Contents

1. System without the Grid Tied Limiter: .................. 2
2. System with the Grid Tied Limiter: ....................... 3
3. System Setup and Function: ............................... 4
4. DIP Switch Settings: ............................................ 5
5. Carry in Warranty: ............................................... 7
6. Terms and Conditions of Sale: ............................ 9
1. **System without the Grid Tied Limiter:**

1.1. The grid tied inverter feeds all of the power available from the solar panels (A1) to the AC Load (A2), all excess power is then exported to the Grid (A3). If the Grid fails (Grid V = 0v) then the grid tied inverter will turn off. When the Grid comes back on line the grid tied inverter will export power back again.

1.2. If the grid tied inverter is producing less power than what is required by the AC LOAD then the load will be supplemented with power from the Grid (B1).

1.3. If the grid tied inverter is producing more power than what is required by the AC LOAD then the excess power will be exported to the Grid (A3).

1.4. Power Meters (Except Smart Meters) are not aware of the direction of power flow. They will charge for power in both directions and this is a problem. (B1 and A3).

1.5. The GRID TIED LIMITER will fix this problem by preventing the export of power to the grid (A3).
2. **System with the Grid Tied Limiter:**

2.1 The GRID TIED LIMITER will Prevent the Grid Tied Inverter from exporting power back into the Grid (A3).

2.2 The GRID TIED LIMITER will measure the power required by the load (A2) and notify the grid tied inverter To Limit the power generated (A1) to equal that of the AC Load (A2). Because no extra power is generated no power can be exported (A3).
3. **System Setup and Function:**

- **POWER** – (Flashing) GREEN LED – Power is present.
- **COM** – GREEN LED – Shows that there is communication with the grid tied inverter through the RS485 Connection.
- **LIMIT** – YELLOW LED – Shows that the GRID TIED LIMITER is restricting the power produced by the grid tied inverter.

**START UP PROCEDURE** (Very important to follow these steps)

1. Ensure All Circuit Breakers are in the off position.
2. Turn on the Grid Circuit Breaker and the Grid Tied Inverter Circuit Breaker.
3. When the Comms are established (GREEN COM LED is ON) and Grid Tie is connected to Grid Via internal Relay.
4. Turn on AC Load Circuit Breaker.

If NO connection can be established between the Grid Tied Limiter and the Grid Tied Inverter, then the Internal Relay will remain OFF so as to ensure that there is no feedback to the Grid.
4. DIP Switch Settings:

OFFSET SELECTION - DIP SWITCHES 1 & 2

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>MODE 1</td>
</tr>
<tr>
<td>ON</td>
<td>OFF</td>
<td>MODE 2</td>
</tr>
<tr>
<td>OFF</td>
<td>ON</td>
<td>MODE 3</td>
</tr>
<tr>
<td>ON</td>
<td>ON</td>
<td>NO LIMIT</td>
</tr>
</tbody>
</table>

4.1 MODE 1

The Grid Tied Limiter will attempt to control the Grid Tied Inverter to create the exact amount of power required by the AC LOAD.

The Relay will turn off when:

- Communication between the Grid Tied Limiter and the Grid Tied Inverter is Lost.
MODE 2

The Grid Tied Limiter will attempt to control the Grid Tied Inverter to create 50W less than the amount of power required by the AC LOAD. (1000W Required Load; Grid Tied Inverter will create 950W.)

The Relay Will Turn Off When:

- Communication between the Grid Tied Limiter and the Grid Tied Inverter is Lost.
- When The Load is less than 100W required for a length of 6 seconds.
- The Grid Tied Inverter takes longer than 6 seconds to ramp down to the required power of the AC LOAD.

MODE 3

The Grid Tied Limiter will attempt to control the Grid Tied Inverter to create 100W less than the amount of power required by the AC LOAD. (1000W Required Load; Grid Tied Inverter will create 900W.)

The Relay Will Turn Off When:

- Communication between the Grid Tied Limiter and the Grid Tied Inverter is Lost.
- When The Load is less than 100W required for a length of 3 seconds.
- The Grid Tied Inverter takes longer than 3 seconds to ramp down to the required power of the AC LOAD.

4.2 Disconnection procedure

When disconnecting the GRID TIED LIMITER from the grid tied inverter, the grid tied inverter will limit the maximum power output to the last value as set by the GRID TIED LIMITER. To correctly disconnect the GRID TIED LIMITER from the grid tied inverter, the settings on the GRID TIED LIMITER must be changed to the No Limit setting before removing the GRID TIED LIMITER from the grid tied inverter.
5. **Carry in Warranty:**

**J&J ELECTRONICS LIMITED CARRY-IN WARRANTY**

J&J Electronics warrants its full range of products against defects in workmanship and materials, fair wear and tear accepted, for a period of 3 (three) years from the date of delivery/collection for all equipment and is based on a carry-in basis. Where the installation of the product makes it impractical to carry-in to our workshops, J&J Electronics reserves the right to charge for travel time and kilometres travelled to and from the site where the product is installed.

During this warranty period, J&J Electronics will, at its own discretion, repair or replace the defective product free of charge. This warranty will be considered void if the unit has suffered any physical damage or alteration, either internally or externally, and does not cover damages arising from improper use such as, but not exclusive to:

- Reverse of battery polarity.
- Inadequate or incorrect connection of the product and/or of its accessories.
- Mechanical shock or deformation.
- Contact with liquid or oxidation by condensation.
- Use in an inappropriate environment (dust, corrosive vapour, humidity, high temperature, biological infestation.)
- Breakage or damage due to lightning, surges, spikes or other electrical events.
- Connection terminals and screws destroyed or other damage such as overheating due to insufficient tightening of terminals.
- When considering any electronic breakage except due to lightning, reverse polarity, over-voltage, etc. the state of the internal control circuitry determines the warranty.

This warranty will not apply where the product has been misused, neglected, improperly installed, or repaired by anyone else than J&J Electronics or one of its authorised Qualified Service Partners. In order to qualify for the warranty, the product must not be disassembled or modified. Repair or replacement are our sole remedies and J&J Electronics shall not be liable for damages, whether direct, incidental, special, or consequential, even caused by negligence or fault. J&J Electronics owns all parts removed from repaired products. J&J Electronics uses new or re-conditioned parts made by various manufacturers in performing warranty repairs and building replacement products. If J&J Electronics repairs or replaces a part of a product, its warranty term is not extended. Removal of serial nos. may void the warranty.

All remedies and the measure for damages are limited to the above. J&J Electronics shall in no event be liable for consequential, incidental, contingent or special damages, even if having been advised of the probability of such damages. Any and all other warranties expressed or implied arising by law, course of dealing, course of performance, usage of trade or otherwise, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited in duration to a period of 3 (three) years from the date of purchase.
Life Support Policy:

As a general policy, J&J Electronics does not recommend the use of any of its products in life support applications where failure or malfunction of the J&J Electronics product can be reasonably expected to cause failure of the life support device or to significantly affect its safety or effectiveness.

J&J Electronics does not recommend the use of any of its products in direct patient care. J&J Electronics will not knowingly sell its products for use in such applications unless it receives in writing assurances satisfactory to J&J Electronics that the risks of injury or damage have been minimised, the customer assumes all such risks, and the Liability of J&J Electronics is adequately protected under the circumstances.

Caution:

Our products are sensitive. While all care is taken by us to dispatch goods with adequate packaging, J&J Electronics is not responsible for any damaged caused to products after they have left our premises. Semi-sealed batteries have to be transported upright and must not be put on their side. Please ensure that your transport company or delivery team is aware of the sensitivity of the products they are collecting.

Goods return policy:

The following terms apply to returns of items purchased from J&J Electronics, and we require the following information:

1. Details of the item(s) you would like to return.
2. Our invoice number.
3. The reason for the return.
4. J&J Electronics must be notified within 7 days of your intention to return the goods which were purchased.
5. All items returned will be inspected prior to refund. If our technicians are not immediately available, the goods will have to be left with us until such time as a technician is available to check the items.
6. Proof of purchase is required for all returns.
7. The price paid by the customer is the price on which the refund is based.
8. Items purchased can be returned for a refund, replacement or exchange, provided proof of purchase is provided and subject to all other conditions as set down here.
9. All returns may be subject to an administration and handling fee of 10% of purchase price plus VAT.
10. Returns are based on a carry-in basis.
11. Returns will be refused in the following circumstances:
   a. Where an item has been tampered with, altered or damaged in any way, or
   b. Where a return is deemed unreasonable, this will be referred to management.

Severability:

If a part of the terms and conditions set out above is held invalid, void, or unenforceable due to any particular national or international legislation, it shall not affect other parts of the terms and conditions remaining.
### Terms and Conditions of Sale:

**J&J ELECTRONICS’ TERMS AND CONDITIONS OF SALE**

#### Payment Terms:
- On placing an order your unit/s is/are booked on the production line, and a Pro Forma invoice is sent to you with our banking details.
- A 50% deposit is required to secure the order, with the balance payable prior to despatch of the goods.
- Payment is accepted in South African Rands (ZAR) only, and by Electronic Funds Transfer (EFT) into J&J Electronics’ bank account.
- The issuing of a quotation or a Pro Forma invoice issued as a quotation represents no obligation by J&J Electronics until such time that the customer’s official purchase order has been accepted.

#### Pricing:
- Prices are quoted ex-works Port Elizabeth, and do not include delivery.
- Prices are quoted excluding VAT. VAT is payable on all invoices except on exports where J&J Electronics is arranging the export transport.
- Prices are valid for 30 calendar days from the date of quotation.
- Prices quoted are based on the quantities specified in the quotation and J&J Electronics reserves the right to revise prices quoted in the event of the quantities being reduced or increased.

#### Delivery/Packaging:
- Delivery times where specified are estimated. J&J Electronics will endeavour to adhere to estimated delivery times; however, should any delays which are beyond J&J Electronics control occur, J&J Electronics will not be liable for any costs or losses incurred by the customer through such a delay.
- J&J Electronics requires all customers to arrange their own shipping/courier when orders are placed as all orders are Ex-Port Elizabeth; when repairs as per the J&J Electronics Carry In Warranty are sent to J&J Electronics, the onus on the return of the goods to the customers lays with the customer in terms of arranging shipping/courier services.
- Goods are packaged in corrugated packaging; if the customer requires any specific type of packaging such as crates or pallets, this will be an additional cost for the customer.
- Where the goods are not delivered by J&J Electronics or are collected by the customer, but are collected or delivered by an independent carrier, the collection/delivery by the carrier shall be deemed to be delivery to the customer. Where the goods have been delivered by the carrier, J&J Electronics is not responsible for goods lost or damaged in transit.

#### Carry-In Warranty and Returns:
- Carry-In Warranty is 36 months (three years).
- Goods are warranted against faulty workmanship and components for a period of thirty six months (three years) from the date of supply. A copy of our full warranty policy and returns policy is available on request or from our home page on our website.
- While J&J Electronics provides professional advice regarding the usage of goods supplied, the suitability of the goods supplied for the use contemplated by the customer is the sole responsibility of the customer.
- J&J Electronics shall in no way be responsible for the suitability of the goods sold on for any particular end use.

#### General:
- Any item not specified is excluded from the quotation. Delivery, commissioning, installation and electrical work are excluded unless specifically quoted.