powerguard

VP INVERTERS

Inverters for Vehicles

Introduction

Do you use electrical power intermittently all day to drive power tools, computers, fridges and freezers but are fed up with running small unreliable inverters and fuel hungry generators. Then you need a Powerguard VP Inverter.

VP Inverters are designed to be fitted in vehicles and give a complete answer to the need for mains power in locations where it is not easily available.

Reliability

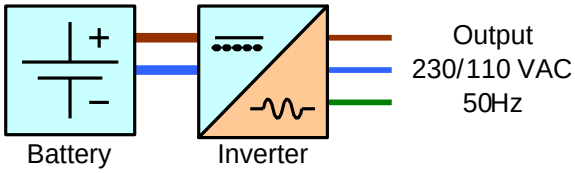
If reliability and performance are important in your application then you need a Powerguard VP Inverter.

The type of technology chosen for the VP Inverter gives very robust and reliable performance. The output of a fully loaded inverter can be short circuited for more than 5 seconds and when the short is removed the load will power up as normal. The inverter can be overloaded 150% for more than 15 minutes and for 125% for more than 30 minutes.

Most of the inverters manufactured by Powerguard are used in critical applications where safety is the paramount concern. They are installed in hospitals, theatres, cinemas, office blocks, factories and many other public buildings. Powerguard inverters are very reliable and will give long and trouble free service with minimum maintenance.

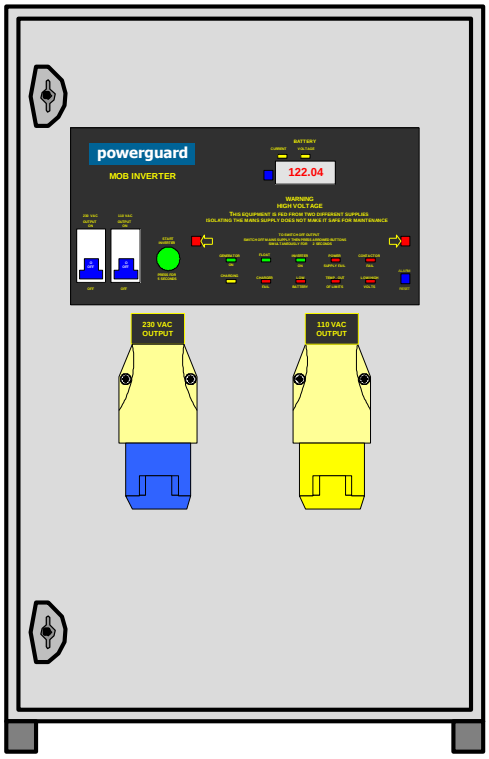
What is an Inverter?

An Inverter converts Direct Current (DC) power from a DC source usually a battery into Alternating Current (AC).



The mains supply that we use every day to power our homes, offices, shops and factories is AC with a voltage of 230 Volts and a frequency of 50 Hz. The VP Inverter has two outputs:- 230 Volts to power standard equipment and 110 Volts for power tools. The mains supply is a sine-wave and Powerguard Inverters have an output which is an exact mimic of the mains supply. The inverters will power all standard electrical equipment at full power as well as or better than the mains supply.

- **RUGGED & RELIABLE**
- **POWER ON DEMAND**
- **EASY TO OPERATE**
- **VIRTUALLY SILENT**
- **SAFE OPERATION**
- **LONG LIFE**
- **SHORT CIRCUIT PROOF**
- **NO FUMES**
- **NO SMELL**
- **LOW MAINTENANCE**
- **MOBILE POWER**
- **COMPUTERS & TELECOMS**
- **POWER TOOLS**
- **FRIDGES & FREEZERS**



Sketch showing a typical VP Inverter

POWER IS OUR BUSINESS

Operation

Powerguard VP Inverters are designed to be installed on vehicles and have features that make them ideal for many applications.
VP Inverter are either 12 or 24 VDC to suit a wide range of vehicles from light vans to heavy lorries and coaches.
Microprocessor control with sophisticated programming makes them very efficient and ideally suited to the rigours of tough environments.
They can be used for power tools and other mobile or portable machines.
If you wish to transport chilled or frozen food but do not wish to invest in a fully converted vehicle install standard units and power them from the VP Inverter.
Electrical power on demand is extremely useful for many applications.

Batteries and Vehicle Battery Sensing

The VP Inverter is fitted with two high quality deep cycle batteries. Each one has a 100 Amp/hour capacity. In a 12 VDC system the batteries are connected in parallel giving a total capacity of 200 Amp/hours. In a 24 VDC system the batteries are connected in series giving a total capacity of 100 Amp/hours.
The VP Inverter has a facility to connect the vehicle battery in parallel with its internal batteries. In applications where the vehicle engine is running for a reasonable proportion of the time the VP Inverter batteries can be kept charged without the need for an external charger.
The VP Inverter has Vehicle Battery Sensing (VBS) and will automatically detect when the vehicle battery is connected. The control monitors the vehicle battery and when the engine is started and it is being charged the Inverter battery is connected in parallel. The system continues to monitor the vehicle battery detecting when the engine is stopped disconnecting the Inverter battery to prevent the vehicle battery discharging. This prevents the VP Inverter affecting the vehicles engine starting capability.

PowerSaver

The Powerguard VP Inverter is fitted with a sophisticated PowerSaver circuit. This monitors the load and will automatically switch the inverter off when no load is detected and on again when a load is applied saving battery power. The power-saver is a unique circuit which puts a pulse of power onto the output to detect if a load is applied. The pulses are every 0.5 seconds for 15 minutes after a load has been removed. After 15 minutes the pulse is every 1 second and after 1 hour the pulse is every 5 seconds. The pulse period of 0.5 second is reinstated every time a load is applied.
The VP Inverter can be switched into continuous operation but after 1 hours without a load it will revert back to power-saver mode.

Conclusion

Powerguard inverters are the result of many years of design, development and experience. Reliability, performance and efficiency are the three most important design criteria with reliability top of the list. These machines should give long and trouble free service.
Powerguard inverters are ideal for many applications where electrical power is required. They are used extensively for Emergency Lighting, Inverter/Generator Systems, Stand-by Systems, Remote Power Systems and Vehicle Power Systems.
Powerguard inverters are designed for "fit and forget" and will give years of reliable service even in the most demanding environments.

Specification

Battery	Voltage	12 or 24 VDC
	Capacity	2 x 100 A/hours
	Type	Deep cycle
Inverter out	Voltage	110 & 230 VAC
	Frequency	50 Hz
	Power	1200 Watts
	Rating	Continuous
	O/load	150% >15 mins.
		125% >30 mins.
	Efficiency	80% full load
		80% half load
Dimensions		400mmW x 600mmH x 400mm D
		Including sockets-450mm D
Weight		125 kgs including batteries

External charger available separately

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