



INV Series Owners Manual

INV500

INV1000

INV2000

INV3000

INV4000



The Excelsior Power INV series of inverters have been carefully designed and manufactured to provide you years of reliable operation.

Please read this manual thoroughly before connecting and operating your inverter. Please keep the manual for future reference, as it contains information that you may require in the correct connection, operation and troubleshooting of this inverter.

Excelsior Power Inverters

Excelsior Power have been involved in the design, manufacture and importation of power conversion technology for over 25 years. The INV series of power inverters are highly advanced, microprocessor controlled units that provide the highest surge capabilities, so they can start difficult loads, such as TV's, Microwaves, Refrigeration units and even Air Conditioners.

Unlike many inverters, which can damage 240 Vac motors, such as those found in refrigerators, the INV series incorporates Active Phase Power Correction, so that motors and fridges don't overheat and fail prematurely. The INMV4000 also have a display on front to show battery voltage and load, which takes the guess work out of battery time and consumption.

They also achieve the highest efficiency (90%+) which means cooler running, higher reliability and longer running time!

Excelsior Power Inverters convert 12 or 24 volt Direct Current to 240 Volt, alternating current at 50 Hz.

Installation

When connecting the inverter to the battery, use the thickest wires available, keep the length as short as possible, 2 meters maximum length. To find the recommended minimal cable size for your inverter, please refer to the Specifications section at the back of this manual. To calculate the minimum battery size recommended for your inverter in Amp/Hours, please see the Specifications section at the back of this manual.

Mount the inverter in a clean environment, that is free of dust, insects and moisture, Ensure that the inverter has enough space around it for ventilation, especially at the front and rear for the cooling fan.

Connecting your inverter

1. Make sure the switch on the front of the unit is in the off position (0)
2. Connect the wires to the inverter input terminals at the rear of the unit. Make sure to match the negative (Black) terminal to the inverter with the wire that connects to the negative terminal on the battery.
3. Connect the positive (red) terminal on inverter connecting a wire to the positive terminal of the battery.
4. Make sure the connections are good and secure.

WARNING: Do not reverse connect polarity to battery, as this will damage inverter, and is not covered under warranty!

Getting Started

When you turn on an appliance that operates using a motor, fluorescent lights, air conditioning, fridge and some electronic loads, it requires an initial surge of power to start. This surge of power can be many times the running, or continuous power rating of the appliance.

Fridges and Air conditioners can take many thousands of watts for the first second to start up.

A microwave can use up to double the rated cooking power, so an 800 Watt microwave can use up to 1600 Watts of electrical power.

To work out the current from your battery, divide the wattage of the appliance by the battery voltage; IE 100 watts / 12 volts = 8 Amps.

Although all Excelsior Inverters are electrically isolated and filtered to minimise signal interference, some interference with your TV may be unavoidable, especially with weak signals. However, here are some suggestions that may improve reception.

1. First, make sure the TV antenna produces a clear signal under normal operating conditions (normal grid power) Also make sure the antenna cables properly shielded and of good quality.
2. Try changing the position of the inverter, antenna cable and TV power cord.
3. Isolate the TV, it's power cord and antenna cable from the battery power by running an extension cord from the inverter to the TV.
4. Coil the TV power cord.
5. Coil the DC battery cables from the battery to the inverter.
6. Attach a ' Ferrite Data Line Filter' to the power cord.

Note:

Some inexpensive audio systems may produce a slight 'buzzing' sound when used from the inverter. This is caused by deficient filters in the audio system, The only solution to solve this problem is to use a sound system of a higher quality power supply.

Use of RCD's

RCD's may be used with the inverter, please ensure the earth connection of the front of the inverter is connected to the chassis of the vehicle or an earth stake.

TROUBLESHOOTING

PROBLEM: Low or no Output Voltage.....

REASON	SOLUTION
Poor contact with the Battery Terminals	*Clean terminals thoroughly
Use of incorrect type of Voltmeter to test inverter	*Use True RMS meter

PROBLEM: Overload LED stays on.....

REASON	SOLUTION
Battery voltage bellow 11 / 22 volts	Recharge or replace battery
Equipment being operated Draws too much power	*Use a higher capacity inverter or do not use This equipment.
Inverter is too hot (Thermal shutdown mode)	*Allow inverter to cool *Check for adequate Ventilation *Reduce the load on the Inverter to rated Continuous power

PROBLEM: Works fine but wont start fridge.....

REASON	SOLUTION
Battery low shutdown When fridge starts	*Try restarting after 10 mins *Use thicker battery Cable *Check battery

TROUBLESHOOTING

PROBLEM: TV Interference.....

SYMPTON

Electrical Interference
From inverter

SOLUTION

- *Add a ferrite data line filter onto the TV power Cord
- *Twist input cables together 3 times every meter
- *Keep the inverter as far as Possible from TV
- *Use better antenna

PROBLEM: Low Battery Alarm on All The Time.....

REASON

Battery voltage bellow
11 / 22 volts

SOLUTION

- *Keep input voltage above 11 / 22 volts
- *Recharge or replace battery
- *Use thicker cable
- *Keep cable length as short as possible

Poor or weak battery
condition

Inadequate power being
Delivered to the inverter
Or excessive voltage drop

PROBLEM: Appliance does not start.....

SYMPTOM

Appliance does not turn on

SOLUTION

- *Try turning inverter on Then off, then on again
- *Appliance has higher start Up surge than inverter

SPECIFICATIONS.....

MODEL NO.	MAXIMUM CONTINUOUS POWER	SURGE POWER	NO LOAD CURRENT	MINIMUM BATTERY AMP/HOUR	INPUT VOLTS	DIMENSIONS H / W / Dmm	MASS Kg	CABLE SIZE
INV500/12	500 WATT	1000 WATT	0.4A	30	10-15	64*107*220	0.9	8MM SQ
INV500/24	500 WATT	1000 WATT	0.3A	15	20-30	64*107*220	0.9	4MM SQ
INV1000/12	1000 WATT	2000 WATT	0.8A	50	10-15	78*135*308	1.8	16MM SQ
INV1000/24	1000 WATT	2000 WATT	0.5A	30	20-30	78*135*308	1.8	8MM SQ
INV2000/12	2000 WATT	4000 WATT	0.8A	100	10-15	78*180*346	3.6	25MM SQ
INV2000/24	2000 WATT	4000 WATT	0.5A	50	20-30	78*180*346	3.6	16MM SQ
INV3000/12	3000 WATT	6000 WATT	0.8A	200	10-15	128*180*396	4.5	40MM SQ
INV3000/24	3000 WATT	6000 WATT	1.3A	100	20-30	128*180*396	4.5	20MM SQ
INV4000/12	4000 WATT	8000 WATT	1.6A	400	10-15	128*180*460	8.2	60MM SQ
INV4000/24	4000 WATT	8000 WATT	1.0A	200	20-30	128*180*460	8.2	30MM SQ



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