Keep your business on or watch it go under

Local company's Inverter and high power Battery Charger product range is a grid utility power stability enhancer and renewable energy solution that will keep businesses on when no other power source is available

It is no longer acceptable for South African businesses to blame load shedding and power blackouts for their inability to provide services or perform certain duties, especially since a business's disaster recovery plan should cater for power outages anyway. When the blackouts hit, businesses need to continue as though nothing has happened.

The road to reliable power
"The foundation of a reliable power feed is ensuring that a business has a power feed no matter what happens when the utility grid cuts out," says Inus Dreckmeyr, CEO at Netshield South Africa. "That said these systems can be expensive, which is why you need a solution that can scale up and down with your current needs and that can be moved between environments should your business move. You should experience a return on investment within about seven years, dependant on the addition of photovoltaic (PV) panels."

This is the need that Netshield South Africa had in mind when it created its inverter and battery charger that gives businesses a flexible power sourcing solution with a scalable battery bank that acts as a power source when there is no available power from any other sources. This unit creates a seamless switchover for businesses that may otherwise be left in the lurch when a power outage or a disaster strikes.

The Netshield units include functionality to naturally expand with the addition of photovoltaic panel arrays (solar panels) to reduce the cost and dependency of the actual electricity purchased from the electrical utility supplier, this contributes to increased reliability, cost effectiveness and overall return on investment of the system.

So how does the unit fit my business?
To ensure that this type of system is optimally deployed within a business, the balance between the size of the critical business load and the duration of the required backup time frame must be calculated. This calculation will then be used in defining the size and scope of the solar array and the size of the battery back-up needed for your specific business need.

The units can source power from several sources, from either a back-up power utility feed, a back-up generator or from photovoltaic solar arrays. Power sources are then prioritised according to the client's requirements, with the default being set with the PV as the main source, followed by the batteries and then the utility/generator feeds. When power is sourced from a back-up power utility feed, the inverter/charger is used as a backup power source if there is an unstable grid connection or load shedding.

In its basic configuration, when the grid is available, the charger will keep the batteries fully charged and the load will run from the grid. When the grid power feed fails, the inverter will automatically keep businesses on by switching into online mode within 12 milliseconds, so customers – and employees – won't even notice that the power has gone out. Backup time is scaled depending on the size of the battery bank and the actual load requirements of the business.

If a business has a very large energy load it may prefer to use the back-up generator option reducing the overall battery sizing. In this case the batteries can be charged via photovoltaic solar panels or wind generators, and if the grid connection fails, the unit will start the

generator automatically and transfer the actual load to use the additional generator capacity to recharge the system's batteries.

Upon reaching the pre-selected state of the battery load the unit will immediately switch back to the inverter. The changeover is seamless leaving business to continue as usual, while the generator runs for a pre-selected cool down cycle, with no load connected to it, before it signalled to shutdown.

Notably, customers requiring a smaller system will normally not need to invest in a generator to accompany its unit, this only becomes a requirement for larger enterprises with a much larger energy need.

"If power is sourced solely from photo voltaic solar arrays the load will be permanently run from the inverter, which runs from the renewable resource and battery. In the event that the alternative resources and batteries can supply sufficient power the inverter/charger will automatically switch the load over to the grid and recharge the batteries to the pre-selected state of charge. When this state of charge is reached the required load will be switched automatically and seamlessly back to the Inverter," adds Dreckmeyr.

Customise it to fit your needs

The unit has three application modes being either grid assisted mode, generator assisted mode or high power deep cycle line interactive UPS application mode (12ms). In order to protect the unit – and the business - its features also include over load protection, over voltage protection, under voltage protection, short circuit protection, short circuit protection, over temperature protection as well as zero spark connection and forced cooling.

The unit is available in smaller options for the SOHO and SME, as well as home users and then large scale enterprise environments. Other features include battery level indication, load AC output, grid and generator AC input connection, generator start relay output and a comprehensive LED display.

Customers with sensitive electronic or lighting systems may also want to consider the addition of monitored surge protection, bearing in mind that when you are connected to a grid that is unstable, the potential of grid induced surges is dramatically increased, which is a huge threat to your equipment.

"A critical service like the electrical power feed to a business cannot be placed in the hands of an unreliable power utility supplier, especially when the business's reputation is at risk. These units are ideally suited to increase reliability and reduce the risk of business interruptions due to power outages and load shedding, acting as a power storage management device that businesses can use to ensure reliable power feeds to critical business services," ends Dreckmeyr.

The Netshield inverter/charger units are true sine inverter and high power battery charger combination products designed to form the core of a reliable power feed of 12kVA, 6kVA, 4KVA, 3KVA, 2KVA and 1KVA continuously and up to 36kVA, 18kVA, 8KVA, 6KVA, 3KVA or 2KVA instant power with a battery charging capability of up to 120, 60. 30, 20 or 10Amp.