World quality leaders in independent electric power

PARALLEL & THREE PHASE BI-DIRECTIONAL INVERTERS SOLUTION

BLUE POWER
MultiPlus

Characteristics

• Multi-functional, with intelligent mains and generator power management.
  The multi gets its name from the multiple functions it can perform. It is a powerful true sine wave inverter, a sophisticated battery charger that features adaptive charge technology, and a high-speed AC transfer switch in a single compact enclosure.

• Uninterrupted AC power (UPS function).
  In the event of a grid failure, or mains or generator power being disconnected, the inverter within the Multi is automatically activated and takes over the supply to the connected loads. This happens so fast (less than 20 milliseconds) that computers and other electronic equipment will continue to operate without disruption.

• PowerControl - Dealing with limited generator, shore side or grid power.
  With the Phoenix Multi Control Panel a maximum generator or shore current can be set. The Multi will then take account of other AC loads and use whatever is extra for charging, this preventing the generator or mains supply from being overloaded.

• PowerAssist - Boosting the capacity of grid or generator power, an innovative feature of the MultiPlus.
  This feature takes the principle of PowerControl to a further dimension allowing the MultiPlus to supplement the capacity of the alternative source. Where peak power is so often required only for a limited period, the Phoenix MultiPlus will make sure that insufficient shore or generator power is immediately compensated for by power from the battery.

• Four stage adaptive charger and dual bank battery charging.
  The main output provides a powerful charge to the battery system by means of advanced 'adaptive charge' software that fine-tunes the three stage automatic process to suit the condition of the battery, and adds a fourth stage for long periods of float charging. In addition to this, the Multi will charge a second battery using an independent trickle charge output intended for a main engine or generator starter battery.

• Virtually unlimited power thanks to parallel operation and three phase capability
  Up to 6 Multi’s can operate in parallel to achieve higher power output.

VE.Bus digital panel

VE.Net Battery Controller

Three units of the same model can be configured for three-phase output.

www.rectifier.co.za, www.solar-solutions.co.za
**MultiPlus Specifications**

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<thead>
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</thead>
<tbody>
<tr>
<td>Power Control &amp; Power Assist</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Transfer switch (Amps)</td>
<td>16</td>
<td>30</td>
<td>16 or 50</td>
<td>50</td>
<td>24/50</td>
<td>30/50</td>
<td></td>
</tr>
</tbody>
</table>

**INVERTER**

<table>
<thead>
<tr>
<th>Input voltage range (VDC)</th>
<th>9.5 – 17 V 19 – 33 V 38 – 66 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>230 V ± 2% /50 Hz ± 0.1% Frequency: 50 Hz ± 0.1%</td>
</tr>
<tr>
<td>Cont. output power at 25 °C (VA)</td>
<td>800</td>
</tr>
<tr>
<td>Cont. output power at 25/40 °C (W)</td>
<td>700 / 650</td>
</tr>
<tr>
<td>Peak power (W)</td>
<td>1600</td>
</tr>
<tr>
<td>Maximum efficiency (%)</td>
<td>92 / 94</td>
</tr>
<tr>
<td>Zero-load power (W)</td>
<td>8 / 10</td>
</tr>
</tbody>
</table>

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**Quattro**

All Quattro- and several Multi inverter/chargers now have two AC outputs. In addition to the standard no-break output, an auxiliary output is available which disconnects the connected load during battery operation. It is, for example, the perfect solution for preventing an electric water heater from discharging your battery.

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**Parallel**

AC Output 25kW/30kVA

Batteries

Generator

ESKOM

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**JHB**: 010 591-1713, **Fax**: 011 462-4310  **KZN**: 031 569-2854, **Fax**: 031 569-2864  **CapeTown**: 076 412-3309

**Bloemfontein**: 079 016-1417, **Fax**: 086 657-9836
The perfect Bi-directional Grid Tie Solar Power System

1. Grid Tie Inverter (Green Energy source)
   Power is generated by the Grid-Tie inverter and supplies power to the load up to 96.4% efficiency. (Effectively reducing the power required by the inverter to supply the full load).

2. Grid Tie Inverter (Green Energy source)
   The Grid-Tie inverter can also be used to charge the batteries via the bi-directional inverter under low load conditions.

3. MPPT solar charge controller (Green Energy source)
   Power is generated by the MPPT solar charge controller and will supply power to the input of the inverter. (The inverter is programmed to use the solar input power first, before cycling the batteries).

4. The generator (DC charger)
   Batteries are charged or kept in a float condition using diesel or petrol as a source.

5. The generator (AC power source)
   The generator supplies the AC power to the load via the bi-directional inverter. The generator will automatically be started or stopped depending on the state of charge of the batteries.

The system derives most of its energy through the solar Photovoltaic (PV) array. The PV array supplies DC power to the inverter during the day and at the same time charges a bank of batteries. The inverter converts the DC power into 220 VAC, as required to operate appliances, tools, office equipment and more. At night time the batteries supply power to the inverter thereby providing reliable power 24 hours a day. There is an AC generator in the system to charge the batteries via the Inverter/charger during heavy energy usage or for periods of poor sunshine. This solution is engineered and programmed to fully interact with one another. Therefore there is no operator required to operate the system.

Features of our complete Hybrid Power solutions:
- Simple Operation
- Easily transported to the site
- Completely engineered as a turn key solution
- Temperature regulation for longer component life
- Includes mountings for PV array
- Can be shipped and installed anywhere in the world

The Ultimate Solar Solution