

4X4TM TOUGH GO OFF ROAD

4WD ACCESSORIES



600W POWER INVERTER USER GUIDE (For Indoor Use Only)

CONTENTS

- 1 x 600W Power Inverter
- 1 x Set Power Cables with Battery Clamps
- 1 x USB Port Compatible Multi Adapter
- 1 x Portable Power Bank (1800 Li-ion Battery)
- 1 x USB Charging Lead for Portable Power Bank
- 1 x User Guide
- 1 x Warranty Card

AFTER SALES SUPPORT

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AUS

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MODEL: 15-50104 PRODUCT CODE:50104 08/2015

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YEAR WARRANTY

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600W Power Inverter

Warranty Details

The product is guaranteed to be free from defects in workmanship and parts for a period of 12 months from the date of purchase. Defects that occur within this warranty period, under normal use and care, will be repaired, replaced or refunded at our discretion. The benefits conferred by this warranty are in addition to all rights and remedies in respect of the product that the consumer has under the Competition and Consumer Act 2010 and similar State and Territory laws.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Repair and Refurbished Goods or Parts Notice

Unfortunately, from time to time, faulty products are manufactured which need to be returned to the Supplier for repair.

Please be aware that if your product is capable of retaining user-generated data (such as files stored on a computer hard drive, telephone numbers stored on a mobile telephone, songs stored on a portable media player, games saved on a games console or files stored on a USB memory stick) during the process of repair, some or all of your stored data may be lost.

We recommend you save this data elsewhere prior to sending the product for repair.



You should also be aware that rather than repairing goods, we may replace them with refurbished goods of the same type or use refurbished parts in the repair process.

Please be assured though, refurbished parts or replacements are only used where they meet ALDI's stringent quality specifications.

If at any time you feel your repair is being handled unsatisfactorily, you may escalate your complaint. Please telephone us on 1300 883 104 or write to us at:

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AUS Hotline Costs: Landline calls are free. Mobile costs are extra & are dependent on carrier charges – please check charges with your mobile carrier.

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PLEASE READ INSTRUCTIONS CAREFULLY BEFORE USE. UNLESS DIRECTIONS ARE FOLLOWED PHYSICAL INJURY OR PROPERTY DAMAGE MAY RESULT. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

GENERAL INFORMATION

Congratulations on the purchase of your compact portable power inverter. From a 12V DC battery source, the power inverter will efficiently and reliably power a wide variety of household AC appliances. The power inverter is designed to provide years of trouble-free operation and includes an automatic safety monitoring circuit to protect the power inverter and your battery from inadvertent overload conditions.

The User guide is a part of the power inverter and should be stored in a dry convenient location in the event you need to refer back to information within this guide.

Carefully read before using the power inverter with particular attention to the warnings, key information and recommendations within this user guide.

This power inverter complies with AS/NZS 4763:2011.

INTENDED USE

This product is designed to provide power to AC appliances via a 12VDC power source. Private domestic use only.

CONTENTS:

- 1 x 600W Power Inverter
- 1 x Set Power Cables with Battery Clamps
- 1 x USB Port Compatible Multi Adapter
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PORTABLE POWER BANK

- Charging time: Approximately 6 hours.
- USB Rechargeable.
- When the power bank is in charging mode a red light will be blinking.
- When full charge is complete the red light then stops blinking.
- Input: DC5V
- Output: DC5V

IMPORTANT SAFEGUARDS

Incorrect installation or misuse of the power inverter may result in danger to the user or create hazardous conditions. We urge you to pay special attention to all CAUTION and WARNING statements. CAUTION statements identify conditions or practices that may result in damage to the power inverter or to other equipment. WARNING statements identify conditions that may result in personal injury or loss of life.



WARNING! Shock hazard. Keep away from children.

- The power inverter generates the same potentially lethal AC power as a normal household wall outlet. Treat it as you would any other AC outlet.
- Do not insert foreign objects into the power inverter's AC outlet, fan or vent openings.
- For indoor use only - do not expose the power inverter to water, rain, snow or spray.
- Do not, under any circumstance, connect the power inverter to AC Power.



WARNING! Heated surface.

- The power inverter's housing may become uncomfortably warm, reaching 60°C (140°F) under extended high power operation. Ensure at least 5 cm (2 inches) of air space is maintained on all sides of the power inverter. During operation, keep away from materials that may be affected by high temperature.



WARNING! Explosion hazard.

- Do not use the power inverter in the presence of flammable fumes or gases, such as in the bilge of a petrol powered boat, or near a propane tank. Do not use the power inverter in an enclosure containing automotive-type, lead-acid batteries. These batteries, unlike sealed batteries, vent explosive hydrogen gas which can be ignited by sparks from an electrical connection.
- When working on electrical equipment always ensure someone is nearby to help you in an emergency.



CAUTION!

- Do not connect live AC power to the power inverter's AC outlets. The power inverter will be damaged even if it is switched OFF.
- Do not expose the power inverter to temperatures exceeding 40°C (104°F).



CAUTION! Do not use the power inverter with the following equipment:

- Small battery operated products such as rechargeable flashlights, some rechargeable shavers, and night lights that are plugged directly into an AC receptacle to recharge.
- Certain battery chargers for battery packs used in hand powered tools. These chargers will have warning labels stating that dangerous voltages are present at the charger's battery terminals.



CAUTION! Don't disassemble or modify the power inverter.

IMPORTANT NOTE: This unit is a modified sine wave inverter. You should always check in your appliance user manual to know whether a modified sine wave power inverter is compatible. If it is NOT stated in your appliance manual, please contact the manufacturer to seek advise on whether this inverter is suitable for your appliance. Natural Product Solutions Pty Ltd will not be held responsible if the power inverter damages your appliance if a pure sine wave inverter should have been used.

SAFETY FEATURES

- Input protections: Reverse polarity (fuse)/over and under voltage/low battery alarm & shut down.
- Power ON/OFF switch and LED indicator.
- Input and output fully isolated.
- Output protections: Short circuit/overload/over temperature.
- Low power consumption (standby).

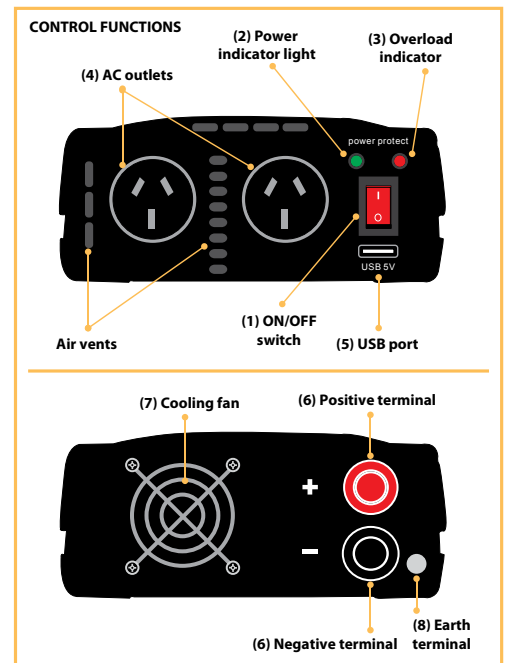
OPERATING ENVIRONMENT

For safe and optimum performance, install the power inverter in a location that is:

- Dry. For indoor use only - do not expose to water or moisture.
- Cool. Operate only in ambient temperatures between 0°C (32°F) and 40°C (104°F). Keep away from surface heating vents or other heat producing equipment.
- Well ventilated. Allow at least 5 cm (2 inches) clearance above and on all sides of the unit for proper cooling.
- Safe. Do not install power inverter in a compartment with batteries or flammable liquids, such as petrol, or explosive vapours.
- Clean and free of dust and dirt. This is especially important if the power inverter is used in a working environment.

CONTROL FUNCTIONS

- (1) ON/OFF power switch:**
This switch turns the power inverter ON/OFF.
- (2) Power indicator:**
When lit, this indicates the power inverter has been turned on, and is ready for use.
- (3) Overload (Fault) indicator:**
If the LED overload is on, this indicates that the power inverter is in the state of warning or protection. Please stop the power inverter until the LED overload indicator goes out.
- (4) 2 x AC outlets.**
- (5) USB port.**
- (6) Battery connection terminals (- +):**
Please connect the power inverter to the battery, using the battery clamps included. Pay attention to polarity when attaching the clamps to the battery. Red terminal is positive (+) and black terminal is negative (-).
- (7) High speed cooling fan:**
The fan cools the internal circuits automatically while the power inverter is in operation mode.



WARNING: Before using the 4 x 4 tough inverter you must provide an "earth" connection to the inverter – operating the inverter without a proper earth connection may cause an electrical hazard.

- (8) Earth terminal:** NOTE Earthing cables, clamps, stakes and rods are not included.
 - The earth terminal located on the back panel of the inverter is connected to the case of the inverter and the earth terminal of the AC output socket.
 - The use of the earth terminal will vary depending on installation. All installations should adopt heavy duty green-insulated wire when connecting to this earth terminal.
 - Using the power inverter in a vehicle where it is connected directly to the battery, the earth terminal can be connected to the vehicle chassis.
- A temporary installation:
- Installing to a fixed land base location, the earth terminal should be connected to a proper earth connection such as a standard electrical earthing rod driven into the ground no less than 1.2m. Additionally If the battery system powering the inverter is not "earthed" one of the terminals on the battery system (usually the negative terminal) should get connected to the earthing rod.
 - Using the power inverter in a boat, the earth terminal should be connected to the existing grounding system.
 - ALWAYS check with licenced electrician before use.

LED POWER INDICATOR

The LED indicator light is located on the top right hand side of your power inverter.

This is an indicator that switches automatically between two different readings at approximately two second intervals.

READING 1:

Displays the voltage reading of the connected battery.

The reading will vary depending on the battery condition and usage enabling you to monitor and charge the battery when necessary.

Please note - The 4X4 TOUGH 600W Power inverter does offer the feature of an automatic battery cut off. If the battery usage is being depleted the unit has a safety device to eliminate the battery going flat.

A close-up of the LED display showing the number 11.5 in red digits on a dark background.

READING 2:

The percentage % of the 600W currently in use.

Example below illustrated in table.

Percentage % (Display will show)	Watts being used
10%	60 watts
20%	120 watts
30%	180 watts
40%	240 watts
50%	300 watts
60%	340 watts
70%	380 watts
80%	420 watts
90%	460 watts
100%	500 – 600 watts

A close-up of the LED display showing the number 20 in red digits on a dark background.

Above is an example of approximate percentage that will be displayed on your power inverter.

- THE SHADED BOX SHOWS AN APPROXIMATE PERCENTAGE THAT WILL BE DISPLAYED ON YOUR POWER INVERTER AND ARE A GUIDELINE ONLY.

Depending on the usage and the battery level from time to time the above two readings may present the same number, this will only remain the same for a short period of time and will vary as battery level increase/decreases or load applied to the power inverter increases or decreases.



USB OUTLET

- The USB output is 5V, 500mA. Check the appliance or device's charging current is below the specified output. Exceeding this may damage the power inverters USB port.
- Turn the inverter on first before connecting an appliance or device to the USB port.
- Some appliances and devices must be charged using a specific charger, always consult the user manual before attempting to charge with the power inverters USB port.
- Ensure you use an approved USB charging cable; compatible with the appliance or device you intend to charge.

INSTRUCTIONS FOR USE

Position of the Power Inverter

- No liquid may be allowed to enter the unit.
- The ambient temperature should be between -10 degrees and +40 degrees C. Do not place on or directly adjacent to a heat source.
- Do not expose to direct sunlight.
- Leave a space of 2-4cm to allow adequate air circulation.
- Do not place any objects on top of the power inverter.
- Do not use close to flammable materials or in places where flammable vapours or smoke is present.

Power Supply

The power source needs to be a minimum of 11 volts to a maximum of 15 volts DC and have enough permanent output to operate the unit. To establish the estimated necessary power supply (in amps), divide the respective output (in watts) of the attached appliance by the incoming voltage being 12 volts in the case of a car battery.

Unpack the power inverter and ensure that the switch is in the OFF position.

CAUTION: This power inverter can only be operated with a 12V DC battery.

Connection via the Vehicle's Battery

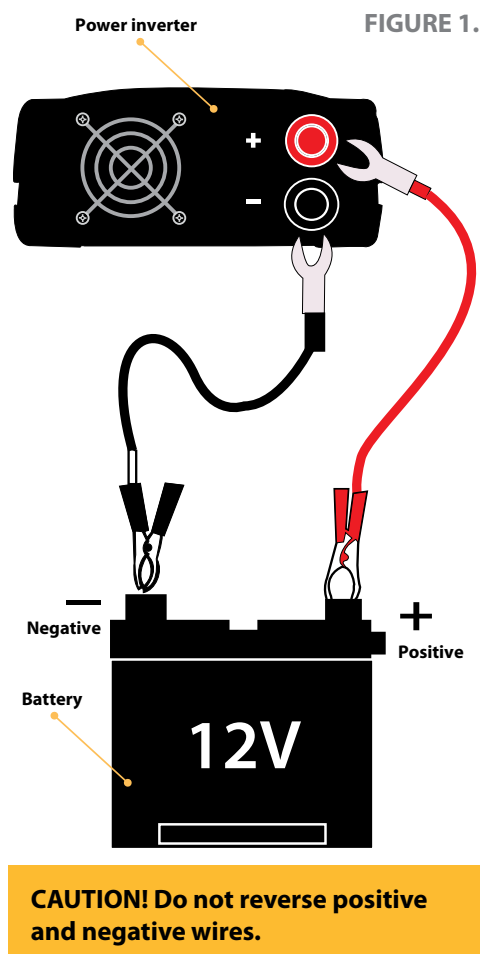
- It is recommended running the vehicle's motor for approx. 15 minutes every hour to avoid the battery from going flat.
- Connect the power inverter to the battery, using the battery clamps included. Pay attention to polarity when attaching the clamps to the battery. Red terminal is positive (+) and black terminal is negative (-). **See Fig. 1**
- The power inverter can be operated when the motor is running or when the motor is at a standstill.
- It is possible that the power inverter may not work due to the voltage drop during the starting process.
- If not in use, disconnect the power inverter from the battery.

Alarm in case of Battery Voltage Drop

The power inverter switches off automatically when the voltage drops below 10 volts. A high pitched alarm will sound and a red light will appear. Refer page 6 under control functions, 3. Overload fault indicator.

Protective Features

- **Low-voltage of the battery** - may damage the battery but not the power inverter as it switches off. Once the normal operating status is reinstated, the unit can be operated again.
- **Overload protection** - If the incoming voltage exceeds 15 volts DC, or if the permanent output is exceeded, the unit switches off automatically.
- **Short-Circuit** - If the wires are crossed or the attached appliance has short-circuited, the power inverter 35 amp fuses will blow to prevent damage to the power inverter. If the fuse blows, contact the After Sales Support helpline for replacement of defective fuses.



- **Overheating protection** - If the internal temperature of 65°C is exceeded, the unit switches off automatically. After a cool-down period of approx. 15 minutes, the unit can be switched on again.

Precautions

- If connected directly to a battery or similar unit, please check that the battery clamps are connected with the correct polarity - Red terminal is positive (+) and black terminal is negative (-).
- Ensure that the incoming current does not exceed 56 amperes.
- At regular intervals, check that the plug and connections are tight. Loose connections can generate heat and/or damage the power inverter or the power source.
- Improper use of the power inverter can cause injuries.
- If the external cord of this inverter is damaged, it shall be replaced by a special cord or assembly by contacting the After Sales Support Helpline.

CONNECTING AN APPLIANCE

- The output of a connected appliance should lie within the specifications of the power inverter.
- Insert the plug into a socket of the power inverter.
- Press the "On" switch - when the green LED lights up the unit is operational.
- The LED will turn off if the voltage drops below 10 V and the power inverter switches off - switch off the appliance and disconnect the plug.
- If the external flexible cord of this inverter is damaged, it shall be replaced by a special cord or assembly available from the manufacturer or its service agent.

CAUTION: Never draw power from the power inverter with a bare cable. Use only a matching power plug for connection.

RECHARGEABLE UNITS

CAUTION: A few battery chargers are not compatible with modified sine wave inverters. These are typically small, rechargeable, battery operated devices like portable/rechargeable flashlights, shaving razors and night-lights that are plugged directly into an AC receptacle to recharge.

Some chargers for battery packs used in power tools may not be compatible. Check with the products' instruction manual to see if it suitable to use with a modified power inverter. These chargers typically have a warning label indicating that dangerous voltages are present at the battery terminals. Only a pure sine wave inverter should be used with these types of appliances. Damage to the device could result if you attempt to use them with any type of modified sine wave inverter.

CAUTION: Some rechargeable units can be directly connected to standard sockets. These units can damage the power inverter.

FUSE

The power inverter is fitted with two 35 amp fuses. In the event that the leads are incorrectly attached and the unit fails to operate, it will be because the fuses have blown. You will need to take the unit to a certified licensed electrician to have the fuses replaced. Under no circumstance are unlicensed electrical persons permitted to open the unit to replace fuses or conduct other repairs.

MAINTENANCE & CLEANING

We recommend that only qualified persons perform maintenance and servicing on the Power Inverter.

NOTE: Always disconnect and ensure the power switch is turned off before attempting any type of maintenance. Wait for the unit to cool before servicing.

- Ensure the unit has been switched off and has cooled down completely before cleaning.
- Never immerse this unit in water.
- Simply wipe down with a soft cloth.

DISPOSAL

- Please consider when disposing of electronic products such as a power inverter that some components can be recycled and recovered for re-use. Do not attempt to disassemble any electronic product unless you are a trained electronics technician.
- Many councils hold e-waste (electronic waste) collections. Contact your nearest council to enquire about the best method of disposal in your area.

FAQ

Q: The unit has started but the appliance keeps switching off.

A: Some inductive motors may require 2-6 start-up attempts. If an appliance you have attached to the inverter only runs for a moment when the power is supplied, switch the power inverter on and off quickly and repeatedly.

Q: Humming in music systems.

A: The loudspeakers of cheaper stereo systems may hum as they cannot filter the modified sine waves that the power inverter generates.

Q: Malfunctions when operating a TV.



A: The power inverter is operating but there may be visible interference, especially if the TV signal is weak. Try one of the following actions:

- Position the power inverter as far away as possible from the unit, the aerial and aerial cable.
- Use good quality aerial cables.

TROUBLESHOOTING

PROBLEM	CAUSE	RECOMMENDATION
Low outgoing voltage. Note: Only use RMS voltmeters to measure the outgoing voltage.	The power inverter is overloaded	Reduce the outgoing output.
	Incoming voltage is below 10 volt.	Ensure adequate incoming voltage of over 10 volt.
Battery power is too low.	Poor condition of the battery.	Replace the battery.
	Inadequate power supply or inappropriate voltage drops.	Check the condition of the battery clamps.
No output.	The power inverter is not at operating temperature.	Switch the power inverter off and on again. If necessary, repeat the process until the attached appliance starts.
	Battery voltage below 10 Volt.	Charge or exchange the battery
	Power inverter has cut-off automatically due to overheating.	Allow the power inverter to cool down. Ensure there is enough air circulation.
	The fuse has blown.	In the event that the leads are incorrectly attached and the unit fails to operate, it will be because the fuses have blown. You will need to take the unit to a certified licensed electrician to have the fuses replaced. Under no circumstance are unlicensed electrical persons permitted to open the unit to replace fuses or conduct other repairs. Check that the wires are connected correctly when connecting the power inverter (see diagram on Page 9).

SPECIFICATIONS

OUTPUT	RATED OUTPUT POWER		240VAC, 50Hz, 2.5A, 500VA (continuous), 600VA (10 minutes)
	SURGE POWER		1200VA
	FREQUENCY		50Hz
	AC REGULATION		± 10%
	AC VOLTAGE		240V AC
	WAVEFORM		 Modified sine wave
	USB PORT		5V, 500mA DC
INPUT	RATED INPUT POWER		12V DC , 56A
	NO LOAD-		≤ 0.5A
	DC VOLTAGE		12V DC
	EFFICIENCY (Typ.)		≥ 80%
	FUSE		35AMP X 2
PROTECTION	BATTERY LOW ALARM		10V DC ± 0.5V
	BATTERY LOW SHUTDOWN		9.5V DC ± 0.5V
	OUTPUT OVERLOAD PROTECTION		≥ 720W
			Shut off output voltage, re-power on to recover
	OVER VOLTAGE		15.5 ± 0.5V
	OVER TEMPERATURE		>65°C ± 5°C
	OUTPUT SHORT		Auto. Shut-off
BATTERY POLARITY		By fuse	
CLASSIFICATION			Equipollently bonded inverter
DIMENSIONS			220 x 155 x 65mm



4x4 TOUGH GO OFF ROAD is a trademark of

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