

5. Trouble shooting and daily use

The green light diode do not light when the inverter is switched on

1. Check the connection to the cigarette lighter (ET-200)
2. Check the 12 volts DC connections (ET-400)
3. Check the battery voltage and the fuses

The red light diode lights when the inverter is switched on

1. The wattage of the appliance is too high
2. Inverter temperature is too high (more than + 65 °C)
3. The battery voltage is too low (below 10,5V)

The fuse of the inverter blows

1. Fault in the battery cable or the appliance

The buzzer sounds and the red diode lights after some time

1. Inverter temperature is too high
2. The ventilator has stopped
3. The battery voltage is too low
4. Overload

Interference in radio, tv or light

The appliance is of inferior quality and the built in filter cannot handle the modified sine wave

Check regularly:

1. – that the ventilator runs smoothly and is neither blocked nor clogged
2. – that the 230 volts plugs have no cracks or other defects
3. 12 volt cable connections (ET-400)

Do **not** expose the inverter to humidity or bumps. Do **not** use the inverter if the 230V sockets are damaged. Use only appliances with plugs fitting the sockets of the inverter.

The inverter has many "sharp" edges so fixed mounting is highly recommended.

User Manual

UK

12 Vdc  230Vac
Power Inverter

	ET-200/400	ET-400/800
Input voltage	12 Volt DC	12 Volt DC
Output voltage	230Volt AC	230Volt AC
Output frequency	50 Hz ±2 Hz	50 Hz ±2 Hz
Output power	200 Watt	400 Watt
Max. power	400 Watt	800 Watt
Dimensions mm	185x125x52	210x125x52



1. Introduction

A Power Inverter is an advanced electronic frequency converter that converts 12 volt DC (low voltage) to 230 volts AC (high voltage). Use your power inverter with utmost care.

The power inverter can be connected to all 12 Volt DC power sources in a vehicle, boat, caravan, or other DC power sources that has **minus to vehicle chassis**.

For your safety and to gain most use of the power inverter we recommend that you read this manual thoroughly

2. Warning and security

- The inverter must **ONLY** be connected to 12 volts DC with minus to chassis
- The inverter must **NOT** be connected to 230 Voltage
- Any alteration of the cable or socket of the inverter could be fatal
- Do not cover the inverter as it may present a fire hazard
- Do **NOT** block the ventilator (ET-400)
- Do not connect 230V appliances with wattage higher than the output wattage of the inverter (200 / 400 Watt)
- Connect only 230 volts appliances with same type of plug
- Always use same type of fuse
- Keep out of reach from children. High voltage!
- Do not use the power inverter if it is wet or covered by condensation
- If you want to extend the 12 volts cable of the inverter, **always** use same or better type of cable and **never** a cable with smaller cable square – and never more than 2,0 meters!
DC cable square: (ET-200.: 2,5mm², ET-400: 6,0mm²).
- A fully operating inverter draws much power from the battery therefore it might cause fire if the cables are too thin (Watt / Vdc = Amp)
- For 230 volts AC sockets max. 25m cable with same type of plug is allowed (class II).
- It is not allowed and might make the inverter dangerous even to touch if an appliance is connected that is not double-insulated e.g. by using an illegal extension cable for a class I appliance.

3. Using the power inverter

1. Check that the battery voltage is min. 11 volt DC and max. 15 volt DC
2. Check that the inverter is switched off
3. ET-200 connect 12 volts lighter male plug to cigarette lighter female socket
4. ET-400 connect the red battery clamp to the battery + (plus) and the black to – (minus)
5. Check that the appliance is a 230 Voltage 50 Hz unit and that the wattage does not exceed the output power of the inverter
5. Connect the 230 volts plug of the appliance to one 230 volts sockets of the inverter

6. Switch on the inverter
7. Check that the green diode of the inverter lights up
8. Switch on the appliance
9. Check the wattage of the connected appliance if the inverter gives a buzzer or if the red diode lights up

4. Automatic functions of the Power Inverter

• Low battery voltage warning

When the battery voltage drops to 10,5 volts, the inverter gives an acoustic warning for low battery voltage

• Low battery voltage stop

When the battery voltage drops to 10,0 volts, the inverter automatically switch off, to protect the battery

• Overvoltage stop

When the battery voltage exceeds 15,0 volts, the inverter gives an acoustic signal and switch off.

• Overload

If the wattage is larger than the power of the inverter, it switch off and giving an acoustic signal and the red diode starts flashing.

• Temperature protection

The inverter has a built-in automatic temperature protection which will automatically switch off the inverter while giving an acoustic alarm should the temperature within the inverter reach +65 °C.

Low battery voltage alarm	10,5 Volts
Low voltage protected (off)	10,0 Volts
High voltage protected (off)	15,0 Volts
Overload protected	200W/400W
Temperature protected (off)	65°C ±5°C
Efficiency	>90%
Insulation resistant	>10M Ohm
Operation temperature	-10°C ~ +65°C
Cooling fan (400W)	Fan
Wave form	Modified