±0.5V
Low Battery Shutdown	10.0±0.5V	10.0±0.5V	10.0±0.5V
High Battery Shutdown	15.5±1.0V	15.5±1.0V	15.5±1.0V
No Load Current	<0.4A	<0.4A	<0.3A
Over Temp. Protection	60°C±5°C	60°C±5°C	60°C±5°C
Overload Protection	Yes	Yes	Yes
Input Reverse Polarity Protection (Fuse)	Yes	Yes	Yes
DC Input Fuse	15A	30A	40A
Cigarette Plug Fuse	N/A	15A	N/A
Dimensions (L x W x H) mm	171 x 105 x 60	182 x 105 x 60	182 x 105 x 60
Net Weight (Approx.)	0.65kg	0.83kg	0.85kg
Accessories	N/A	Cigarette lighter plug, battery cable	Battery cable

Model No.	MI-5135	MI-5136	MI-5138
DC Input Voltage	20-30VDC	10-15VDC	10-15VDC
Output Power	400W	600W	800W
Output Power Surge	1200W	1500W	2000W
USB Power Output	5VDC/2.1A (Max.)	5VDC/2.1A (Max.)	5VDC/2.1A (Max.)
Low Battery Alarm	21±1.0V	10.5±0.5V	10.5±0.5V
Low Battery Shutdown	20±1.0V	10.0±0.5V	10.0±0.5V
High Battery Shutdown	30±1.0V	15.5±1.0V	15.5±1.0V
No Load Current	<0.3A	<0.7A	<1.0A
Over Temp. Protection	60°C±5°C	60°C±5°C	60°C±5°C
Overload Protection	Yes	Yes	Yes
Input Reverse Polarity Protection (Fuse)	Yes	Yes	Yes
DC Input Fuse	25A	30A x 2	30A x 3
Cigarette Plug Fuse	N/A	N/A	N/A
Dimensions (L x W x H) mm	182 x 105 x 60	222 x 105 x 60	261 x 105 x 60
Net Weight (Approx.)	0.85kg	1.06kg	1.5kg
Accessories	Battery cable	Battery cable	Battery cable

AC Output Voltage: 240V
Frequency ±2%: 50Hz

Distributed by:
TechBrands by Electus Distribution Pty. Ltd.
320 Victoria Rd, Rydalmere
NSW 2116 Australia
Ph: 1300 738 555
Int'l: +61 2 8832 3200
Fax: 1300 738 500
www.techbrands.com

Made in Taiwan